The evolution of global inequality: absolute, relative and intermediate views

Kristof Bosmans* · Koen Decancq† · André Decoster‡

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Extended Abstract

Has global inequality decreased over the last three decades or not? Based on the same data sets, two opposite answers have been given in the literature. Some analysts focus on the observation that many relatively poor countries have known a higher GDP growth (in %) than many relatively rich countries. As a consequence, relative income differences are diminishing and relative inequality decreasing. Others are less optimistic and start from the observation that absolute income differences (in $) are still increasing and, hence, absolute inequality is increasing. Both answers represent a very particular view on the notion of inequality: a relative view to inequality starts from the premise that if all countries grow at the same rate, the inequality stays the same. It has been documented in the literature that a relative view on global inequality leads to a picture of decreasing inequality.¹ The absolute view, on the contrary, takes the starting point that if all countries grow with the same amount, inequality stays the same. An absolute view to global inequality has been rarely studied in the literature (Exceptions are by Ravallion (2003) and Atkinson and Brandolini (2004)). There seems to be no a-priori reasons to prefer one view above the other.

Moreover, in between these two views there are many intermediate views on inequality, which can be argued to be a-priori as attractive. An intermediate view to inequality is one in which a weighted average of relative and absolute growth leads to the same inequality. More precisely, an intermediate view leads to the same inequality if α% of

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*Department of Economics, Maastricht University, Tongersestraat 53, 6211 LM Maastricht, The Netherlands. E-mail: k.bosmans@maastrichtuniversity.nl.
†Center for Economic Studies, Katholieke Universiteit Leuven, Naamsestraat 69, 3000 Leuven, Belgium. E-mail: koen.decancq@econ.kuleuven.be.
‡Center for Economic Studies, Katholieke Universiteit Leuven, Naamsestraat 69, 3000 Leuven, Belgium. E-mail: andre.decoste@econ.kuleuven.be.
the growth is divided proportionally and \((1 - \alpha)\%\) equally across all countries. This intermediate view has the relative and absolute view as special case: if \(\alpha\) is set equal to 1, we obtain the relative view and if \(\alpha\) is set equal to 0 the absolute view is obtained. Moreover, almost all recently proposed intermediateness concepts are special cases of this simple framework (for instance the ones by Besley and Preston, 1988; Bossert and Pfingsten, 1990; del Rio and Ruiz-Castillo, 2000 and Yoshida, 2005).

In this paper we compare absolute, relative and intermediate views on the evolution of global inequality between 1980 and 2007. We use recent World Bank (2009) data on population and GDP per capita in the period between 1980 and 2007 for 127 countries for which we have data in all periods. We construct a world income distribution consisting of the total number of individuals of the 127 countries giving each individual within one country the same income, that is the GDP per capita (in PPP terms) of his country. Hence, our analysis is restricted to between-country inequality and makes abstraction from all within-country inequality.

We start from the empirical finding of absolute Lorenz dominance, in other words we find that all possible inequality measures adopting the absolute view report an increasing global inequality over time. In line with the literature, the relative view shows a decrease in inequality for some measures and an increase in inequality for others. In this paper, we compute the critical relativeness level \(\alpha\) that characterizes the turning point between increasing and decreasing inequality for broad classes of inequality measures. Let us consider the comparison of the global income distributions in 1980 and 2007, for instance. If we require unanimity over all possible inequality measures, we find critical relativeness level \(\alpha\) of about 0.46, meaning that all inequality measures with a relativeness lower that 0.46 unanimously report an increasing inequality. This is a strong finding. If we restrict ourselves to unanimity over classes of inequality measures such as the Generalized Entropy class, the S-Gini class or a class of recently proposed weakly decomposable Gini indices (Ebert, 2008), we obtain even higher critical relativeness levels (typically around 0.65). In other words we find much support for the claim that inequality has risen over time if one goes beyond an exclusive attention to the relative view.

The paper is structured as follows. In the second section of this paper, we propose an intuitive framework that includes absolute, relative and intermediate views. In section three we perform a Lorenz dominance test to obtain the critical relativeness level for

\[2\] Data sets that also include within-country distributions are unfortunately not available for all countries in all periods. Several studies use constructed within-country distributions, but these constructed distributions are based on many assumptions and are tentative at best (see Anand and Segal (2008) for a thorough survey). Moreover, most authors agree that between-country inequality is the biggest component of overall global inequality and the within-inequality component is conventionally seen as having risen in terms of relative inequality. This implies it will certainly have risen in terms of more absolute inequality views. Therefore, incorporating within-inequality would likely further strengthen the conclusions of this paper.
which we find Lorenz dominance. Section four presents the results for three classes of inequality measures: the generalized entropy class and two generalizations of the Gini coefficient: the S-Gini class and the recently proposed class of weakly decomposable Gini’s by Ebert (2008). Section five concludes the paper. An appendix provides results including within-country inequality based on the freely available data set constructed by Sala-i-Martin (2006).

References


