3. Impacts of COVID-19 on global poverty and food security: What more do we know now?

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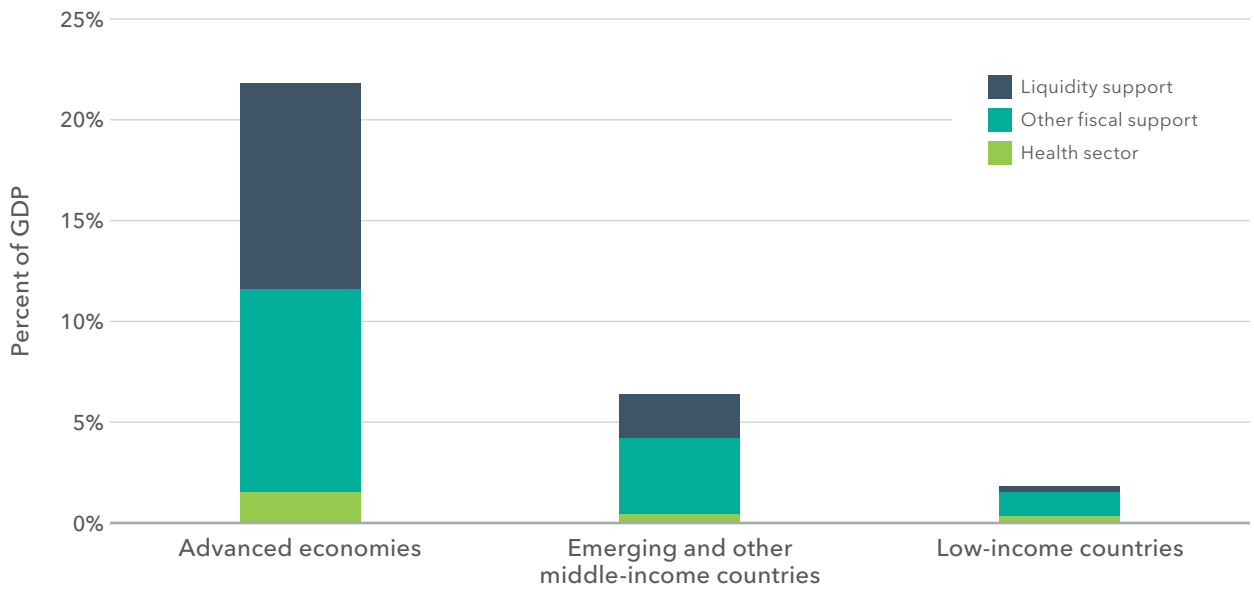
The death toll of the COVID-19 pandemic reached near 6 million by early February 2022, two years into the pandemic. With waves of coronavirus variants still raging and the risk of new variants emerging, the human toll will undoubtedly rise further. The socioeconomic impacts of the pandemic are believed to be vast. Yet we still know very little about the true economic costs and the full impacts on poverty, food security, educational attainment, and other social outcomes, and much less about the potentially lasting effects and setbacks to human development.

In a blog and a chapter in the first IFPRI volume on COVID-19 and food security (Swinnen and McDermott 2020), we assessed the potential impacts of the pandemic on global poverty based on early indications of the possible economic impacts as of April 2020 (Laborde, Martin, and Vos 2020). We estimated that extreme poverty[1] could increase "dramatically," possibly by as many as 150 million people worldwide, and particularly affect vulnerable people in sub-Saharan Africa and South Asia. This estimate, derived using IFPRI's global model, MIRAGRODEP, was based on an assessment of the likely global recession that would result from the disease and the public health measures to contain its spread. The scenario assumptions took account of what was known at the time about the demand and supply shocks that were caused by the mobility-constraining measures imposed by governments across the globe. These measures led to supply chain disruptions, causing production and income losses, and provoking a global recession much deeper than that of the global financial crisis of 2008–2009 (IMF 2021; Laborde, Martin, and Vos 2021). The pandemic-induced loss of jobs and income translated into greater food insecurity at the household level, disproportionately affecting low-skilled and informal sector workers (ILO 2021; Bundervoet et al. 2021). At the time these forecasts were made, the timing and effectiveness of vaccines was unknown, as were the longer-term dynamics of the pandemic, and particularly the emergence of new variants.

