

Thoughts from the sustainable investing team

Is food security at risk from the Russian invasion?

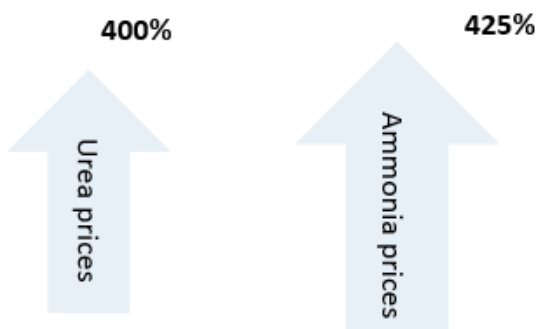
Recently, there has been much discussion around the rising cost of energy due to sanctions or retaliations to sanctions impacting oil and gas flows. As a consequence of the Russian invasion of Ukraine, the rise in price is being felt across all sectors, and regions, as energy markets continue to become increasingly globalised. Russia has the world's largest natural gas reserves (24%) and accounts for 26% of all natural gas exports globally.

Fertiliser prices and food security

Russia and Ukraine are some of the world's largest exporters of wheat, exporting nearly a third (29%) of global wheat export, as well as being responsible for 19% of world corn supplies and 80% of the world's sunflower oil exports. More than 41 million hectares of agricultural land covers 70% of Ukraine, as agriculture dominates the domestic economy, representing 14% of Ukrainian GDP in Q4 last year. Following sanctions, Russia has now banned the export of wheat, and Ukraine's arable land is increasingly being destroyed by daily shelling.

And yet, one of the less reported consequences of high gas prices has been the skyrocketing cost of fertiliser. Farmers use fertiliser ingredients including nitrogen, phosphorus, and potassium every year to enhance crop yield. 10% of the world's phosphate and 25% of the world's potassium comes from Russia, further demonstrating the dependence of the global community on Russian natural resources, nitrogen is extracted from natural gas. It is clear that fertiliser ingredients are under considerable cost pressure.

Consequently, prices of urea (a solid nitrogen fertiliser) have increased remarkably. Urea was recently trading at a 34-year high of over \$957/tonne, up 425% since 2020. The price of ammonia, another type of nitrogen-based fertiliser has risen 400% in the Black Sea and Baltic Sea regions in recent months. As with urea, it's difficult to assess price implications for ammonia, given Russia's recent exit from the export market. Fertecon, the leading provider of fertiliser data, decided to label Black Sea urea and ammonia as "no market" in their March price assessments, meaning that there isn't enough supply to even quantify a fair price.



Source: LGT

These factors point to a worrying state of affairs. Wheat planting season is now well underway, and current resources are deployed in the war. Coupled with the high prices of fertilisers, this has resulted in farmers pulling hundreds of acres of land out of production, which could cause a reduction in available food this year. Our planet relies on a 90-day food supply cycle and the effects of this supply shortage may well be imminent.

Necessary Nitrogen

Nitrogen isn't only used as a fertiliser, but it is also one of the main components in preserving food for supermarkets, removing moisture from packaged goods, and increasing shelf life. Rising prices of this element are likely to impact these processes too, seeing further impact on the real economy and inflation numbers.

The risks of this are, sadly, concentrated in the Global South's population. Famine is one of the main focuses of the UN Sustainable Development Goal 2: Zero Hunger. It's estimated that globally 800 million people live on less than 1,200 calories a day and shifts in key commodities like wheat, which accounts for 15% of global calories intake, is sure to further worsen malnutrition numbers. Whilst concentrated in the Global South, this growing problem is prevalent in the Global North, with the UK facing rising levels of food poverty. Sustain estimated five million people in the UK already face food poverty (approximately 8% of the population) with this number likely to grow as food prices remain well supported.

Tackling the issue of food security

Sustainable agriculture, an investment theme within our sustainable portfolios, provides one of the solutions to the food security problem. By investing in small scale farms and innovative technology, farmers are able to reduce dependency on fertilisers and increase yields without risking health issues or increasing their costs. An example of a company using advanced technology to reduce reliance on fertilisers is Deere & Co., the tractor and agricultural machinery company. Deere & Co. has invested heavily into artificial intelligence systems and precision farming to monitor crop health and weather patterns via satellite and drone imagery, in turn this allows data analysts to understand and predict impacts on crop lifecycles. Farmers can then optimise growth and reduce fertiliser usage, safeguarding their businesses financially but also minimising the consumer health risks associated with chemical usage. In effect, the technology deployed by Deere & Co. has led to 80% less usage of herbicides and pesticides across their farms.

The Russian invasion and consequent war is serving as an accelerator to many of the challenges facing the agricultural sectors and global food security. Examples of such includes the prevention of soil depletion, climate change and unpredictable weather patterns, combined with a growing population. Food resilience is set to grow on governments' agendas in the coming years, as we have seen with energy security in recent weeks. Working with nature, and not against it, will be key to ensuring balanced and healthy diets for consumers and fair wages for farmers - both key pillars of sustainable agriculture.

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