Russia as a global grain power: prospects for transforming additional grain production into export potential

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The emergence of Russia as the largest wheat exporting country

Global population, and accordingly global food demand, are expected to increase in the coming decades. The world’s population is estimated to grow to almost 10 billion by 2050. Nearly 60% of this growth in population is predicted to be concentrated in the countries of Sub-Saharan Africa and South-Eastern Asia, holding these regions accountable for the increase in total wheat consumption between 2020 and 2029. High amounts of wheat are consumed in Sub-Saharan African and South-East Asian countries, but at the same time these countries have little prospects of satisfying additional domestic demand by increasing their own grain production. In particular, OECD/FAO (2020) predicts that between 2020 and 2029, net wheat imports will increase by about 10 and 14 million tonnes in Africa and Asia, respectively. In contrast, the importance of Russia—the major grain exporting country of the Black Sea region—in the global wheat trade, and therefore in global food security, is expected to increase in the future (BOKUSHEVA and HOCKMANN 2006). Grain production in Russia can be increased by improving grain production efficiency and also by re-cultivating formerly abandoned agricultural land (SWINNEN et al. 2017). