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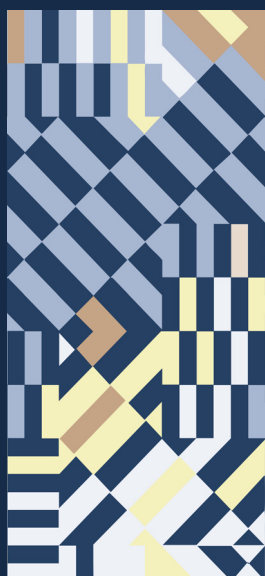
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# UKRAINE CRISIS BRIEF SERIES

## Global Wheat and Vegetable Oils Trade and Market Disruptions: Income and Food Security Effects for Ghana

*Ismael Fofana\*, Leysa Maty Sall\*\*, Yaya Ky\*\*\*, and Mahamadou Tankari\*\*\*\**



### 1. Introduction

The Russia-Ukraine war is a source of short-term and long-term market disruption, particularly in the trade of grains and vegetable oils. The conflict raises several concerns about trade in grain as the two countries are major producers and exporters of wheat and other staples. With an import penetration rate above 100 percent in 2020 (AATM 2022), Ghana is highly dependent on imports from the global market to satisfy its domestic needs. Furthermore, Russia is an important trading partner of Ghana, contributing 26 percent of the country's total wheat imports in 2020 (AATM 2022). For vegetable oils, on the other hand, Ghana depends not on Russia and Ukraine but on the international market to satisfy nearly 80 percent of its domestic consumption. The disruption of wheat and vegetable oil supplies resulting from the Russia-Ukraine war and associated price spikes can have considerable implications for the wheat and vegetable oils sectors, food price inflation, and thus, food security in Ghana.

\*Senior Economist/Economic Modeling Consultant at the Ministry of Economy and Finance, Guinea

\*\*Economist, Centre d'Études Prospectives et d'Informations Internationales (CEPII)

\*\*\*Université Thomas Sankara (UTS), Burkina Faso

\*\*\*\*Deputy Director, Capacity and Deployment, AKADEMIYA2063

THE UKRAINE CRISIS  
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This report summarizes the findings of a study into the impact of the war on the Ghanaian economy. It focuses on how the crisis has affected various industries, such as through disruption to the wheat and vegetable oil sectors. The spread of the shock through price variations has a significant impact on each domestic sector, even though the impact of the global market disruption on the national economy through price changes is less than the impact through the real exchange rate. The gravity of these effects on domestic supply is influenced by the size of the sector, which in turn affects how the shock diffuses at the macroeconomic level, including income inequality, inflation, and food security.

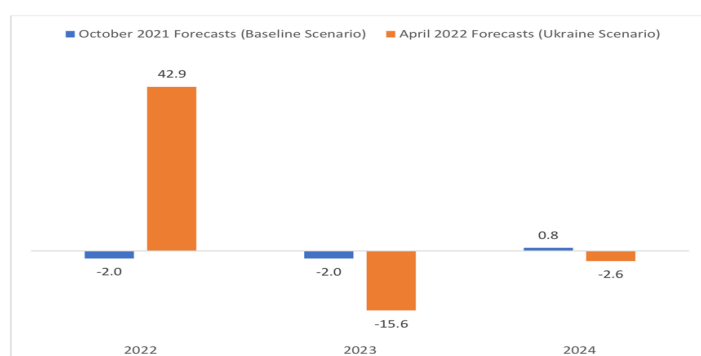
## 2. Exposure and vulnerability to wheat trade and market disruptions

The Ukraine crisis is impacting the supply and price of wheat, which, in turn, leads to impacts on the food industry, food prices, and ultimately food security. Wheat serves as an intermediate input in numerous industries, so changes in the import price of this product lead to changes in the price of wheat domestically and of substitute products and finished goods that use wheat as an input. This section focuses on how changes in global wheat prices have affected gross incomes, the inflation of food prices, and food consumption levels.

- *Wheat price shocks under the Ukraine crisis*

Global wheat prices were projected to increase by more than 40 percentage points in 2022 at the start of the Russia-Ukraine conflict (Figure 1). Before the war, wheat prices were set to stabilize after the disruption caused by the COVID-19 pandemic. Figure 1 shows a projected decline in wheat prices in 2023 and 2024 by almost 16 and 3 percent, respectively.

