IMF

NOTES

Tackling the Global Food Crisis

Impact, Policy Response, and the Role of the IMF

Björn Rother, Sebastian Sosa, Daehaeng Kim, Lukas Kohler, Gaëlle Pierre, Naoya Kato, Majdi Debbich, Chiara Castrovillari, Khamza Sharifzoda, and Elizabeth Van Heuvelen (all SPR), Fabiana Machado and Celine Thevenot (FAD), and Pritha Mitra and Dominique Fayad (AFR)

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- **The world faces a food crisis as major price shocks exacerbate food insecurity.** A multitude of factors have contributed to growing food insecurity since 2018, including conflict, climate shocks, and the impact of the COVID-19 pandemic. These combined in impact to drive up food prices and negatively affect food production and distribution. The situation has taken a sharp turn for the worse in 2022, as Russia's war in Ukraine exacerbated pressures on international prices for food staples and fertilizers. Many food-importing countries are now facing severe challenges; those that had been relying on Ukraine for an elevated share of their food imports are among the most affected. As pressures on food markets intensified, a number of food exporting countries have resorted to protectionist measures that have had a further negative effect on international prices and market volatility. While international prices have recently eased, they remain significantly above their 2020–21 averages. Moreover, high prices for fertilizers and energy as well as substantial downside risks weigh on the outlook. As a result of all these developments, the world is now facing a food crisis of a proportion that is at least equal to the 2007–08 crisis that left many countries with severe undersupply of food and caused large suffering and a high number of deaths.

- **The food crisis is a global phenomenon but affects low-income countries (LICs) the most.** The analysis in the note identifies 48 countries that are most affected by the crisis, either because (i) they are facing significant balance-of-payments (BOP) pressures due to higher food and fertilizer prices or (ii) are designated by the World Food Programme (WFP) as experiencing acute food insecurity amid parts of their populations. These countries reflect diverse circumstances: the list encompasses middle-income countries (MICs) and LICs and spans several continents. The Sahel region and other parts of Sub-Saharan Africa are most affected: together, these regions account for a large share of the 20–30 countries with the most elevated vulnerability to the food crisis and include many countries that are Fragile and Conflict-Affected States (FCS): for them, the exposure to the food shock combines with other challenges such as weak macroeconomic conditions, poor institutional governance and capacity, and socio-political instability. All of these factors make it especially difficult to respond to the crisis with well-targeted measures, adequate resources, and speed.

- **In addition to creating human suffering, the food crisis has large economic costs.** While recognizing methodological and data issues as an important constraint, this note estimates the

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economic effects of the food crisis from three different angles that all suggest a major impact on many countries and world regions: the impact of higher prices for food staples and fertilizers on countries' BOP; the cost to countries' budgets of fiscal measures aimed at mitigating the impact of higher food prices on their populations; and the cost of providing sufficient nutritious food to those people that are currently in acute food insecurity.

- The BOP approach suggests an additional cost to the import bills of the 48 countries most affected by the food shock of almost US$9 billion in 2022 and 2023, stemming from the sudden change in global food and fertilizer prices.
- The second approach approximates the cost from a fiscal perspective and estimates a need of US$5–7 billion in additional budget outlays for the 48 countries to protect vulnerable households from the higher food prices.
- Finally, the third approach suggests a cost of about US$50 billion to eradicate acute food insecurity in 2022. Taking a longer-term lens that adds the challenge of chronic food insecurity to that of acute incidences of malnutrition can be expected to increase this cost significantly.

- **Strong and timely action across four policy areas is needed to mitigate the food crisis.** It is urgent and important to (i) adequately and rapidly support households vulnerable to food insecurity through international humanitarian assistance, backed by the full funding of the WFP, and effective fiscal policy measures at the domestic level; (ii) maintain open trade, including at the intra-regional level, to allow food to flow from surplus areas to countries in need, which urgently requires the phasing out of export bans by major food producers; (iii) increase food production and improve distribution, including through ensuring adequate access to fertilizers and other inputs; and (iv) invest in climate-resilient agriculture for longer-run sustainability.

- **The international community has been stepping up its engagement, but further action is needed.** Engagement of development partners including International Financial Institutions is expanding on policy advice, capacity building assistance and financing. Policy advice and capacity building assistance are urgent across all four policy areas identified above. Financing should aim to support the most vulnerable segments of the affected countries' populations and mostly take the form of grants, humanitarian assistance and long-term concessional financing. Debt relief, including through the G20 Common Framework, could contribute to helping the poorest countries affected by the food crisis by freeing-up additional financial resources for food-related spending. Coordination among development partners, facilitated by a number of new coordination mechanisms, is critical for a targeted and timely response to the challenge.

- **The Fund is contributing strongly to this agenda, consistent with its mandate and expertise.** Policy advice, capacity building, and addressing BOP needs related to the food shock are core elements of the Fund's mandate to support its member countries. All have been deployed to address the current crisis. Through its policy advice and capacity building assistance, the IMF seeks to pro-actively identify food-related BOP pressures and supports policies to better assist vulnerable households, the phasing out of protectionist trade measures, and more efficient public investment to foster climate-resilient agriculture. These actions will help governments to avoid resorting to export restrictions, which can destabilize international markets and exacerbate global price pressures. The Fund is also providing financing to assist its member countries during the current food shock by augmenting existing Upper Credit Tranche (UCT)-quality arrangements, approving new ones, and standing ready to provide emergency financing where a UCT-program is either not feasible or nor needed to address an urgent food shock-related BOP need. A new food shock window under the Rapid Financing Instrument (RFI) and the Rapid Credit Facility (RCF) is currently under consideration to further strengthen the Fund's lending response to the evolving food crisis.

Chapter 1: Introduction

Food insecurity has been on the rise for about half a decade. The spike in international food prices triggered by Russia's war in Ukraine, which falls on weak post-COVID-19 macroeconomic conditions in many countries, will intensify the food crisis on a global level. Low-income countries whose populations were already experiencing acute malnutrition before the war are particularly affected by the fast-spreading challenge. The depth and breadth of the food shock calls for decisive and well-coordinated action on a global scale.

Food insecurity is a major humanitarian and economic challenge. Food insecurity—the lack of regular access to sufficient nutritious food[2]—can be caused by unavailability of food and/or lack of resources to obtain food, typically reflecting multiple factors that are often reinforcing each other. Ensuring food security for a country's population—and especially its most vulnerable segments—is not only an ethical and humanitarian priority but also economically important and urgent. An adequately-nourished population is critical to sustained growth in the short term and long term. There are many channels at play. Importantly, poor nutrition weighs on health and human capital accumulation and thus productivity and growth. In addition, food insecurity has often been associated with social unrest, conflict, and large-scale migration, which reduce labor supply, complicate policy implementation, and more broadly affect consumer and investor confidence. Ultimately, food insecurity can be expected to prevent realizing real GDP growth rates sufficient to reduce poverty. In FCS, where two-thirds of the people facing acute food insecurity live, malnourishment can act as a fragility multiplier exacerbating effects of other trends such as climate change, pandemics, or forced displacement.[3]

The war in Ukraine has exacerbated food insecurity, which already increased to record levels before. Food insecurity started to rise in 2018,[4] fueled by conflicts, climate shocks, and the economic fallout from the COVID-19 pandemic. On top of this, the war in Ukraine has developed immediate global repercussions as Ukraine and Russia are major exporters of agricultural products and inputs, such as fertilizers and energy. Ukraine was also the largest supplier of cereals for the World Food Programme before the war.[5] Ukraine and Russia together supply 30 percent of globally traded wheat, 20 percent of maize, and 75 percent of sunflower oil.[6] As a result of the war, agriculture production in Ukraine is expected to decline by 25–40 percent in 2022. Furthermore, several food exporting countries resorted to export restrictions on food and fertilizers to support domestic food availability. The reduced current and anticipated supply of food and fertilizers triggered a sharp rise in global food prices and created food shortages in countries that could not shift supply quickly, putting additional pressure on prices that had already reached all-time highs before the war started (Figure 1). Countries that are highly dependent on food and fertilizer imports from Ukraine and Russia—mostly LICs, especially in Sub-Saharan Africa (SSA)—have been suffering the most (Figures 2 and 3).

The impact of the food shock aggravating food insecurity is global, but LICs are hit hardest. Available data paint a worrisome picture: world-wide, estimates point to about 860 million malnourished people in August

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[2] According to the 1996 Rome Declaration on World Food Security, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." The note cites statistics on food insecurity from a variety of sources that use different definitions and may not necessarily be directly comparable. The Food and Agriculture Organization (FAO) defines moderate food insecurity as experienced by people who have reduced the quality and/or quantity of their food and are uncertain about their ability to obtain food due to lack of money or other resources. They define severe food insecurity as experienced by people who have run out of food and, at the most extreme, have gone days without eating. The WFP defines acute food insecurity as any manifestation of food deprivation that threatens lives or livelihoods regardless of the causes, context or duration. They define chronic food security as food insecurity that persists over time, largely due to structural causes. The Integrated Food Security Phase Classification/Cadre Harmonisé classifies acute food insecurity along 5 phases ranging from minimal (1) to catastrophe/emergency (5). The UN Global Report on Food Crises and WFP-FAO Hunger Hotspots report rely, at least in part, on IPC/CH data and classification.

[3] See the IMF's strategy for Fragile and Conflict-Affected States (2022c); paragraph 4.

[4] FSIN and Global Network Against Food Crises, 2022, Global Report on Food Crisis.

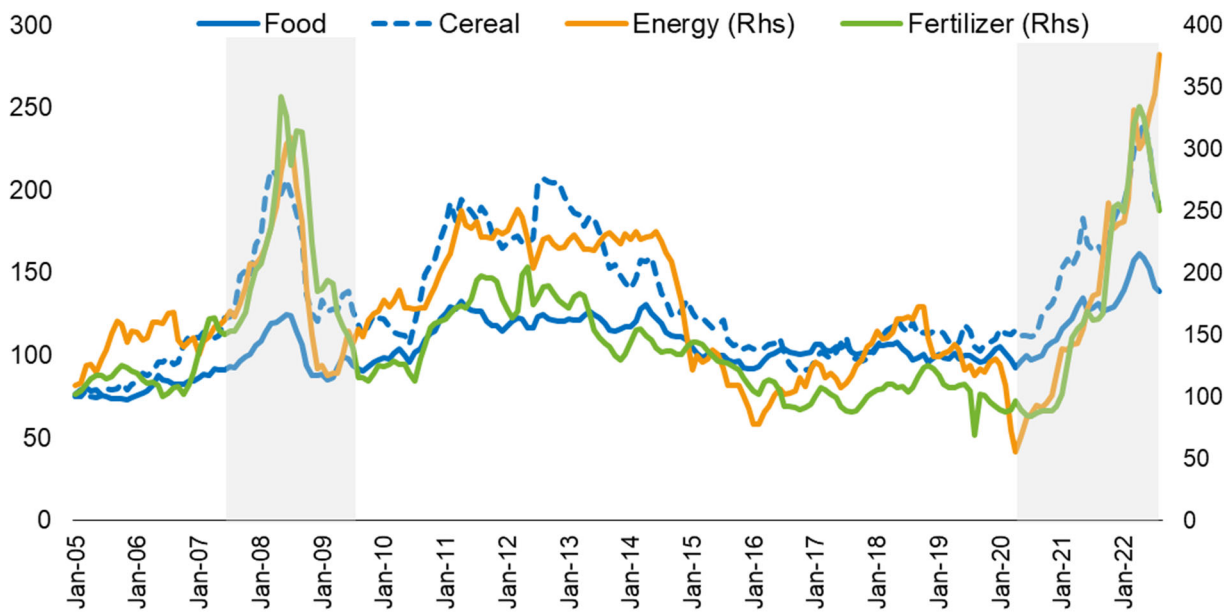
[5] Bulk carrier sets off from Ukraine with grain for WFP in first since start of war | World Food Programme

[6] U.S. Department of Agriculture, Economic Research Service; https://www.nytimes.com/2022/03/20/world/americas/ukraine-war-global-food-crisis.html

2022 (Figure 4). Of these, 345 million people are suffering from acute food insecurity (Figures 5 and 6). Many of these people live in SSA, often in FCS that on average imported about 80 percent of their wheat consumption during 2017–2019 compared with some 50 percent in the case of other net-wheat-importing countries.[7] The stronger impact of rising food prices on LICs reflects that relatively poor households tend to spend a larger share of their incomes on food. Moreover, the pass-through of global to domestic food prices is typically higher than in more advanced countries.[8] LICs have also been particularly exposed to extreme weather events and conflicts on top of the COVID-19 pandemic (for example, in the north of Mozambique, Somalia, Chad, Sudan, and Yemen), which contributed to growing food insecurity through their negative impact on domestic food production. Moreover, in many countries, high oil prices have been a key driver of domestic food inflation through their impact on transport and food distribution costs.[9] Finally, the recent real effective appreciation of the U.S. dollar has been affecting local currency purchasing power in many countries that rely strongly on food imports, and especially the purchasing power of poorer households that spend proportionally more on food. The combined effects of increased food and energy price and supply constraints not only lower living standards but are also likely to increase poverty and lower long-term growth, potentially fueling social unrest and large-scale migration.[10]

Figure 1. Energy, Fertilizer and Food Prices

(Indices, 2016=100)



Source: IMF Primary Commodity Price Indices, as of September 15, 2022.

[7] IMF staff analysis based on FAOSTAT data.

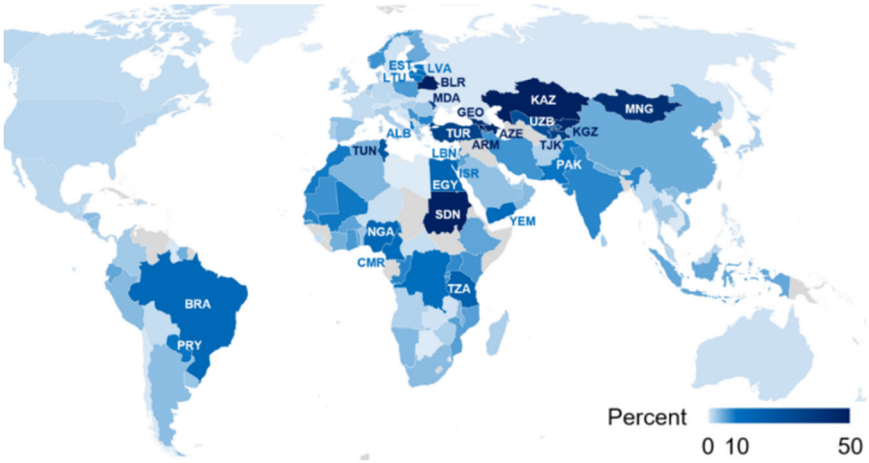
[8] Given the large share of food in household spending in LICs (about 40 percent), a strong pass-through (estimated at close to unity in SSA) from global to local staple prices increases countries' vulnerability to sharp global food price increases (IMF, 2022d).

[9] For example, in SSA, the relative prices of staple foods, in particular those highly imported, are estimated to be 2.4-3 percent lower in urban than rural areas (Okou and others 2022).

