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The effect of the new 2017 purchasing power parities on poverty in Sub-Saharan Africa and the world

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In May 2020, the International Comparison Program (ICP) released new purchasing power parities (PPPs) for the 2017 reference year, as well as revised PPPs for the 2011 reference year (World Bank 2020b). The World Bank subsequently adopted the revised 2011 PPPs for measuring and monitoring global poverty, resulting in a slight increase of 0.24 percentage points in extreme poverty in the world in 2017 representing 17.7 million more poor people (World Bank 2020a). Sub-Saharan Africa is the region with the largest changes in extreme poverty; an increase of 1.1 percentage points, which represents 11.4 million more poor people.

Preliminary evidence suggests that the changes from 2011 to 2017 PPPs are particularly large in Sub-Saharan Africa. Furthermore, any revision to the International Poverty Line (IPL) has to pay particular attention to the impact for Sub-Saharan Africa, the region with the largest population of extremely poor people. Specifically, this paper tries to answer three questions: (1) What is the impact of the 2017 PPPs on the IPL? (2) What is the impact of the 2017 PPPs on global and regional poverty estimates? (3) Has the ICP methodology stabilized between the 2011 and 2017 rounds? (4) What factors explain large changes at the country level?

The 2017 PPPs require careful analysis before they can be adopted for global poverty monitoring. On the one hand, the 2017 PPPs reflect more recent estimates of relative price differences across countries in the world, which is desirable. On the other hand, the Atkinson Commission on Global Poverty has recommended that ICP rounds after the 2011 reference year should be not adopted until 2030—the target year for the World Bank’s corporate goal of ending global poverty, as well as the Sustainable Development Goals—to avoid the possibility of “shifting the goalposts” (World Bank 2017). This concern results from previous releases of ICP rounds that led to drastic revisions of poverty numbers, driven by changes in ICP methodology and not necessarily relative price differences. For example, when the 2005 ICP round was

released some 400 million more poor people were added to the poverty counts in the developing world (Chen and Ravallion 2010). More generally, substantial repeated changes in poverty numbers and the IPL could potentially undermine the credibility of the global poverty numbers. This paper will investigate whether the ICP methodology has stabilized, such that PPP revisions reflect real relative price differences.

The paper mainly draws on PovcalNet, the database of around 1,900 household surveys that underpins the World Bank's global poverty estimates. To derive the IPL, we will use national poverty estimates from the World Development Indicators (WDI), to derive "implicit national poverty lines" following the approach by Jolliffe and Prydz (2016).

A preliminary version of the paper finds the following results. The IPL changes to \$2.15/day per person with the 2017 PPPs (from \$1.90 using the 2011 PPPs). This value of the IPL is robust to a range of alternative approaches, including the current World Bank approach based on the national poverty lines of fifteen poorest countries identified when the 2005 PPPs were released (Ravallion, Chen, and Sangraula 2009). Importantly, the \$2.15 line tries to address Atkinson's concerns: this line keeps constant the poverty headcount ratio in 2010, the year that had the most recent global poverty estimate when the World Bank's goal of ending extreme poverty was set in 2013. Hence the update IPL does not "shift the goalpost".

Overall poverty estimates change slightly with the 2017 PPPs, while preserving the broad long-run trends. Compared to the revised 2011 PPPs, extreme poverty in the world reduces by 0.5 percentage points in 2017, representing 36 million fewer poor people. This result is markedly driven by changes in extreme poverty estimates in Sub-Saharan Africa, where extreme poverty falls by 4.7 percentage points, accounting for 50 million fewer poor people half of whom live in Nigeria. Other Sub-Saharan African countries whose poverty estimates also fall are Angola, Central African Republic, Guinea, Liberia, and Sao Tome and Principe. Some countries, most notably Ghana, move in the opposite direction. We are currently investigating the possible explanations for the large changes observed in Sub-Saharan Africa, including the quality and coverage of CPI and PPP estimates, national accounts expenditure data, and statistical capacity in the region.

After a careful review of the methods, we conclude that ICP methods have stabilized between the 2011 and 2017 rounds, which is also supported by Deaton and Schreyer (2020). The observed change in global poverty is considerably smaller than for the earlier rounds, which provides further supporting evidence.

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