**Figure 1: Changes in International Price of Wheat (%)**



**Source:** Compilation from the commodity price database (World Bank 2022).

- *Effects of rising wheat prices on household incomes, food prices, and food consumption*

The increase in the price of wheat has led to price rises for substitute domestic staples, exacerbating the inflationary effect of the crisis. A rise in wheat prices drives up the cost of cereal products and lessens the purchasing power of households. Reduced consumption and its economywide implications reduce household income, as shown in Figure 2. However, the magnitude of the income decline remains very modest and is consistent with the contribution of wheat to the agricultural sector and the entire economy (less than 0.1 percent). The effect of the increase in wheat prices on household income depends on the household's primary source of income. Farm and urban households are significantly impacted more than rural non-farm households. Moreover, income decline tends to be higher among high-income categories.

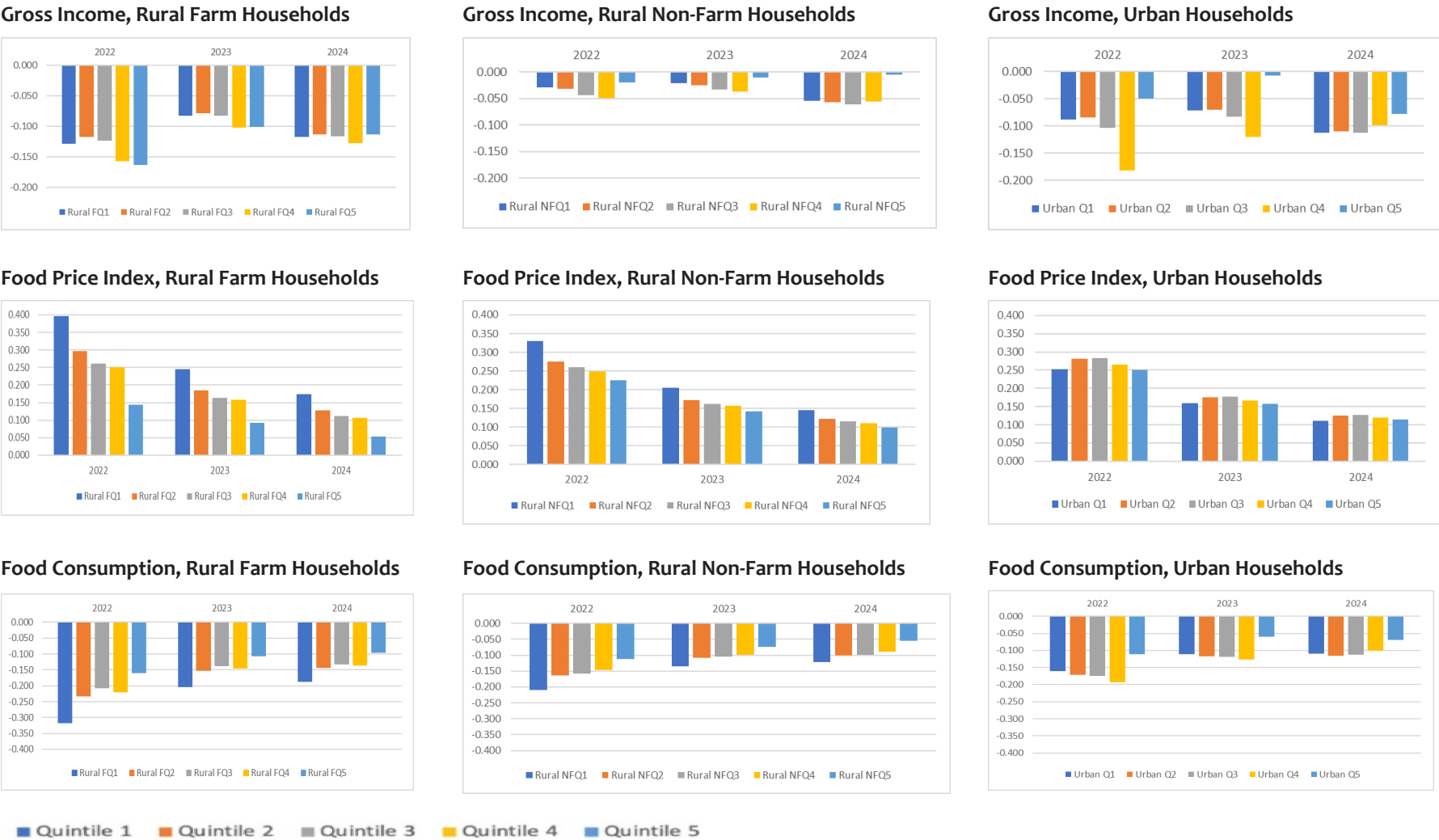
The increase in wheat prices has been found to result in a general increase in food prices. The distribution across rural households is uneven as low-income categories show a higher increase in the food price index than high-income categories.

