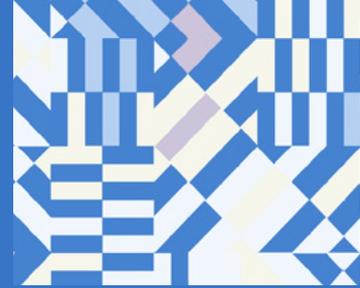




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# UKRAINE CRISIS BRIEF SERIES

## Impacts of the Ukraine-Russia Crisis on Commodity Prices in Local Markets in Rwanda

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### 1. Introduction

This brief analyzes the short-run effects of the Ukraine-Russia conflict on commodity prices across local markets in Rwanda. The conflict has caused disruptions in global trade and local commodity markets. The markets for food staples are one of the channels through which the disruptions are being experienced by local communities, reaching far beyond major urban centers. Russia and Ukraine are major players in the global grain markets accounting for 25% of total wheat exports and 15% of total maize exports globally. They are also major players in the global markets for fertilizers, oil and natural gas. In 2021, Russia was the fourth largest global exporter of natural gas. The crisis has impacted commodity flows through trade disruptions and increased international prices for most primary commodities. The prices of many commodities are expected to be significantly higher in 2022 compared to 2021 and to remain at these high levels in the medium term. Some of these changes in global prices will be reflected in local prices depending on the extent of a country's reliance on global markets and local price transmission mechanisms.

Generally, many African countries rely on imports for food commodities such as wheat, rice, and cooking oil to meet their local needs. Most energy needs (fuel and liquefied petroleum gas (LPG)) are also met through imports. Due to this dependence on imports, many countries are exposed to external shocks that affect global trade. The ongoing Russia-Ukraine conflict and its consequent disruptions to global trade is a classic example of such a shock.

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There is evidence that many more African countries are exposed to the ramifications of the war than those that are directly involved in global trade. Badiane et al. (2022) provide evidence of a significant contagion effect resulting from a dense network of re-exports into cross-border markets by primary importers, which spreads the disruption further to more countries<sup>1</sup>. The contagion effect is also expected across commodities, for instance, in the transmission of shocks from globally traded commodities to local food staples.

In this brief, the actual weekly price data for selected basic food commodities (rice, wheat flour, cooking oil) as well as fuel (petrol, diesel, and LPG (cooking gas)) are analyzed. The weekly price data is collected five times per month and recorded in Rwandese Francs per kilogram (Rwf/kg) for rice and wheat flour and Rwf/Liter for cooking oil, diesel, and petrol. The data covers the period from January 2022 to May 2022 and was obtained from the National

Institute of Statistics of Rwanda (NISR) and the Ministry of Agriculture and Animal Resources (MINAGRI)/Esoko data platform. The brief focuses on four markets: two urban markets, i.e., Nyabugogo (in Kigali district) and Musanze (in Musanze district) and two rural markets, i.e., Nyakarambi (in Kirehe district) and Gasarenda (in Nyamagabe district).

The analysis involves tracking price changes from January 2022 to the end of May 2022 and comparing these with the observed changes in global prices of the same commodities or their derivatives. The global prices are obtained from the World Bank Commodity Market Outlook data, which estimates monthly prices for around 46 commodities in specific markets. The analysis shows how prices in local markets have responded to global changes and the extent to which these changes vary across local markets and reflect global price movements<sup>2</sup>.

## 2. Tracking Price Changes across Local Markets

Given the dependence on global and regional imports for some key commodities, the impact of trade disruptions resulting from the Ukraine war on local prices will be both direct and indirect. These impacts will be transmitted through the dense network of trans-border imports and re-exports from countries trading directly with Russia, Ukraine, or Belarus. In addition, the rise in prices could also be driven by increased shipping and transport costs caused by climbing fuel prices. Furthermore, a decline in available supplies due to export restrictions by exporting countries and 'hoarding' by re-exporting countries would also drive prices upwards.