[10] Staff estimate that higher food and energy prices could push relative poverty rates up by almost 2 percentage points in Cambodia and Vietnam (IMF, 2022b, Regional Economic Outlook for Asia and Pacific, forthcoming).

Figure 2. Food and Fertilizer Imports from Ukraine and Russia

(As a share of total food and fertilizer imports)



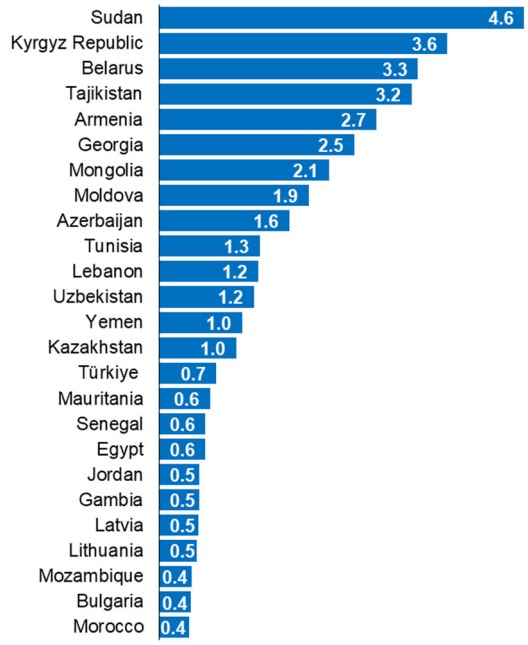
Source: UN Comtrade, IMF Staff calculations.

Notes: Import value is the latest available between 2017-2021 as of August 3, 2022. Food imports include Standard International Classification Revision 4 (SITC4) codes 0 (Food and Live Animals), 4 (Animal and Vegetable Oils, Fats and Waxes) and 22 (Oil-seeds and Oleaginous Fruits). Fertilizer imports are Harmonized System (HS) code 31 (Fertilizers). Labelled countries have 10 percent or more imports of food and fertilizer from Russia and Ukraine out of total food and fertilizer imports.

Figure 3. Top 25 Importers of Food and Fertilizer from Russia and Ukraine[1/]

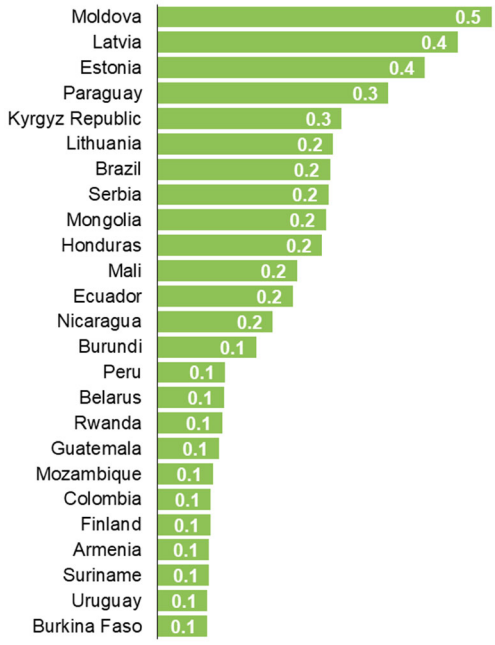
Food Imports from Russia and Ukraine

(In percent of GDP)



Fertilizer Imports from Russia and Ukraine

(In percent of GDP)



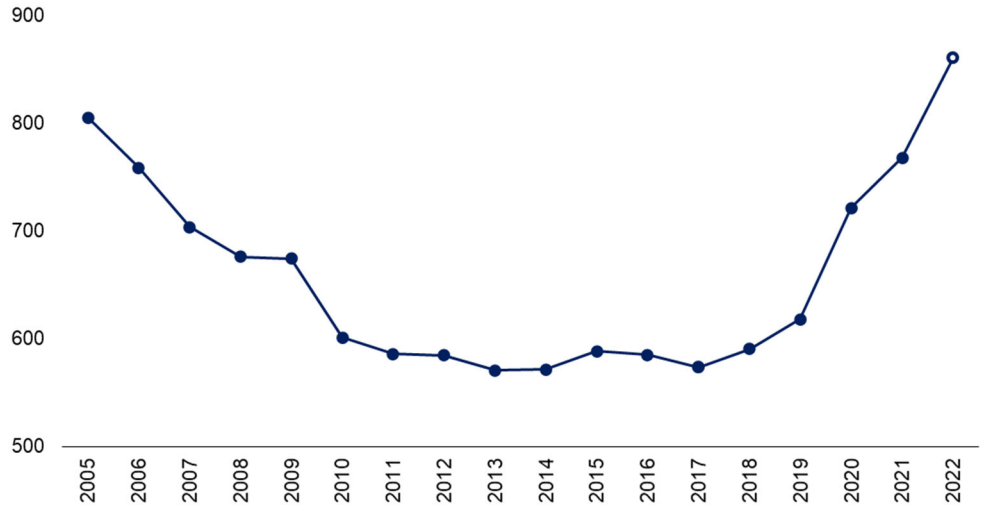
Source: UN Comtrade, World Economic Outlook (WEO), IMF Staff calculations.

1/ 25 countries with the largest imports of food and fertilizer from Russia and Ukraine as a percent of GDP.

Notes: Import value is the latest available 2017–2021 as of August 3, 2022. Food imports include SITC4 codes 0 (Food and Live Animals), 4 (Animal and Vegetable Oils, Fats and Waxes) and 22 (Oil-seeds and Oleaginous Fruits). Fertilizer imports are HS code 31 (Fertilizers). Nominal GDP from the latest year available is used.

Figure 4. Global Undernourished Population

(In millions)

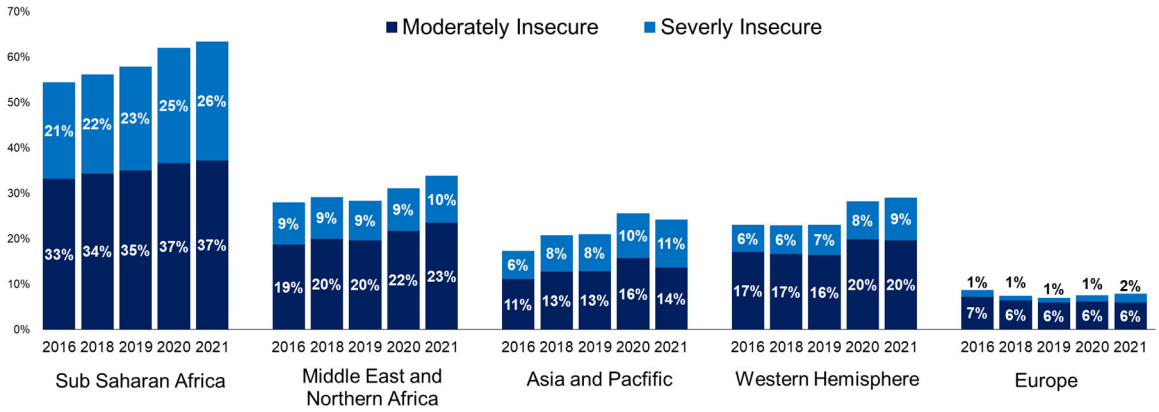


Source: FAOSTAT.

Notes: Undernourished people are defined by FAO as those whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life. The last point for 2022 is an estimate from WFP's HungerMap Live as of August 3, 2022.

Figure 5. Prevalence of Moderate and Severe Food Insecurity

(Percent of population)

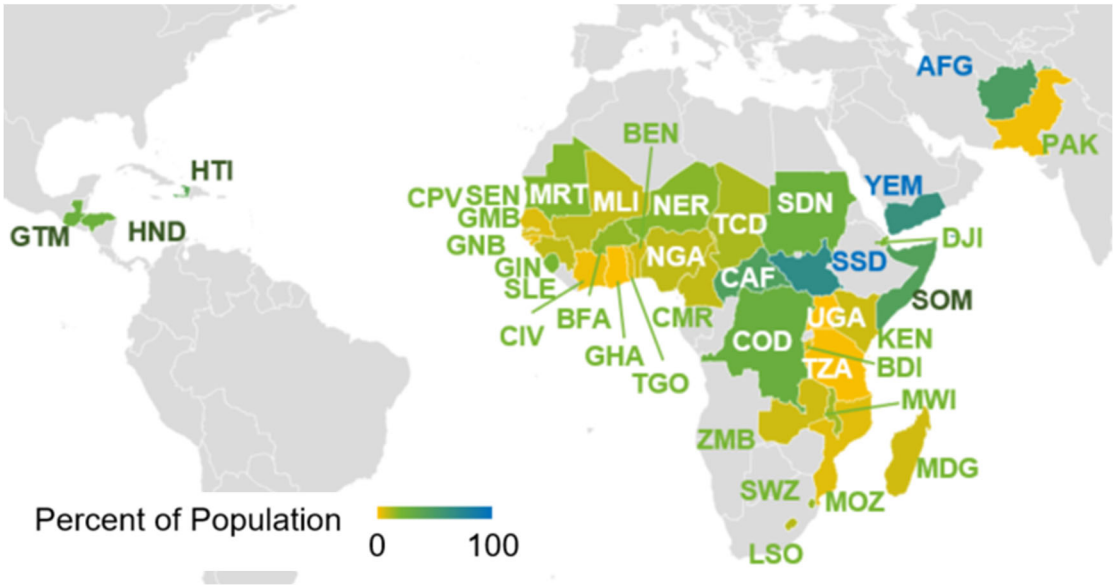


Source: FAOSTAT.

Notes: Moderate food insecurity is experienced by people who have reduced the quality and/or quantity of their food and are uncertain about their ability to obtain food due to lack of money or other resources. Severe food insecurity is experienced by people who have run out of food and, at the most extreme, have gone days without eating. Middle East is the Western Asia grouping from FAOSTAT. Western Hemisphere is North America and Latin America and Caribbean groupings from FAOSTAT.

Figure 6. Acute Food Insecurity, 2022

(Projections, phase 3+ according to IPC/CH classification[1/])



Source: IPC, World Bank, 39 countries.
Notes: Projection period varies by country between January 2022–February 2023.
1/ Percent of population in IPC/CH acute food insecurity phases 3 (crisis), 4 (emergency) and 5 (catastrophe/famine). Please see IPC Technical Manual Figure 27 for a detailed description of the classification.

While international food prices have eased recently, food insecurity is likely to worsen. Driven by improved supply conditions, some progress with the resumption of Ukrainian grain exports through the Black Sea, news of a bumper Russian wheat harvest, and macroeconomic factors weighing on inflation—including rising interest rates and global recession fears—global food prices dropped in June and July from record levels in April/May 2022. However, prices remain significantly above the 2020–21 average and are still historically high, while food insecurity continues to rise, particularly in LICs. Moreover, the outlook remains highly uncertain: existing supply bottlenecks, declining stocks of food staples, the challenges involved in marketing Ukraine's current and future harvests, the still high prices of inputs like fertilizers and energy that affect agricultural output around the world, and the negative outlook for rice all weigh on food markets or can be expected to do so in the future.[11] In addition, longer-term factors underlying food insecurity (for example, climate change and conflicts) are unlikely to disappear any time soon. Projections by specialized international agencies suggest that nearly 670 million people—or 8 percent of the world's population—will still be facing hunger by 2030.[12] And the World Bank estimates that over the medium term (until 2028) the number of people suffering from acute or chronic food insecurity in IDA and IBRD member countries will remain high at around 1 billion.[13]

Tackling the global food crisis is urgent and difficult, requiring close international coordination. While widespread food insecurity–even acute food insecurity–has been a long-standing issue, two factors make the current juncture unique: (i) increased inflation and the highly uncertain outlook for food markets, and (ii) the weaker post-COVID-19 global economic environment with substantial vulnerabilities particularly in LICs. The

[11] While rice prices have remained broadly stable so far this year due to record-high stocks in the wake of the 2021-22 growing season, uneven monsoons in India, the world's second largest producer and responsible for 40 percent of the global rice trade, are expected to erode the 2023 harvest. Adding to the impact of the recently introduced rice export restrictions (USDA, 2022a, and 2022b), this could lead to a significant negative impact on global rice prices.

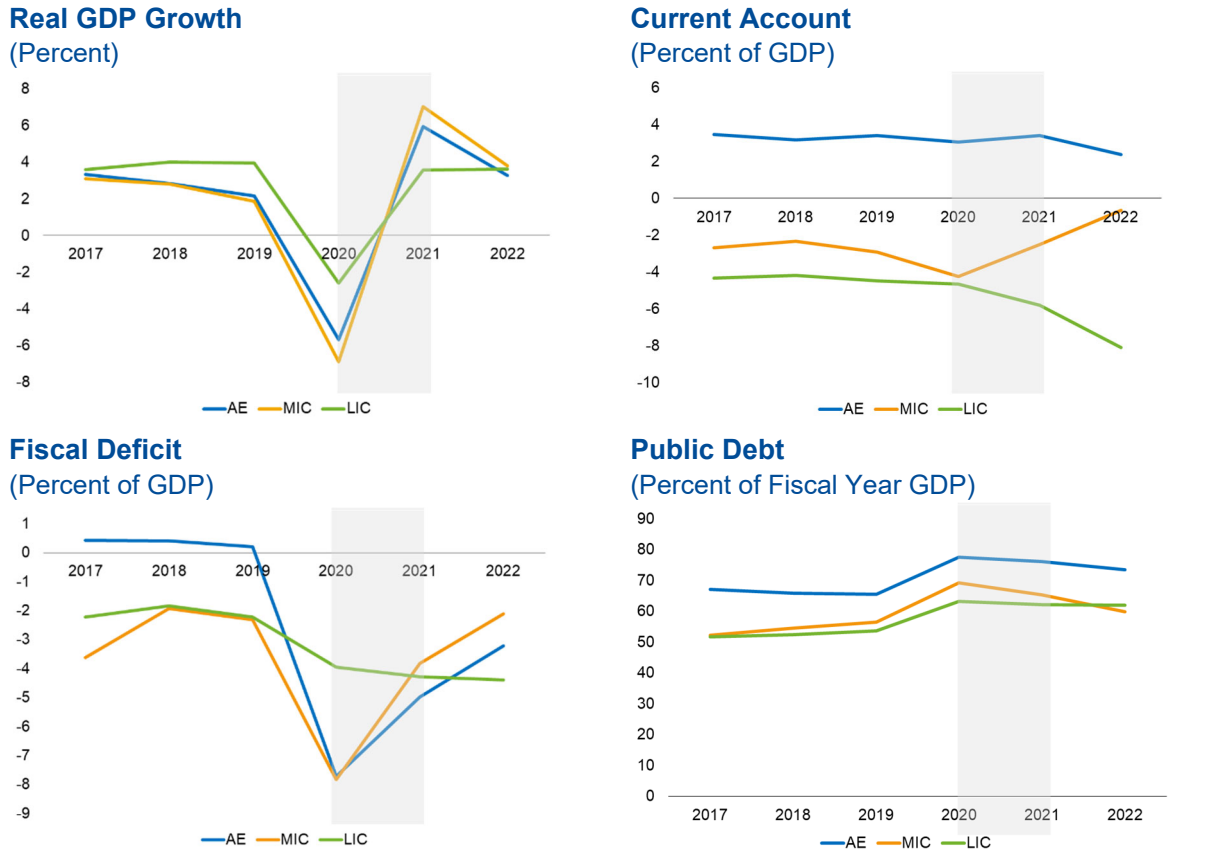
[12] FAO, IFAD, UNICEF, WFP, and WHO 2022.

