



World Food Programme

SAVING LIVES
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Estimating the food security impact of cuts in WFP assistance

A look at the global level

Summary

Cuts in WFP assistance threaten to push already acutely food insecure people to emergency levels of food insecurity. Working off macro-level data we model the number of acutely hungry people around the world who could be pushed from IPC Phase 3 to Phase 4 by cuts in WFP assistance.

We estimate the food security impact of assistance cuts at global level. For a 30 percent shortfall in assistance, we estimate that the number of people in emergency levels of food insecurity could increase globally by 13.2 million people or 33 percent; for a 50 percent cut, this number could rise to 23.6 million people, a 58-percent increase. This means that on average, every percentage point cut in WFP assistance could push more than 400,000 additional people from IPC Phase 3 to 4.

To get to a global estimate despite data limitations, our model relies on strong assumptions. Keeping this in mind will help to correctly interpret the results, understanding them as a sophisticated back-of-the-envelope calculation rather than one that could take us to precise country-level predictions.

Introduction

Global acute food insecurity has risen sharply in recent years, both in extent and depth. 345 million people are projected to face acute food insecurity in 2023, around 200 million people more than before the COVID-19 pandemic. Hunger has also grown more deeply entrenched. More than 40 million people across 51 countries are in emergency or worse levels of acute food insecurity in 2023 and at risk of falling into catastrophe or famine conditions without immediate life- and livelihoods-saving assistance – up from 29 million in 2019 (WFP, 2023a).

WFP assistance provides a lifeline for millions of acutely food insecure. Cuts in humanitarian funding put this lifeline at risk, threatening a fragile status quo by forcing people in already extremely dire conditions into even deeper food insecurity.

This brief aims to gauge the magnitude of the food security impact of cuts in WFP assistance, giving a first answer to the question how many of the people in Integrated Food Security Phase Classification (IPC) (IPC Global Partners, 2021) Phase 3 around the world are at risk of being pushed to IPC Phase 4 by funding cuts. While we aim to estimate the global impact, not all relevant countries use the IPC classification and analytical approach. Therefore, throughout this brief "IPC Phase 3" more precisely refers to IPC/Cadre Harmonise (CH) Phase 3 or equivalent; and "IPC Phase 4" to IPC/CH Phase 4 or severely food insecure based on WFP's Consolidated Approach for Reporting Indicators of Food Security (CARI) (WFP, 2021).

Method

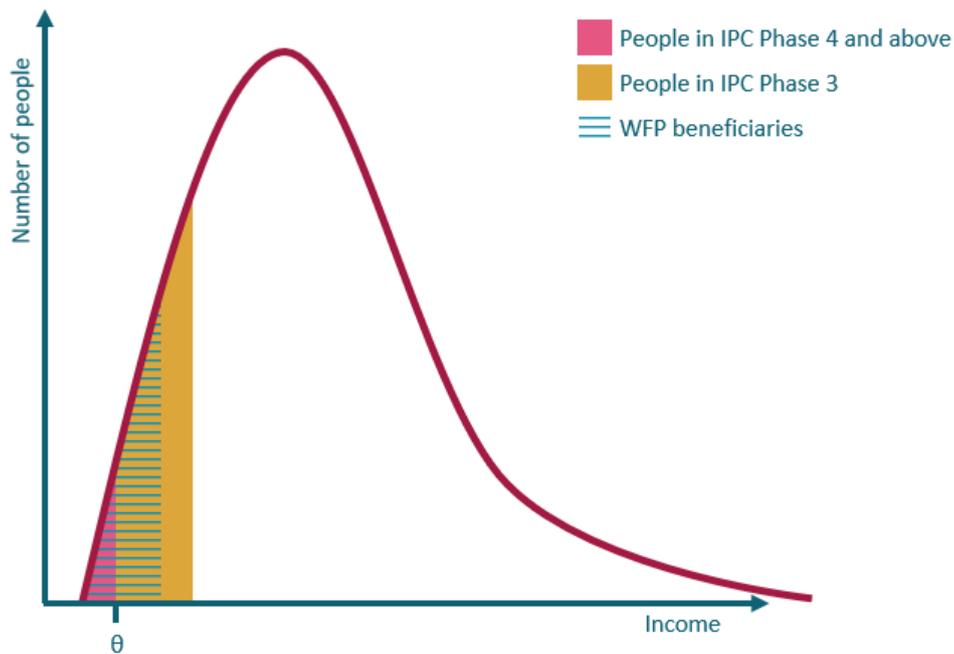
We approximate food security through economic access to food and base our model on income distributions. This approach captures only one of multiple dimensions of food security. However, among the various measures for food security that one could consider – such WFP's CARI or calorie availability – systematic data availability across countries with WFP operations standardized to the same reference year leaves income distributions as the dataset of choice.

