

ERF Policy Brief

Trade, Food Security and the War in Ukraine: The Cases of Egypt and Sudan

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About the authors

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In a nutshell

- The objective this brief is to examine the nexus between trade, food security and the war in Ukraine with a special focus on Egypt and Sudan.
- Given the high dependency of the two countries on wheat imports, both experienced high inflation and lower economic growth, threatening their food security.
- We explore how the two countries might develop bilateral capacities targeting agriculture, electricity, and infrastructure with the view to scale-up the economic cooperation.
- We show, using the trade complementarity index, that despite a limited complementarity between their trade structures, there is room to increase their bilateral exports if infrastructure and other behind-the-border barriers are addressed.

An External Shock Revealing Structural Vulnerabilities

Russia-Ukraine war introduced new challenges and risks to the under-recovery global economy, prices, volume of trade, and global economic prospects are likely to be affected by the war. The impact of the war varies from one country to another based on the economic linkages between an economy and the two warring countries, whether an economy is a net exporter/importer of food and energy. Hence, the objective of this brief is to examine the nexus between trade, food security and the war in Ukraine with a special focus on Egypt and Sudan. Given the high dependency of the two countries on wheat imports, both experienced high inflation and lower economic growth, threatening their food security.

This crisis revealed the vulnerability of the two countries because of their structural characteristics (especially imports dependency, weak exports competitiveness and lack of FDI in Egypt and political instability, institutions, and lack of diversification in Sudan). After showing how the two countries experienced a high pass-through, we present food security in the two countries and show potential areas for further synergies coupled by structural reforms to enhance food sovereignty not only for themselves but also for Africa, especially in the context of 2023 Feed Africa Summit.

Pass-Through in Egypt and Sudan

Using an error correction model (ECM), our results show that the exchange rate pass through was high in Egypt and Sudan and can have long-term implications on inflation. The ECM helps us analyze long-run equilibrium relationships among our two variables of interest (inflation and exchange rate) and short-run deviations from that equilibrium. In addition, the lagged value of CPI plays a significant role in explaining domestic inflation, showing how there is a strong inertia. Both foreign inflation and NEER are not statistically significant in the short run, but highly significant in the long term in the two economies. Indeed, an increase in NEER (referring to its depreciation) is associated with a higher inflation, especially in Sudan because of its lack of diversification. We further explore the causal relationship between these variables using the Granger causality test where the causality runs from the NEER to domestic CPI in the two countries (as we reject the null hypothesis that NEER does not Granger cause CPI).

This exercise shows that significant evidence of pass-through is interpreted as signs of vulnerability to the global food and energy prices shocks, which can affect food security. At the domestic level, the high prices of energy and fertilizers are expected to raise the cost of production in agriculture (a major sector in Sudan) which could lead to changes in the crops mix, and further threaten food security, which is analyzed in the next section.

Food Security

Food security in Egypt and Sudan remains a major issue as the two countries are heavy importers of wheat. Figure 1 shows that both countries are highly dependent on cereals imports at the African and global level (Figure 1a). In addition, Russian and Ukraine have the lion shares in the imports as they represent, together, 55% of Egypt's and 35% of Sudan's imports of cereals. Thus, reliance on imported wheat is one of the main indicators of the Egypt and Sudan vulnerability to the war.