[13] World Bank 2022b. This World Bank report uses Food and Agriculture Organization (FAO)'s definition: prevalence of severe food insecurity is defined as the percentage of people in the population who live in households classified as severely food insecure. A household is classified as severely food insecure when at least one adult in the household in the last 12 months has reported to have been forced to reduce the quantity of the food consumed, to have skipped meals, having gone hungry, or having to go for a whole day without eating because of a lack of resources.

current food shock thus comes at a time of limited policy space for many countries with low fiscal and external buffers and elevated debt vulnerabilities (Figure 7). In this context, adequately addressing the food crisis, while also trying to meet competing development needs, will require comprehensive and tailored approaches that take into consideration a country's specific context and capacity constraints.[14] While the optimal policy mix will thus vary across countries, this note outlines the broad policy agenda that policymakers face. It also highlights the importance of enhanced international cooperation and stepped-up financial support to vulnerable countries, especially through humanitarian assistance and grants.

The rest of the note is organized as follows. Chapter 2 provides three different perspectives on the cost of the global food crisis and shows its incidence across countries and regions. Moreover, it combines information on food insecurity with other relevant data to identify the countries that are most vulnerable at the current juncture. The analysis suggests that a number of LICs (mostly in SSA) exposed to the food shock are particularly vulnerable and require policymakers' urgent attention. Chapter 3 discusses the main policy issues involved in addressing the food crisis. These are (i) protecting vulnerable households; (ii) maintaining open trade to ensure that food can flow from areas of surplus to countries most in need; (iii) increasing agricultural production; and (iv), in a longer-term perspective, making agriculture more climate resilient. Finally, chapter 4 discusses the role of the Fund as part of the international community's efforts to mitigate the economic impact of the food crisis. Consistent with its mandate and areas of comparative advantage, the Fund is helping its member countries mainly with policy advice (macroeconomic frameworks, trade, social safety nets) and, where needed, financing to address BOP pressures associated with the current food shock.

Figure 7. Key Global Macroeconomic Developments
(Average for each group)



Source: WEO April2022 and IMF Staff calculation.

[14] IMF 2022d.

Chapter 2: Mapping Costs and Vulnerabilities

This chapter attempts to quantify the food crisis and map its incidence by using three alternative perspectives: the impact of the BOP shock on countries associated with higher prices for cereals and fertilizers; the fiscal cost of measures to address the impact of the price shock on households; and the cost of closing the caloric gap for people suffering acute food insecurity. After discussing the scope of the food crisis, the chapter changes perspective towards an analysis of vulnerabilities to spot those countries for whom responding to the food shock will be particularly difficult due to economic challenges and a fragile socio-political environment.

Estimating the Financial Cost of the Food Crisis

An analysis of the cost of the food crisis needs to start with the admission that it is hard to quantify. This is due to the multi-faceted nature of the crisis, impacting countries' BOPs, countries' budgets, and the diets of individuals. Data availability is a problem in terms of coverage and timeliness, and there is no convergence among specialized agencies or academia on methodologies. This chapter takes an eclectic and pragmatic approach to costing the current food crisis based on three alternative perspectives that seek to capture the impact of the food crisis from different angles (conceptually and methodologically). The first approach quantifies the impact of higher global prices for cereals and fertilizers on the BOP of countries that are highly exposed to food insecurity. The second approach aims at quantifying the budgetary cost of measures that would be needed to protect vulnerable households in the countries most affected by the food shock from the impact of higher cereal prices. The third approach focuses on the most vulnerable populations suffering from the food shock. It estimates the cost to close the global caloric gap of those people that are facing acute food insecurity. These approaches provide crude approximations of the costs associated with the current food crisis from different perspectives, providing a first impression of the magnitude of the current food challenge on a global and country-specific level. They are not intended to represent an operational cost for international food agencies or the financing needed from international financial institutions. The latter would require more refined analysis beyond the scope of this note.

1. Impact of the Terms-of-Trade Shock On the Countries Most Exposed to Food Insecurity

This approach looks at the impact of higher import costs for cereals and fertilizers on countries' BOPs. This measure is relevant because it reveals the pressures on countries' foreign exchange (FX) needs, and ultimately the central bank's international reserves, that are associated with the recent precipitous increase in international prices for cereals and fertilizers. It is important to understand that these pressures do not measure the *total* additional external financing needs that countries are facing due to recent changes in global market conditions: importantly, they include neither the impact of higher global energy prices nor that of rising interest rates on external borrowing. Therefore, for many countries and notably energy importers, the shock associated with higher cereal and fertilizer prices will only account for a part of significantly weaker BOP positions.

The 48 countries most affected by the food crisis face an additional US$9 billion FX need over 2022–23 (Table 1 and Figure 8)**.** To derive these estimates of US$4.7 billion for 2022 and US$4.1 billion for 2023, we first identified the most affected countries as those that either (i) are classified as suffering from acute food insecurity according to the FAO and WFP or are included in the UN Global Report on Food Crises (UNGRFC) list of

countries in a major food crisis,[15] or (ii) are facing a negative Terms-of-Trade (ToT) shock associated with higher import prices for cereals and fertilizers of at least 0.3 percent of GDP (Figure 9 and Annex Table 1).[16] To estimate the magnitude of the food shock on the BOPs of these countries, we (i) applied the international price changes for five types of cereals and three types of fertilizers—those that are most directly linked to food insecurity—to their import volumes assumed to grow with real GDP; and (ii) used the IMF's price forecasts as of end 2021 as the counter-factual prices of cereals and fertilizer that would have prevailed in the absence of the recent price hikes associated with the war in Ukraine (see Box 1 for more details on the methodology).

Table 1. Impact of the Terms of Trade Shock for Countries Highly Exposed to Food Insecurity[1/]

(US$ billions)

	Fertilizer		Cereals		Total	
	2022	2023	2022	2023	2022	2023
LICs	1.65	1.42	1.63	1.52	3.29	2.93
MICs	1.65	1.63	-0.21	-0.51	1.44	1.12
-15% of y-on-y forecasted price growth	1.84	1.57	0.42	0.06	2.26	1.63
All	**3.30**	**3.05**	**1.42**	**1.01**	**4.73**	**4.05**
+15% of y-on-y forecasted price growth	4.77	4.52	2.42	1.96	7.19	6.48

1/ Impact of commodity price changes comparing October 2021 Staff projections with September 2022 Staff projections. See Box 1 for list of commodities included and methodology of impact estimates.

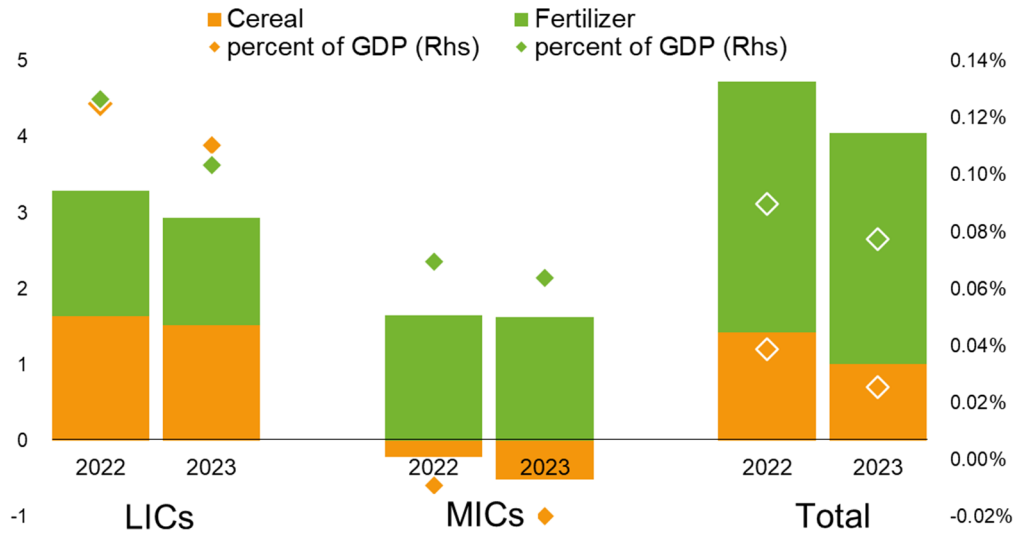
The impact of the ToT shock on LICs differs significantly from that on MICs. The overall price shock for 2022 is higher for LICs than for MICs both in nominal terms (US$3.3 billion compared to US$1.4 billion) and as a percent of GDP (0.3 and 0.1 percent respectively). The underlying drivers of the shock are also different: MICs mostly suffer from higher fertilizer prices, whereas cereals and fertilizer price hikes contribute almost equally to the expected increase in the import bill for LICs. The negative impact of the ToT shock from higher fertilizer prices over 2022–23 is slightly higher for MICs than for LICs in nominal terms—US$3.3 billion compared to US$3.1 billion—but higher for LICs when scaled to their GDP (0.2 percent of GDP compared to 0.1 percent of GDP for MICs). On the other hand, the impact of the ToT shock from higher cereal prices in 2022–23 is estimated at US$3.2 billion for LICs, while MICs—many of them being food exporters—are expected to experience an overall positive impact of US$0.7 billion. These pressures associated with the most recent price shock come on top of sizeable price increases observed during the COVID-19 pandemic (Figure 10).

[15] The 2022 UNGRFC report identifies 35 countries in a major food crisis which fulfill at least one of the following criteria: (i) at least 20 percent of the population is in phase 3 or above of the Integrated Food Security Phase Classification/Cadre Harmonisé (IPC/CH); or (ii) at least 1 million people are in IPC/CH phase 3 or above; or (iii) any geographical area is in IPC/CH phase 4 or above. The FAO-WFP Hunger Hotspots June–September 2022 Outlook identifies 26 hotspots of concern. Countries of the highest concern already have populations in IPC/CH Phase 5 or in IPC/CH Phase 4 facing severe aggravating factors. Countries of very high concern either (i) have above 500,000 people in Emergency IPC/CH Phase 4 or identified as acutely food insecure by WFP's Consolidated Approach for Reporting Indicators on Food Security (CARI) methodology, or (ii) have 10% of the population in IPC/CH Phase 4 or identified as severely food insecure by WFP's CARI methodology. Other hotspots of concern are countries where food insecurity is likely to deteriorate further.

[16] Critically, the sample of countries reflects data as of a certain vintage is subject to change. The percent of GDP threshold is calibrated to include the decile of countries with the highest negative impact of the shock, in percent of GDP. We exclude countries that have an overall positive commodity Terms of Trade shock as measured by the IMF Research Department's Commodity Terms of Trade Database. See Gruss and Kebhaj (2019) for details.

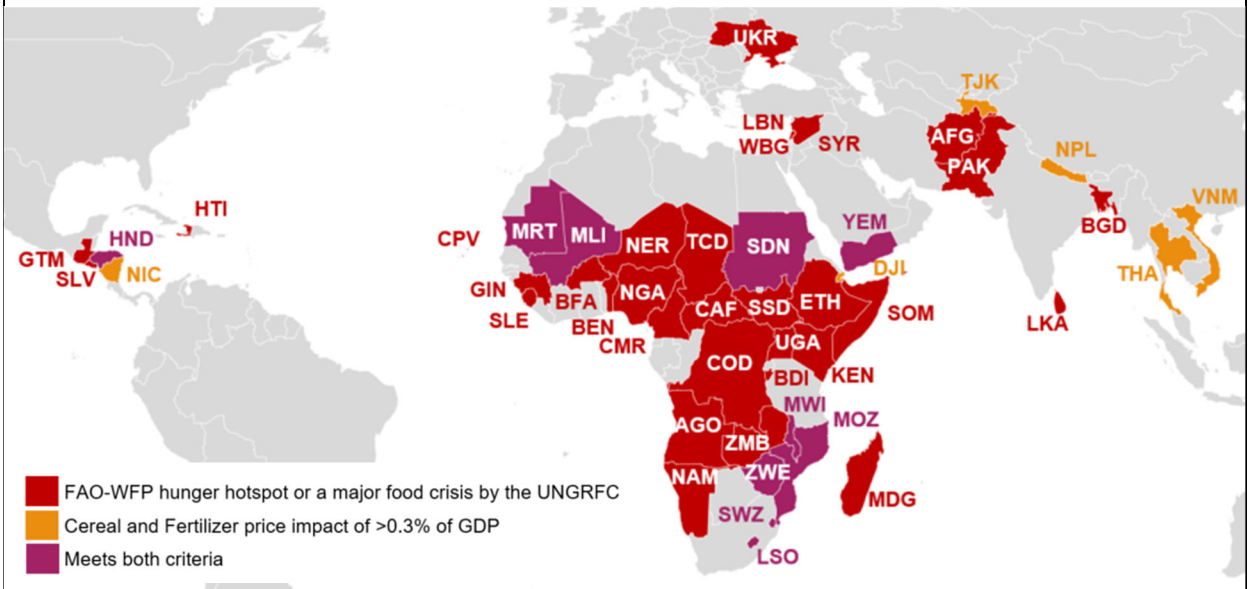
Figure 8. Impact of the Terms of Trade Shock for Countries Highly Exposed to Food Insecurity[1/]

(US$ billions, Percent of GDP)



1/ Impact of commodity price changes comparing October 2021 Staff projections with September 2022 Staff projections. See Box 1 for list of commodities included and methodology of impact estimates.

Figure 9. Countries Highly Exposed to Food Insecurity [1/]

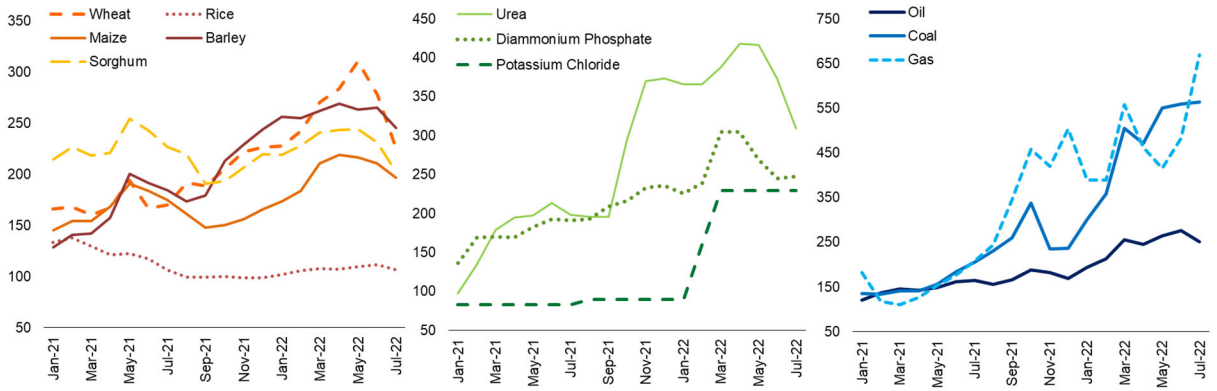


Source: WFP, FAO, UNGRFC, UN Comtrade, USDA, WEO, Staff calculations.

