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The Inequality of Extreme Incomes

It is well acknowledged in the economic literature that top incomes are not well measured in household surveys resulting in a likely underestimation of income inequality (Cowell and Victoria-Feser, 1996, Atkinson et al., 2011, Hlasny and Verme, 2018). Less explored is the impact on inequality of missing observations at the bottom of the income distribution and also the direction of changes in inequality when observations are added at the top and at bottom of an income distribution.

Missing observations at the bottom are an increasing sizable problem. According to the International Organization for Migration, global migration has increased between 1990 and 2015 in absolute terms (from 153m to 244m people) and relatively to the world population (from 2.9% to 3.3%) and most of these migrants should be expected to be poor. Forced migrants are not captured in national censuses or surveys whereas national statistical offices typically struggle to capture internal or illegal migrants. This is a potentially relevant phenomenon for the measurement of inequality for both countries of origin and destination.

From a purely mathematical perspective, it can be shown that inequality does not necessarily increase if observations are added at the bottom, at the top or at both ends of an income distribution. This paper clarifies this point and provides the conditions under which income inequality should be expected to increase or decrease when observations are added to the tails of the distribution. It also provides an empirical application that shows how inequality should be expected to change if all poor and rich individuals are accounted for. Results show that inequality almost invariably increases by adding observations on the tails of an income distribution but that missing a few observations at the top is much more relevant than missing many observations at the bottom. This justifies the scholarly focus on top incomes.