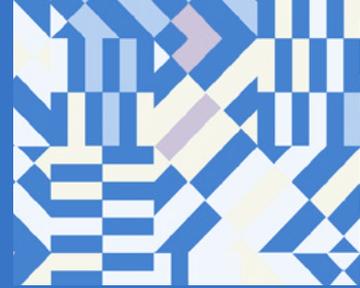




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November 2022
No. 16

UKRAINE CRISIS BRIEF SERIES

The Russia-Ukraine Conflict: Impacts on Commodity Markets in Zimbabwe

Greenwell Matchaya



1. Introduction

Assessments of historical crises, including the ongoing COVID-19 pandemic, provide evidence that even countries geographically distant from the epicenters of crises can experience their effects through international trade disruptions as well as from the protective measures undertaken by countries to limit the negative effects of the crisis.¹ It is therefore no surprise that the impacts of the Russia-Ukraine conflict are being felt beyond the borders of the warring countries.

These impacts are felt in the following ways: firstly, countries that trade directly with Russia and Ukraine in food and other commodities that must be transported through ports near the epicenter of the conflict experience the effects quickly and directly as trade volumes from the warring countries decline. Secondly, countries that do not trade directly with Russia and Ukraine but trade with others that buy commodities from the two countries may also be affected indirectly as stocks decline with use in the absence of replenishment. Thirdly, due to concerns about immediate food shortages, countries often resort to hoarding their own food stocks instead of making them available to the market. Fourthly, increasing fuel, transport, and general trade transaction costs put pressure on commodity prices, leading to price hikes. In each of these cases, the induced scarcity would trigger price hikes in the short and medium term for those commodities directly affected, eventually leading to international contagion.²

THE UKRAINE CRISIS
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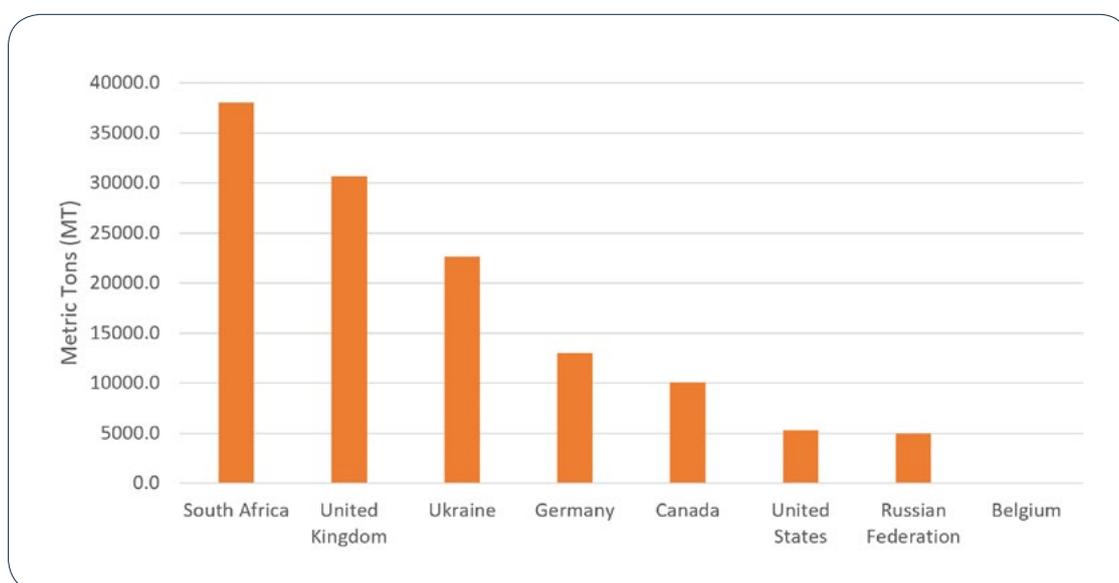
¹ Matchaya G, Nhlengethwa S, Greffiths J, and Bhekiwe F. 2020. Maize Grain Price trends in food surplus and deficit areas of Mozambique under COVID-19. AKADEMIYA2063 COVID-19 bulletin.

² Chang, R., Majnoni, G. (2001). International Contagion: Implications for Policy . In: Claessens, S., Forbes, K.J. (eds) International Financial Contagion. Springer, Boston, MA. https://doi.org/10.1007/978-1-4757-3314-3_15

If the affected goods are substitutable, the price hikes may be short-lived; instead, the substitute commodities would also experience an increase in prices. However, this effect may be the opposite for complements, such that an increase in the price of one commodity due to the induced scarcity would lead to a decline in demand for the complementary good. It has also been shown that for commodities, the effects of crises on prices are often dependent on several other factors, including market location.³ The effects of the Russia-Ukraine war on commodity prices may therefore vary not only depending on the commodity characteristics or trading relationships between the warring countries and the country under study, but also on whether the markets examined are rural or urban. Location matters due to the high import dependency and larger incomes in urban centers compared to rural areas.