1/ Countries classified as (i) suffering from acute food insecurity by the FAO-WFP or in a major food crisis by the UNGRFC (see footnote 13 for details) or (ii) facing a negative impact of international price changes for food and fertilizers on the external current account of at least 0.3 percent of GDP (excluding countries with a positive overall commodity ToT shock).

Figure 10. Fuel, Fertilizer and Cereal Prices

(Indices, 2016=100)



Source: Staff projections and calculations of price indices as of September 1, 2022.

Box 1. Estimating the Cost of the Food-Related Terms-of-Trade Shock of the War in Ukraine

The impact of the shock on countries' external current account positions in 2022 and 2023 that are associated with the recent price increases for cereals and fertilizers are estimated by comparing net import values costed on the basis of the latest (September) price projections with those based on price forecasts as of end-2021 (baseline scenario). The analysis covers eight commodities (five types of cereals and three types of fertilizers), which have exhibited sizeable recent price increases (Figure 10).[1/] Despite rice prices having been broadly stable so far, the analysis includes rice because it represents a significant share of food imports in several countries.

Net import volumes for 2022 and 2023 are projected using UN Comtrade data for 2021, assuming that net import volumes would then grow proportionately with real GDP. The IMF October 2021 WEO projections for real GDP are used for both the baseline and the shock scenario to keep constant volumes across scenarios.

The value of net imports is calculated for each commodity and country separately using Staff projections for the respective price level and volume. For the baseline scenario, we take the actual 2021 commodity prices and the projected 2022 and 2023 price indices, using Staff projections from October 2021. In the shock scenario, we use updated projections (as of Sept. 1, 2022) on forecasted price indices. Given the uncertainties surrounding price projections, we also provide projections based on prices at the upper and lower margins of a ± 15 percent window around the central price forecast. In most cases, the projected prices for our chosen commodities are not reported per kilogram; therefore, we first convert the prices from their respective units to kilograms.

Data availability and gap filling. There are several data gaps in the UN Comtrade data. First, for some commodity-year pairs, countries report trade values rather than volumes. In these cases, we impute the volume using commodity price levels. Second, some countries do not report data for all commodities. For these, we use trade data reported by other countries, listing these countries as trade partners. Where data for 2021 is not available, we use the latest available year since 2015, and project volumes forward assuming proportional growth with real GDP. For countries that have no data for cereal commodities since 2015, we supplement remaining gaps with trade data from United States Department of Agriculture (USDA). Overall, the analysis covers 189 countries with data across at least 1 of 8 commodities.

Some notes of caution. The analysis is a partial equilibrium analysis, assuming that import volumes would not react to the change in prices. This assumption may hold true in the short run in which domestic supply cannot react quickly and may be more justified for food staples with less substitutes than other goods; but import volumes can be expected to respond to price signals over time as the economy adjusts. Moreover, the BOP shock

Box 1. Estimating the Cost of the Food-Related Terms-of-Trade Shock of the War in Ukraine (concluded)

associated with higher food and fertilizer prices only accounts for a part of the *total* BOP shock from recent price trends on international markets as it ignores the impact of other commodities, and especially energy. Finally, price hikes for energy and other agricultural inputs can lead to further pressures on food prices. This effect is particularly acute in LICs.

[1/] Diammonium Phosphate (HS310530), Urea (HS310210) and Potassium Chloride (HS310420) make up the fertilizer commodity group. Wheat (HS1001), Barley (HS1003), Maize (HS1005), Rice (HS1006) and Sorghum (HS1007) make up the cereal commodity group.

2. Mapping the Fiscal Costs of Food Insecurity for the Most Affected Countries

The second approach assesses the fiscal cost of compensating the impact of higher food prices. Specifically, it seeks to identify the costs of compensating households living on less than US$1.90 per capita per day for food price increases between December 2021 and the most recent food inflation data available in 2022 (April, May or June 2022, depending on the country). The estimates assume temporary (six-month) compensation, unchanged consumption budget shares allocated to food, and perfect targeting of compensation.[17] Because inflation varies significantly across countries, even within the same region and across peer countries, the analysis is based on a lower bound value (10th percentile) and a higher bound value (90th percentile) to estimate a range of fiscal costs rather than imputing central tendency values. As above, the estimates are covering the 48 countries most affected by food insecurity.

Compensating the poorest households in the 48 countries would cost between US$5.1 billion and US$7.2 billion in 2022. These costs, which were weighted by the respective CPI baskets, represent between 0.15 and 0.3 percent of GDP. Importantly, the estimates do not account for price hikes in other items included in the consumption baskets, notably fuels. These would need to be added to achieve a more comprehensive protection of purchasing power. Moreover, it is important to note that these additional costs would need to be shouldered at a time when domestic revenues are likely to be under pressure due to lower GDP growth that weighs especially on tax revenue. In countries with already limited fiscal space, this would entail careful public expenditure reprioritization.

3. Financial Cost of Tackling Acute Food Insecurity

The third approach costs the food crisis based on the number of people suffering acute food insecurity. Following the WFP, acute food insecurity describes people who suffer from acute malnutrition or worse and have great difficulties securing access to food. To derive an estimate of the cost associated with lifting people out of acute food insecurity and keep them safe for 12 months, we apply the WFP's estimated operational cost of support per beneficiary to the latest available number of people facing this condition. The latter increased by some 200 million since 2019, with the war in Ukraine adding to pressures that had already grown before.[18] The estimate builds on the WFP's total annual operational cost of US$24.2 billion.[19]

Some US$50 billion would be needed over the next 12 months to eradicate acute food insecurity. This would allow to lift the 345 million people that were assessed to be food insecure by the WFP in June 2022 out of this condition, and to ensure better nutrition levels for them for 12 months.

[17] Data is missing for 5 of the 48 vulnerable countries. The data sources are the World Bank Global Consumption Database, the IMF CPI database, and Haver Analytics. Missing inflation data were imputed to increase the number of countries in the sample.

[18] World Food Programme 2022a.

[19] This number is the most recent update from WFP (2022b) which estimated the annual operational cost at US$22.2 billion to support 151.6 million people in 2022.

Spotting the Most Vulnerable Countries

Many of the 48 countries most affected by the food crisis suffer additional economic, institutional, and social weaknesses. The global food crisis is increasing external and debt vulnerabilities in the affected countries, especially LICs and FCS, which already have limited buffers after the fight against the COVID-19 pandemic and are facing difficult policy trade-offs, social tensions, and low capacity. As discussed in more depth in the Fund's new strategy for Fragile and Conflict-Affected States,[20] several factors contribute to high vulnerability, including macroeconomic challenges, weak economic institutions, and a fragile socio-political environment (Annex Table):

- **Macroeconomic challenges.** For many countries, and in particular LICs, the added pressures on current account deficits and international reserves come at a time when their external positions have already been weakened by the COVID-19 pandemic. Moreover, public debt levels are often elevated (Figures 7 and 11). IMF staff's analysis suggests that over half of the 48 countries identified as highly exposed to the food crisis also have relatively weak external or fiscal buffers, which limits their capacity to respond to the shock. For example, reserves for 15 countries cover less than 3 months of imports, and reserves for another 8 countries do not exceed 4 months. Debt levels are also often very high, limiting the countries' space to borrow more to finance their policy response to the food shock: 16 countries experience public debt in excess of 60 percent of GDP, and an additional 11 countries register levels above 50 percent of GDP. Many (17) of the highly indebted countries are also running fiscal deficit of more than 5 percent of GDP. In this context, it is important to note that additional domestic revenue mobilization to help cover outlays needed to mitigate the food crisis, while minimizing the increase in deficits and debts, is often difficult in the short term. This is especially true for FCS that in many cases face fragile socio-political environments, lack of state legitimacy, and low administrative capacity.

- **Weak economic institutions and poor governance** adversely affect the capacity of countries to respond to the current food crisis with an adequate policy response. Moreover, weak institutions and corruption are often positively correlated with political and social instability. These challenges are particularly acute in FCS.[21] Many of the countries that are highly exposed to the food shock also have relatively weak ratings on the World Bank's Country Policy and Institutional Assessment (CPIA), which is a commonly used proxy for the quality of institutions and governance. Thirty-one countries have a rating of 3 or below. Governance assessments are particularly weak (2 or lower) for Somalia, South Sudan, Sudan, and Yemen, which are facing extreme institutional weakness including in the areas of fiscal policy, debt management, and trade policies.

- **Fragile socio-political environments.** A large number of the 48 countries mostly affected by the food shock, and among them many FCS, also suffer from heightened political instability, as measured by the political stability and absence of violence factor of the World Bank's World Governance Indicators (WGI) component.[22] Thirty of the 48 countries are in the bottom quartile of political instability scores for the universe of countries covered by the WGI. Among these, the lowest scoring countries include Afghanistan, Central African Republic, Mali, Nigeria, Pakistan, Somalia, South Sudan, Syria, West Bank and Gaza, and Yemen. Amongst the countries particularly affected by the food shock, there is a significant overlap between very low per capita incomes and thus widespread poverty (23 countries are CCRT eligible),[23] and fragility (22 countries are Fragile and Conflict-

[20] See the IMF's strategy for Fragile and Conflict-Affected States (2022c); paragraph 10.

[21] See the IMF's strategy for Fragile and Conflict-Affected States (2022c); paragraphs 40 and 117.

[22] WGI 2021 Interactive > Home (worldbank.org).

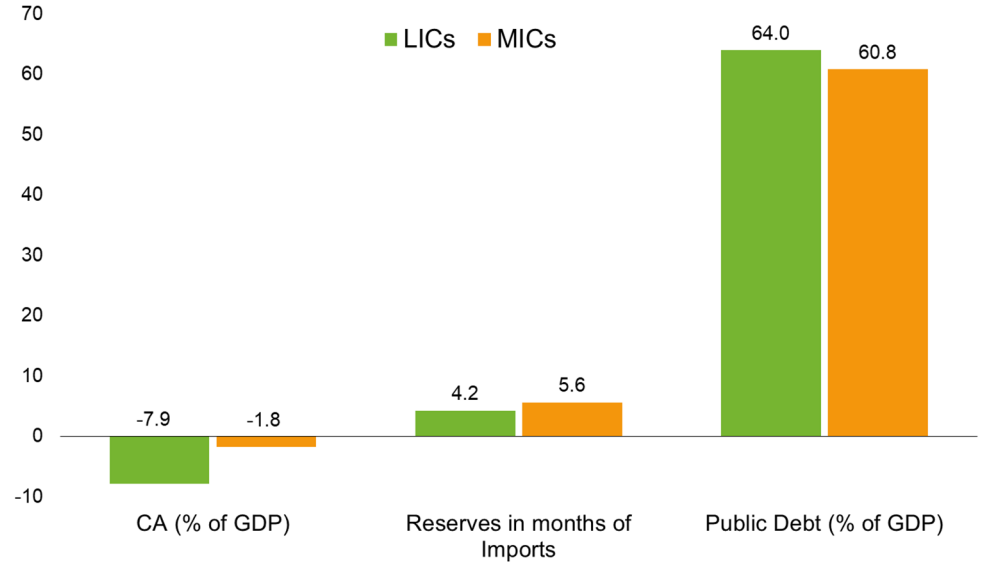
[23] Latest GNI per capita (current US$, atlas method) since 2015 is below the IDA threshold for eligibility (US$1,255), or below twice this amount for small states with a population smaller than 1.5 million.

Affected States identified in the IMF's new FCS strategy).[24] Any of these factors can amplify the impact of higher food prices on a country' s population and affect the capacity of governments to organize an effective response.

For many countries, several vulnerabilities overlap and create particularly difficult conditions (Annex Table). Many (about 15–20) of the 48 countries most affected by the food crisis exhibit limited policy buffers, weak economic governance, and a fragile social and political environment at the same time. This list includes mostly LICs, especially in SSA. These countries are particularly at risk of negative feedback loops between the various dimensions of vulnerabilities discussed above and other drivers of fragility, with the potential for food insecurity to act as a fragility multiplier that exacerbates the effects of other vulnerabilities such as climate change, pandemics, or forced displacement. This could lead to the food crisis potentially aggravating social and political instability, including by fueling social unrest.[25] Seven of these most vulnerable countries currently have IMF programs in place that contribute to economic stability and whose financing can be augmented to address increasing BOP financing needs. Moreover, the IMF's new FCS strategy outlines how enhanced cooperation with partners from the development, humanitarian, peace, and security fields can amplify the IMF's support for countries facing macro-critical manifestations of fragility such as food insecurity.

Figure 11. External Indicators for Countries Highly Exposed to Food Insecurity, 2022

(Average for 48 selected countries)



Source: WEO April 2022, BOP/IIP, REOs April 2022.

Chapter 3: Policy Responses to the Food Crisis

The current food shock calls for a timely and strong policy response to mitigate its impact, especially on the countries that are most vulnerable due to economic and other weaknesses. Drawing on the lessons from the 2007–09 food crisis,[26] the policy response needs to encompass four areas: (i) delivering timely and well-targeted support to vulnerable households, (ii) promoting international trade in food and agricultural imports

[24] See the IMF's strategy for Fragile and Conflict-Affected States (2022c).

[25] See IMF 2022c. Moreover, Leepipatpiboon and others (2022) show a negative commodity terms of trade shock increases the number of conflict events significantly and persistently, especially in low-income countries.

[26] See for example Mittal (2009), Headey and Fan (2010), and World Bank (2011).

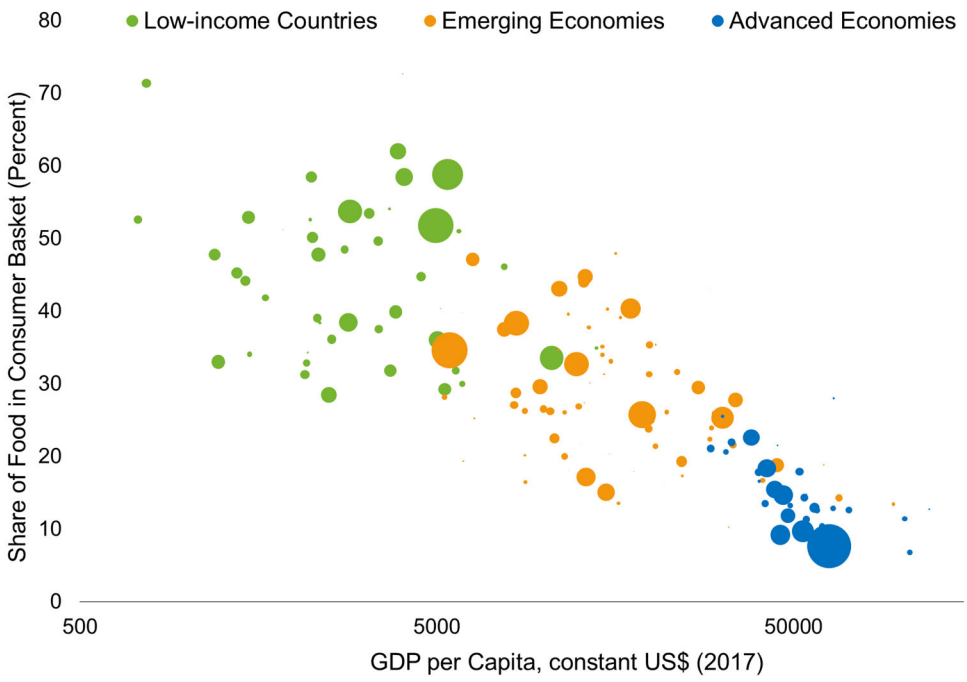
including through phasing out export bans by food producers and keeping transport corridors open, (iii) supporting food production and distribution, and (iv) investing in climate-resilient agriculture.