Household consumption is impacted by the correlation between changes in household income and food prices. Food consumption falls for all household categories due to the disparities in pre-crisis purchasing power and consumption baskets among the various categories of households, as well as the pressure from inflation, but the impact on households is heterogeneous. Food consumption falls more among rural farm households and low-income rural households.





**Figure 2: Effects of Rising Wheat Prices on Gross Income, Food Price Index, and Food Consumption (change in %)**





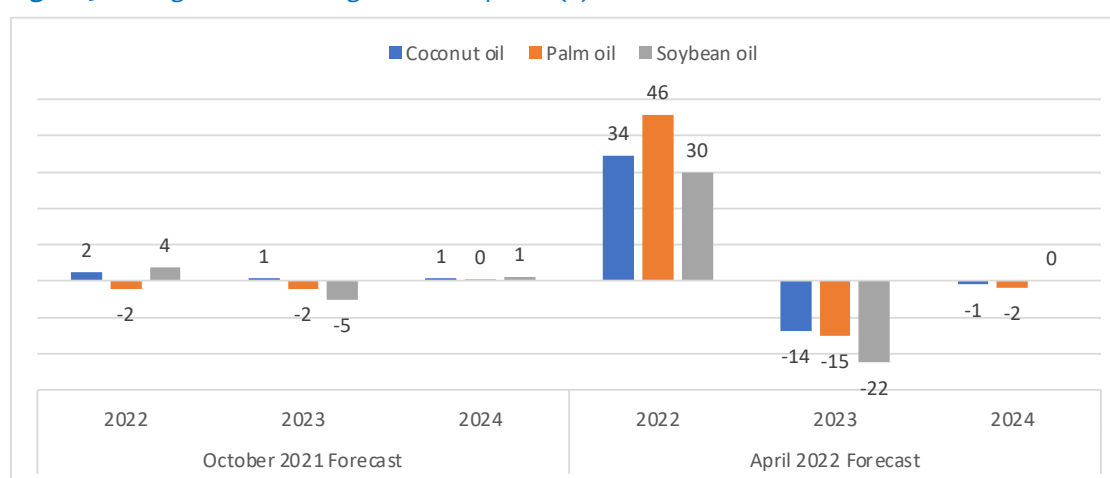
### 3. Exposure, contagion, and vulnerability to vegetable oils trade and market disruptions

Domestic prices, as well as the production of competing vegetable oils and oilseeds sectors, are used to evaluate the effects of the volatile global oil market. The contribution of oilseeds and vegetable oils in the agrifood sector and the entire economy is quite important in anticipating significant implications for the agricultural sector and the national economy.

- *Shocks in vegetable oil prices due to the Ukraine crisis*

Following the start of the Russia-Ukraine war, the price of oilseeds increased by 30 to 50 percent globally, having previously been projected to stabilize after the COVID-19 pandemic. At the onset of the war, prices for coconut, palm, and soyabean oil were predicted to increase by 30 to 46 percent in 2022 before dropping by 14 to 22 percent in 2023 and stabilizing in 2024 (Figure 3).

**Figure 3:** Changes in Global Vegetable Oils prices (%)



**Source:** Commodity price database (World Bank 2022).

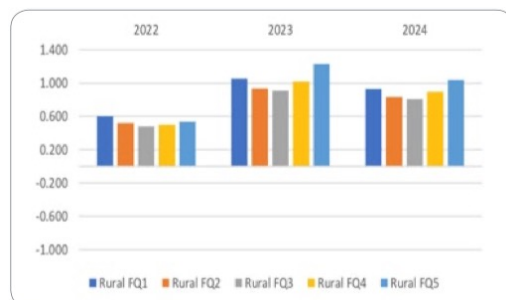
**Note:** Difference in prices projected by the World Bank in October 2021 and April 2022.

