



World Food Programme

SAVING LIVES
CHANGING LIVES

Projected increase in acute food insecurity due to war in Ukraine

Summary

The World Food Programme (WFP) estimates the increase in acute hunger following the Ukraine conflict. It models the pass-through of price increases on global grain and energy markets from international to domestic markets, and the ensuing loss of access to food by those who could barely afford a minimal diet before the conflict-driven price rises. We examine two scenarios: for the conflict ending within the next month, and continuing beyond April 2022. For the 81 countries with WFP operations, we find that acute hunger will rise by an additional 33 million people in the first scenario and an additional

47 million people in the second scenario, from a pre-war baseline of 276 million people who were already in the grip of acute hunger. Altogether, this means that up to 323 million people could become acutely food insecure in 2022.

Introduction

Arguably the most important impact pathway from the war in Ukraine to world hunger runs through the conflict's impact on global grain and energy markets. Both Ukraine and Russia are key players in highly concentrated international wheat and maize markets. The expected shortfall in supplies has caused further

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price hikes for these food commodities. Moreover, Russia plays a critical role in global oil and gas markets, which has led to high energy prices and heightened volatility since the conflict began. As these price increases transmit to local markets in poor countries, those previously struggling to afford an energy-sufficient diet will see it move completely beyond reach.

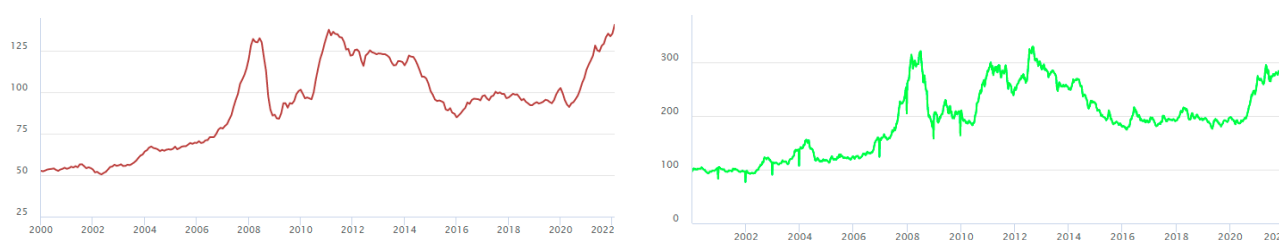
With food prices on a relentless rise since mid-2020, the additional pressure has pushed them into the realms of the 2008 and 2011 food price crises. FAO's Food Price Index reached an all-time high in February 2022 – and prices have remained volatile ever since.

Bank research calculated that the first food price spike, in 2008, led to an increase of 105 million poor in low-income countries.⁴ The same authors estimated a further increase in poverty of 44 million people for the second food-price spike at the beginning of 2011.⁵

Methods

To gauge the implications of the Ukraine conflict for acute hunger, through the ensuing price hikes for basic food staples, we look at two scenarios. In the first, we assume that the conflict is resolved on the ground within the next five to six weeks and that there

FIGURE 1: FAO Food Price Index (left) and IGC Grains and Oilseeds Index (right)



Source: <http://www.amis-outlook.org/indicators/prices/en/>

To get a sense of the magnitude of the food security implications of today's price increases, we look towards past crises and how they played out. FAO's initial estimates had put the impact of soaring international food and fuel prices at an additional 115 million in 2007/08, including 75 million people pushed into chronic hunger in 2007 and a further 40 million in 2008.¹ These estimates have been revised, with global undernourishment now showing a steady decline from 2005 until 2015. FAO analysis from 2019 explains the lack of an uptick in chronic hunger during the 2007/08 food and fuel price hikes, with a policy response which softened the pass-through of international prices as well as coping mechanisms by net food-consuming households; FAO analysis also emphasizes that national averages might hide variation and the most vulnerable people who are experiencing food insecurity.²

Meanwhile, the World Bank estimated that the impact of both rising food and fuel prices in 2007/08 pushed 130-150 million people into poverty.³ Further World

is a quick return to pre-conflict realities. We take the conflict's impact to be limited to lost grain exports for the 2021/22 marketing year, and work with an estimated 18 percent hike in international wheat and maize prices in the short-term, before they return to pre-conflict levels in the second half of 2022.

In a second scenario, we assume that the conflict continues beyond two months and has more severe consequences for global agricultural markets. In addition to the impact on 2021/22 exports, we assume that the conflict has strong repercussions for Ukraine's 2022/23 grain production, where potential labour, input and machinery supply disruptions reduce wheat and maize harvests by half. We also take Russian grain production and exports to be impacted, albeit less so, and estimate that, in combination, this would push prices up by 30 percent overall in 2022. For both scenarios, we assume a crude oil price of US\$100 per barrel in 2022, up by one third from its previous average level of US\$75 per barrel.