Supporting Vulnerable Households

Providing timely and targeted support for vulnerable households is critical. Given the high budget share allocated to food in LICs and by poorer households, the current food crisis disproportionally impacts these populations (Figure 12). As noted earlier, local inflation and depreciation of local exchange rates erode purchasing power, particularly burdening poorer households with fewer buffers. This creates an urgent need for fiscal policy to offer support in the face of higher food and fertilizer prices, which—in light of potentially large fiscal costs and distortionary effects on product markets—should be temporary and well targeted. Efficient options include emergency food relief or cash transfers to poor households and measures to improve existing social safety nets, as these provide an automatic, counter-cyclical response. Increasing generalized consumption subsidies is a second-best policy response as these tend to be distortive, delay ultimately necessary adjustment in case the price hikes are not reverted quickly, and lead to higher fiscal costs as they tend to become permanent and leak to non-poor households.

Figure 12. Share of Food in Consumer Basket

(Percent, averages by country)



Source: IMF CPI database and the IMF WEO.
Notes: Dot sizes represent approximate percentage of population in each household income group within country groupings.

Measures should be a good fit for a country's institutional capacity and existing social safety net (SSN). Countries with strong SSN programs should allow a full pass-through of higher prices to domestic users, while providing targeted and temporary cash transfers to vulnerable households. Where SSNs lack coverage or systems are nascent, immediate relief can be provided by the following measures while efforts should be made to quickly strengthen SSNs: (i) expanding existing SSN programs to provide some relief to low-income and vulnerable households, such as through school feeding programs; (ii) using alternative targeting mechanisms,

including geographic, self-selection, or community-based systems; and (iii) harnessing the power of digital tools to identify and deliver income support to eligible households.[27]

In practice, a recent IMF survey of 174 countries shows that many countries have taken measures to mitigate the social impact of higher food and energy prices. The survey suggests a clear correlation between the use of cash transfers and a country's level of development: they are typically used by more advanced economies. This picture suggests an urgent need to strengthen SSN in low-income developing countries (LIDCs), which are currently more likely to rely on subsidies than emerging market economies (EMEs) or advanced economies (AEs) (Figure 13). For example, in Sub-Saharan Africa, most countries have taken—mostly temporary—revenue measures (tax cuts on certain goods) and expenditure measures (cash transfers and subsidies) to mitigate higher food prices that remain untargeted. Several countries have also introduced fertilizer subsidies, including Benin, Ethiopia, the Gambia, Kenya, and Tanzania. Côte d'Ivoire and Madagascar have resorted to more extreme measures such as price controls on rice. Consistent with this general picture, the World Bank estimates that the number of measures to support vulnerable household in the face of rising inflation increased by 70 percent between April and June 2022, of which over 60 percent were subsidies with an estimated total cost of over US$277 billion.[28]

About 60 percent of the 48 countries identified earlier as highly exposed to food insecurity have announced at least one mitigation measure related to food prices. [29] Given that SSNs are often still at an early stage of development, the use of cash transfers is relatively rare (applied in only 10 percent of countries highly exposed to food insecurity). Many more countries (about a quarter) rely on direct subsidies and on the reduction of customs duties (one sixth). The average size of fiscal packages announced by these countries was larger than in other countries (0.34 percent and 0.22 percent of GDP, respectively). Measures contained in some of the largest announced packages include cash and in-kind food transfers to poor households and emergency food stockpiles in Djibouti (1.6 percent of GDP), a food import facility to facilitate foreign exchange access for importers of essential foods in Sierra Leone (1.1 percent of GDP), and government donations of seeds and fertilizers to households in extreme poverty in some vulnerable regions of Honduras (1.1 percent of GDP).

Going forward, the current food shock could be used as an opportunity to strengthen SSNs. Improving the efficiency of SSNs and avoiding the duplication of programs should remain long-term goals for all countries. Strong SSNs are characterized by high coverage of the intended beneficiaries, adequate benefit levels, and good benefit incidence (whereby those most in need are receiving most of the benefit). Possible reforms to strengthen SSN include improvements in program design through better targeting or agency coordination. For example, spending can be reallocated towards programs that are better targeted; and the targeting design of more successful programs could be applied to others. Expanding SSN coverage is critical to adequately supporting vulnerable households and requires several steps, such as outreach, intake, and registration of potential beneficiaries, assessing needs and conditions (for example, verifying income information), determining eligibility and making enrollment decisions, and distributing benefits. The consolidation and streamlining of SSN programs under a common architecture can lead to economies of scale and significant savings in administrative costs.

Generalized food consumption subsidies should ideally be phased out over time. Such subsidies should be replaced by targeted income support to the poor. A gradual reduction could be accompanied with a commitment to their full elimination over the medium term. During the transition, the targeting of subsidies could be improved to reduce leakages to higher income groups. New food subsidies could be considered if all other options have been exhausted, but these should be temporary (ex-ante sunset clauses) and should target food

[27] Options include (i) online applications for intake and registration of beneficiaries; (ii) using satellite imagery to map poorest areas, and (iii) government-to-person mobile payments to deliver cash transfers.

[28] World Bank (2022a).

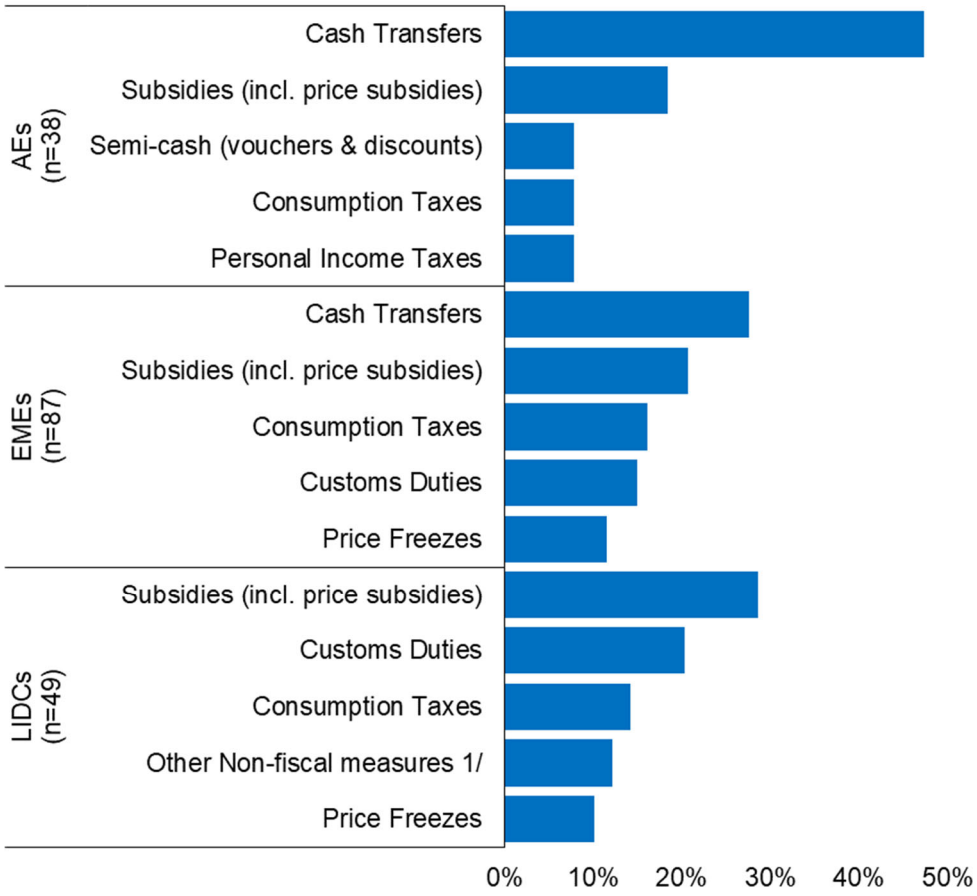
[29] Data is missing for five countries (Afghanistan, Bangladesh, Cabo Verde, Haiti and Mali).

staples that are especially relevant for the consumption baskets of poor households (Amaglobeli and others 2022).

Promoting International Trade

Many countries, typically food exporters, have reverted to protectionism in the face of the food shock. In response to the war in Ukraine, almost 30 countries resorted to food and fertilizer export restrictions to ensure domestic food availability.[30] While the pace of introducing such measures has recently slowed and many have been reversed,[31] restrictions still cover a non-negligible share of total calories traded internationally (Figure 14).[32]

Figure 13. Top 5 Food Related Measures Announced



Source: FAD survey of IMF country teams (174 country team responses).
Notes: Policy measures announced in 2022 as of June. Each bar represents the share of countries that announced at least one food related measure in each category relative to all countries that responded the survey in the income group.
1/ Measures other than export restrictions or price freezes.

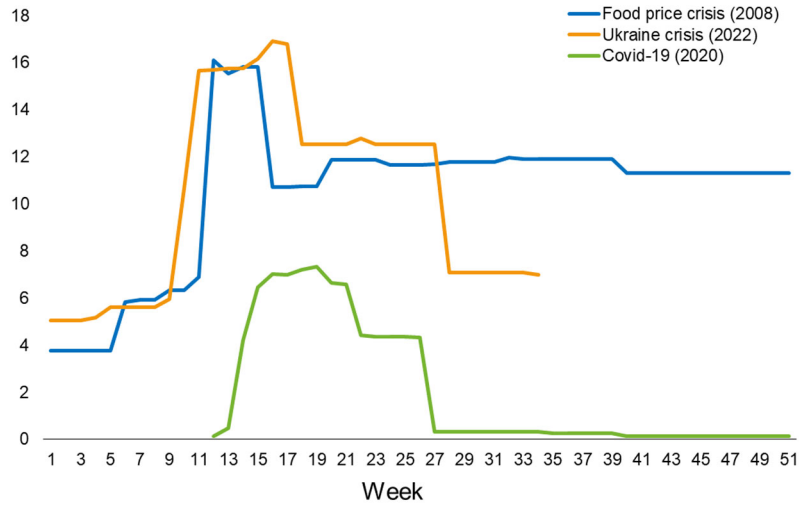
[30] As of September 9, 2022. Based on World Trade Organization (WTO), International Food Policy Research Institute (IFPRI), and IMF monitoring of trade policy changes since February 2022.

[31] Over a dozen measures have been reversed, including Indonesia's palm oil export ban and Ukraine's export ban on fertilizers.

[32] IFPRI staff estimates that current export restrictions cover about 7 percent of calories traded internationally, down from a peak of 17 percent in April 2022 as of August 23, 2022 (Laborde and Mamun, 2022).

Figure 14. Calories Affected by Export Restrictions

(Percent of globally traded calories)



Source: IFPRI.

Notes: Horizontal axis is week of the year. Week 1 indicates the first week of calendar year 2022, 2020, and 2008, respectively.

The spread of trade restrictions is worrisome as it affects the international supply of food. Preliminary analysis suggests a significant impact of such measures on global food markets, as was the case at the time of earlier global food price peaks in 1973 and 2008[33]: specifically, bans on wheat exports are estimated to account for 7 to 9 percent of the recent increase in world wheat prices.[34] As rice is a particularly thinly traded commodity (only 10 percent of global production is traded, relative to 25 percent for wheat), restrictions by the main exporters could be disruptive, as was the case in 2008.[35] Indeed, such restrictions create higher uncertainty and market volatility, and can lead to retaliation measures. In combination with transportation disruptions, the restrictive trade policies have contributed to a sizeable decline in the global trade of goods in 2022 (Figure 15). At the same time, the experience from 1973 and 2008 clearly suggests that trade barriers are generally ineffective in stabilizing domestic prices.

Fostering open trade policies is crucial to promote the international supply of food. The elimination of trade restrictions flanked by other trade facilitation measures can be expected to have an immediate positive impact on international markets, facilitate the flow of critical food staples and agricultural inputs from surplus areas to countries in need, and eliminate price distortions that reduce incentives for efficient production in main export markets.[36] Specifically, policymakers should: (i) unwind barriers to trade, including export and import restrictions; (ii) avoid trade-distortive subsidies; (iii) address supply bottlenecks (see next section), and (iv) increase the transparency of trade restricting measures through notifications to the WTO.[37] Importantly, implementing the commitments made by countries through the June 2022 WTO Ministerial Declaration on the

[33] World Bank, 2011.

[34] For example, Espitia and others 2022, Widespread food insecurity is not inevitable: Avoid escalating food export curbs, VoxEU.org, May 4, 2022, and Espitia and others 2022, How export restrictions are impacting global food prices, World Bank Blogs, July 6, 2022. The estimated effect, limited to export bans, can be considered a lower bound.

[35] USDA, 2009.

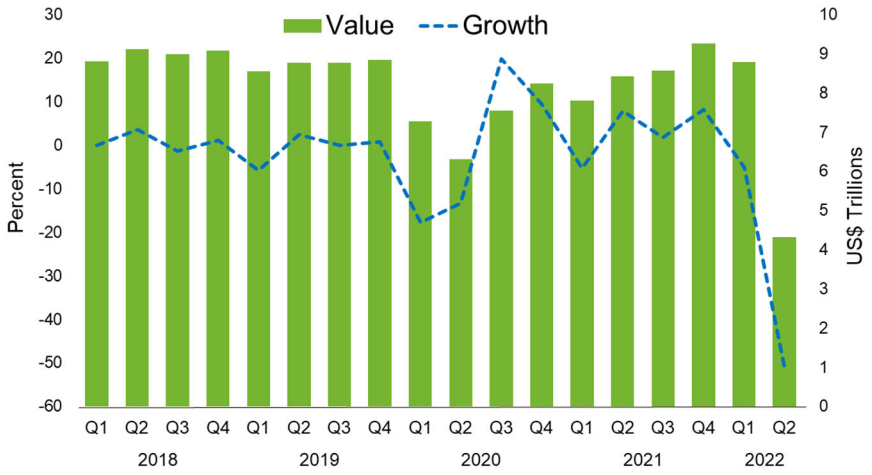
[36] WTO, 2022b.