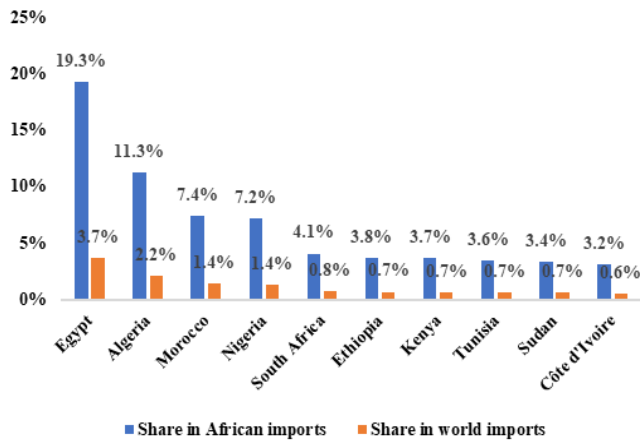
Using the food security environment index developed by the Economist Intelligence Unit (EIU), compared to 2021, most of Egypt's sub-indices deteriorated in 2022, while some of them improved in Sudan. While both affordability and sustainability are moderate in Egypt and very weak in Sudan, availability and quality of food (dietary diversity, nutritional standards, micronutrient availability, protein quality and food safety) are weak in both Egypt and Sudan. More importantly, some components are rather alarming such as the change in average food cost and the proportion of population under global poverty line in Sudan, and trade in agriculture products in Egypt (being the largest importer of wheat). This performance is explained by several structural challenges in the two countries pertaining to access to agricultural inputs and agriculture research and development in Egypt and supply chain infrastructure in Sudan. These challenges are amplified by climate change related problems related to water stress, political commitment to adaptation and disaster risk management.

This food security problem becomes particularly important with poverty rates that remain high in the two countries. In Egypt, official estimates for 2020 showed that 29.7 percent of the Egyptian population was poor up from 27.8 percent in 2015. In Sudan, poverty rate reached 46.5 in 2009 and 32% in 2020. Conflict regions



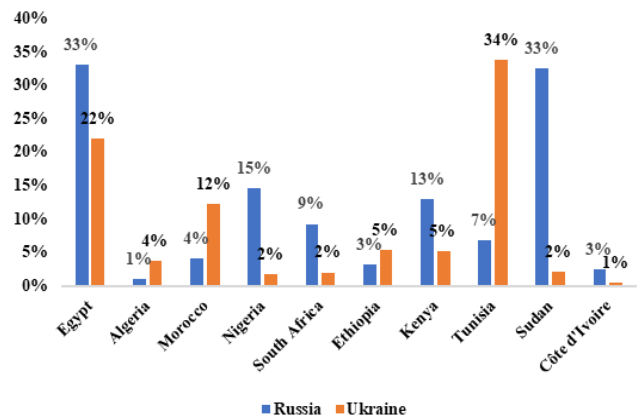
Figure 1: Import dependency of Egypt and Sudan

a). Share of African in global cereals imports for major African importers



Source: Authors' elaboration, based on ITC website.
 Note: Figures are averages over the period 2017–2021.

b). Share of Russia and Ukraine in global cereals imports for major African importers



Source: Authors' elaboration, based on ITC website.
 Note: Figures are averages over the period 2017–2021.

registered higher poverty rates, while it has increased in the rest of the regions. The main drivers of poverty in Sudan are the armed conflict and civil wars, economic mismanagement (lack of sound economic policy), economic instability and low job creation.¹ These figures, in the two countries, are expected to further increase with the surge in inflation.

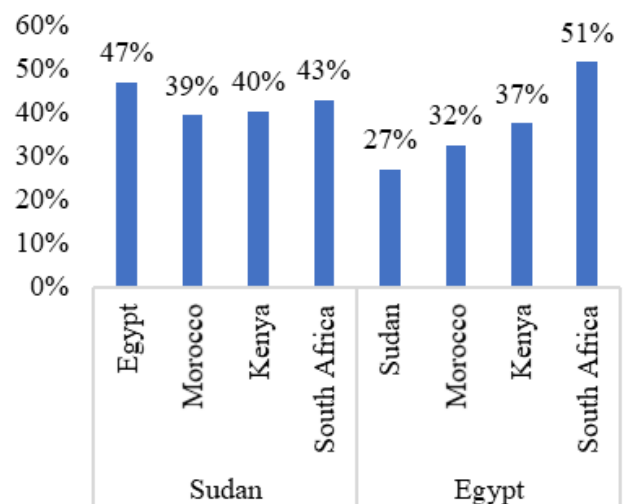
Thus, to address food security in Egypt and Sudan, a more comprehensive approach is needed. The latter must focus on structural challenges that characterize the agriculture sector. Yet, trade can also be an important tool that can partially mitigate this problem. Indeed, Aboushady and Zaki (2023) show that trade in agricultural and food sectors can improve food security (Barlow et al., 2020; Smith and Glauber, 2020; Martin, 2017; Brooks and Matthews, 2015; FAO, 2015; Clapp, 2014; Matthews, 2014). At the same time, trade liberalization can also involve some risks to food security. In fact, international trade can make food more accessible by enabling products to flow from surplus to deficit areas (Aboushady and Zaki, 2023). Trade flows can make food more accessible and more affordable thanks to more open trade policies. Figure 2 presents the results of the complementarity index between Egypt, Sudan, and some selected African countries. While Egypt's exports match more Sudan's imports (47%), the matching is lower the other way round (27%).