Zimbabwe is a net importer of wheat, and Figure 1 shows the top sources of wheat imports for 2019.

Figure 1: Zimbabwe Wheat Imports (2019)



Source: Author's construction with World Bank data

Zimbabwe's total wheat imports amounted to 124,597 metric tons (MT) with a combined value of over 51.6 million USD⁴. In 2019, wheat imports primarily originated from South Africa (38,000 MT or 30% of the total), the United Kingdom (24.5%), Russia and Ukraine (22%), Germany, Canada, the United States and Belgium (all contributing a total of 22%) as seen in Figure 1. While Russia and Ukraine are large fuel exporters, the two countries are not among Zimbabwe's top import sources of petroleum. In 2020, Zimbabwe imported 574 million USD in refined petroleum, mainly from Singapore (493 million USD), South Africa (61.4 million USD), Mozambique (9.65 million USD), Mauritius (3.51 million USD), and the United Arab Emirates (1.89 million USD).⁵ Zimbabwe is a net sugar exporter with a trade surplus of over 73 million USD in 2020⁶, but it is a net importer of maize, with 96% of the total annual import demand of 288MT met by imports from South Africa and the rest from China and Malawi.⁷ Russia and Ukraine do not directly significantly participate in maize, sugar, rice and millet trade with Zimbabwe.

³ Mbaye, Matchaya, Karugia, et al. 2021. The impact of COVID-19 on staple food prices: Location matters. AKADEMIYA2063 and IFPRI. <https://www.ifpri.org/publication/impact-covid-19-staple-food-prices-location-matters>

⁴ <https://wits.worldbank.org/trade/comtrade/en/country/ZWE/year/2019/tradeflow/imports/partner/ALL/product/100110#>

⁵ <https://oec.world/en/profile/bilateral-product/refined-petroleum/reporter/zwe#>

⁶ <https://trendeconomy.com/data/h2/Zimbabwe/1701>

⁷ <https://wits.worldbank.org/trade/comtrade/en/country/ZWE/year/2018/tradeflow/imports/partner/ALL/product/110812#>

2. Price Responses for Selected Commodities

To study commodity price dynamics during the conflict, this brief used price data for various commodities from four markets in Zimbabwe. These four markets include two city markets (Mbare in Harare and Renkini in Bulawayo) and two rural markets (Chipinge in Chipinge, Manicaland and Hwedza in Mashonaland East). Price trends for these markets were evaluated in relation to world market trends to understand whether the war influenced the observed price trends. Generally, world market prices for these commodities increased at different rates during the period under study (see Table 1).

Table 1: Changes in World Market Prices for Selected Commodities

	Crude oil, average	Liquefied natural gas, Japan	Maize	Rice, Thai A.1	Wheat, US	Beef	Sugar	Sunflower oil
	(\$/bbl)	(\$/mmbtu)	(\$/mt)	(\$/mt)	(\$/mt)	(\$/kg)	(\$/kg)	(\$/mt)
% change (t- t ₁)	%	%	%	%	%	%	%	%
2022M01								
2022M02	11,5	1,7	5,8	0,7	4,3	4,0	-2,0	6,2
2022M03	20,2	1,1	14,7	0,3	24,5	0,6	6,7	57,5
2022M04	-8,0	7,8	3,8	0,5	1,8	-1,9	3,2	-3,6
2022M05	6,5	1,5	-1,0	8,3	5,5	-0,8	-1,1	-8,6
Total Change	30,1	12,1	23,3	9,7	36,2	1,9	6,8	51,4

Source: Author's tabulations with World Bank 2022 data. bbl stands for barrel of oil; mmbtu stands for Metric Million British Thermal Unit, MT stands for Metric ton; % is per hundred.

