

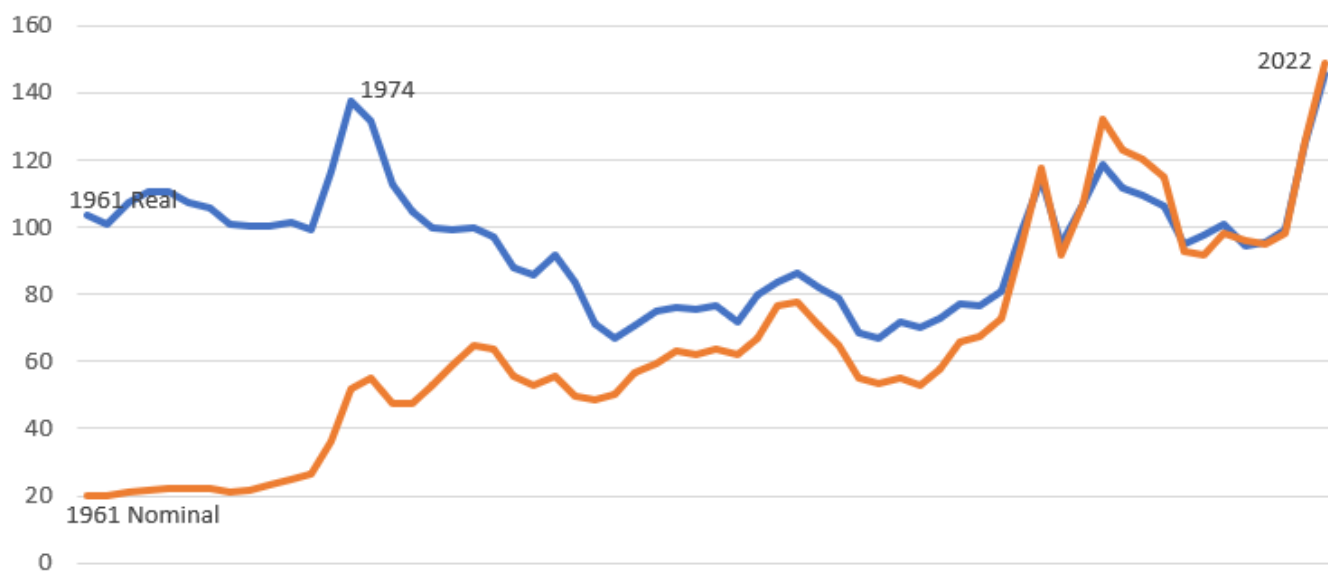
Cornhusker Economics

The Coming Global Food Crisis

Inflation driven by rising prices for food, energy, and other consumer goods has become a major concern in the United States and other high-income countries. A far more serious issue is the effect of rising food prices on low-income households in many developing countries in Africa, Asia, and Latin America. Global food prices had been rising in 2020 and 2021 as a result of supply shortages caused by adverse weather conditions exacerbated by climate change, war and civil strife in various countries, and economic shocks in the aftermath of the Covid-19 pandemic and the consequent disruption of global supply chains (Food Security Information Network 2022). In 2022, these trends were amplified by Russia's invasion of Ukraine and the blocking of significant agricultural exports from the Black Sea region (World Food Program 2022). Global food prices are likely to continue rising threatening millions of people around the world with serious food insecurity and malnutrition.