Decomposition of our early assessment of the pandemic's impact on the world economy through different channels showed that the economic fallout in the initial epicenters of the pandemic (China, Europe, and the United States) hurt developing countries more severely than those epicenters — most significantly through declines in trade volumes and commodity prices, higher freight costs, and lower remittance incomes. For poorer nations, the economic costs of these international effects exceeded the cost of their own COVID-19 related restrictions on movements of people and economic activity (Laborde, Martin, and Vos 2021).

1 Extreme poverty is measured against the international poverty line of $1.90 per person per day at 2011 purchasing power parity (PPP) prices.

FIGURE 1 Fiscal and monetary support in response to COVID-19, as of January 2021



Source: Data from IMF (2021), Fiscal Monitor, Database of Country Fiscal Measures in Response to the COVID-19 Pandemic.

During 2020 and 2021, many restrictions on mobility were lifted, with some reinstated again when new waves and new variants emerged and even as vaccination coverage expanded in 2021. As the "stop-and-go" of full and partial lockdowns continued to hamper the global economic recovery, economic observers made frequent revisions to their measures and forecasts of key macroeconomic indicators (IMF 2022). Many governments, especially in developed countries, responded to the crisis by enacting massive fiscal and monetary stimulus programs to mitigate its worst impacts. The capacity to do so differed starkly across countries. High-income countries provided fiscal stimulus to the tune of 12.5 percent of GDP on average; this was 3 times more in relative terms than emerging economies and other middle-income countries were able to provide and almost 10 times more than that provided by governments in low-income countries (van der Hoeven and Vos 2021; Figure 1). This divergence in government support mimicked that of the vaccine rollout, which is still lagging far behind in developing countries.

The precise impacts of the varied government support programs and rollout of vaccination programs on the recovery from the COVID-19 global recession are still unclear. However, it is evident that these efforts have muted the pandemic's adverse economic impacts in high-income countries, while – as we discuss below – impacts were not only much more severe in low- and middle-income countries (LMICs) during 2020 and 2021, but also seem to augur much lower growth trajectories for those countries for the remainder of the decade.

Inflation became an issue in 2021, with food prices in international markets surging to levels seen only at the heights of the 2007/08 and 2010/11 global food price crises, further endangering food access for the poor, especially in food import–dependent low-income countries (Chapter 10 in this volume). Amid this uncertainty about the precise economic trajectories of LMICs, the degree to which global poverty and hunger have increased because of COVID-19 also remains an open question.

Assessments of the pandemic's impact on poverty are all based on projections and model-based scenarios and have been adjusted as more economic data becomes available. Our own assessment of April 2020 was that globally, extreme poverty could increase by as much as 20 percent during 2020, with the largest impact in Africa (Laborde, Martin, and Vos 2020). In September 2020, we updated our model-based scenario (Table 1) and still estimated that the global rise was about 20 percent, but with the burden mainly falling on people in South Asia (especially India). This shift in the impact reflected greater economic fallout in South Asia than originally projected, while impacts in Africa appeared less severe than initially expected (Laborde, Martin, and Vos 2021). Under this scenario, in an assessment for *The State of Food Security and Nutrition* (FAO et al. 2021), it was estimated that some 118 million more people (mid-range estimate) faced hunger in 2020 than in 2019, mainly as a consequence of the economic impacts of the pandemic. According to those estimates, there were 46 million more undernourished people in Africa and 57 million more in Asia than before the pandemic.