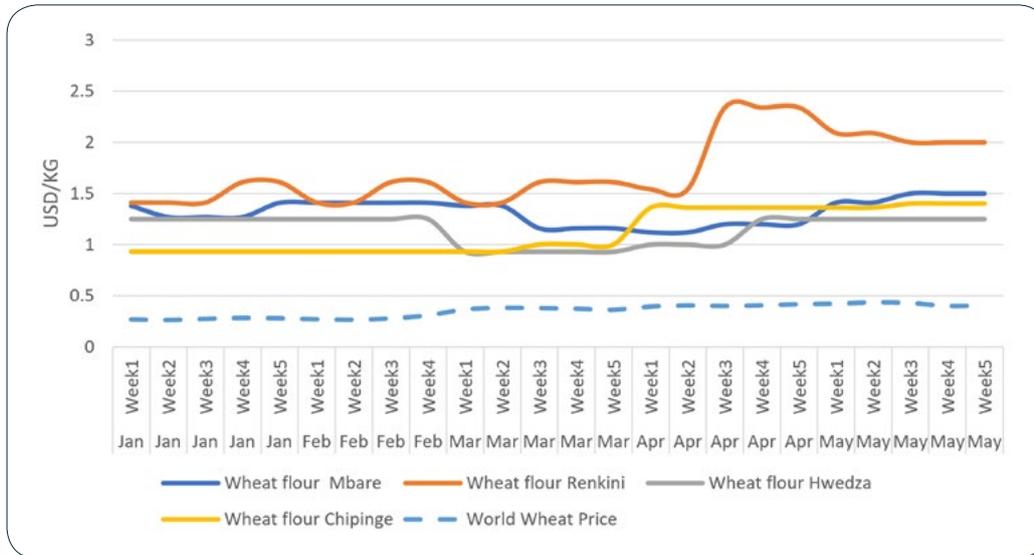
Table 1 shows that except for sugar, the prices of all the commodities under study increased from January to March 2022. This was possibly in reaction to the Russia-Ukraine war, which had just begun, triggering panic buying by countries heavily dependent on imports. Although there were some exceptions, such as crude oil, beef, and sunflower oil in April and maize, beef, sugar and sunflower oil in May, prices for all these commodities rose worldwide between January and May 2022. Cumulatively, the highest price increases were experienced for sunflower oil (51%), wheat (36%), crude oil (30.1%) and maize (23.3%) in that order. Russia and Ukraine were among the leading exporters of these commodities before the war. Some of these price increases may have arisen following the reduction in exports from these two countries during the conflict. The lowest price increases were seen in beef (1.9%), sugar (6.8%), rice (9.7%) and liquefied natural gas (12.1%).

2.1 Wheat

As highlighted earlier, Zimbabwe is a net importer of wheat, obtaining around 22% of its wheat imports from Russia and Ukraine. Within Zimbabwe, key wheat-producing regions include Mashonaland East (38% of production), where Hwedza market is located, Midlands (17%), Masvingo (13%), Mashonaland West (11%), and Manicaland (7%)⁸, where Chipinge market is located. Mbare and Renkini markets are located in areas with the lowest wheat production. Figure 2 shows the price dynamics for wheat since January 2022 and covers the war period.

⁸ <https://ipad.fas.usda.gov/cropexplorer/cropview>

Figure 2: Wheat Prices in Urban and Rural Markets, (Jan-May 2022)



Source: Author's construction with data from the Ministry of Agriculture 2022

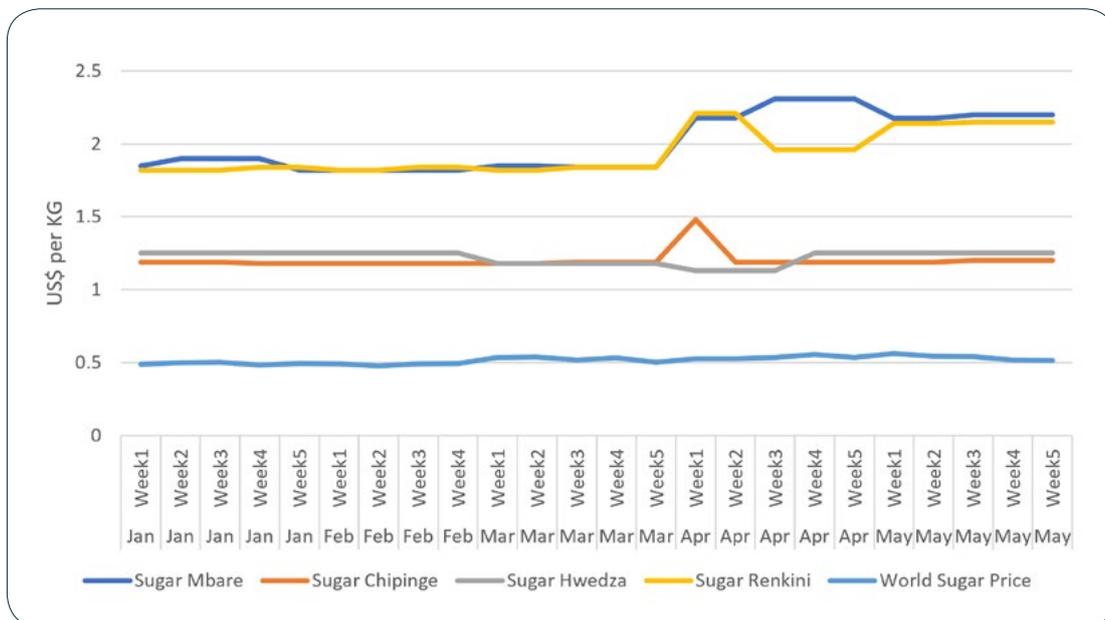
For a large part of the period under study (January to May 2022), wheat prices were highest in the urban markets of Renkini and Mbare, where they averaged around USD1.4/KG, and were lowest in the rural markets of Chipingwe and Hwedza. After the second week of April 2022, wheat prices swung upwards, with the most significant increases observed in Renkini and Mbare, both urban markets. In Renkini, for example, prices rose from USD1.54/KG in the second week of April 2022 to as high as USD2.34/KG (a rise of about 52%) in the fourth week of April before stabilizing at USD2/KG after the second week of May 2022. In Mbare market, wheat prices rose from USD1.12/KG in the second week of April 2022 to around USD1.50/KG in the fourth week of May 2022, representing a 34% increase. In contrast, wheat prices in Chipinge and Hwedza, which are both relatively good wheat producers, only rose modestly, by about 33% in Chipinge and 25% in Hwedza over a longer period (Week 5 of March 2022 to Week 4 of May 2022). This shows that prices rose higher and faster in urban markets in comparison to rural markets.