### 2.1. Changes in Prices of Food Commodities in Urban and Rural Markets

Notable price increases for most commodities were observed in rural and urban markets since March 2022. Similar price trends are observed in the urban markets of Kigali and Musanze (Figures 1 and 2). Food commodity prices in both markets rose slightly during the March-April period but were flatter during the month of May. The rise in the price of wheat is expected because Russia is the major import source for Rwanda. In 2019, imports from Russia accounted for 49% of the total wheat imports (176,655 MT) into the country (FAOSTAT, 2022). The leading local print media captured this rise in wheat prices<sup>3</sup>, reporting that a 25kg bag of wheat flour that had cost Rwf 20,000 before the Russia-Ukraine war had risen to Rwf 25,000 in March 2022. This price rise was attributed directly to the Russia-Ukraine crisis, and the government was reported to be searching for alternative sources of wheat imports.

<sup>1</sup>Badiane, O., et al., 2022. Contagion and Exposure of African Countries to Global Wheat Trade Disruptions. AKADEMIYA2063 Ukraine Crisis Brief Series, No. 1, AKADEMIYA2063, Kigali, Rwanda.

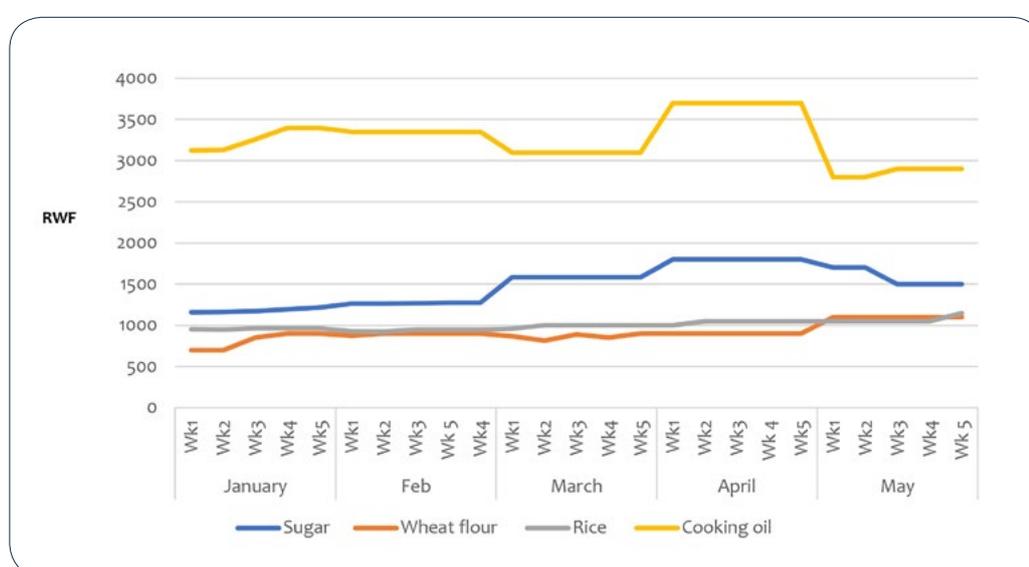
<sup>2</sup>World Bank. Accessed June 2022. <https://www.worldbank.org/en/research/commodity-markets>

<sup>3</sup>The New Times Rwanda on March 23, 2022: <https://www.newtimes.co.rw/news/rwanda-looks-elsewhere-wheat-imports-amid-russia-ukraine-crisis>



In the urban markets of Kigali and Musanze, the price of wheat flour rose by 36% and 33% respectively, by the last week of May compared to the prices at the beginning of January (see Figure 1 and Figure 2). Although prices generally increased over the entire period, there was a notable rise in the two urban markets in mid-April. The reason behind the sharp rise in mid-April is not clear; it could be because of a lag in price transmission triggered by the war and the resulting sanctions that were instituted during the month of March. A similar trend in wheat prices was recorded for the rural market of Nyakarambi in Kirehe district. However, a decline of 22% in the price of wheat flour was recorded in Gasarenda in Nyamagabe district from Rwf 900/kg in January 2022 to Rwf 700/kg in May 2022. This surprising price decline in the local rural market of Nyamagabe is not unexpected because the district is a wheat-producing area. In the past, there had been reports of marketing challenges due to stalled wheat mills<sup>4</sup>. It is therefore plausible that the local market in Nyamagabe was shielded from the impact of rising wheat prices due to localized 'surpluses' from the harvest season, which runs from September to January. Overall, the rise in global wheat prices was transmitted to local markets in Rwanda, especially in urban and rural areas, except when local production surpluses shielded the markets from price increases.