To estimate the food security fallout of assistance cuts, we locate two groups of people within the income distribution – those in IPC Phase 4 and above and WFP beneficiaries in IPC Phase 3. We

then determine, given a certain scale-down of assistance, how many people transition from one group to the other.

We assume that acutely food insecure people are at the bottom of the income distribution, with people in IPC Phase 4 and above having the least, and that WFP assistance reaches the poorest. This assumption allows to determine an income threshold θ , below which people are in IPC Phase 4 and above (Figure 1).

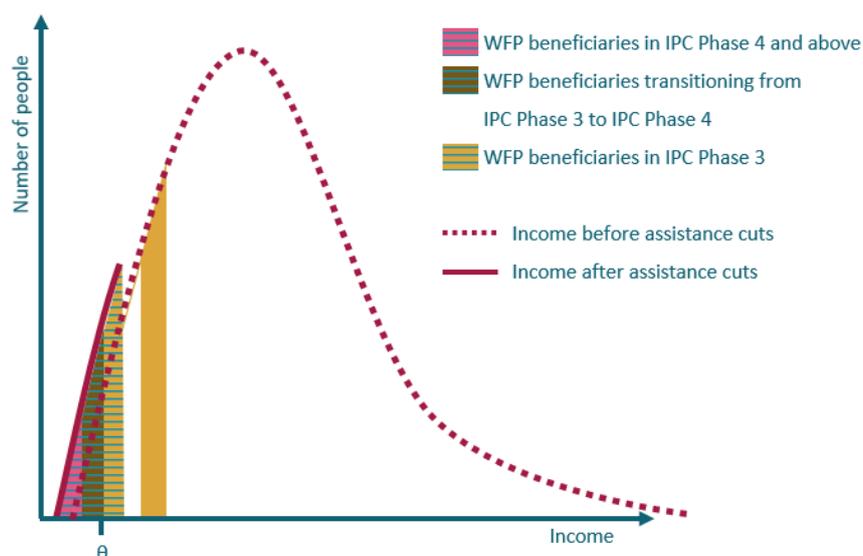
Figure 1: Location of acutely food insecure people and WFP beneficiaries within an income distribution



We further assume that assistance cuts are implemented by keeping the caseload but reducing transfers values across all beneficiaries. This is equivalent to shifting the lower part of the income distribution, pushing more WFP beneficiaries below the income threshold θ (Figure 2).

As not all countries that are home to acutely food insecure people also have population in IPC Phase 4 and above, we cannot estimate income thresholds θ – and, hence, the number of additional people pushed into IPC Phase 4 – at country level. Therefore, we conduct the analysis at regional level. Global estimates are obtained by adding up estimates across regions.

Figure 2: Assistance cuts as a shift in income distribution



We first aggregate income distributions for all countries within a region to obtain regional income distributions. For each of these, we determine a regional income threshold θ as the income level that results in the number of people with less income than θ equal to the number of people in IPC Phase 4 and above. We then determine the amount by which the lower part of the income distribution shifts to the left in case of a reduction in assistance, based on a reduction of average assistance per beneficiary within the region. Lastly, we count the number of people with income below θ after the shift of the distribution and compute the additional people in IPC Phase 4 as the difference between this new count and the current number of people in IPC Phase 4 and above.

Data

Analysis is based on income distributions provided by the World Bank; food security numbers underlying WFP's Global Operational Response Plan; WFP data on assistance provided; and WFP data on the number of beneficiaries reached.

We consider all 79 countries with WFP operational presence and where food security data is available in WFP's six regions: Asia and the Pacific; Middle East, Northern Africa and Eastern Europe; Western Africa; Southern Africa; Eastern Africa; and Latin America and the Caribbean.

Income distributions

We construct joint income distributions for the countries associated with each of WFP's regional bureaux using World Bank (2023a) data.

Income distributions are missing for Afghanistan, Cambodia, Cuba, Libya, Somalia, Venezuela and the two island groups where WFP operates, the Caribbean and Pacific islands. We follow Crespo Cuaresma et al. (2018)'s approach to fill these data gaps by estimating patterns of income distributions using country characteristics and extrapolating missing income data.

The most recent income distributions that the World Bank provides are for 2019. We rely on the method described in the World Bank's Poverty and Inequality Platform Methodology Handbook (World Bank, 2023b) and use World Bank data for household final consumption expenditure per capita (World Bank, 2023c) – or, if unavailable, GDP per capita (World Bank, 2023d) – to adjust income distributions to 2021, the latest year for which this data is available. Using the US

Consumer Price Index for December 2017 and December 2022 provided by the U.S. Bureau of Labor Statistics (Trading Economics, 2023), we then translate distributions from 2017 PPP US\$ to 2022 PPP US\$.