- *Effects of rising vegetable oils prices on household incomes, food prices, and food consumption*

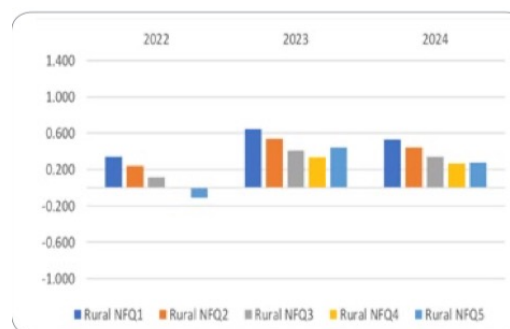
The disruption of the oilseeds sector is projected to benefit Ghanaian rural farm households, particularly in 2023 and 2024, when their income is expected to increase. Growth is also observed in income for rural non-farm households, albeit more slowly than that of rural farm households. Changes in income in urban areas are mixed (Figure 4).

**Figures 4:** Effects of Rising Vegetable Oils Prices on Gross Income, Food Price Index, and Food Consumption, Changes vs Baseline (%)

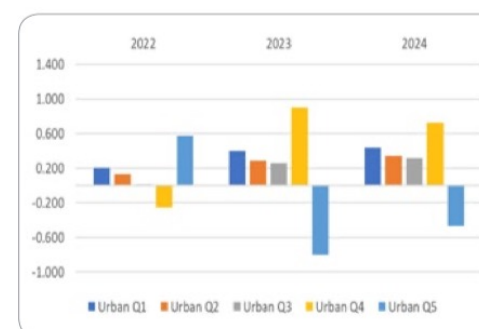
**Gross Income, Rural Farm Households**



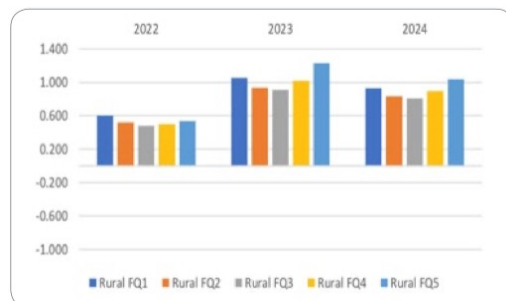
**Gross Income, Rural Non-Farm Households**



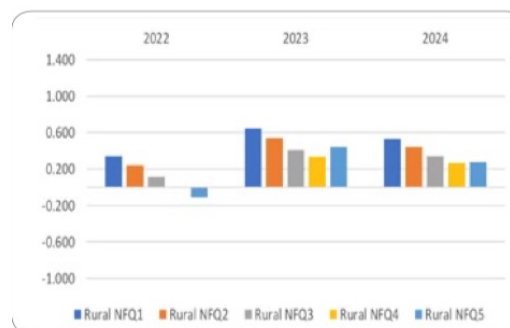
**Gross Income, Urban Households**



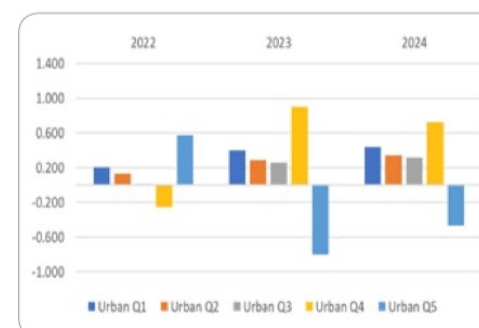
**Food Price Index, Rural Farm Households**



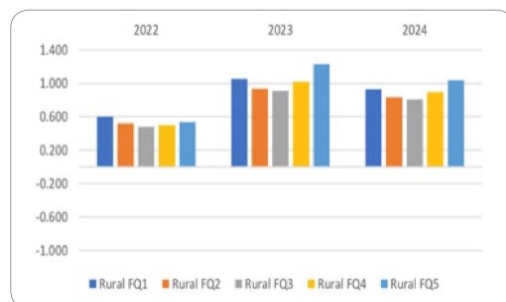
**Food Price Index, Rural Non-Farm Households**