**Figures 1: Weekly Prices of Food Commodities for Nyabugogo Market in Kigali, (Jan-May 2022)**

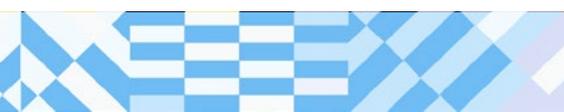


**Source:** Author's computation based on NISR & MINAGRI Data, 2022.

Rwanda largely relies on imports to meet its rice, sugar, and cooking oil demand. Sugar imports are principally sourced from the countries in the Southern Africa region, including Malawi, Zambia, Eswatini and South Africa. India is a leading import country for Sugar into Rwanda outside the continent of Africa. About 60% of rice consumed in Rwanda is imported from Tanzania (50%), while a substantial amount is imported from Asian countries such as Pakistan. Similarly, 60% of cooking oil is also imported. Among the three food commodities, sugar recorded the highest price increase across the sampled markets, followed by rice. Cooking oil prices dropped in the urban markets of Kigali and Musanze but rose slightly in both rural markets of Kirehe and Nyamagabe.

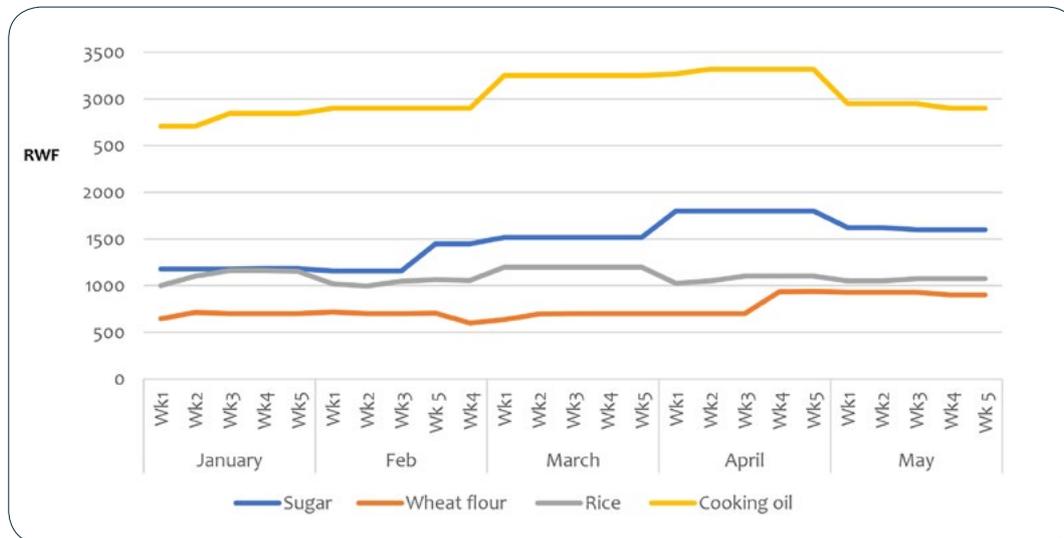
The price of sugar rose significantly in both urban (34% in Kigali, 36% in Musanze) and rural (60% in Kirehe, 44% in Nyamamgabe) markets by May in comparison to the prices in January, as shown in Figures 1-4. The sharp rise in the price of sugar in Kirehe is much higher than in the other rural market in Nyamagabe. The additional transport and logistical costs of delivering sugar to those areas explain these higher sugar prices in rural markets. Furthermore, the price of sugar appeared to level off in May across all markets after a steady increase in March and April. The price of rice rose slightly by 12% and 16% in the urban markets of Kigali and Musanze respectively (Figures 1 and 2).

<sup>4</sup> The New Times Rwanda on March 24, 2019: <https://www.newtimes.co.rw/news/nyamagabe-stalled-wheat-processing-factory-hurting-farmers-fortunes>



Similarly, the price of rice also rose by 22% and 15% in the rural markets of Kirehe and Nyamagabe respectively over the same period (Figures 3 and 4). In Kigali, while the price of cooking oil increased in April, it dropped in May to levels below those recorded in the first week of January (Figure 1). A similar trend was observed in the Musanze urban market. The prices of cooking oil and rice increased during March and April but dropped in the last week of May to the level observed in January in the case of rice and slightly above that in the case of cooking oil (Figure 2).