The United Nations Food and Agriculture Organization (FAO) publishes a world food price index based on prices for meat, dairy, cereal grains, oilseeds, and sugar. Both real (inflation-adjusted) and nominal price indexes are shown in Figure 1. Real food prices increased rapidly in the early 1970s as a result of supply shortages and rising oil prices brought

Figure 1. FAO Real (2014-16 = 100) and Nominal Food Price Indexes, 1961 - 2022. Source: based on data from FAO (2022)



about by the actions of the Organization of Petroleum Exporting Countries (OPEC). Real food and other commodity prices fell during the 1980s and remained fairly stable until the commodity price boom of 2007 – 2010. Prior to the current price spike, real food prices had never exceeded the level reached in 1974 (37.4% above the base level in 2014-16). Based on average prices for the first four months of 2022, real prices were 45.5% above the base level, 58.5% above the base in the month of April 2022. The International Monetary Fund (IMF) also calculates commodity price indexes including an index for food that reached 60.2% above the 2016 base in April 2022 (IMF 2022). Supply disruptions leading to rising prices for particular commodities such as wheat or sunflower seed oil can have spill-over effects on other commodities. In many Asian countries, consumers will increase their consumption of rice as wheat prices rise and this increased demand will result in higher rice prices.

As noted above, the Russian invasion of Ukraine has intensified the food price increases by blocking significant sources of supply of such commodities as wheat, corn, barley, and sunflower seed oil. Data from USDA (2022) suggest that in 2021, Russia and Ukraine accounted for 16.5% and 9.5% respectively of world wheat exports. Ukraine is also a major exporter of corn with about 23.9% of the world market in 2021 (USDA 2022). Data from the FAO show that Ukraine accounted for 42.2% of world sunflower seed oil exports in 2019 (FAOSTAT 2022). Food shipments from Ukraine's main ports have been blocked by a Russian blockade and grain stocks within Ukraine have been destroyed or seized by Russian troops. The winter wheat harvest and planting for the new season in Ukraine have been slowed by the conflict and the widespread distribution of land mines and unexploded artillery shells (New York Times 2022). In addition to pressures on food supplies stemming from the war, Russia and Ukraine are major producers and exporters of fertilizers, with Russia producing about 10% of world nitrogen fertilizer (Hammond and Gadanakis 2022). Rising input costs including those for both fertilizer and energy will also contribute to upward pressures on food prices.

Although India has not traditionally been a major wheat exporter, strong harvests in recent years have contributed to greater exports and an expectation that India would be able to supply some 10 million metric tons of wheat to

the global market this year. With rising prices and a heat wave that reduced yields, however, the government of India banned wheat exports on May 13, 2022 (CNBC 2022). Export bans have historically been a common response to global food price instability as governments seek to prevent rising world prices from being transmitted to the domestic market. In 1973, the U.S. government banned the export of soybeans and cottonseed and the oil and meal derived from these commodities in an effort to restrain domestic food price inflation (Dale 1973). During the 2007-10 food price spike, such major commodity exporters as Argentina and Brazil implemented export restrictions aimed at slowing internal food price increases (Pinstrup-Andersen 2015). In addition to India, the governments of Argentina, Indonesia, Kazakhstan, Turkey, and several other countries have also restricted the exportation of various food items this year (CNBC 2022). In all, some 26 countries accounting for 15% of the calories traded globally have implemented policies restricting exports (The Economist 2022). The effect of these export controls, of course, is to cause further price increases as global supplies are reduced.

The impact of food supply shortages and rising prices is likely to be devastating for consumers in many low-income countries. According to The Economist, 34.8% of the wheat imported by Sub-Saharan African countries comes from Russia and Ukraine. The proportion of wheat imports from the two warring countries is even higher in Pakistan (87.8%), Egypt (85.6%), Turkey (76.5%), Lebanon (75.5%), and Bangladesh (54.8%) (The Economist 2022). Food prices are particularly sensitive in low-income countries because food expenditures account for very large shares of consumers' disposable income. Analysts at USDA's Economic Research Service (2022) estimate that food expenditures account for more than 50% of total consumer spending in Bangladesh, Myanmar, Kenya, and Nigeria. The FAO has identified twenty countries that are at risk of widespread starvation including Nigeria, Ethiopia, Yemen, South Sudan, Afghanistan, the Democratic Republic of Congo, and Haiti (FAO 2022a). In 2021, about 276 million people were either experiencing or on the verge of experiencing acute food insecurity and the situation can only become worse in 2022 as a result of the war in Ukraine (Food Security Information Network 2022). Hunger and malnutrition add to the migration pressures

induced by climate change making it likely that there will be an increase in displaced people and international migration from the most seriously affected countries.

