Explaining cross-state earnings inequality differentials in India: A RIF decomposition approach

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Income inequality levels in India are higher than OECD average levels, but (like in China) still lower than in other emerging countries such as Brazil or South Africa (Arnal and Forster, 2010). Despite the declining trend in poverty, inequality has increased over time (Chauhan et al., 2016), partly because of the growth of the tertiary sector, with a high duality between very small-sized firms and very large firms (Mazunder, 2010). Among the sources of inequality, the importance of caste and religion to determine earnings inequality in India is well-known (e.g. Bhaumik and Chakrabarty, 2006). Different research has also highlighted the importance of geographical factors in explaining this inequality levels and trends. The increase in inequality is associated with the increase observed in urban areas, with an increasing concern about the accentuation of regional imbalances, with the benefits of growth concentrated in the already richer states, leaving the poorest and most populous states further behind (Arnal and Forster, 2010). High growth rates in richer states have led to a boom in commercial and service sector activities, while in most of the poorest states agriculture is still predominant. Regional disparities in poverty increased in the 1990s, with the southern and western regions doing much better than the northern and eastern regions (Deaton and Dreze, 2002). Between-district inequality was a large proportion of total inequality, and it was explained to a large extent by between-state income differences in rural India (Azam and Bhat, 2016), but within-states inequalities explain most of the overall level of inequality, especially in urban India. Economic inequality increased within states, especially within urban areas, and between urban and rural areas (Deaton and Dreze, 2002).

The aim of the paper is to identify the main sources of the variability in within-state earnings inequality in India. The methodology is based on the use of the Recentered Influence Function of different inequality measures. Using regression of these functions on workers' characteristics, we first estimate the marginal contribution of each characteristic on a given inequality index in India and in a selection of states. Then, we measure the expected change in inequality when either the distribution of characteristics or the earnings structure of the whole country replaces that of the state. This exercise also serves to illustrate with the case of India the potential and limitations of the use of this regression-based decomposition technique to regional inequality analysis. This technique has been previously used to decompose interdistributional differences in quantiles and, to a lower extent, in the Gini index. We extend it here to the analysis of other inequality indices such as the Entropy and Atkinson families to investigate how the sources of inequality vary depending on the degree of inequality aversion.

By using RIF-regressions, we identify the importance of the compositional effect to explain the earnings inequality gap between several Indian states and the entire country. The results highlight the different magnitudes of the gap, the importance of the compositional effect to explain it, as well as they identify distributional patterns. For example, the lower inequality in Uttar Pradesh is explained by workers´ characteristics.

We show the distinct role of geographic, demographic and labor market characteristics in explaining the inequality gaps. Most outstanding roles are played by the distribution by caste, the degree of urbanization, and, especially, the labor market composition by occupations and type of work. Differences in earnings structures have shown to be important in several cases. Using the Atkinson index, we additionally show how the magnitude of the gap, and the extent to which this is explained by characteristics, may change as we change the inequality aversion. From a practical point of view, we also sho that the results strongly depend on which counterfactual is considered, like in most counterfactual analyses. Furthermore, the extreme sensitivity of some Entropy measures compromised their use in this type of exercise.