1. The Impact of COVID-19 on Global Inequality and Poverty

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The COVID-19 pandemic has overturned years of progress on reducing global poverty and our ability to reach the first Sustainable Development Goal—to end extreme poverty by 2030. This means additional challenges for Africa, where nearly 2/3rd of the global extreme poor reside. For the first time in two decades, poverty has increased globally. The World Bank's latest estimates suggest that around 93 million people were pushed into extreme poverty—those living on less than $1.90 a day—in 2020 due to the COVID-19 pandemic (Mahler et al. 2022).

This number assumes that households' welfare in 2020 grew (or more likely, shrank) in proportion to the growth rate in real GDP per capita, and hence that the pandemic impacted everyone in a country equally. Yet there is evidence to suggest that the pandemic has disproportionately affected certain groups (Lustig et al. 2020, Egger et al. 2021, Narayan et al. 2022). The goal of this paper is to estimate the distributional impacts of the COVID-19 pandemic and use those findings to generate more realistic estimates of the impact of COVID-19 on poverty and inequality in Africa and around the world.

To that end, we start with the welfare distributions for 2019 available from the World Bank's Poverty and Inequality Platform (PIP) covering 169 countries comprising more than 97% of the world's population. To get estimates for 2020, we triangulate various data sources. Our preferred data source is actual household survey data or tabulated income statistics from National Statistical Offices (NSOs). At the time of writing this proposal, we were only able to use survey data from 20 countries and NSO data from 8 countries none of which were in Africa – highlighting the difficulty in collecting data in 2020.

Our novel addition to the literature is utilizing the high-frequency phone surveys conducted by the World Bank in collaboration with NSOs for 38 countries of which 20 were in Africa. These surveys filled the void left behind by the lack of household surveys in 2020. The phone surveys are less comprehensive than traditional household surveys, yet their mode of data collection means that they can be conducted even during strict quarantines and government shutdowns. In many countries, phone surveys are some of the only national surveys on what happened to households economically in 2020.

While the phone surveys provide information on households' change in income or consumption, they do not report the households' initial level of income, nor do they report the size of the change in income. This means that to utilize the information in the phone surveys, we need to (a) map the income changes from the phone surveys to the 2019 welfare distribution and (b) estimate the size of the change in income for each household.

To that end,
(a) we use multinomial logit regressions to map certain types of households (according to household and demographic characteristics) from the phone surveys to the 2019 welfare distribution from PIP (which is the latest household survey extrapolated to 2019). We estimate the probability of income gain, loss, or no change for these household types in the phone surveys and assign those probabilities to households of similar types in the 2019 welfare distribution.

(b) While that allows us to simulate whether households gained or lost income in 2020, we still don't know the size of those increases and decreases in income. To overcome this, we distribute the sectoral growth rates available from the World Bank's latest Macro and Poverty Outlooks (MPOs) to each household such that the aggregated distribution of household growth using our method is equivalent to the national per capita GDP growth rate in the MPOs.

We supplement the NSO and the phone survey data with data from country-specific studies in the literature. In Africa, we use such studies for Egypt, Ethiopia, South Africa, and Tanzania.

We estimate that COVID-19 pushed 23 million people into extreme poverty in Africa in 2020. Before the pandemic, we had expected poverty in Africa to decline from 34.0% in 2019 to 33.5% in 2020. Instead, due to the pandemic, we find that poverty increased to 35.2%. Trends in poverty changes vary across countries and country groups. For instance, we estimate that the pandemic pushed an additional 12 million people (equivalent to a 2.1 percentage points increase) into poverty in the 21 countries (covering around 40% of the population in Africa) designated by the World Bank's FY2021 list as Fragility, Conflict, and Violence (FCV) affected countries. In the rest of the continent, covering around 60% of the population of Africa, 11 million people were pushed into poverty (equivalent to a 1.5 percentage points increase). The changes in inequality within countries were modest. We find small changes (between -0.5 and 0.5 Gini points, scaled to 100) in inequality in 42 countries in Africa in 2020. We find there were increases in inequality in 7 countries and decreases in 5 countries.