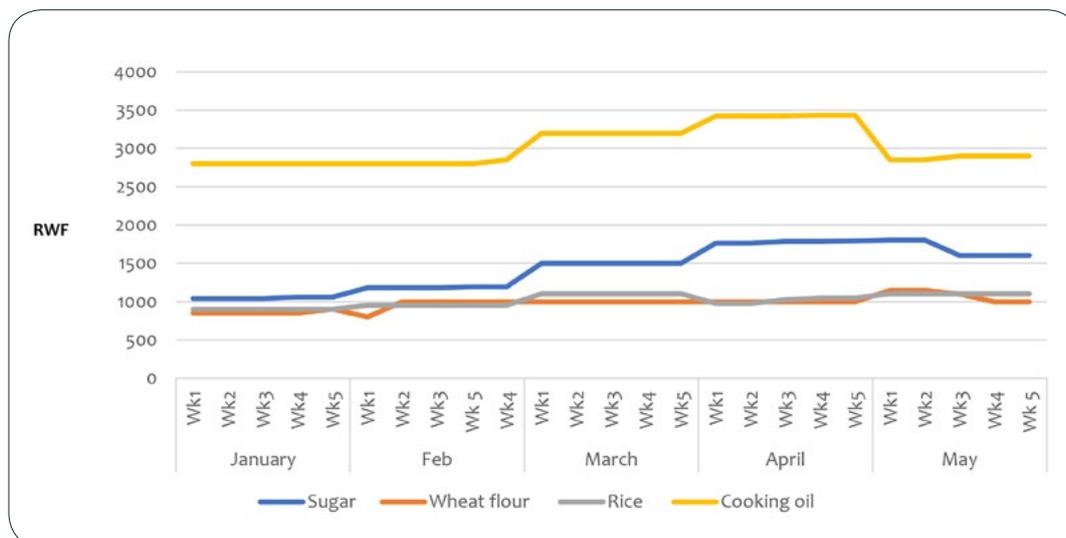
**Figures 2: Weekly Prices of Food Commodities for Musanze Market, (Jan-May 2022)**



Source: Author’s computation based on NISR & MINAGRI Data, 2022

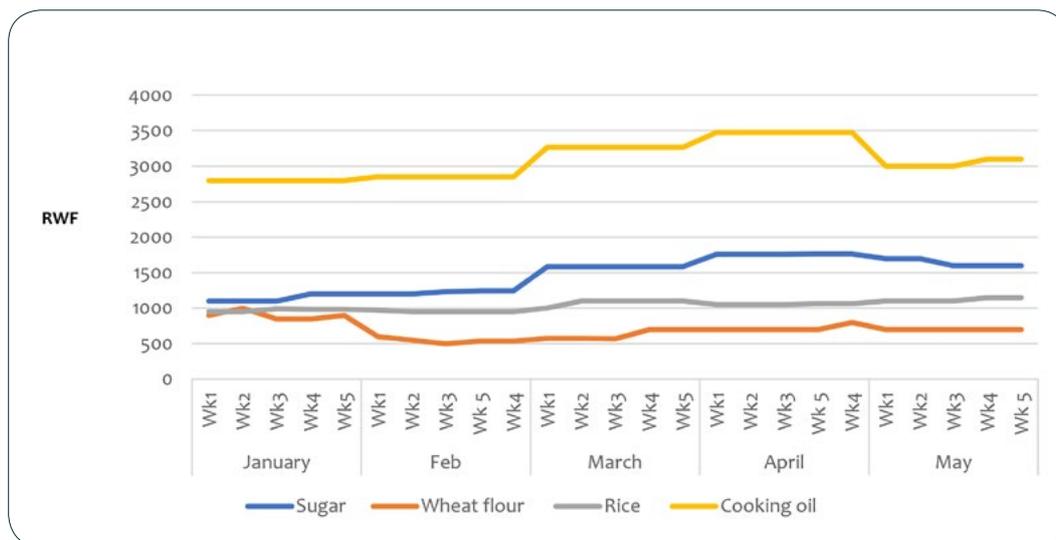
Overall, the price of cooking oil dropped by 12% and 1% in the urban areas of Kigali and Musanze by the end of May compared to January. Over the same period, however, the price of cooking oil rose slightly in the rural markets of Kirehe (by 1%) and by 9% in Nyamagabe. Based on this observation, it is apparent that for the reference period, the price of cooking oil in Rwanda seems shielded from the global prices that experienced a significant rise of 19% (see Table 1). Transport costs and other local price dynamics could explain the differences between urban and rural markets.

