Fertilizer industry exposed to Russia-Ukraine conflict

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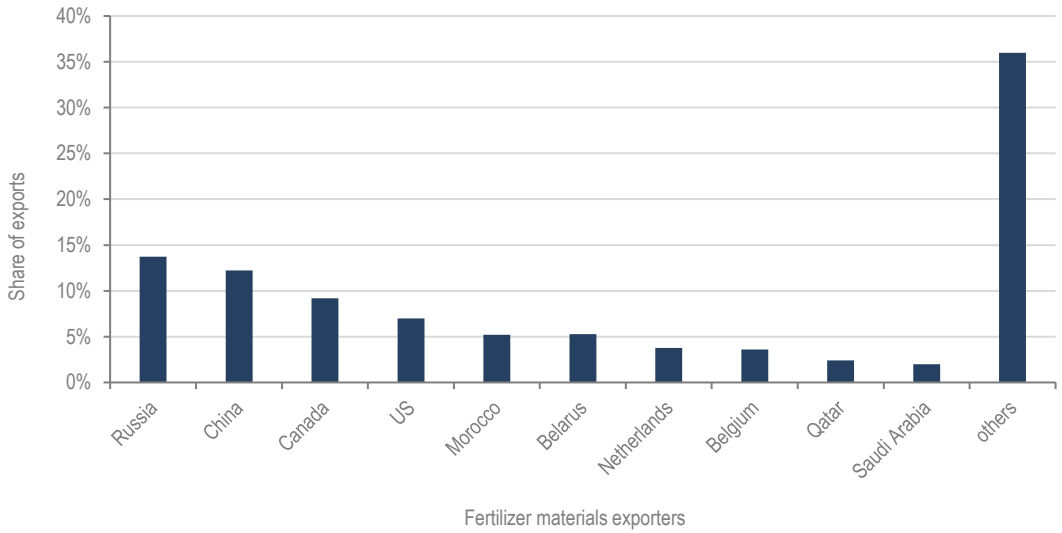
Wandile Sihlobo
Chief Economist
+27 12 807 6686
wandile@agbiz.co.za

www.agbiz.co.za

Russia is one of the major players in global agricultural markets. Therefore, amid Russia's ongoing invasion of Ukraine and the global response, we continue to discuss the various transmission channels that this conflict could have on world agricultural markets. We have thus far discussed the conflict from the grains and oilseeds supply and market price perspective, where we highlighted the upside risks to crop prices because of the significant contributions of these countries to global exports of wheat, maize and sunflower oil. There are also risks for countries that export to Russia. In the South African case, the fruit industry exports substantial volumes to Russia. For example, in 2020, Russia accounted for 7% of South Africa's citrus exports in value terms. And it accounted for 12% of South Africa's apples and pears exports in the same year – the country's second-largest market.[1]

Russia is also integrated into global agriculture from an input supply perspective, particularly in fertilizer supplies. According to data from Trade Map, Russia is the world's leading exporter of fertilizer materials in value terms, followed by China, Canada, the US, Morocco, and Belarus (see Exhibit 1). These fertilizer mixtures include minerals or chemicals, nitrogenous fertilizers, phosphoric fertilizers, and potassic fertilizers. As with the grains and oilseeds market, the actual disruption of export activity is yet to unfold fully, but the sanctions, including the agreement to exclude some Russian banks from some global payments systems such as SWIFT, could negatively affect its trading activity.[2] This disruption could add upside pressure to the already higher global fertilizer prices.

Exhibit 1: Share ranking of the world's top fertilizer exporters by value (2016 and 2020)