1 FAO. 2008. The State of Food Security and Nutrition in the World 2008. High food prices and food security – threats and opportunities; <https://www.fao.org/news/story/pt/item/8836/icode/>

2 FAO, IFAD, UNICEF, WFP and WHO. 2019. The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns. Rome, FAO.

3 World Bank. 2008. Global economic prospects 2009: commodities at the crossroads. The World Bank.

4 Ivanic, M., & Martin, W. 2008. Implications of higher global food prices for poverty in low-income countries. *Agricultural Economics*, 39, 405-416.

5 Ivanic, M., Martin, W., & Zaman, H. 2012. Estimating the short-run poverty impacts of the 2010-11 surge in food prices. *World Development*, 40(11), 2302-2317.



We estimate the global increase in acute hunger – via loss of access to food because of higher wheat, maize and oil prices – in four steps. We first count the people who did not earn enough to pay for an energy-sufficient diet in 2021, before the onset of the conflict. Secondly, we estimate the conflict-related increases in the cost of the energy-sufficient diet for two price scenarios, as price changes on international markets trickle down to domestic retail outlets. We then count the people who do not have access to an energy-sufficient diet at this higher cost. Lastly, we take the difference between the pre- and post-conflict headcounts to estimate the number of people who were pushed into acute hunger.

Results

We estimate the food security implications of the conflict for the set of 81 countries included in WFP’s

Global Operational Response Plan 2022.⁶ For the first scenario, the total number of acutely food insecure is estimated to rise by 33 million people, which is equivalent to a 12 percent increase relative to the baseline. In the second scenario, acute hunger is estimated to increase by 47 million people or 17 percent. With 276 million people in the grip of acute food insecurity in these countries as our pre-conflict baseline, this means that up to 323 million people could become acutely hungry in 2022.

In both scenarios, sub-Saharan Africa is most affected, both in absolute and relative to the baseline of already acutely food insecure. The absolute increase is about 20 million for RBD, RBJ and RBN combined in the first and 30 million in the second scenario. Table 2 summarizes the results for both scenarios disaggregated by WFP’s Regional Bureaux.

TABLE 1: Increase in acute food insecurity by scenario

Regional Bureau	Number of countries	Pre-conflict acutely hungry (baseline)	SCENARIO 1 Absolute change	SCENARIO 1 Relative change	SCENARIO 2 Absolute change	SCENARIO 2 Relative change
		million	million	percent	million	percent
RBB	14	62	5	8	7	12
RBC	12	42	4	9	6	15
RBD	20	41	7	17	10	24
RBJ	12	51	8	15	10	19
RBN	10	52	7	14	10	20
RBP	13	27	2	8	4	13
Total	81	276	33	12	47	17

Note: Countries of the following regions are allocated to WFP’s Regional Bureaux (in parentheses): Asia and the Pacific (RBB), Middle East and North Africa (RBC), West Africa (RBD), Southern Africa (RBJ), East Africa (RBN) and Latin America and the Caribbean (RBP).

⁶ WFP. 2022. WFP Global Operational Response Plan 2022 Update #4 (February 2022). Rome, WFP.



Discussion

Although our estimated increase in acute hunger is not directly comparable with poverty and undernourishment estimates from the 2008 and 2011 food price crises, these estimates place our 33-47 million additional acutely hungry within a plausible range. While food prices are at the same levels as during earlier spikes, their relative increase following the Russian invasion was smaller, accounting only for part of the steady climb from mid-2020 that brought them to current highs.

Regarding FAO's finding of a much lower increase in undernourishment than initially estimated, in today's situation, with labour markets still struggling to recover from the COVID-19 pandemic, incomes depressed and 60 percent of low-income countries in debt distress or at high risk thereof, it is unlikely that vulnerable households have the same coping

capacities as in 2007/08 or that countries can easily finance measures to buffer the shock on the ground.

Our model is relatively simple and omits several pathways – both for the conflict to affect hunger and to soften such impact – which can be significant for some countries. These include special economic or financial ties to Russia, dependence on grain imports from Black Sea countries, share of 2021/22 exports that is still outstanding, the existence of stocks to buffer a shortfall in grain imports in the short run, and the overall health of a country's economy.

Recommendations

With the food security of millions of people at stake, it is key to put in place measures and policies, both at country and global level, that can help mitigate the conflict's food security impact around the world.