**Figures 3: Weekly Prices of Food Commodities in Nyakarambi Market, Kirehe District, (Jan-May 2022)**



Source: Author’s computation based on NISR & MINAGRI Data, 2022

**Figures 4: Weekly prices of Food Commodities for Gasarenda Market, Nyamagabe District, (Jan-May 2022)**



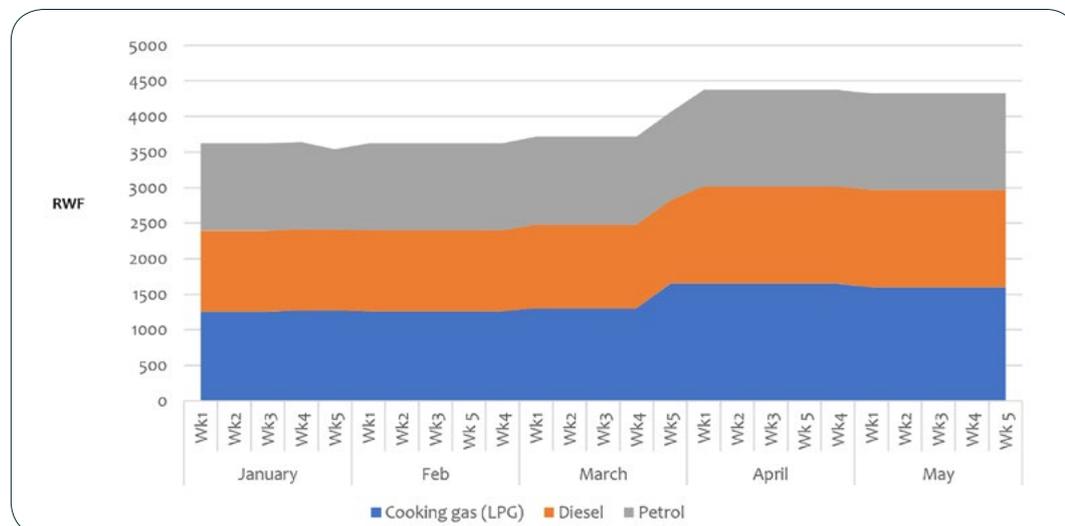
Source: Author's computation based on NISR & MINAGRI Data, 2022

## 2.2. Changes in Prices of Energy (Fuel and Cooking Gas) in Local Markets

The prices of fuel (petrol and diesel) and cooking gas were the same in the different markets because prices are regulated by the Rwanda Utilities Regulatory Authority (RURA) and are only reviewed every two months. For illustration, we used the prices observed in Kigali to analyze the changes over time from Week 1 in January to Week 5 in May, as summarized in Figure 5. Since May 2021, fuel prices have been stabilized by the government of Rwanda, which decided to forego some taxes on imports of select petroleum products. According to RURA, the decision was also taken to avoid the negative consequences of rapid fuel price increases that would cause a generalized price increase (inflation) and therefore decelerate the speed at which Rwanda's economy was recovering from the impact of the COVID-19 outbreak.

While fuel prices remained relatively stable, there were two instances of price increases (Week 1 of March and Week 1 of April) instituted by RURA in response to global changes in oil prices. Overall, the price of petrol, diesel and cooking gas increased by 11%, 20% and 27% respectively, in Kigali by the last week of May in comparison to the first week of January 2022.

**Figures 5: Weekly Energy Prices for Kigali City, (Jan-May 2022)**



Source: Author's computation based on NISR & MINAGRI Data, 2022

### 3. Comparing Price Changes in Local and Global Markets

Monthly averages of local prices were computed, and changes in these prices were compared to global price changes for the same commodities. The results are summarized in Table 1.