[37] Article XI of the General Agreement on Tariffs and Trade (GATT) broadly prohibits export bans and restrictions but does allow members to apply them temporarily to prevent or relieve critical shortages of foodstuffs or other essential products. If members move to restrict exports of foodstuffs temporarily, the Agreement on Agriculture (AoA) requires them to give due consideration to the food security needs of others. WTO members agreed in 2015 to phase out export subsidies for agricultural products according to different timelines. For further discussion see IMF, OECD, World Bank, WTO, Subsidies, Trade, and International Cooperation, April 2022.

Emergency Response to Food Insecurity related to food and fertilizers export restrictions is critical to ensure international supply of food.

Another urgent priority is to restore global market access for Ukraine's food exports. As a result of the war, Ukraine's agricultural exports declined by about half in the first quarter of 2022 compared with the same period in 2021. The decline in Ukrainian wheat exports (they represented 9 percent of global exports in 2021) is particularly concerning as it created a major challenge in destination countries (see Figures 2 and 3). Against this backdrop, the recent 120-day Ukraine-Russian agreement to allow safe passage of grain shipments, brokered through an international effort led by Türkiye and the United Nations, is a very positive development.[38] It has allowed total grain shipments to reach about one-third of pre-war volumes through August 2022. However, there are substantial concerns on the viability of continuous seaborn shipping given the proximity of the Black Sea ports to the war zone, as well as uncertainties on the volumes of inventories available for export. The agreement will thus require consistent implementation and in-country transportation challenges will still need to be addressed.

Figure 15. Global Trade in Goods



Source: UN Comtrade, IMF Staff calculations.
Notes: Total trade value of imports and exports of goods. Quarter on quarter growth.

Supporting Food Production and Distribution

Well-calibrated efforts to increase global food production could help reduce price pressures and food insecurity. Many countries seek to support an increase in domestic food supply both through short-term measures (for example, temporary fiscal support) and long-term measures (for example, infrastructure investment and lending to the agriculture sector). Facilitating access to fertilizers and crop diversification will be critical. In Africa and the Middle East, supported by the international community, countries have also been improving and increasing the arable fields through water pipeline construction, irrigation and draught power, expansion of land utilization, soil improvement, and production modernization. In addition, some countries have been implementing initiatives to improve yields, for example through the distribution of high-quality seeds and the sharing of best practices in farming (for example, Benin and Burundi). Efforts to provide free veterinary services for smallholder farmers (for example, Angola) and to promote alternative food crops (for example, Cameroon) have also been taken. As these efforts continue, it will be important to carefully consider trade-offs between objectives and the incentives set by the measures. For example, an excessive reliance on biofuels

[38] A Joint Coordination Centre has been established with senior representatives from Russia, Ukraine, Türkiye and the United Nations. It monitors the movement of merchant vessels (including onsite inspections) to ensure compliance with the terms of the agreement. Monitoring information is available on the following websites: https://www.un.org/en/black-sea-grain-initiative/updates

could divert part of the agricultural supply from feeding populations. In this context, governments should reexamine public policies and agriculture support programs, which can shift incentives away from food security, for example excessive support for cash crop production (for example, coffee, coco, and rubber).

Enhancing trade financing and supply chains is vital to addressing the current food price shock. Trade finance was already experiencing disruptions during the COVID-19 pandemic. The war in Ukraine and the associated spike in food prices have further increased trade financing gaps. In response, Multilateral Development Banks (MDBs) are scaling up their financing facilities. For example, the European Bank for Reconstruction and Development (EBRD) has increased the volume of trade finance commitments dedicated to agricultural inputs, agricultural commodities, and other food products from €800 million a year to at least €1 billion a year by end 2023. The International Finance Corporation (IFC) is working to extend trade finance solutions for traders of fertilizers and crop nutrition products, and Multilateral Investment Guarantee Agency (MIGA) has committed to making trade finance available for urgent imports of food supplies and imports and short-term loans for the agricultural sector.[39] In some countries (for example, the Gambia and Zimbabwe), authorities are also providing special access to foreign exchange for food imports.

Addressing logistical constraints and infrastructure gaps is also important. Such gaps raise transport costs and affect the quantity and quality of food supply. Import-dependent countries should therefore work to diversify their sources of imports and release existing food stocks, while countries with large food stocks should support countries in need. At the international level, countries should collaborate to address supply bottlenecks.[40] Country-level data show the importance of taking such actions. For example, in SSA, the relative prices of staple foods, especially those that are imported, are estimated to be between 2.4 and 3 percent cheaper in urban areas than in rural areas (Okou and others 2022). These price differentials can largely be explained by acute transport and infrastructure gaps. Consistent with this finding, Nunn and Puga (2012) show that a less favorable geography (measured by a geographic challenge index) increases the real cost of food staples significantly due to higher logistical costs. Responding to this challenge, the governments of Guinea Bissau and Madagascar have started to improve road connectivity and food supply chain services. There are also opportunities to advance regional trade integration through developing regional infrastructure linkages and reforms to the domestic agriculture sector so that sub-regions can be more self-sufficient and resilient in terms of food supply, particularly in SSA and the Maghreb.[41] In this context, the World Bank recently announced an intention to scale up its support for the intra-regional food value chain in Western Africa.[42]

Making Agriculture More Climate-Resilient

More intense and more unpredictable climatic events are a key driver of increasing food insecurity. LICs, particularly in SSA, are among the least prepared to face the effects of climate change, including due to their heavy reliance on rain-fed agriculture, limited resources to foster resilience, and already elevated levels of poverty and food insecurity. Climate change is therefore intensifying food insecurity across SSA with lasting adverse macroeconomic effects, especially on economic growth and poverty. Addressing the lack of resilience to climate change, critically underlying chronic food insecurity in SSA, will require careful policy prioritization against a backdrop of scarce financing and capacity constraints (see Box 2).[43] For instance, IMF research shows that up-front investment in resilience and coping mechanisms results in long-term savings that are almost three times the up-front investment cost for droughts and about 12 times the up-front investment cost for

[39] See "International Financial Institution *Action Plan to Address Food Insecurity*," May 18, 2022.

[40] United Nations, "Global Impact of war in Ukraine on food, energy, and finance systems," Brief No. 1, April 2022.

[41] For SSA, advancing reforms envisioned as part of the African Continental Free Trade Area (AfCFTA) would support the regional market (IMF, Sub-Saharan Africa Regional Economic Outlook, April 2019). See Kireyev and others (2019) for regional integration in the Maghreb.

[42] World Bank press release, July 29, 2022.

[43] For details, see IMF 2022d.

storms.[44] The World Bank argues that pre-disaster interventions to boost resilience can be cost-effective, especially compared to post-disaster relief, with the dissemination of productivity-enhancing, resilient agricultural and herding techniques estimated to cost around US$1 billion in the Sahel and the Horn of Africa.[45] Policy actions could cover fostering adaptive agriculture and investment in infrastructure for distribution and storage that is resilient to climate change and supports productivity.

Adaptation to climate change and building resilience should be tailored to the countries' circumstances, capacity, and resources. Solutions can be costly, especially in a context of limited fiscal space. Countries should thus carefully assess available options, including leveraging private sector initiatives. Measures can be targeted at enhancing productivity, aiding adaptations, and supporting mitigation.[46] There are certain low-cost-high-impact measures to facilitate adaptation to climate change, such as investing in new crop varieties, improving water management, and information dissemination. New crop varieties that are more resilient to droughts and water stress have been deployed in many countries. For example, Burkina Faso has invested in rainwater harvesting that is then used to feed existing irrigation systems. In addition, information dissemination on weather and pricing can improve decision-making by farmers. Countries such as Ethiopia, Kenya, and Rwanda leverage mobile technology to provide farmers with rainfall forecasts to optimize the planting of crops and the purchase of crop insurance. Longer-term measures can include facilitating access to finance for farmers to allow for productivity-enhancing capital investment that facilitates transportation, storage, and irrigation.

Box 2. Climate Change and Chronic Food Insecurity in Sub-Saharan Africa

Absent concerted policy efforts, climate change will exacerbate the number of people in Sub-Saharan Africa who are food insecure. Currently, over 12 percent of SSA's population is suffering from high malnutrition and unable to meet basic food consumption needs.[1/] However, implementing policy measures to address the longer-term issue of climate change and food insecurity will be challenging amid high debt levels, competing development needs, and capacity limitations.

Climate change is set to further worsen food insecurity across SSA, which already rose 30 percent following the COVID-19 pandemic and the war in Ukraine. Increasingly frequent and intense droughts, floods, cyclones, higher temperatures, and sea levels, shrinking ecosystems, and ocean acidification are set to exacerbate this trend. These events weigh on agricultural yields, weaken the nutritional value of food, and hamper food distribution—creating food shortages and inflating prices, especially given heavy reliance on rainfed agriculture and poor storage capacity. Over the longer term, poor nutrition hurts early childhood development, educational attainment, and earnings potential. Consequently, SSA's hard-earned improvements in incomes and health and education outcomes over recent decades could be jeopardized with the probability of social unrest, conflict, and large-scale migration rising significantly.

Addressing the lack of resilience to climate change in SSA, underlying chronic food insecurity, involves difficult policy choices. Careful policy prioritization against a backdrop of high debt levels, competing development needs, and capacity limitations will be essential. Notably, however, many reforms can be implemented without raising fiscal pressures and even catalyzing private sector financing—such as crucial changes in trade, regulatory, market structure, and financial sector policies. The optimal policy mix will vary across countries, where some key policy areas are outlined below. When prioritizing across policies, considerations such as effectiveness in protecting the poor against a given food price shock could be examined, as shown in the Box Figure with model-based simulations.

- **Fiscal policies focused on social assistance and resilient public infrastructure** can improve poorer households' access to affordable food, facilitate expansion of climate-resilient agricultural production, and support quicker recovery from adverse climate events. Critical infrastructure areas include irrigation systems, telecommunications, transport, storage facilities, and renewable electricity. In Tanzania, food security benefitted from an 80 percent expansion of irrigation provided to rice fields (cover 228,000 farmers), increasing rice productivity from 4.5 to 5.8 metric tons. In cases where agricultural subsidies are present, the subsidies should be redesigned to ensure better targeting and reduce economic costs. Compared to equivalent spending on agricultural

[44] IMF 2020.

[45] Confronting Drought in Africa's Drylands, edited by Raffaello Cervigni and Michael Morris (World Bank 2016).

[46] World Bank, 2021.

Box 2. Climate Change and Chronic Food Insecurity in Sub-Saharan Africa (concluded)

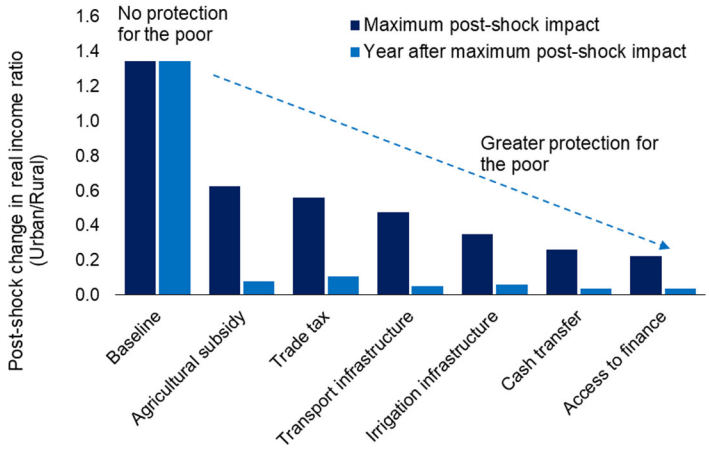
subsidies, well targeted cash transfers offer households more control over how government support is spent. Consequently, they are more effective at safeguarding food availability and affordability, including sheltering households from forced asset sales (such as productive property) in order to buy food.

- **Improving access to finance and digitalization** is key to stepping up private investment in agricultural resilience and productivity as well as improving the earning capacity and food purchasing power of poorer rural and urban households. For example, machine-learning combined with satellite connections enabled Kenyan farmers to fight severe locust swarms in 2020. To this end, critical steps will be advancing property rights, expanding telecommunications infrastructure for mobile banking, and enlarging access to early warning systems and up-to-date market and weather information that support agricultural production, distribution, and sales. Reduced informational asymmetries and improved financial literacy would support greater use of insurance and use of micro finance and public-private partnerships to jump start private finance.

- **Greater regional trade integration and resilient transport infrastructure** enable sales of one country's bumper harvests to its neighbors facing shortages. More broadly, they could open new markets for farmers and agri-businesses and contribute to developing production networks and value chains across SSA. Tariff reduction and regional alignment of agricultural and product market laws and regulations (especially with respect to water, seeds, and fertilizer) will all be important. Expansion of producer organizations can facilitate adoption of new technologies, scale up food production and distribution, and support price stability.

The international community can help with financial assistance, capacity development, and facilitating transfers of technology and know-how. Substantial external financing will be required despite domestic revenue mobilization efforts and channeling of savings from gradually phasing out subsidies. Here, climate funds could play a critical role through grants and concessional financing, where the bulk of climate finance so far has been provided by the World Bank, the African Development Bank, and bilateral donors. Development partners can support SSA countries' efforts to improve management of public finances, procurement, and debt (all critical to unlocking climate finance), can share research in a host of areas such as irrigation technology and climate-resilient seeds, and can help expand climate and financial literacy. The IMF is supporting SSA countries in these efforts through technical assistance, capacity development, and financial support. This includes the hiring of experts who can provide climate-oriented public financial management advice; and lending under the Extended Credit Facility (ECF) and, once operational, the Resilience and Sustainability Trust (RST).

Box Figure. Post-Shock Rise in Inequality



Source: IMF staff calculations.
Note: Simulations from a spatial multisector macroeconomic model (Baptista, Spray, Unsal, 2022) illustrates that, following a large climate shock which depresses agricultural production, rural households' food consumption declines rapidly. Importantly, households are pushed to cut their food intake or sell their assets to buy food, which impacts future productivity and growth. Notwithstanding an increase of food imports, the shock permanently compresses agricultural output, raises food prices in rural and urban areas, increases the number of chronically food insecure households, and exacerbates inequality, leaving permanent scars. Appropriate policies can contain the impact. This figure compares the rise in inequality (relative to pre-shock inequality) across policy simulations within the model for a shock that has an equivalent price impact across the scenarios. The cash transfer and agricultural subsidy are modeled as fiscally equivalent policies.

1/ Defined as people in IPC/CH phase 3 or higher.

Chapter 4: The Role of the Fund Within the International Community

The international community has an important role to play in supporting countries affected by the food crisis with humanitarian assistance, policy advice, capacity building, and financing. The Fund has been pro-active in its support to its member countries consistent with the priorities discussed in chapter 3 and coordinates closely with the World Bank, WFP, WTO, and others.

The International Community Supports Countries Affected by the Food Shock

The international community has been stepping up its engagement to assist countries affected by the food crisis. The most important priority is to address acute food insecurity with timely financial and/or in-kind assistance, channeled through the WFP and other competent development partners. It is imperative to increase funding levels for the WFP to the level required to address acute food insecurity: at the moment, compared to an annual US$24.2 billion need, there is a funding shortfall of some US$12.3 billion. More broadly, International Financial Institutions and other development partners are engaging on all of the four policy areas discussed in the previous chapter: (i) delivering timely and well-targeted support to vulnerable households, (ii) promoting international trade in food and agricultural imports including through phasing out export bans by food producers and keeping transport corridors open, (iii) supporting food production and distribution, and (iv) investing in climate-resilient agriculture.

