

# Education and Inequalities in a Post-Liberalized India: An Empirical Study

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Economies opening to each other on the account of globalization has brought about a rapid spurt of growth and economic development. The other side to this has, however, brought unintended consequences, one of which is structural inequality (Sen, 2014). Education is one of the primary vehicles in the path of development of an individual, her skills and her earnings. Such individuals collectively promote the growth and development of the nation. On the other hand, education has also been attributed to being one of the channels by which income inequality is perpetuated in society (Stiglitz, 1973) wherein educational inequality (at both supply and demand sides) plays a major role in its generation (Becker & Chiswick, 1966; Mincer, 1974; Ahluwalia, 1976). In this paper, we set out with two agendas in the context of India. One, we investigate if the efficiency-equity relation in terms of educational outcomes-educational inequality holds true or not. We also examine the relationship between education improvement and economic inequality. Here, education improvement is characterized by improvement in educational outcomes, in turn, measured by the mean number of years of schooling, and a decrease in educational inequality. We conduct this analysis in an appropriate panel set-up comprising of 32 states/union territories in India and covering a major portion of the post-liberalization period of 1993-94 to 2011-12.

As the first step, we study the raw trends in the main variables of this study – mean years of schooling, educational Gini, and Gini coefficient of consumption expenditure inequality. These variables are constructed state-wise from the unit level data drawn from the nationally representative consumption expenditure surveys (CES) by National Sample Survey Organization (NSSO). We make use of irregularly spaced five large sample CES rounds – 50th (1993-94), 55th (1999-2000), 61st (2004-05), 66th (2009-10), and 68th (2011-12), otherwise held at quinquennial intervals. Overall, educational attainment has improved unequivocally across all states/union territories over the period of this study. There have been improvements in mean years of schooling in the intervening rounds over the previous respective rounds in a majority of the cases. As for educational inequality, there has been a secular decrease in the Gini coefficient of educational attainment for the entire population (including illiterates) of adults (aged 15 years and above) in all states/union territories. However, the decrease in Gini coefficient of educational outcomes for literate adults has been much less pronounced. It can thus be inferred that

the dip in overall educational inequality is owing to an increase in the literacy rates during the two decades under investigation. Finally, in the case of inequality in consumption expenditure, 27 out of 32 states/union territories have experienced a rise in inequality over the five rounds of the survey. Barring the 55th round which has been established as being inconsistent (Deaton & Dreze, 2002) (due to changes in questionnaire design as compared to all other rounds under consideration), we have observed a rise in 'round-on-round' increase in inequality for most of the states/union territories. These trends set an interesting viewpoint for the next part of our study. Now, a panel regression analysis using fixed effects is conducted. By using fixed effects, we account for geographical, cultural, and/or institutional factors that are time-invariant and might influence educational attainment, distribution in educational attainment, and the income distribution of the population of the respective states. The results substantiate the equity-efficiency relation between educational inequality and educational outcomes after controlling for factors such as economic characteristics, household characteristics, state education policy, age structure, etc. A decrease in educational inequality (overall and among literates) enhances the educational attainment of a state on an average. On the other hand, the education improvement – economic inequality nexus doesn't entirely hold true. After controlling for factors such as per capita state domestic product, heterogeneity in population, urbanization, state spending policies, occupation structure, etc., it is seen that there exists a positive relationship between educational inequality and consumption expenditure inequality as well between education outcomes and consumption expenditure inequality. While the former relationship is expected as a consequence of education improvement, the latter can be explained by a possibility that an increase in returns to education at higher levels of schooling in India led to an increase in economic inequality. Finally, we attempt to address the issue of endogeneity by dynamic panel estimation technique. The preliminary results, although inconclusive, partly support the results obtained in the static panel data estimation, although the complete analysis needs to be done further. Otherwise, the results are robust to the use of multiple estimators employed to improve the error structure of the model and render the estimates consistent.