Source: Trade Map and Agbiz Research

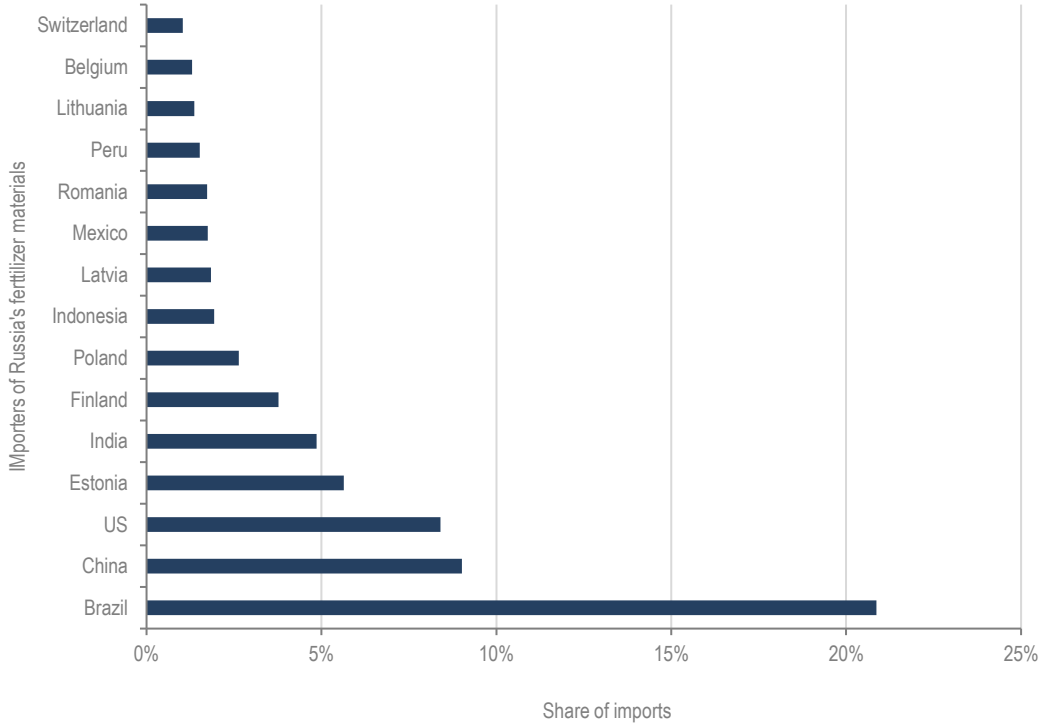
Fertilizer prices increased sharply throughout 2021 and have remained elevated at the beginning of this year. For instance, in January 2022, international ammonia, urea, di-ammonium phosphate, and potassium chloride prices were up by 220%, 148%, 90%, and 198% from January 2021, respectively. There are many factors behind these sharp input cost

[1] Sihlobo, W. 2022. *How Russia-Ukraine conflict could influence Africa's food supplies*. Johannesburg: The Conversation.
[2] BBC, "*West to cut some Russian banks off from Swift*", 27 February 2022

increases, such as the supply constraints in critical fertilizer-producing countries, mainly China, India, the US, Russia and Canada. Rising shipping costs, and oil and gas prices are also contributing factors to the price increases, along with firmer global demand from the growing global agriculture.

The Russia-Ukraine conflict will add upside pressure to these already higher fertilizer prices, particularly if Russia's exports suffer as a result of sanctions. The primary markets for Russia's fertilizer material are Brazil, Estonia, China, India, the US, Finland, Mexico, Poland, Romania, and Latvia, amongst others (see Exhibit 2). Still, even countries that have minimal direct fertilizer imports from Russia, such as South Africa, which is the 36th largest fertilizer materials market for Russia, will experience the price pressures from the international market. The US Secretary of Agriculture, Tom Vilsack, has recently expressed similar concerns about the potential price increases, even in an event that the US might be able to produce and meet its domestic fertilizer needs in the near to medium term.[3]

Exhibit 2: Russia's top fertilizer materials markets by share between 2016 to 2020 (value)



Source: Trade Map and Agbiz Research

Unlike the US, South Africa's domestic fertilizer production capacity is weak, in part, because of the lack of some input minerals. South Africa imports about 80% of its annual fertilizer consumption and is a minor player globally, accounting for 0.5% of total global consumption. Therefore, local prices tend to be influenced by developments in the major producing and consuming countries, such as Russia and the other major fertilizer players mentioned above.

From the domestic usage perspective, much of the fertilizer imported by South Africa is utilized in maize production, accounting for roughly 41% of total fertilizer consumption. The second-largest consumer is sugar cane farming, at 18%. Fertilizer constitutes about 35% of grain farmers' input costs and a substantial share in other agricultural commodities and crops. The summer crop farming areas are already planted with these higher input costs. They will not be procuring fertilizers until around mid-year and into the third quarter of the year when they prepare for the next season (i.e., the 2022/23 production season). Depending on the Russia-Ukraine conflict's timeframe and the extent of the response measures such as

[3] Iowa Capital Dispatch, "*Vilsack: Fertilizer Prices Are Biggest Worry for Farmers After Russian Invasion*". 25 February 2022.

sanctions by other countries, fertilizer prices could still be elevated when the next planting season starts.

In the near term, we are most worried about the winter crop producing areas such as wheat, barley, canola and oats, amongst others, that have to start the new planting season at the end of April. The farmers and agribusinesses that have not secured their supplies could be exposed to upside price shocks. The horticulture farmers and agribusinesses could also be affected, to an extent, by the higher input costs in the near term.

A lot remains unknown about the coming weeks and months. Still, the agricultural markets will be affected by these geopolitical events and the South African agribusinesses, and farmers will not be insulated, primarily through the price transmission of a range of commodities and inputs that this note discussed.