In a more recent scenario analysis (October 2021), we used information about actual GDP growth and other key macroeconomic variables, as estimated by the International Monetary Fund (IMF 2021). These observed macroeconomic outcomes have further sharpened our estimates of the pandemic's impact on poverty and food security. For this update, we used the dynamic version of IFPRI's MIRAGRODEP model to assess the pandemic's short- and long-term impacts over the 2020–2030 period. The impacts are assessed against a baseline scenario with growth trajectories based on past trends and without the shocks to labor mobility, supply chains, and demand, as well as without the fiscal and monetary policy responses enacted by governments across the world. The results, of course, are an approximation of the true impact of the pandemic, as the scenario analysis picks up not only the impacts of COVID-19-related restrictions on economic activity, but also the economic policy responses and adjustments in private sector behavior, as well as other factors not directly related to COVID-19 that affected economies during 2020 and 2021. Nevertheless, the pandemic caused a shock so big and policy responses of such magnitude (at least in advanced economies) that we can safely argue that most of the simulated impacts are pandemic related.

The trajectories of recovery from the global COVID-19 recession differ greatly across countries (Table 1). Broadly speaking, thanks in good part to their strong fiscal response, the recession has been less severe in high-income countries, whose aggregate incomes are projected to return by 2025 not only to pre-pandemic levels, but even above what would be the growth trajectory in the absence of the pandemic. Economic activity in developing countries and especially in low-income countries, in contrast, is projected to remain well below the pre-pandemic growth trajectory.

Agrifood sectors suffered less than other economic sectors, and even continued to expand in most countries in 2020, in large part because governments declared these sectors "essential" and exempted them from most restrictions (as we had assumed in the early April 2020 scenario). The relatively strong performance in agriculture helped mitigate the poverty impacts of the pandemic, especially in countries in sub-Saharan Africa that are highly dependent on agriculture. This gain is

TABLE 1 Short- and long-term impacts of COVID-19 on GDP per capita, agrifood value added, poverty and hunger (values represent differences between COVID and No-COVID scenarios)