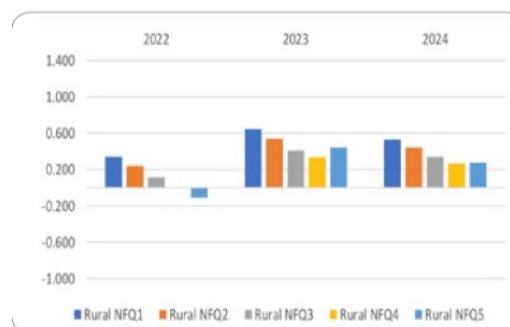
**Food Price Index, Urban Households**



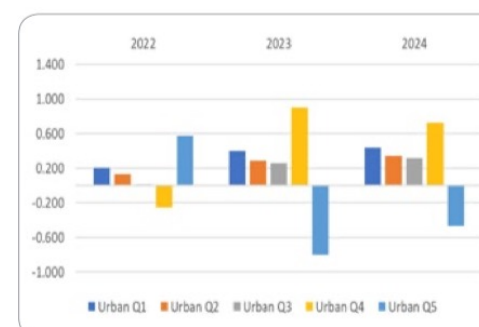
**Food Consumption, Rural Farm Households**



**Food Consumption, Rural Non-Farm Households**



**Food Consumption, Urban Households**



The food price index is anticipated to increase for all household types over the three years, particularly in 2022. Rural farm households will be more impacted by this inflation in 2022, and the pressure will decline slowly to 2024. The food consumption of rural farm households is anticipated to remain unchanged in 2022 before increasing in 2023 and 2024 because the income effect is expected to dominate the price effect in 2023 and 2024. Food consumption decreases in 2022 for other types of households before it increases slightly in 2023 and 2024.

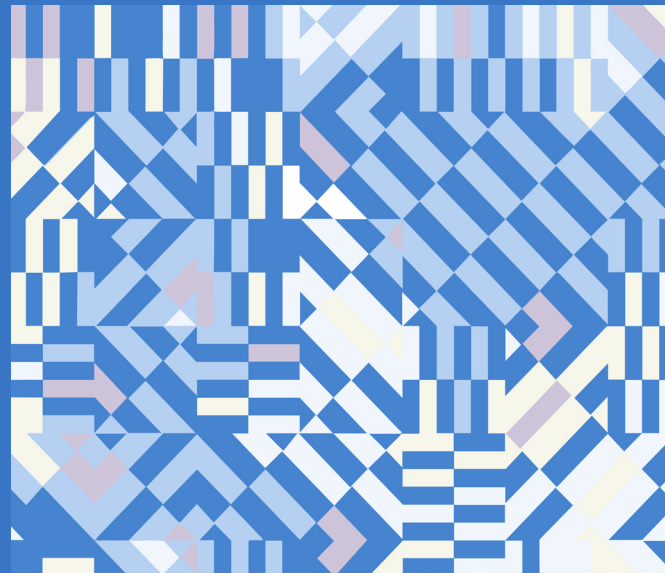
#### 4. Conclusion






The disruption of the global wheat market is causing an increase in food prices in Ghana and this has a detrimental effect on household income, purchasing power, and food consumption, particularly for low-income households. However, the decline in income and consumption remains modest as the contribution of wheat to the agricultural sector and the entire Ghanaian economy is marginal. On the other hand, because of the relatively high contribution of vegetable oils and oilseeds to Ghana's economy, the disruption of the global vegetable oils market has positive effects on income and food consumption in Ghana. The disruption benefits Ghanaian rural farm households, particularly in 2023 and 2024, as their income is expected to increase because of the substitution effect. The global vegetable oil disruption has a favorable effect on household consumption in both urban and rural areas.



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-  AKADEMIYA2063 Headquarters | Kicukiro/Niboye KK 341 St 22 | 1855 Kigali-Rwanda
-  AKADEMIYA2063 Regional Office | Corniche des Almadies, Lot N°3 | 24933 Dakar-Senegal
-  +250 788 318 315 | +221 33 869 28 81
-  [kigali-contact@akademiya2063.org](mailto:kigali-contact@akademiya2063.org) | [dakar-contact@akademiya2063.org](mailto:dakar-contact@akademiya2063.org)
-  [www.akademiya2063.org](http://www.akademiya2063.org)

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