These trends approximately mirror world wheat price movements⁹ which showed a steady increase from USD0.31/KG in the fourth week of February 2022 to a peak of USD0.41/KG in the fifth week of May 2022, representing a price rise of about 32%, which is comparable to the changes observed in the Chipinge and Mbare markets. This change is also within the same range as the cumulative change of 36% in world wheat prices, as reported in Table 1. This increase in local wheat prices can therefore partly be attributed to the scarcity created by the Russia-Ukraine war. The rural markets experienced lower price increases due to the availability of their own production and the low speeds with which international price signals typically reach remote places such as rural areas. The price similarities between the world wheat prices and those observed in Zimbabwe are attributable to Zimbabwe's degree of trade openness.

⁹ <https://markets.businessinsider.com/commodities/wheat-price>

2.2 Sugar

Figure 3: Sugar Prices in Urban and Rural markets of Zimbabwe, (Jan-May 2022)



Source: Author's construction with data from the Ministry of Agriculture, Zimbabwe 2022

Figure 3 shows that sugar prices were generally higher in the urban markets of Mbare and Renkini than in the rural markets of Hwedza and Chipingwe. The average price in the urban markets before week 5 of March 2022 was USD1.84/KG compared to just under USD1.2/KG for the Chipinge and Hwedza rural markets. In rural and urban markets, prices changed patterns after the fifth week of March 2022. Prices rose from USD1.84/KG in Mbare and Renkini to over USD2.15/KG between the fifth week of March and the fifth week of May 2022, representing a 17% increase over the period. In contrast, although there was a change in the sugar price pattern in Chipinge and Hwedza after the fifth week of March, these prices quickly returned to their previous levels of around USD1.24/KG.

As seen in Figure 3, world sugar prices¹⁰ rose after the fourth week of February when the war began, from around USD0.48/KG to as much as USD0.56/KG in the first week of May and have remained above the USD0.50/KG mark since then. This change in world sugar prices represented a 17.4% increase, similar to the 17% increase observed in the Mbare and Renkini markets. Zimbabwe is a net sugar exporter, but the general panic on the world stage about the future scarcity of commodities due to the war pushed prices up even in net exporting countries. This can also be explained by the fact that some countries (for example, India, Argentina, Turkey, and Egypt, among others)¹¹ were already prohibiting international trade to ensure that their commodities were reserved for their own populations.¹²

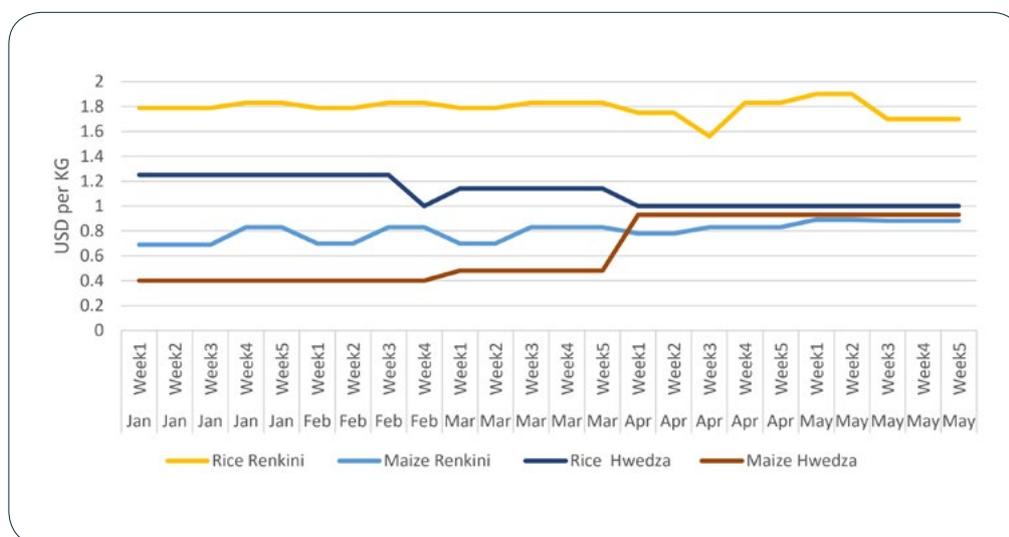
¹⁰ <https://www.isosugar.org/prices.php?pricerange=2022-04-01>