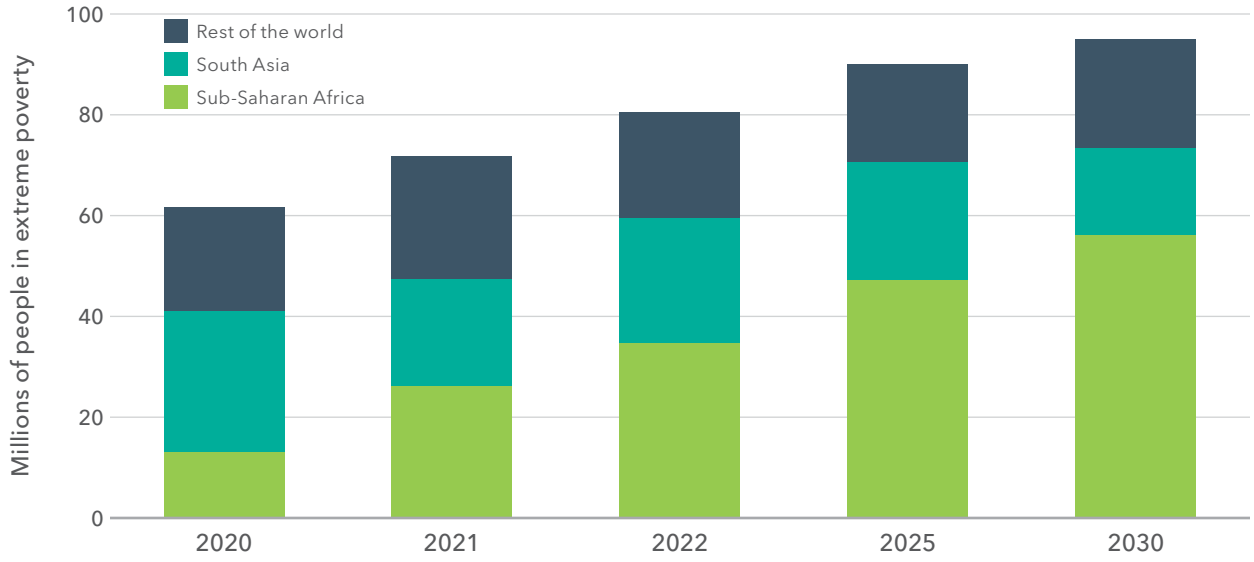
	MIRAGRODEP COVID-19 SCENARIOS (COVID IMPACT)					
	Apr-20	**Sep-20**	**Oct-21**			
	2020	2020	2020	2021	2025	2030
IMPACT ON REAL GDP (% CHANGE)						
World	−5.1	−7.1	−5.6	5.2	−1.1	−1.4
High-income countries	−6.2	−8.2	−5.6	−2.3	1.2	1.1
Low-income countries	−3.6	−5.5	−7.3	−9.2	−9.0	−11.2
Sub-Saharan Africa	−8.9	−5.8	−5.1	−5.0	−6.2	−8.0
South Asia	−5.0	−12.9	−11.6	−10.9	−10.6	−10.9
IMPACT ON AGRIFOOD REAL VALUE ADDED (% CHANGE)						
World	−1.8	2.5	3.3	−1.8	−2.0	−2.4
Low-income countries	0.1	2.3	−0.3	−5.5	−5.8	−6.8
Sub-Saharan Africa	3.9	2.0	4.2	−2.4	−4.0	−4.9
South Asia	−2.0	0.1	1.9	−3.5	−5.7	−5.9
IMPACT ON NUMBER OF PEOPLE IN EXTREME POVERTY (INCREASE IN MILLIONS)						
World	147.5	149.7	61.7	71.7	90.0	95.0
Sub-Saharan Africa	79.4	50.5	12.9	26.2	47.1	56.1
South Asia	42.1	72.5	28.1	21.1	23.6	17.3
IMPACT ON NUMBER OF UNDERNOURISHED PEOPLE (INCREASE IN MILLIONS)						
World	n.a.	118	123.7	99.4	100.7	87.8
Sub-Saharan Africa	n.a.	46	25.3	26.4	34.2	37.2
South Asia	n.a.	57	55.7	34.8	36.0	23.9

Source: Authors based on MIRAGRODEP simulations.

Note: "Impacts" are estimated in terms of difference between outcomes for the COVID scenarios and the baseline projection (No-COVID). n.a. = not available.

reflected in the lower estimate for the pandemic's impact on poverty and food insecurity in 2020 (Table 1). However, the picture changes in 2021 and beyond. The higher costs that are driving the surge in food prices during 2021 and 2022 appear to be hurting many producers in agrifood sectors despite increases in food prices. Profit margins have narrowed substantially in livestock production and food processing. Slowing and even declining growth in agrifood sectors is having a significant impact on overall economic growth in low-income countries, where these sectors represent a large share of the economy, and on incomes derived from agrifood activity, which are critical to the livelihoods of many of the world's poor.

FIGURE 2 Impacts on global poverty: COVID-19 scenario (Oct. 2021)
(change from baseline)