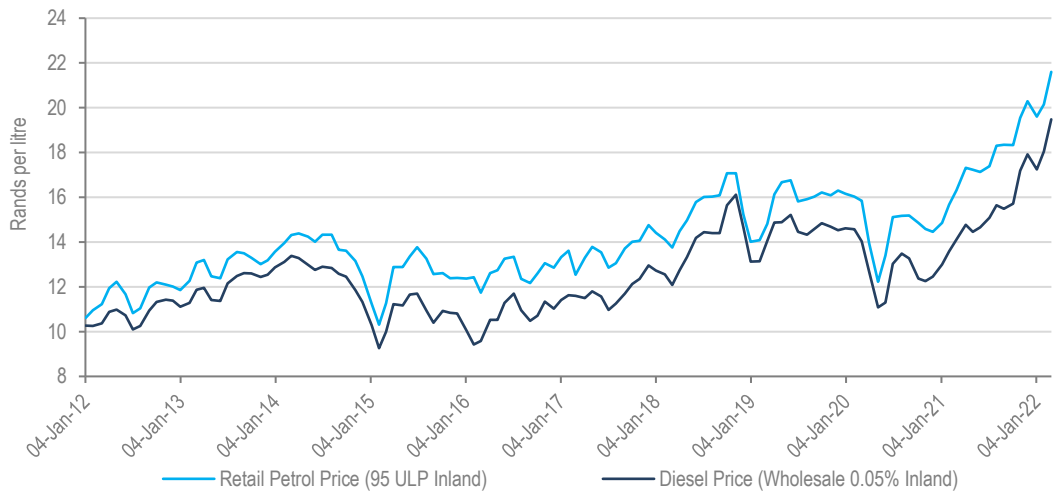
Weekly highlights

Domestic fuel prices at a record high in March 2022

This past week, the Central Energy Fund's reported that South Africa's petrol (95 ULP inland) and diesel (0.05% wholesale inland) prices would increase by R1,46 cents per litre (c/l) and R1,44 (c/l), respectively, on 02 March 2022. This adjustment means the retail price of petrol will rise to a record R21,60 per litre from the current level of R20,14 per litre. Simultaneously, the wholesale diesel price will increase to R19,48 per litre from R18,04 in February 2022 (see Exhibit 3). The underpinning driver of the fuel price increase is the rising Brent crude oil price on the back of the current geopolitics and supply constraints that existed before the intensification of the Russia-Ukraine conflict, amongst other factors.

While this fuel price uptick will increase farmers' input costs, it, fortunately, comes at a quiet period in the primary agricultural sector, specifically the summer crop-producing areas where the crops are at reasonably early stages of growth. However, the same cannot be said for agribusinesses; those in the logistics business will experience cost increases. This is a busy period of wheat imports and maize exports. At the same time, there are horticulture exports underway. This is in addition to general movements of agricultural products in various provinces for domestic consumption. In this case, it is worth noting that roughly 81% of maize, 76% of wheat and 69% of soybeans in South Africa are transported by road. On average, 75% of national grains and oilseeds are transported by road and a substantial share of other agricultural products.

Exhibit 3: South Africa's retail petrol and wholesale diesel prices



Source: Central Energy Fund and Agbiz Research

Data releases this week

We start this week focusing on the domestic agricultural market; on Monday, the Crop Estimates Committee will release the **revised area and first production forecast** for summer crops. The preliminary planting estimate for the 2021/22 production season is 4,21 million hectares, up by 0,4% from 2020/21. The increase is on sunflower seed (up 21% y/y with 580 000 hectares) and soybeans (up 10% y/y, with 910 000 hectares). For these crops, the estimated area is well above the 10-year average plantings and, in fact, a record area for soybeans.

Area plantings for other crops declined, specifically maize, whose plantings fell by 5% y/y with 2,61 million hectares. Still, this is well above the 10-year average area planting of 2,53 million hectares. Moreover, the groundnuts area is down by 12% y/y, with 34 000 hectares, which is well below the 10-year average of 43 348 hectares. Sorghum and dry beans plantings are down 29% y/y and 10% y/y, with 35 000 hectares and 42 450 hectares planted, well below the 10-year average.