¹ For more in-depth analysis of poverty see the poverty reduction strategy paper (PRSP-2021).

For Egypt, this index is lower than with other economies such as South Africa, Morocco, and Kenya.

Hence, from a trade perspective, while Sudanese meat is important for Egypt, the latter is an important source of manufactured products and to a much lesser extent food product. This is the current structure of bilateral trade might not help improve the status of food security in the two countries. Alternative venues in investment could be considered as it will be shown in the next section.

Figure 2: Complementarity index between Egypt, Sudan and selected African countries



Source: Authors' own elaboration using the International Trade Center dataset.



The Way Forward

Both internal and bilateral policies are needed to make the two countries more resilient.

At the national level

For Egypt, at the internal level, while the Central Bank of Egypt announced the adoption of a free-floating exchange rate regime in October 2022, this policy has to be more sustainable in the medium term to avoid managing an overvaluation of the Egyptian pound to reduce the burden on foreign exchanges and on the real sector that has to adjust to keep the currency stable. While this is necessary to improve the competitiveness of exports, more reforms are needed to foster and diversify domestic production and remove administrative and unjustified non-tariff measures that affect exports and therefore production and job creation (Youssef and Zaki 2019). At the social policy level, while different measures can help reduce the negative effects of the war on vulnerable categories, social policies remain largely reactive, not proactive. This is why more proactive policies that provide workers with social security and help them being promoted to get out of vulnerability are necessary (Zaki, 2022).

For Sudan, there is a dire need to promote food sovereignty by adopting comprehensive agricultural sector development as described in (Elbadawi et al., 2022). Second, it is crucial to diversify wheat sources and reduce the dependency on black sea wheat (importing wheat from other destinations). In addition, it is crucial to promotion of macroeconomic stability through the control of inflation and the adoption flexile exchange rate regime. Finally, the government should adopt sound social protection polices including expansion of social safety nets and protecting vulnerable groups. Yet, it is important to note that such reforms will be delayed because of the current political problems Sudan is facing.

At the bilateral level

There is a great potential to improve bilateral cooperation between the two countries at the trade, investment, and infrastructure levels. While Sudan has comparative advantages in agricultural (e.g, arable land, water sources), Egypt can invest in this sector and in infrastructure to improve food security in the two economies. It is important to note that, while trade is somehow complementary and might be necessary to

increase cooperation between Egypt and Sudan and to improve food security, it is not sufficient.

- First, trade level is still modest because of several structural bottlenecks that require deep structural reforms pertaining to the improvement of the quality of infrastructure (road one), reducing red tape barriers and corruption in customs authorities, and addressing non-tariff measures and informal trade between the two countries.
- In addition to trade, Egypt has strategic agricultural and animal production investment plans in Sudan . In fact, bearing in mind that more than 90% of Sudan's land is arable, sound investments can help the two countries achieve a higher food security .
- Moreover, at the infrastructural level, Egypt is currently perceived as the regional energy power (with the electric interconnection line with Sudan). The two countries were also planning to build a 570-kilometer (354-mile) railway to facilitate the movement of goods between the two countries . Finally, the government of Egypt expressed its interest to develop the transport sector and the port of Wadi Halfa. All these developments are likely to improve infrastructure and thus trade between the two economies.

Yet, with the conflict eruption, such project might be halted as the situation in Sudan is already starting to have spillover effects on neighboring countries and the massive influx of refugees in Egypt is likely to increase.

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