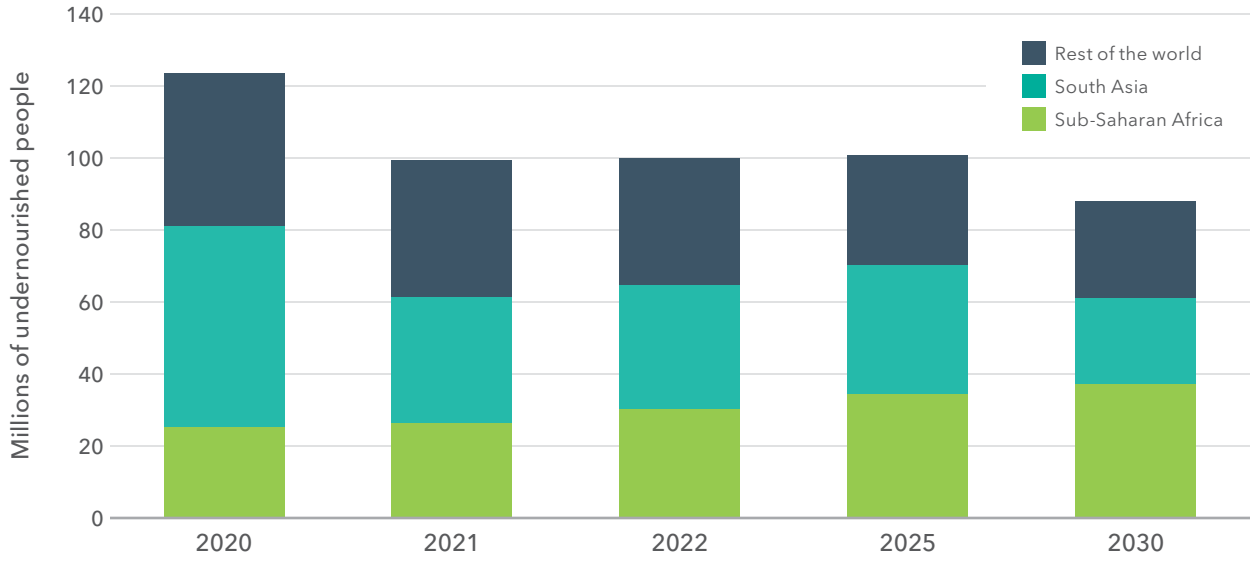
Note: "Impacts" are estimated in terms of difference between outcomes for the COVID scenarios and those of the baseline projection (No-COVID).

Source: Authors based on MIRAGRODEP simulations.

Under our recently revised scenario, we observe a much less severe impact on extreme poverty than in our earlier projections. We now estimate a 2020 global increase of 62 million people in poverty (well below the almost 150 million from our first estimate), largely explained by the stronger-than-previously-projected performance of the agrifood sector in sub-Saharan Africa and especially in South Asia (Table 1). With the subsequent weaker performance of the sector (as compared with the projected no-pandemic growth trajectory), we project increasing numbers of vulnerable people to fall into extreme poverty as compared with the no-pandemic scenario from 2021 onward: 72 million more in 2021, 81 million in 2022, and 95 million more by 2030 (Figure 2). While in 2020 most of the poverty increase is estimated to take place in South Asia, subsequent increases are increasingly concentrated in sub-Saharan Africa, where we see the gap widening between the pandemic and non-pandemic economic growth trajectories.

We see a similar pattern emerging for people at risk of hunger, with the largest increase in the number of undernourished people in South Asia (56 million) in 2020, but smaller and decreasing numbers in the region in subsequent years. In sub-Saharan Africa, in contrast, the COVID-19-related increase in the number of undernourished people would reach 37 million in 2030, up from 25 million in 2020 (Figure 3).

FIGURE 3 Impacts on global hunger: COVID-19 scenario (Oct. 2021)
(change from baseline)



Source: Authors based on MIRAGRODEP simulations.

Note: "Impacts" are estimated in terms of difference between outcomes for the COVID scenarios and the baseline projection (No-COVID).

The assessment presented here, like others of this kind, is necessarily based on projections and model-based scenarios, which have been refined as more economic data have become available. This type of analysis is not designed to measure the precise impact of the pandemic, but rather to gain better insight into how the pandemic is transmitting economic repercussions across sectors, between countries, and to household welfare. Nevertheless, our projections suggest two related, concerning trends. First, COVID-19 may well have long-lasting impacts, setting back progress in reducing global poverty and hunger for a decade or more. Second, the pandemic appears to have put the world's goals of ending poverty and hunger by 2030 out of reach.

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