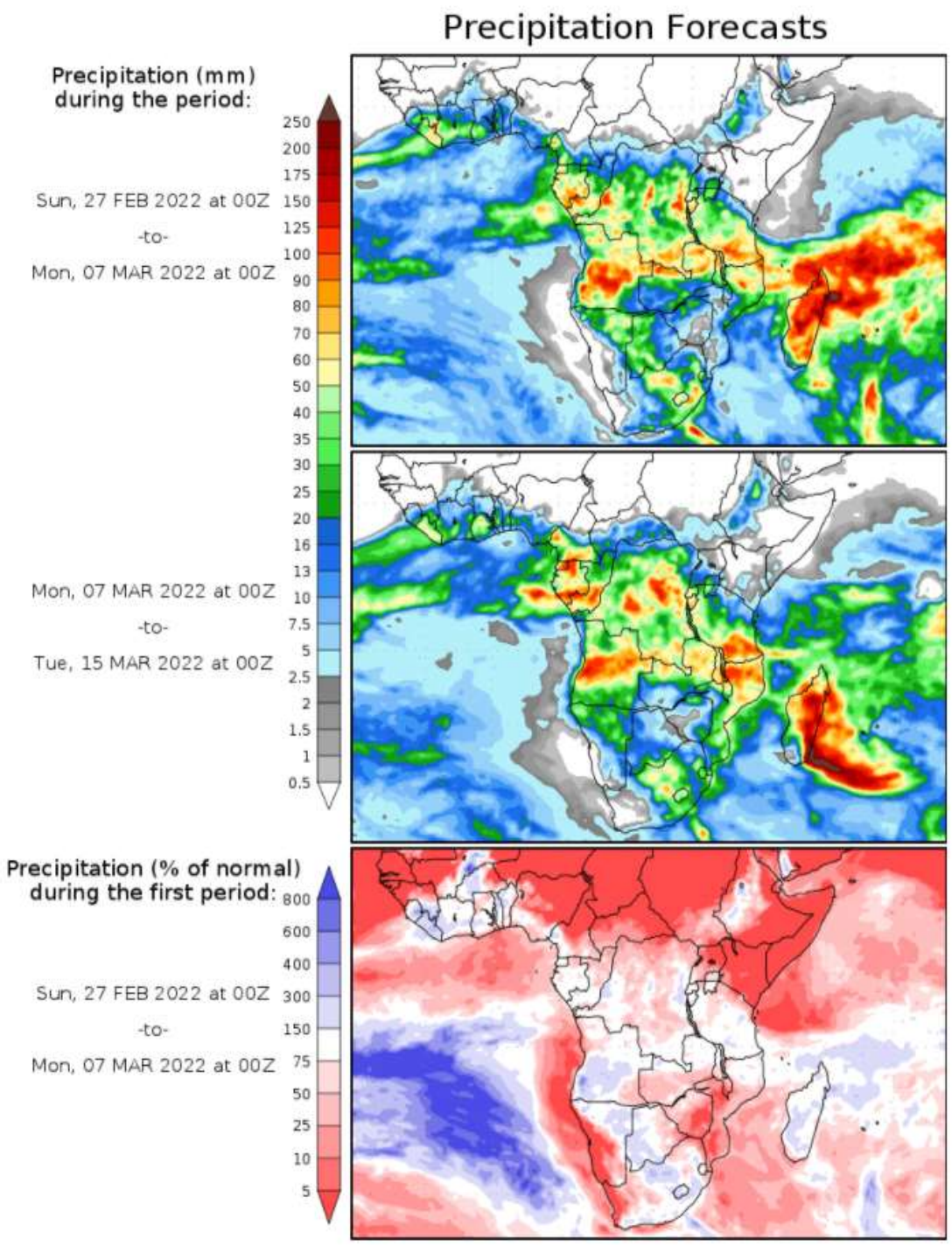
Today's focus will be on the yield estimate, and there is generally a positive view from various farmers we have interacted with that the overall national crop size could be well above the five-year average levels. Notably, the Crop Estimates Committee's first production estimates will still be tentative and subject to revision as our understanding of the yield estimates improves in the coming months.

On Wednesday, SAGIS will release the **Weekly Grain Producer Deliveries** data for 25 February. This data cover summer and winter crops. But our focus is on winter crops that have recently completed the harvest activity. The summer crops' new season is still at its early stages. Thus, we will focus on the summer crop data closer to harvest time in the coming months. In the previous release of the week of 18 February, about 2,13 million tonnes of wheat had already been delivered to commercial silos. This covered the first 21 weeks of the 2021/22 production season and equated 96% of the revised harvest estimate of 2,21 million tonnes.

On Thursday, SAGIS will release the **Weekly Grain Trade** data for the week of 25 February. On 18 February, which was the 42nd week of South Africa's 2021/22 maize marketing year, total maize exports amounted to 2,97 million tonnes, equating to 87% of the seasonal forecast of 3,42 million tonnes (up by 16% y/y). South Africa is a net importer of wheat, and 11 February, was the 20th week of the 2021/22 marketing year. The total imports are now at 495 062 tonnes out of the seasonal import forecast of 1,53 million tonnes (slightly above the 2020/21 marketing year imports of 1,51 million tonnes).

Globally, the USDA releases the **US Weekly Export Sales** data on Thursday.

Exhibit 4: South Africa's precipitation forecast



Source: George Mason University (wxmaps)

The weather forecast for this week shows prospects of widespread rains across the country. This is not conducive for summer crop growing areas where there are still higher moisture levels.

The week thereafter also shows prospects of widespread rains, mainly in the summer rains growing areas, which too is not conducive for areas with high soil moisture and require a bit more sunshine as the crop pollinates.