¹¹ <https://www.firstpost.com/business/india-bans-wheat-export-from-argentina-to-turkey-countries-that-have-stopped-overseas-food-trade-10698441>

¹² <https://edition.cnn.com/2022/05/14/business/india-wheat-export-banned/index.html>

2.3 Other Cereals

Figure 4: Rice and Maize Prices across Urban and Rural Markets, (Jan-May 2022)



Source: Author's construction with data from the Ministry of Agriculture, Zimbabwe 2022

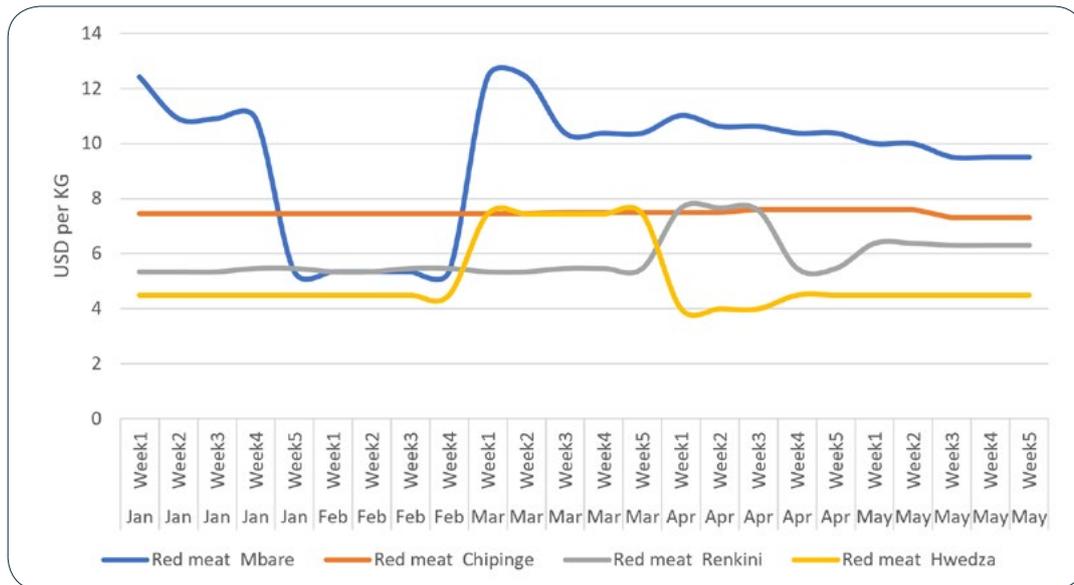
As highlighted earlier, Zimbabwe is a net importer of maize and rice, but relative to wheat imports, its maize and rice imports are modest as Zimbabwe produces significant amounts of these cereals. Neither of the two commodities is imported from Russia or Ukraine, so any war effect on these commodities would only be indirect. Figure 4 shows that rice prices were generally highest in the urban market of Renkini, where average prices remained above USD1.70/KG compared to the rural market of Hwedza, which had an average of USD1.14/KG before the fifth week of March 2022. In comparison, rice prices in Hwedza declined more than in Renkini after Week 5 of March. The decline in rice prices over the period does not seem to be in tandem with the observed modest rise (9.6%) in world prices over the same period. This, however, may be explained by the fact that Zimbabwe imports significant amounts of its rice from its neighboring countries in the Southern Africa Development Community. Maize prices in Hwedza rose after Week 5 of March 2022 from below USD0.50/KG to USD0.93/KG, representing a price increase of 86%. There were also maize price increases from around USD0.78/KG to USD0.92/KG over the same period in Renkini, representing a 15% increase (Figure 4). Generally, the rice prices declined slightly after the fifth week of March 2022, whereas maize prices rose over the same period in rural and urban centers.

On the world stage, prices for cereals (maize and rice inclusive)¹³ also rose considerably over the same period under study. For instance, Table 1 shows that the world price for maize rose by 23.3% between January and May 2022. This implies that some of the observed price dynamics in Hwedza and Renkini for maize are attributable to changes in global maize markets.

¹³ <https://www.reuters.com/markets/asia/asia-rice-prices-rise-across-major-hubs-higher-demand-rice-2022-03-10/>

2.4 Red Meat

Figure 5: Red Meat Prices across Urban and Rural Markets, (Jan-May 2022)