Address the four root causes: conflicts, climate crises, the consequences of COVID-19 and costs

The Ukraine conflict does not happen in a vacuum. In an increasingly unstable world that is still grappling with the aftermath of the COVID-19 pandemic, while faced with an accelerating climate crisis and food prices at record levels, the Ukraine crisis has taken a bad situation and made it much worse. It is key to address all four root causes of hunger – not only the rising cost of food but also conflicts, the climate crisis and the consequences of the COVID-19 pandemic.

Provide adequate humanitarian assistance to vulnerable groups

Providing a lifeline to those furthest behind is critical. Adequate humanitarian assistance is both provided at the right time and in a way that meets essential needs, does no harm, is accessible to all and leaves behind strengthened capability and resilience. Well-targeted social protection interventions, including through horizontal or vertical expansion of existing schemes, can help alleviate hardship. Ensuring that the value of cash-based transfers is still sufficient to meet essential needs, despite rising costs, is crucial in the current price environment.

Consider a food, fuel and fertilizer import facility for the poorest and most affected countries

Before the conflict affected global markets, many low-income economies were in distress and their governments were struggling with financing imports in hard currencies. Skyrocketing prices exacerbate this situation and can render essential imports inaccessible. Preparing a food, fuel and fertilizer-import facility for the poorest and most affected countries offers protection against unexpected price spikes, which can severely limit access to food for the most vulnerable.

Keep trade flowing and minimize disruptions to supply chains

Keeping trade open for food, fuel and fertilizer is crucial to containing the increase in food insecurity

both within Ukraine and globally. This includes safeguarding agricultural production and food supply chains more broadly, including the storage facilities and infrastructure to move foodstuffs, especially grains, out of the country. How quickly Ukraine can return to meeting domestic and international food demand depends on the toll that the conflict takes on productive assets as well as ancillary infrastructure such as for processing or distribution.

Avoid ad hoc policy reactions, export restrictions and import subsidies

Export restrictions in food-producing countries were a main driver of past food-price spikes and volatility in agricultural markets.⁷ Governments are strongly advised to avoid export restrictions on essential goods, given the tight markets. Such ad hoc policies, which would only bring relief for the imposing countries in the short run, would further reduce supplies and push up global prices. Importing countries, on the other hand, should similarly avoid ad hoc reactions such as putting in place import subsidies to prop up domestic supplies. While offering short-term relief for the country that puts the measure in place, such beggar-thy-neighbour policies exacerbate the situation for everybody else, by making tight markets even tighter.

Exempt humanitarian assistance from export bans, extraordinary taxes and duties

WFP relies on procuring food in international markets to provide a lifeline to people in emergencies. While higher price levels already imply that the ability to deliver food assistance decreases, export bans, extraordinary taxes and duties further aggravate the problem – a dire reality recognized by the welcome Joint Statement on Agriculture Exports Prohibitions or Restrictions Relating to WFP, issued in January 2021 by close to 80 WTO members.⁸ We strongly urge all countries to exempt humanitarian assistance from restrictive trade policies, in the spirit of the related proposal discussed, but without the required unanimous approval, at the WTO General Council in December 2020.

⁷ Headey, D., & Fan, S. (2010). Reflections on the global food crisis: How did it happen? How has it hurt? And how can we prevent the next one? (Vol. 165). Intl Food Policy Res Inst.

⁸ https://www.wto.org/english/news_e/news21_e/agri_21jan21_e.htm

Strengthen market transparency to provide timely information

Transparency is critical to keeping markets functioning in times of uncertainty, and when facing adjustments in supply or demand. The Agricultural Market Information System (AMIS) is an inter-agency platform aimed at enhancing food market transparency and policy response. Bringing together the principal trading countries of four main staple agricultural commodities,

Rethink energy and agricultural policies to diversify import sources for food and fuel

Global food and energy markets are highly concentrated. For wheat, 7 countries provide 86 percent of supplies to the global market, while 3 countries hold 68 percent of the world's wheat reserves. Meanwhile, for maize, just 4 countries account for 85 percent of export supplies while 2 countries hold 82 percent of the



AMIS assesses global food supplies and provides a platform to coordinate policy action in times of market uncertainty. We recommend strengthening such initiatives to ensure that agricultural trade keeps flowing smoothly.

world's maize reserves.⁹ The conflict has revealed in no uncertain terms that such high concentration makes these markets vulnerable to shocks and volatility. While there is no short-term solution to this, we recommend that countries rethink their energy and agricultural policies, and diversify sources for food and fuel imports, not only from an environmental perspective but also from the national and economic security standpoint.

⁹ USDA, World Agricultural Supply and Demand Estimates, March 2022. In line with the report, we classify the European Union as one entity.

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Photo page 3,4 and 6: WFP/Giulio d'Adamo