**Table 1: Summary of Price Changes: Comparison between Local Markets in Rwanda and Global Averages, (January-May 2022)**

Commodity	Global price change (%)	Change in local urban market (Kigali)	Change in local rural market (Kirehe)
Wheat	+40%	+36%	+26%
Sugar	+3%	+34%	+60%
Rice	+10%	+12%	+22%
Cooking oil	+19%	-12%	+3%
Fuel	Crude Oil: +31%	Diesel: +20%	
Petrol: +11%	Diesel: +20%		
Petrol: +12%			
Liquefied petroleum gas (LPG)	+28%	+27%	

*Source: Author's computation based on NISR & MINAGRI Data and World Bank, 2022*

From the results in Table 1, changes in global commodity prices are, to a large extent, similarly reflected in local markets in Rwanda (both rural and urban). However, some non-alignments are also noted, especially for cooking oil, whose price declined in Rwanda's urban markets. Sugar prices were also much higher than those at the global level. Global wheat prices have increased by 40% since January, while in Rwanda, a corresponding rise of 36% is observed for wheat flour in the urban market of Kigali. Similarly, a global rise of 10% was recorded for rice, while in Kigali, the prices have also risen by almost 12%. Energy prices have risen in the same direction and by a partly similar magnitude. A 31% rise in the global price of crude oil is reflected in the increase in diesel and petrol prices by 20% and 11% respectively in Kigali, while a 28% rise in global LPG prices is matched by a 27% rise in the price of cooking gas in Kigali. Based on these figures, there seems to be a strong transmission of changes in global prices to local markets, which renders Rwanda vulnerable to international shocks. Therefore, local policies and strategies are required to dampen such shocks' effects on local consumers.



## 4. Conclusions and Implications

This brief assessed the impacts of the Russia-Ukraine conflict on commodity prices in local markets within Rwanda and compared them to changes in global prices. The assessment found that there has been a general rise in prices of food and energy commodities in Rwanda, reflective of similar changes at the global level. There were, however, some exceptions, such as cooking oil prices in urban areas, which declined while global prices rose. For some commodities like sugar, local prices rose more sharply than global prices, with some variations in price change patterns between rural and urban areas.

Rice, sugar, cooking oil and wheat flour are basic food commodities, and the rise in prices presents cause for concern to policymakers because of the likely negative impacts on the welfare of poor households. One of the short-term solutions is to provide targeted social protection support to the most vulnerable households facing higher food and energy prices, similar to what Rwanda implemented during the COVID-19 crisis. In the long term, measures that facilitate more free intra-regional trade should be adopted and implemented to allow food commodity trade among countries in the continent. In addition, boosting local food production and productivity in the long term is a sound strategy for dealing with external shocks emanating from global food markets. Long-term investments in energy-saving products and energy efficiency improvements are also required. The government of Rwanda should continue and intensify funding to agriculture, especially for programs that aim to increase production and productivity to be better prepared for future global shocks on domestic food prices.

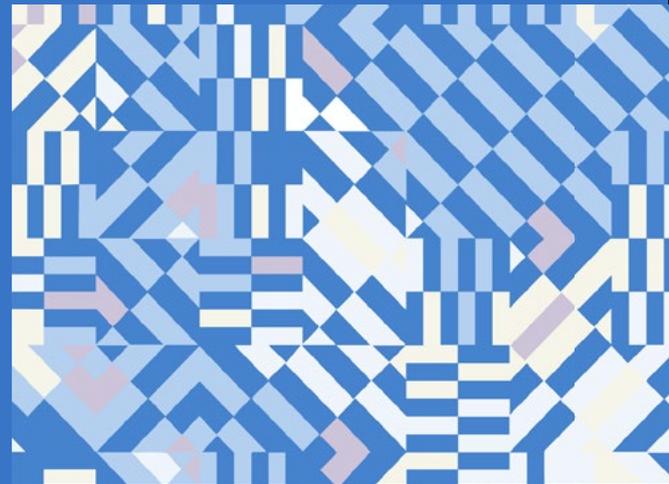
## 5. References

Badiane, O., et al., 2022. Contagion and Exposure of African Countries to Global Wheat Trade Disruptions. AKADEMIYA2063 Ukraine Crisis Brief Series, No. 1, AKADEMIYA2063, Kigali, Rwanda.

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