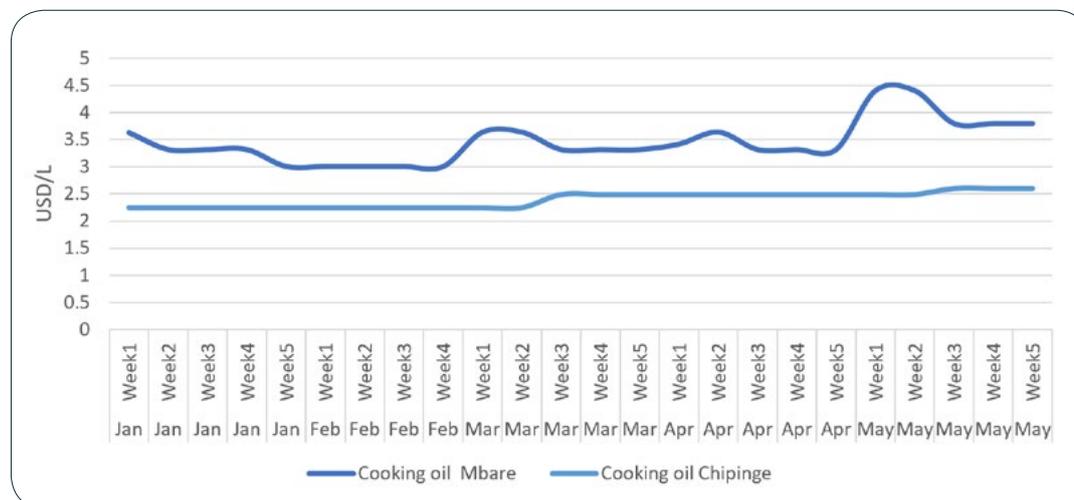


Source: Author's construction with data from the Ministry of Agriculture, Zimbabwe 2022

Red meat is generally expensive in Zimbabwe, averaging above USD10/KG in Mbare market, above USD7.40/KG in Chipinge market and above USD4/KG in the rest of the markets. The relatively higher prices in the urban market of Mbare may be the result of higher incomes and population that lead to greater demand in comparison to Hwedza, for example, where effective demand may be smaller due to lower incomes. Prices of red meat went up in Mbare and Hwedza after the fourth week of February 2022. Prices rose in Renkini from the fifth week of March (Figure 5), but red meat prices declined slightly in Mbare and Chipinge. These trends mimic those on the world stage, where after a brief rise from USD4.97/KG in January to USD6.25 in March 2022, beef prices subsequently declined to just around USD6.08/KG in May 2022.¹⁴ This is also supported by the data in Table 1, which shows that beef prices changed the least; in fact, they declined in April and May 2022.

2.5 Cooking Oil

Figure 6: Energy and Cooking Oil Prices across Urban and Rural Markets, (Jan-May 2022)



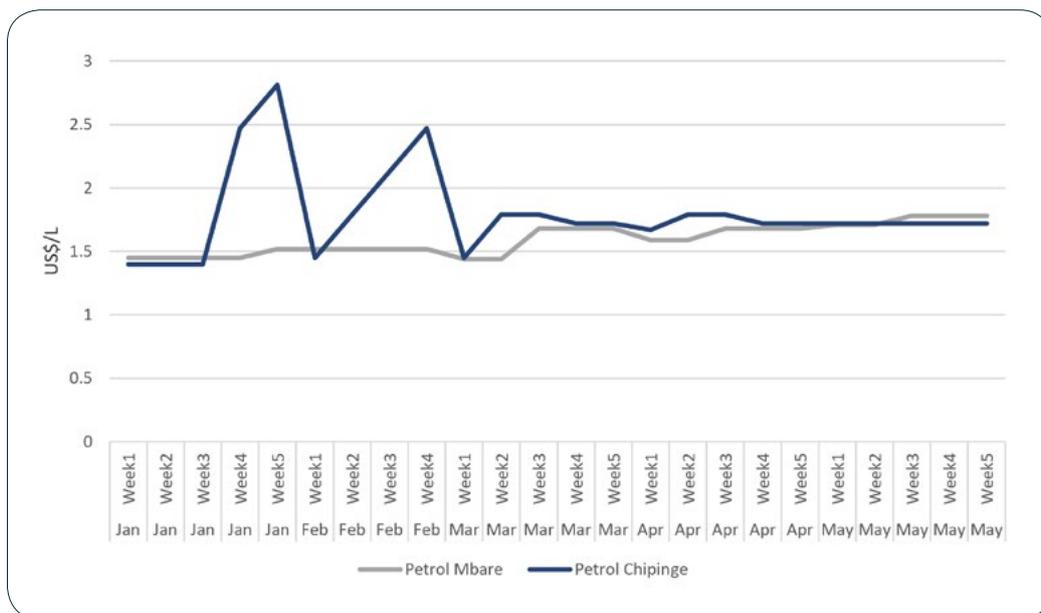
Source: Author's construction with data from the Ministry of Agriculture, Zimbabwe 2022

¹⁴ https://www.theglobaleconomy.com/World/beef_prices/

Figure 6 presents the prices of cooking oil in Mbare and Chipinge. During the period in focus, cooking oil prices were higher in the urban market of Mbare, where a liter was sold at around USD3.50 and lower in the rural market of Chipinge, where prices averaged around USD2.49 per liter. In both markets, cooking oil prices increased after Week 4 of February 2022. In Mbare in particular, cooking oil prices increased from USD3/L in the fourth week of February to a peak of USD4.40/L in the second week of May 2022, representing an increase of 47% over that period. In contrast, cooking oil prices in Chipinge increased from USD2.25/L in the second week of March to a peak of USD2.60/L in the fifth week of May 2022, representing an increase of around 16% over that period.