Acutely food insecure people

We use food security data underlying the June 2023 update of WFP's Global Operational Response Plan (WFP, 2023a; WFP, 2023b). More specifically, we base our analysis on the 40.4 million people estimated to be in IPC/CH Phase 4 and above or equivalent in 2023, that is, who are in Emergency (IPC/CH Phase 4) or worse levels of acute food insecurity or identified as severely food insecure as per WFP's CARI methodology.

WFP assistance

We use country-level data on cash transferred and metric tonnes of food distributed by WFP, which sum up to a total of US\$3.3 billion in cash-based transfers and 4.8 million mt of food globally in 2022 (WFP, 2023c). To combine both types of assistance and relate them to income data, we estimate the US\$ value of food distributed at country level. For this, we add WFP's expenses on commodities distributed globally, US\$3.9 billion in 2022, and WFP's expenses on distribution and related services, US\$1.1 billion in 2022, as a proxy for the value added in delivering food commodities to local distribution points (WFP, 2023d). We then assign each country a share of these total expenses on food corresponding to its share in total tonnage of food distributed by WFP.

To relate assistance (reported in current US\$) to income distributions (reported in international dollars), we convert food assistance from current US\$ to 2022 PPP US\$ starting from assistance at country level and using exchange rates and country-specific PPP conversion factors (Figure 3). Exchange rates are official annual figures for 2022 retrieved from the World Bank (2023e); PPP conversion factors are the IMF (2023)'s 2022 implied PPP conversion rates.

Implied PPP conversion rates for 2022 are unavailable for Afghanistan, Cuba, Lebanon, Sierra Leone, Somalia and Syria. We replace the missing figures with 2021 data when available (Afghanistan, Somalia) and otherwise assume a PPP conversion factor of one (Cuba, Lebanon, Sierra Leone, Syria).

Figure 3: Conversion of 2022 assistance in current US\$ to 2022 PPP US\$



WFP beneficiaries

We base our analysis on the number of beneficiaries that WFP reached with food assistance, either cash or in-kind, in 2022. They sum up to a global total of 160 million (WFP, 2023c).

Results

Considering 40.4 million people facing IPC/CH Phase 4 and above or equivalent, the income threshold θ ranges between US\$0.41 (2022 PPP) and US\$1.74 US\$ (2022 PPP) per day across regions. Meanwhile, WFP beneficiaries within a region received between US\$0.20 and US\$0.64 (2022 PPP) on average per day in assistance in 2022. In most regions, WFP contributes around 50 percent to the income of people at the income threshold θ .

We estimate the number of people transitioning from IPC Phase 3 to 4 for two different scale-down scenarios – cuts in assistance by 30 percent and by 50 percent. A 50-percent scale-down in assistance could lead to an additional 23.6 million people pushed from IPC Phase 3 to 4. If assistance is cut by 30 percent, 13.2 million acutely food insecure people currently in IPC Phase 3 could slide into IPC Phase 4. This is equivalent to increases in people facing severe hunger emergencies or worse by 58 and 33 percent, respectively (Table 1). In other words, on average, every percentage point cut in WFP assistance could lead to more than 400,000 additional people pushed from IPC Phase 3 into IPC Phase 4.

Table 1: Projected increase in people in IPC Phase 4 globally after reductions in assistance by 30 and 50 percent

People in IPC/CH Phase 4 and above or equivalent globally in 2023	People transitioning from IPC Phase 3 to 4 after assistance cuts by	
	30 percent	50 percent
40.4 million	13.2 million	23.6 million

Note: The number of people reported as in IPC/CH Phase 4 and above or equivalent refers to Emergency (IPC/CH Phase 4) or worse levels of acute food insecurity as well as severely food insecure based on WFP's CARI methodology.

Even if availability of reliable data drove our modelling approach, data limitations introduce uncertainty into the results. Notably, these are missing income distributions for some countries and the lack of PPP conversion rates for 2022 for others. While this prevents us from gaining insights at the country level within our modelling framework, errors should offset each other when looking at the global aggregate.

Conclusion

Cuts in food assistance could dramatically deepen acute food insecurity in many places around the world. Globally, a 50-percent reduction in assistance could push more than 23 million people into emergency levels of acute food insecurity, an increase by nearly 60 percent.

Estimates are based on a macro-level approach, using economic access to food as a proxy for food security and translating assistance cuts into income shocks. A scale-down in assistance can push people below an income threshold separating acutely hungry people more broadly from those in severe hunger emergencies. Keeping the stylized nature of the model and assumptions in mind is essential to correctly interpret the results. While our model is unlikely to lead to precise estimates at the country-level, it is useful to gauge the magnitude of aggregate, global effects.

In the current economic context, any deterioration in the food security situation will likely be difficult to handle for countries in which WFP operates. Around the globe, debt burdens are high and debt servicing costs on the rise as national banks, particularly in advanced economies, raise interest rates. Financing additional social transfers to compensate cuts in humanitarian assistance is, thus, likely out of reach for many governments of poor countries (UN GCRG, 2023).

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