Box 3. International Financial Institutions—Recent Initiatives[1/]

As stated in the IFI *Action Plan to Address Food Insecurity*, the World Bank and regional development banks have devoted new or repurposed financing to support affected countries in supplying emergency food items, strengthening institutions and infrastructure related to the supply of food and providing vulnerable population with cash transfers.

- **The World Bank Group has been a major participant in the externally funded and governed Global Agriculture and Food Security Program (GAFSP), whose Coordination Unit is located at the WBG.** GAFSP has not only funded projects undertaken by the WBG under its regular procedures but also projects at many Regional Development Banks, IFAD, and FAO. The WBG has as much as US$30 billion in financing available over the15 months, starting from April 2022—comprising US$12 billion to fund new projects (almost half of which are already approved) and about US$18 billion of undisbursed balances in existing project portfolios that can be repurposed.

- **The African Development Bank (AfDB)** announced a US$1.5 billion fund to boost grain production to help avert potential food shortages stemming from the war with Ukraine.

- **In Ukraine, the European Bank for Reconstruction and Development (EBRD)** is supporting businesses and public services affected by the war, through deferred loans, liquidity support, and trade finance.

- **The Inter-American Development Bank (IADB)** is supporting countries in need of additional financing for social protection purposes, notably in Haiti and Honduras.

- **The Asian Development Bank (ADB)** is working, including with the WFP and FAO, to address severe food insecurity through emergency food assistance, food-for-work, and cash-for-work programs (for example, in Afghanistan and Sri Lanka).

- **International Fund for Agricultural Development (IFAD)** has set up the Crisis Response Initiative aims to address urgent needs to prevent hunger and food insecurity caused by the war in 22 countries primarily in Africa and Asia.

1/ The initiatives of each institution are quoted from IFI Action Plan to Address Food Insecurity, U.S. Treasury statement on the IFI Action Plan, African Development Bank press release, EBRD website, and IFAD Crisis Response Initiative.

The international community has recognized the criticality of coordinated action. A comprehensive and well-coordinated approach to addressing the food shock is important to ensure complementarity, avoid duplication, and ensure maximum efficiency in resource use. The basis for the division of labor across institutions is their respective mandate and their comparative advantage, which reflects their unique cross-country experience in engaging with their members (see Box 3). For example, institutions specialized in the area of food security, such as the WFP and the FAO, have a strong presence on the ground and focus on acute food insecurity and its humanitarian toll (for example, hotspot publication). They are critical in delivering the associated emergency response. The World Bank and regional development banks are providing grants and concessional loans to countries affected by the food crisis, and assist with data collection, research and policy advice including on climate-resilient growth. Several coordination forums, many of them created in response to the food price shock triggered by the war in Ukraine, support these efforts. These include the UN Global Crisis Response Group on Food, Energy, and Finance, the Global Alliance for Food Security launched by the G7 Presidency and the World Bank, and the IFI Action Plan to Address Food Insecurity published in May.

Faced with the elevated needs, the mobilization of additional financial support is a key priority. As discussed above, the most urgent priority is to ensure adequate funding for financial and in-kind assistance aimed at addressing acute food insecurity. More broadly, IFIs, official bilateral creditors and donors, and other development partners should provide adequate financing to support budgets, relevant projects, and international reserves especially in the countries that were identified in chapter 2 as being significantly exposed to the food shock while having major macroeconomic vulnerabilities. Given already high debt levels in many vulnerable countries, financing should mostly take the form of grants and long-term concessional financing. For countries with debt that is assessed as being unsustainable, debt relief—including through the G20 Common Framework—could be a critical precondition for accessing additional borrowing even on highly concessional terms.[47] Finally, and following the example of the G20 Debt Service Suspension Initiative (DSSI) that was implemented at the time of the COVID-19 pandemic, the international community could consider a temporary debt service relief initiative targeting a limited number of the poorest countries that are strongly affected by the current food shock. To maximize its impact, private creditors could participate in the effort to mobilize fresh financing and provide debt relief in addition to official bilateral creditors.

The IMF's contribution to addressing the food crisis

The Fund is active across all its business lines in supporting its members addressing the food shock. Consistent with its mandate and comparative advantage and cooperating closely with its partners and especially the World Bank, the WFP, the FAO and the WTO, the Fund provides policy advice, capacity development assistance, and financing to help countries through the current challenging environment. Moreover, it has been a strong advocate for global cooperation focused on tackling the current food crisis, including through its FCS strategy (2022c). The Fund has notably been a pro-active contributor to the IFI Action Plan to Address Food Insecurity and the Global Alliance for Food Security launched by the G7 Presidency and the World Bank. Moreover, at both the heads of institutions and technical levels, there is a close and continued dialogue between the IMF and the World Bank with the WTO, WFP, FAO, and other MDBs and international organizations to maximize traction on addressing the food shock. Regular meetings have been facilitating information sharing and support with financing, on trade policies, and on strengthening social safety nets; and there are several country-level pilots of close cooperation with the WFP on the ground (for example, in Niger and Senegal).

1. Policy Advice and Capacity Development Assistance

As showcased in chapter 2, the Fund is monitoring the exposure of its members to the food shock. This work stream acts as an early warning device on vulnerabilities associated with the food shock, which enables policymakers to take pro-active mitigation measures. At a country level, identifying and addressing the

[47] Under the G20 Common Framework, 73 developing countries are eligible to request a debt treatment, and 3 have actually requested debt treatment (Chad, Ethiopia, and Zambia).

macroeconomic impact of the food shock entails working with country authorities on macroeconomic frameworks that integrate the food-related pressures as a basis for policy development and donor coordination. Given the IMF's strengthened attention to climate change, this work also seeks to incorporate the impact of climate change on macroeconomic projections.[48]

The Fund helps countries strengthen their social safety nets through policy advise and capacity development. The overarching objective of this work is to ensure that spending on social protection is fiscally sustainable, adequate in protecting vulnerable segments of the population, and efficient. Public spending is evaluated through a range of benchmarking tools that compare expenditure levels, spending composition, and spending efficiency across countries as well as with established good practices. This process entails a thorough analysis of existing SSN programs, including their coverage and benefit levels across different deciles of the income distribution; identifying barriers to expanding the coverage of better targeted SSN programs, assessing the degree of coordination between Ministries of Finance and other government entities involved in the SSN program administration; and designing an action plan to strengthen the SSN, including detailed steps and timelines of implementation. For example, the Fund helped implement a well-targeted Guaranteed Minimum Income (GMI) scheme in Cyprus, helped improve the coverage of existing SSN programs in Ecuador, and worked on strengthening the SSN system in Ukraine to mitigate the impact of energy price reforms on the most vulnerable. As discussed in the previous chapter, work on SSNs has intensified significantly over recent months as countries are struggling to address the price shocks triggered by the war in Ukraine.

The IMF works to promote open, stable, and transparent global trade. In close cooperation with the WTO, the World Bank, and other partners, the IMF is working to help countries with food security concerns identify and implement policies to increase production and ensure that food supplies are allocated where they are most needed and without resorting to export restrictions. Importantly, the IMF has advocated for an effective implementation of the commitments made by countries at the June 2022 WTO Ministerial Meeting on export restrictions on food and fertilizers. Moreover, in April 2022, the IMF, together with World Bank, the WFP, and the WTO, called for urgent action on food security, including urging all countries to keep trade open and avoid restrictive measures such as export bans that further exacerbate the suffering of the most vulnerable people. At the country level, IMF policy advice focuses on achieving the objective of food security without resorting to protectionist trade measures.

The Fund helps countries explore the link between climate change and food security. The new Climate Change module (C-PIMA)[49] expands the Fund's Public Investment Management Assessment (PIMA) framework to assess a country's capacity to efficiently manage infrastructure in the face of rising climate change-related challenges. These challenges include managing the impact of higher temperatures and changing rainfall patterns on the energy, water and transportation infrastructure that is often critical for ensuring a country's food security. Many countries lack the institutions needed to ensure that existing and new public investments are designed and built to adapt to these challenges. The C-PIMA helps to close this gap by providing an assessment across five key areas of public investment management that are exposed to climate change-related challenges, and by providing practical and actionable guidance for countries to strengthen these areas. The C-PIMA has already been deployed in 12 countries, and there is strong demand for such assessments from other members with vulnerable populations.

2. Financial Support as a Third Line of Defense

IMF financing can help members meet BOP financing needs associated with the current food shock. Fund lending should typically be only a third line of defense in meeting financing needs generated by food price hikes, as these should ideally be covered by donor grants and highly concessional borrowing from MDBs. However, the Fund has been stepping up its financial assistance in response to the current food crisis. The

[48] See IMF 2021b.

[49] See IMF 2021a.

modalities of this financing vary according to country-specific circumstances. For the 40 countries with active upper credit tranche (UCT) arrangements, additional Fund support can be provided through an augmentation of access. For most other countries, financial support can be provided through a new UCT arrangement.[50] Countries with an urgent BOP need where a UCT program is not feasible or not necessary can access Fund lending through emergency financing. Moreover, the Fund supports initiatives to mobilize grants and humanitarian assistance for very poor and highly vulnerable countries that cannot benefit from Fund financing due to unsustainable debt or major concerns about governance.

- **IMF UCT arrangements.** Countries that already have a UCT-quality program can request additional financial support through an augmentation of access, under certain eligibility criteria. The recent examples of Moldova and Senegal show that this can be implemented quickly (see Box 4). For most other countries, and as was recently done for Mozambique, Capo Verde, and Zambia, financial support can be provided through new arrangements. Such programs aim to address BOP needs that can be present or prospective, or weak or weakening international reserves position. Since the goal of the financial help is to address the BOP need in a sustainable manner, countries need to have sufficient policy commitment and capacity to implement a set of policies that will correct external imbalances and enable repayment to the IMF. Most of the affected countries have ample room to borrow under the Fund's access limits that inform the space for financial assistance.[51]

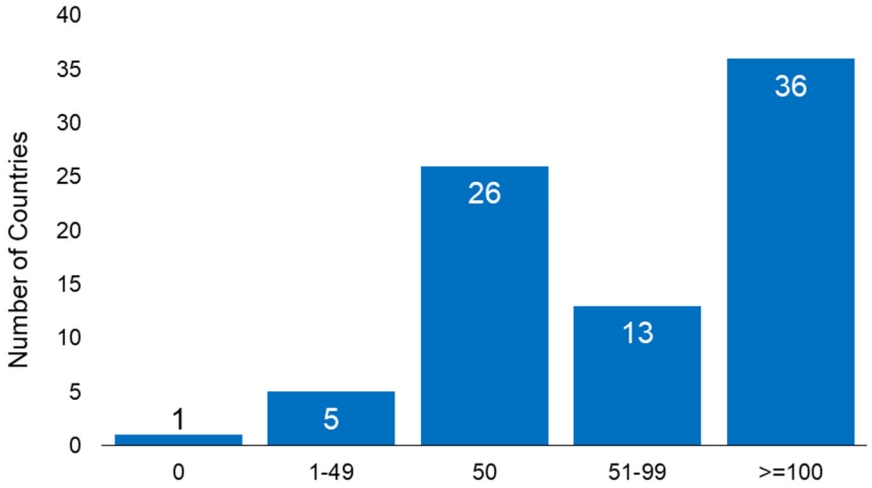
- **IMF emergency financing.** Countries facing urgent balance of payments needs—including because of exogenous shocks, natural disasters, and emergence from conflict, as well as other factors such as domestic instability, emergencies, and fragility—can access emergency financing instruments, such as the Rapid Credit Facility (RCF) and Rapid Financing Instrument (RFI). These are designed for situations where a multi-year IMF-supported program is either not necessary (for example, due to the transitory nature of the adjustment need and the financing) or not feasible (for example, due to the member's limited capacity, including in post-conflict, disaster, or other fragile situations or when more time is needed to design a multiyear program). Currently, almost all IMF member countries can access emergency financing up to 50 percent of quota if all qualification conditions are met (see Figure 16).

- **New food shock window under the RFI/RCF.** To further increase our emergency financing support to countries affected by the food crisis, the Fund is currently considering the introduction of a ***new time-bound food shock window*** under our emergency toolkit. This window, which would be available for 12 months after Board approval, could provide up to 50 percent of quota in additional access for urgent BOP needs associated with food insecurity, the rising costs of food and fertilizer imports, or substantial cereal export receipt shortfalls (Box 5).

[50] See this factsheet for more details on IMF lending.

[51] Specifically, for countries that have access to concessional financing, those that are making normal progress on their program have about 385 percent of quota remaining, countries that have programs that have stalled have about 220-318 percent, and countries that currently have no program have potential access of 187 to 435 percent of quota. Similarly, countries that are not eligible for concessional terms also have room to borrow under current access levels.

Figure 16. Emergency Access Space under Cumulative Access Limits[1/]
(In percent of quota)



Source: FIN, Staff calculation.
1/ Sample includes all PRGT-eligible countries and countries that are highly exposed to food security based on this note's analysis (that is, countries among the 48 most vulnerable). As of September 1, 2022. Cumulative Access Limit (150 percent of quota) minus emergency financing credit outstanding.

Box 4. Recent IMF Programs and Program Augmentations

Since February 2022, new arrangements or augmentation of existing ones have been approved for ten countries: six new programs (Benin, Cabo Verde, Georgia, Mozambique, Tanzania, and Zambia) and four augmentations (Jordan, Moldova, Pakistan, and Senegal) are making available US$5.3 billion (or SDR 4.0 billion) as of end-August 2022.[1/] The Fund-supported programs in these countries include policies to help address the impact of the food crisis. There are several other countries, including Egypt, Sri Lanka, and Tunisia, which are currently in program discussions.

Country	Program justification/intention stated in the press releases
Moldova	**Spillovers from the war in Ukraine are affecting the Moldovan economy through a variety of channels**, including a spike in energy and food prices, trade disruptions, adverse confidence effects and the indirect impact of sanctions. The disbursement under the blended Extended Credit Facility (ECF) and Extended Fund Facility (EFF) program allows Moldova to meet pressing balance of payments needs arising from these shocks.
Cabo Verde	The financing package will help mitigate the lingering impact of the COVID-19 pandemic and **the spillover effects of the war in Ukraine**; reduce the fiscal deficit and preserve debt sustainability; protect vulnerable groups; and support a reform agenda that leads to higher and more inclusive growth.
Georgia	The authorities' IMF-supported program seeks to further entrench macroeconomic stability, build resilience, and strengthen medium-term growth as the country emerges from the COVID-19 pandemic and is exposed to **spillovers from the war in Ukraine.**
Senegal	**Soaring global fuel and food prices, compounded by the war in Ukraine**, and, to a lesser extent, the freeze on trade with Mali due to sanctions by the Economic Community of West African States (ECOWAS), are disrupting the post-pandemic recovery and exacerbating difficult policy trade-offs.
Jordan	Augmenting access under the EFF will help address **increased financing needs from higher international commodity prices** and tightened global financial conditions.
Benin	The program seeks to **help address pressing financing needs** (related to security, COVID-19 scars, **and the war in Ukraine**), support the implementation of the country's national development plan centered on achieving Sustainable Development Goals (SDGs) and catalyze donor support.
Tanzania	The 40-month financing package will assist the economic recovery and **address the spillovers from the war in Ukraine**, help preserve macroeconomic stability, and support structural reforms toward sustainable and inclusive growth, drawing on the government's priorities.
Pakistan	The authorities have taken important measures to address Pakistan's worsened fiscal and external positions resulting from accommodative policies in FY22 and **spillovers from the war in Ukraine**, and which have placed significant pressure on the rupee and foreign reserves.
Mozambique	The three-year arrangement will help support the economic recovery and policies to reduce public debt and financing vulnerabilities, creating space for priority investments in human capital, climate adaptation and infrastructure.
Zambia	The ECF-supported program will help reestablish sustainability through fiscal adjustment and debt restructuring, create fiscal space for social spending to cushion the burden of adjustment, and strengthen economic governance, including by improving public financial management.