The increase in cooking oil prices is related to the increase in prices for sunflower oil and soybeans globally in response to the scarcity created by reduced trade in those commodities from Russia and Ukraine, which together control more than 75% of the global sunflower oil trade.¹⁵ Table 1 shows that with an increase of 51.4%, world prices for sunflower oil increased the most among the commodities examined, which can largely be explained by the reduction in trade from Russia and Ukraine. Moreover, due to the war, other countries banned trade in vegetable oils, thereby exacerbating the problem and leading to further price increases internationally. The increase in cooking oil prices in Zimbabwe in both Chipinge and Mbare markets, therefore, primarily resulted from the war between Russia and Ukraine.

Figure 7: Energy Prices across Urban and Rural Markets, (Jan-May 2022)



Source: Author's construction with data from the Ministry of Agriculture, Zimbabwe 2022

Petrol prices did not show significant changes by market and between markets after March 2022 (Figure 7). While a surge in petrol prices would have been expected, the stability observed over the period despite reduced international supplies and rising prices can partly be attributed to Zimbabwe's domestic policy, which sought to subsidize fuels to limit negative impacts on livelihoods.

¹⁵ <https://www.npr.org/2022/04/26/1094770364/russias-invasion-of-ukraine-heats-up-cooking-oil-prices-in-global-squeeze>

3. Price Changes in Local and Global Markets

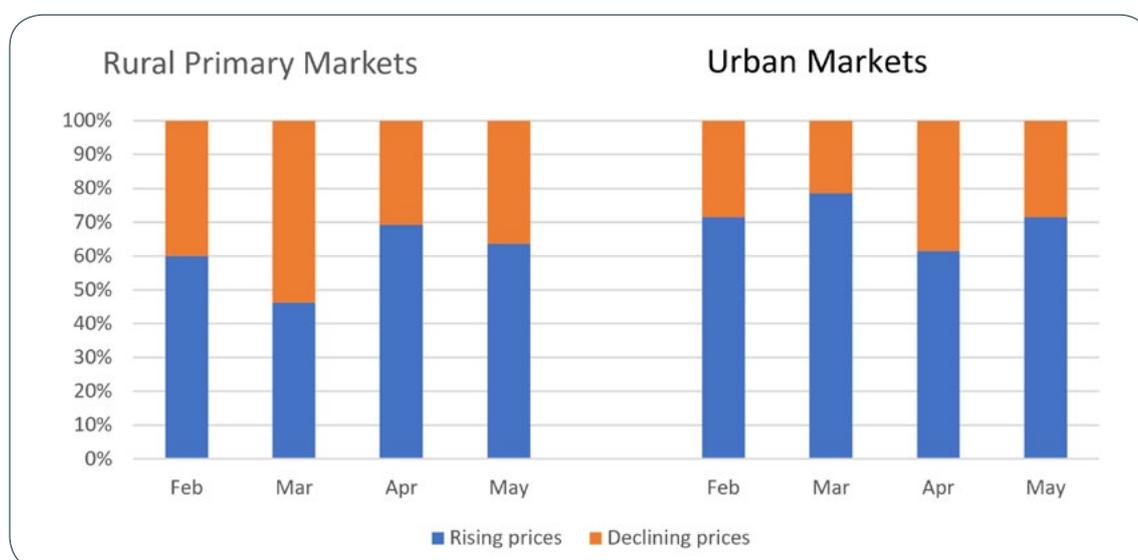
Table 2: Changes in Local and World Market Prices for Selected Commodities

Commodity	Global price change (%)	Change in local rural market (Chipinge)	Change in local urban market (Mbare)
Maize	+23.3%	-4%	+67%
Wheat	+36.2%	+26.3%	+24.9%
Sugar	+6.8%	+0.7%	+17%
Rice)	+9.7%	+14.5%	-17%
Cooking oil	+51.4%	+14%	+33.3%
Beef (red meat)	+1.9%	-0.4%	+8.1%
Fuel	Crude Oil: +30.1%	Diesel: -11%	
Petrol: -8.6%	Diesel: +14%		
Petrol: +18.4%			
Liquefied natural gas (Japan)	+12.1%	+21.3%	+33.7%

Source: Author's calculations based on data from Ministry of Agriculture, 2022, Zimbabwe price monitoring survey, and World Bank, 2022.

As highlighted in Table 2, world prices for all commodities examined rose significantly between January and May 2022. Similarly, prices in local markets for many of these commodities also increased over the same period. Apart from rice prices in the urban market of Mbare, which declined by roughly 17% between January and May 2022, prices for the other commodities increased over the same period, and their magnitude of increase was similar to those observed in global markets for the same commodities. Prices of commodities in the rural markets also generally increased, except for maize and fuel, which declined, perhaps due to increased availability of maize towards April and May. Overall, prices rose higher and faster in urban markets than in rural markets (Figure 8).