There is little that can be done to offset the causes of the current food crisis in the short term. The World Food Program (WFP) is working to provide emergency food assistance but funding from the international community has been insufficient given the scope of the problem. In particular, rising food prices reduce the quantities the WFP is able to procure given its resources (World Food Program 2022a). Beyond food assistance, changes in the policies restricting exports could help to alleviate supply shortages and price increases. Finding longer-term solutions to food insecurity will require efforts to reduce conflicts such as the wars in Ukraine, Yemen, Ethiopia, and South Sudan, address climate change, and re-construct global supply chains in the aftermath of the Covid 19 pandemic. Great progress in reducing global poverty has been made over the past 30 years—the extreme poverty rate in low and middle-income countries fell from 44% in 1990 to less than 10% today—but the current food crisis risks reversing much of that progress if the international community is unable to muster the will to attack its underlying causes.

Sources

CNBC (2022). “India Bans Wheat Exports to Try and Tame Prices as a Scorching Heatwave Curtailed Output,” retrieved from: India bans wheat exports to try and tame prices as a scorching heatwave curtailed output (cnbc.com)

Dale, Edwin L. (1973). “Soybeans and Cottonseed Under Export Embargo,” New York Times, June 28, 1973, retrieved from: Soybeans and Cottonseed Under Export Embargo - The New York Times (nytimes.com)

Economic Research Service (2022). “Food Prices and Spending,” USDA retrieved from: 2015-2020-food-spending_update-july-2021.xlsx (live.com)

FAO (2022). “World Food Situation,” Food and Agriculture Organization, retrieved from: FAO Food Price Index | World Food Situation | Food and Agriculture Organization of the United Nations

FAO (2022a). “Hunger Hotspots. FAO-WFP early warnings on acute food insecurity: February to May 2022 Outlook,” Food and Agriculture Organization, retrieved from: Hunger Hotspots. FAO-WFP early warnings on acute food insecurity: February to May 2022 Outlook | Policy Support and Governance | Food and Agriculture Organization of the United Nations

FAOSTAT (2022). “Data,” Food and Agricultural Organization, Statistics, retrieved from: FAOSTAT

Food Security Information Network (2022). Global Report on Food Crises 2022, Global Network Against Food Crises, retrieved from https://docs.wfp.org/api/documents/WFP-0000138913/download/?_ga=2.107501570.1813096786.1653317413-1713203838.1652643473

Hammond, John and Yiorgos Gadanakis (2022). “Ukraine: How the Global Fertilizer Shortage is Going to Affect Food Security,” World Economic Forum, retrieved from: Global food security under threat. Here's why | World Economic Forum (weforum.org)

IMF (2022). “Primary Commodity Prices,” International Monetary Fund retrieved from: IMF Primary Commodity Prices

New York Times (2022). “War Raises Famine Fears as Russia Chokes Off Ukraine’s Farms and Exports,” May 24, 2022.

Pinstrup-Andersen, Per, editor (2015). Food Price Policy in an Era of Market Instability: A Political-Economy Analysis, New York: Oxford University Press.

The Economist (2022). “Briefing: The Food Crisis,” May 21 – 27, pages 19 – 22.

USDA (2022). World Agricultural Supply and Demand Estimates, U.S. Department of Agriculture, retrieved from: wasde0522.pdf (usda.gov)

World Food Program (2022). “Food Security Implications of the Ukraine Conflict,” Food and Agriculture Organization, retrieved from: UKRAINE FACTSHEET 07.indd (wfp.org)

World Food Program (2022a). “A Hunger Catastrophe,” retrieved from: A hunger catastrophe | World Food Programme (wfp.org)

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