Box 4. Recent IMF Programs and Program Augmentations (concluded)

These recent new IMF programs have focused on strengthening social safety nets, including to address food insecurity challenges, in collaboration with other international organization. For example:

Senegal. To address high food inflation, the authorities have adopted a mix of measures: (i) lifting customs duties and VAT on selected staple foods, (ii) conducting an emergency, one-off cash transfer operation to support the income of about 25 percent of the population, and (iii) increasing subsidies for local food production. The authorities will also expand the social safety net by doubling coverage of the national database for social protection to one million households—about 50 percent of the population—within the next 12 months. Payment modalities for social protection measures are being modernized and cash transfers can now be executed via mobile money.

Cabo Verde. The new ECF arrangement recently approved emphasized support for vulnerable groups through strengthened social safety nets. In particular, the envisaged fiscal consolidation is designed to protect social spending, with an additional 0.3 percent of GDP allocated to targeted social safety net programs, which will help cushion the economic impact of the Ukraine war, including higher food and energy prices. Staff will also work closely with the World Bank and the African Development Bank (AfDB) to advise the authorities on further reforms to enhance social protection.

Mozambique. Food security was an issue even before the war in Ukraine due to the conflict in the Northern region of the country. The program explicitly provides space for social protection of vulnerable households, including those affected by Mozambique's own conflict, that has displaced 800,000 people and left 900,000 people food insecure in the north of the country. To minimize the impact of the reform on the poorest, the VAT reform excluded items in the basic basket of goods and services, which remained exempt from VAT.

Benin. The new program was approved in July as a first High Combined Credit Exposure (HCCE) case. The authorities adopted a first wave of mostly non-targeted measures, including a subsidy on basic food products (rice, flour, and vegetable oil), an export ban on selected agricultural products and a rebate on freight costs, amid limited social safety nets. The authorities are now pivoting to more targeted and cost-effective support measures, including subsidizing fertilizers for the 2022/23 agricultural campaign (about 0.3 ppt of GDP). The national social registry would be completed that tracks the beneficiaries across all social safety net (program's Structural Benchmark).

Tanzania. The ECF will be used for financing the fiscal package that the authorities have presented in the FY2022/23 budget draft. It includes (i) providing targeted and temporary subsidies for the import of petroleum products via the waving of excise duties, (ii) reducing import duties on cooking oil by lowering important duty rates for refined edible oil and crude cooking oil, (iii) introducing fertilizer subsidies to support producers of agricultural products and fertilizers to boost local production and substitute part of the imports, and (iv) waiving of VAT for locally produced fertilizers and reduction of royalty charges on minerals used in the energy and fertilizer industries. In addition, in their structural reform plan, the authorities committed to improve human development and promote inclusive growth through targeted interventions in education, health, water supply and sanitation, urban planning and housing, food security/nutrition, and social protection.

Zambia. A key objective of the authorities' reform program, supported by the Fund, is to gradually increase the level and quality of social spending to reduce poverty and inequality, as well as improve access to basic social services, especially in rural areas. Spending on social protection is projected to more than double from 0.7 percent of GDP in 2020 to 1.6 percent by 2025 (close to the average for SSA countries). Measures to support the most vulnerable groups include increasing the number of recipients of the Social Cash Transfer to 994,000—an almost 50 percent increase over the number of recipients in 2019, with World Bank support. Other social protection programs are also being expanded including programs to mitigate food security risks.

Box 5. A Potential New Food Shock Window under the RCF/RFI

The IMF is currently considering a new food shock window under the RCF/RFI to help member countries that are facing urgent BOP pressures associated with the global food shock. The time-bound window–available for 12 months from the date of its establishment–could provide low-access emergency financing for urgent BOP needs associated with acute food insecurity, the rising costs of food and fertilizer imports, or, for food exporters, substantial cereal export receipt shortfalls.

Qualification

Standard criteria for RCF/RFI would apply also to the food shock window. The member would need to have an urgent BOP need and demonstrate either (i) that the BOP need is expected to be resolved within one year with no major policy adjustments being necessary or (ii) that it is unable to design or implement a UCT-quality program, either given the urgent nature of the BOP need or due to limited implementation capacity.

In addition, the member's urgent BOP need would have to be related to the global food shock. It would need to be associated with:

- A situation of acute food insecurity based on the definition of the WFP or a negative impact of price changes for food and fertilizers on the external current account amounting to at least 0.3 percent of GDP over a 12-month period;1/ or

- A negative shock to cereals exports benchmarked against the previous year that exceeds 0.8 percent of projected GDP for the compensable year.

Access

Access under the food shock window would need to be consistent with the actual BOP need but could be capped at 50 percent of the member's quota. It could be additional to the annual access limits under the other RCF/RFI windows. Where a member requests financing under the new window, the cumulative access limit under the RFI regular window as well as the RCF exogenous shock window (at 150 percent of quota) could increase to 175 percent of quota. This would allow some remaining borrowing space under emergency financing instruments after drawing on the food shock window. The cumulative access limits under the RFI and RCF Large Natural Disaster windows would remain unchanged (that is, 183.33 percent of quota). Cumulative access limits under the RCF regular window would also remain unchanged at 100 percent of quota.

Conditionality and Safeguards

As under other RCF/RFI windows, purchase/disbursement under the food shock window would be outright without ex-post conditionality. However, ex-ante policy undertakings—including through prior actions where warranted—could be specified to ensure the member will not introduce measures or policies that would compound its BOP problems, and that it will cooperate with the Fund to find, where appropriate, solutions for its BOP difficulties. Consistent with the Fund's lending framework, including emergency financing, access under the food shock window would be subject to debt sustainability and adequate capacity to repay requirements in line with the adequate safeguards provision under the Articles of Agreement.

1/ The WFP's definition of acute food insecurity involves meeting one or more of the following criteria: (i) at least 20 percent of the population is in phase 3 or above of the Integrated Food Security Phase Classification/Cadre Harmonisé (IPC/CH); (ii) at least 1 million people are in IPC/CH phase 3 or above; or (iii) any geographical area is in IPC/CH phase 4 or above.

Annex

Table. Countries Vulnerable to Food and Fertilizer Price Increases

Country	Food Insecure[1/]	Impact of cereal and fertilizer price increases on the BoP[2/]		Overall ToT Shock[3/]	Reserves[4/]	Fiscal Balance[5/]	Public Debt 2022[5/]	Ongoing Fund Program[6/]	Fragile State[7/]	CPIA[8/]
	according to the UN, FAO and WFP	percent of GDP 2022	2023	2022	months of imports 2022	percent of GDP 2022	percent of GDP 2022			2020
CCRT-eligible										
Afghanistan	Yes	0.3	0.2	-0.9	14.7	-2.2	7.4	Yes	Yes	3
Burundi	Yes	0.2	0.1	-2.0	1.6	-7.4	69.2		Yes	3
Burkina Faso	Yes	0.1	0.1	-2.1	5.3	-6.1	53.4		Yes	4
Central African Republic	Yes	0.0	0.0	-0.2	3.6	-2.5	46.3		Yes	3
Dem. Rep of Congo	Yes	0.1	0.1	-1.2	1.1	-3.3	10.6	Yes	Yes	3
Ethiopia	Yes	0.2	0.1	-2.2	0.8	-4.0	48.3	Yes	Yes	4
Guinea	Yes	0.1	0.1	0.4	1.8	-4.4	39.1			3
Madagascar	Yes	0.1	0.1	-1.2	5.0	-6.3	57.9	Yes		3
Mali	Yes	0.5	0.4	-2.3	5.3	-4.5	53.4		Yes	3
Mozambique	Yes	0.6	0.6	0.8	2.3	-3.0	102.0	Yes	Yes	3
Malawi	Yes	1.3	0.9	-2.3	0.3	-7.8	66.9			3
Niger	Yes	0.0	0.0	1.0	5.3	-5.4	53.8	Yes	Yes	3
Nepal		0.3	0.3	-2.8	8.2	-5.7	51.5	Yes		3
Sudan	Yes	0.9	0.7	0.9	3.2	-2.7	284.1	Yes	Yes	2
Sierra Leone	Yes	0.0	0.0	-4.6	4.3	-3.9	75.0	Yes		3
Somalia	Yes	0.0	0.0	…	…	-0.5	…	Yes	Yes	2
South Sudan	Yes	0.0	0.0	…	1.0	8.9	50.5		Yes	1
Syria*	Yes	…	…	0.7	…	…	…		Yes	…
Chad	Yes	0.1	0.1	7.5	3.6	5.9	46.5	Yes	Yes	3
Tajikistan		0.9	0.7	-3.0	9.1	-3.0	53.7			3
Uganda	Yes	0.1	0.1	-1.6	3.8	-5.6	53.1	Yes		4
Yemen	Yes	0.7	0.6	2.7	0.7	-4.7	43.9		Yes	2
Zambia	Yes	0.2	0.1	-4.5	2.8	-9.0	123.2	Yes		3
Other PRGT-eligible										
Bangladesh	Yes	0.3	0.2	-1.3	6.5	-6.1	42.6			3
Benin	Yes	0.1	0.1	-0.3	5.3	-4.5	49.3	Yes		4
Cabo Verde	Yes	0.2	0.2	-1.6	6.4	-7.1	159.2	Yes		4
Cameroon	Yes	0.2	0.2	0.0	3.6	-1.2	45.2	Yes	Yes	3
Djibouti		1.3	0.9	-5.6	1.7	-4.0	49.2			3
Haiti	Yes	0.1	0.1	-0.3	5.8	-1.1	22.5		Yes	3
Honduras	Yes	0.3	0.3	-3.2	7.2	-2.1	47.6			3
Kenya	Yes	0.2	0.2	-2.4	3.9	-6.9	70.3	Yes		4
Lesotho	Yes	0.3	0.3	-4.2	3.9	-7.8	52.5			3
Mauritania	Yes	0.5	0.4	-7.4	4.8	0.1	55.5			3
Nicaragua		0.5	0.4	-3.8	5.5	-1.0	46.9			3
Zimbabwe	Yes	0.4	0.4	-2.6	0.8	-2.6	67.2		Yes	3
non-PRGT eligible										
Angola	Yes	0.1	0.1	13.2	6.6	3.1	57.9			…
El Salvador	Yes	0.2	0.2	-3.5	2.6	-5.6	82.6			…
Eswatini	Yes	0.4	0.4	-3.2	3.0	-5.8	45.6			…
Guatemala	Yes	0.2	0.2	-2.2	9.1	-2.4	30.6			…
Lebanon	Yes	0.3	0.2	-4.2	13.0	-5.8	135.0		Yes	…
Namibia	Yes	0.1	0.1	-1.1	4.1	-7.8	69.6			…
Nigeria	Yes	0.1	0.1	6.3	6.5	-6.4	37.4		Yes	3
Pakistan	Yes	0.1	0.1	-2.5	2.2	-5.8	71.3	Yes		3
Sri Lanka	Yes	0.2	0.1	-1.8	5.0	-9.4	109.0			3
Thailand		0.3	0.2	-4.4	10.0	-6.1	62.7			…
Ukraine	Yes	-0.6	-0.5	-7.2	4.4	-4.0	49.0		Yes	…
Vietnam		0.4	0.4	-0.3	3.9	-5.0	41.3			…
West Bank and Gaza	Yes	…	…	…	1.1	…	…		Yes	…

Source: WEO, REO, BOP/IIP, IFS, UN Comtrade, USDA, World Bank, Staff calculations.

1/ As determined by the UNGRFC 2022 report and FAO-WFP Hunger Hotspots June to September 2022 Outlook.

2/ See Box 1 for details on methodology and commodities analyzed. Impacts equal to or above 0.3 percent of GDP are in red, those below are in green.

3/ Change in commodity terms-of-trade index between summer 2021 and latest vintage from IMF RES. Please see Gruss and Kebhaj (2019) for details.

4/ Reserves in months of imports are sourced from the April 2022 REOs for MCD and AFR. Reserve values for members of CEMAC and WAEMU correspond to the pooled reserves of the monetary union as reported in the REO. For countries in APD, WHD and EUR reserves in months of imports are calculated using the IMF's BOP/IIP and IFS databases. Most recent value between 2019-2022 is used. Reserves equal to or above 3 months of import are in green, below are in red.

5/ WEO April 2022. Most recent value between 2019-2022 is used. Public debt values equal to or above 60 percent of GDP are in red, below are in green. Fiscal Balance refers to General Government net lending and values below -5 percent of GDP are in red, above are in green.

6/ As of September 1, 2022.

7/ Countries on the World Bank FY23 list of Fragile and Conflicted Affected Situations.

8/ World Bank overall CPIA score for 2020.

Notes: Syria* is assessed as CCRT-eligible under the income criterion but is not PRGT-eligible.

Abbreviations and Acronyms

ADB	Asian Development Bank
AE	Advanced Economy
AfDB	African Development Bank
BOP	Balance of Payments
CA	Current Account
CCRT	Catastrophe Containment and Relief Trust
CPI	Consumer Price Index
EBRD	European Bank for Reconstruction and Development
ECF	Extended Credit Facility
ECOWAS	Economic Community of West African States
EFF	Extended Fund Facility
FAO	Food and Agriculture Organization
FCS	Fragile and Conflict-affected States
GRA	General Resources Account
IADB	Inter-American Development Bank
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFI	International Financial Institution
IMF	International Monetary Fund
LIC	Low-Income Country
MDB	Multilateral Development Bank
MIC	Middle-Income Country
MIGA	Multilateral Investment Guarantee Agency
PIMA	Public Investment Management Assessment
PRGT	Poverty Reduction and Growth Trust
RCF	Rapid Credit Facility
RFI	Rapid Financing Instrument
RST	Resilience and Sustainability Trust
SDG	Sustainable Development Goal
SSA	Sub-Saharan Africa
SSN	Social Safety Net
UCT	Upper Credit Tranche
UN	United Nations
USDA	United States Department of Agriculture
WBG	World Bank Group
WFP	World Food Programme
WTO	World Trade Organization

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