Figure 8: Price Changes in Rural and Urban Markets



Source: Ministry of Agriculture, Zimbabwe 2022

Figure 8 shows that prices in the rural and urban markets generally increased from January to May; however, the increase was larger and faster in urban markets. For example, by February 2022, more than 70% of the urban markets were experiencing price increases compared to just under 60% of rural markets. Similarly, the number of markets with increasing price increases declined to under 50% in March, while close to 80% of the urban markets continued to experience price increases.

4. Summary of Observations

Wheat prices appear to have been affected by the Russia-Ukraine war. This was expected because Zimbabwe imports 22% of its wheat from Russia and Ukraine, and the scarcity created by the war pushed prices higher. These trends were similar to world wheat prices over the same period. Changes in wheat prices were higher and faster in urban markets than in rural markets, underscoring the importance of domestic production in price determination. Equally, sugar prices rose significantly from March in Zimbabwe's urban markets, which may partly be a result of the war, whose consequences included an increase in transport costs and a reduction in the international supply of commodities as countries hoarded their stocks to smooth their own domestic consumption.

While rice prices exhibited a declining trend, maize prices rose in urban and rural markets, but the change was modest. Cooking oil prices, on the other hand, went up significantly in both urban and rural markets, but especially so in urban markets. These price hikes are attributable to the war as Russia and Ukraine controlled the world's sunflower oil trade, and their exports plummeted once the conflict began. There were no observable changes in the prices of petroleum products and cooking gas in rural and urban markets, likely due to price subsidies by the government.

5. Recommendations

As the prices of wheat, sugar, cooking oil and maize seem to have been impacted by the war, it is essential to keep food trade open in order to facilitate household access to stocks of those commodities from within and outside Zimbabwe as well as limit any negative effects of the ongoing conflict on the economy in general, and the poor more specifically.

It would also be useful to enhance social protections by developing and strengthening programs that support consumers and vulnerable households by providing safety nets, as was done during the most critical period of the COVID-19 pandemic.

To limit the effects of the Russia-Ukraine conflict persisting for many years to come, Zimbabwe could strengthen programs that support farmers so that future production may increase and offset the effects of global shocks on domestic food prices. In this regard, increasing general funding to agriculture, improving prioritization of the sector, and avoiding pilferage of its allocations, can increase productivity and enhance the dynamic resilience of households.

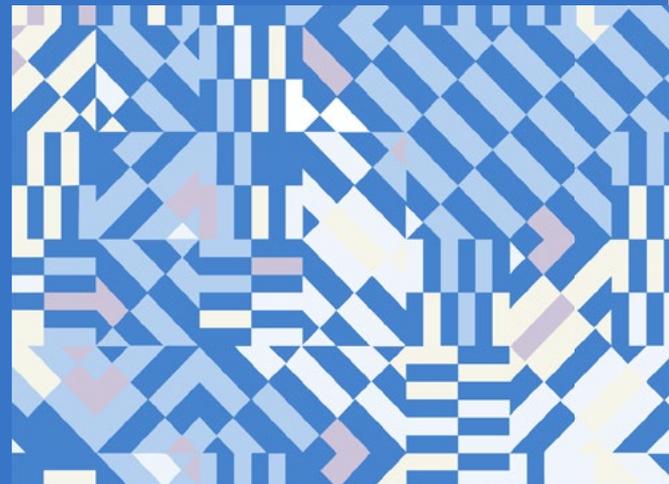
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2. Government of Zimbabwe. 2022. Price monitoring surveys. Harare.

Suggested Citation: Matchaya, G., 2022. The Russia-Ukraine Conflict: Impacts on Commodity Markets in Zimbabwe. AKADEMIYA2063 Ukraine Crisis Brief Series, No. 16, AKADEMIYA2063, Kigali, Rwanda.

This work was funded by the UK's Foreign, Commonwealth & Development Office (FCDO) through a grant from the Alliance for a Green Revolution in Africa (AGRA).

AKADEMIYA2063 is supported financially by the United States Agency for International Development (USAID), the Bill and Melinda Gates Foundation (BMGF), the German Federal Ministry for Economic Cooperation and Development (BMZ), the African Development Bank (AfDB), the UK's Foreign, Commonwealth & Development Office (FCDO), the Global Center on Adaptation (GCA), and the Food and Agriculture Organization of the United Nations (FAO). The views expressed in this publication do not necessarily reflect those of the funders.



-  AKADEMIYA2063 | Kicukiro/Niboye KK 341 St 22 | 1855 Kigali-Rwanda
-  +221 77 761 73 02 | +250 788 315 318
-  hq-office@akademiya2063.org
-  www.akademiya2063.org

    @AKADEMIYA2063