Dynamics of Convergence in State Domestic Products among Indian States

Achal Kumar Gaur
Banaras Hindu University
gaurecobhu@gmail.com

Convergence is "the process by which a country's per worker output will grow or shrink from some initial position toward the steady-state level" (Weil, 2013). The phenomenon of convergence is one of the focal themes in the neo-classical growth theory (Solow 1956), and is aimed at explaining the differences in the growth rates between countries/regions and investigating whether the income differences across countries/regions decrease with time (Jones 2002, Barro 1991 & 1992, Baumol 1986, Acemoglu 2008, Mankiw, G.N., Romer, D. & Weil, D.N. 1992).

Amid several challenges on economic front, economic reforms in India were introduced in 1991 and one such major challenge was to attain balanced regional/inter-state growth and convergence in income across the states of Indian federation. Rectification of existing inter-states disparities has been the focal theme among one of the most cherished objectives of the Central Government and states. In this connection steps have been initiated by the Union Government. For instance, Finance Commissions (www.fincomindia.nic.in), the statutory body, in its scheme of devolution of funds by way of tax & grants share for the states, have given due focus to mitigate horizontal inequalities among the states. Similarly, the Planning Commission (http://planningcommission.nic.in) in its scheme of devolution of funds by way of grants and loans, has assigned due weightage to bridge the gap among economically affluent states, backward states and hill-states. Despite of these efforts at national level, inter-state disparities in India have risen. For instance, the World Bank (2006) in its reported entitled, "India-Inclusive Growth and Service Delivery: Building of India's Success" has observed sharp differentiation across states since the early 1990s reflects acceleration of growth in some states but declaration in others. The report further adds that more worryingly, growth failed to pick up in states such as Bihar, Orissa and U.P. that were initially poor to start with, with the result that the gap in performance between India's rich and poor states widened dramatically during the 1990s. The Draft Eleventh Five Year Plan (2007-2012, Vol.I), has also admitted that regional disparities have continued to grow and the gap have been accentuated as the benefits of economic growth have been largely confined to the better developed areas.

It is against this backdrop, the present paper attempts to examine the convergence in State Domestic Products (SDPs) of eighteen Indian States (A.P., Gujarat, Haryana, H.P., J&K, Karnataka, Kerala, M.P., Maharashtra, Manipur, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, U.P. and West Bengal) for 35 years i.e. 1980-81 to 2014-15. In order to ensure comparability in per capita state domestic products, these figures have been obtained at the base 2004-05. Inter-state convergence in Per-Capita SDPs has been estimated in "Basic Solow Model", "Augmented Solow model", "Absolute Convergence", "Conditional Convergence without human capital", and "Conditional Convergence with human capital". Further, states have been put into

four groups i.e. (a) high income states, (b) middle income states, (c) BIMAROU states and (d) hill states and decomposition in income inequality within and between the group of states during pre-reform(1980-1990) and reform (1991-2015) have been estimated with Generalized Entropy and Atkinson indices.
Regression results based on Solow Model of Steady States Growth for Indian States
for the period under study indicate around 65 percent inter-state variation in per capita SDPs due to savings and depreciation. The percentage of working – age population enrolled in education has been included in the basic Solow model to formulate augmented Solow model and estimated regression results explain that inclusion of human capital has improved per capita SDPs over time. Test of restriction in augmented Solow model shows that share of physical capital was found in the range 61.2percent to 63.4 percent while share of human capital in the income stood at around 5.7percent. Speed of convergence under absolute convergence regression and conditional convergence (without human capital) regression stood at around 0.0086 and 0.0043. Further, speed of convergence in conditional convergence (with human capital) regression stood at 0.0030. These results indicate absence of convergence in per capita SDPs of major Indian states over 1980-2015. Subgroup Atkinson index-A(0.5) for high income, middle income, BIMAROU and hill states stood at 0.9891, 0.0588, 0.0874 and 0.2281 respectively during pre-reform period(1980-90) while these respective indices have risen and recorded at 0.2016, 0.1461, 0.1611 and 0.2518 during reform era(1991-2015) revealing rising inequality in per capita SDPs in sub groups over the period. Finally, Atkinson index-A(0.5) within-group and between-group stood at 0.0919 and 0.1227 respectively during pre-reform period(1980-90) while these indices have risen and were noted at 0.1775 and 0.1367 respectively during reform era(1991-2015). This is indeed an alarming situation and a potential threat for stability of a federation like India. Redressel of horizontal economic disparity happens to be an important objective in any scheme of federal devolution of funds among federating states.

Key Words: Augmented Solow model, absolute/conditional convergence, speed of convergence, Inequality decomposition-within group & between groups.