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“Is Inequality Systematically Underestimated in Sub-Saharan Africa? A Proposal to Overcome the Problem”

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This paper postulates that inequality is highly underestimated in Africa due to the use of consumption as a welfare measure. Generalizing a methodology proposed by Clementi et al. (2020) we show that combining consumption and income we can approach a more realistic welfare distribution in the continent.

Over the last twenty years, Sub-Saharan Africa (SSA) has experienced an unprecedented resurgence of economic growth. While this growth is encouraging for the prospects of SSA’s economic development, a debate is ongoing regarding its nature and outcomes. While most countries in SSA have experienced reductions in poverty, this progress has been relatively slow compared to other non-African developing countries experiencing similar growth rates. An intuitive explanation for this sub-optimal performance is given by the abundant literature on growth non-inclusiveness in SSA. Several economists working on post-colonial SSA have argued that the growth process was described as a rent-seeking one: driven by rising rents from resource extraction as the form and function of extractive institutions from a colonial past have been maintained. In a nutshell, economic growth, when driven by a resource boom and presided over by extractive institutions, disproportionately benefits a country’s ruling elite rather than the poor. Consequently, many have observed that the growth pattern in SSA has remained unevenly distributed and has largely failed to “trickle down” to the poor.

From the above, we would expect that high and increasing inequality is the principal culprit for SSA’s comparatively poor record in translating growth into poverty reduction over the last twenty years. However, the evidence in this regard is rather scattered and ambiguous. SSA is frequently said to rival Latin America as the most unequal region in the world, but this aspect seems to be mainly driven by the few exceptionally unequal countries in the continent’s Southern

cone. Excluding the Southern cone, inequality in SSA is not high by developing country standards. Evidence of recent trends in inequality during the SSA's growth "miracle" is also mixed – no clear pattern emerges which could hold generally across the continent.

Along this line of reasoning, this paper argues that using consumption as the widely preferred welfare measure to investigate inequality in SSA could be partly able to explain this conundrum. Our belief is that consumption as a proxy for wellbeing is well-suited to measuring poverty or in general the well-being of bottom deciles, however, its appropriateness as a proxy for wellbeing fades as one moves up the consumption distribution. This is because the basket of goods and services commanded by top deciles is not well represented in standard consumption surveys, which, after all, are designed primarily for poverty measurement and hence focus on a basic basket of goods.

By failing to fully capture the consumption of the middle and upper classes - that we recall in SSA they occupy the top two deciles - this may lead to an underestimation of the welfare of this group. While this does not pose a problem for poverty measurement, it does mean that consumption is less well-suited to measuring inequality. Furthermore, this problem is exacerbated when attempts are made at measuring inequality changes over time, since the creation or consolidation of national middle classes in SSA pushes a greater proportion of households into that part of the distribution which is poorly captured by consumption measures – potentially leading to an underestimation of the rise of inequality. This, we argue, calls for adjusting the way we measure welfare in the region.

Our proposal to overcome this problem is to adjust the top of the consumption distribution by using in-sample information from a corresponding income distribution. In a nutshell, our approach is to recalibrate the consumption figures for the middle-class segment by imputing information coming from the shape of the income distribution of the same households. This recalibration of the consumption distribution for a sample of selected African countries is made possible by constructing an ad hoc database that combines information on consumption – and reproduces the poverty and inequality figures showed in Povcalnet – with information obtained from the Rural Livelihood Information System, a worldwide database built by the FAO in collaboration with the World Bank and IFAD that provides several important indicators on rural livelihoods but also constructs income estimates at household level.

We proceed in two steps. First, using data from Povcalnet we show that: a) all other things been equal, using consumption underestimates SSA's countries inequality b) this underestimation is more accentuated when considering the upper tail of the welfare distribution. Irrespective of the model or the sample (including or excluding developed countries and restricting the observations to the post 2000), there is a clear SSA's consumption effect. After

controlling for country-level, year, regional and development-stage effects, inequality in Africa measured with consumption is always significantly lower than in the rest of other countries.

Second using a sample of SSA household budget surveys, we select the best fitting parametric model for the consumption and income distributions of each country. Then we use the model's parameter estimates to derive imputed values for observations above two lower-bound consumption thresholds typically used to define the middle class status in SSA: per capita daily consumption greater than \$5.5 in PPP US dollars and per capita daily consumption greater than \$10 in PPP US dollars. Finally, the combination of imputed values for observations above the consumption threshold and observed expenditures for below produces a partially synthetic data set on which we estimate inequality statistics.

Results show that in all countries inequality increases substantially; Gini on average increases by 20% compared to the original figures. This 20% coincides with the underestimation that according to our cross section estimates SSA countries face by using consumption rather than income.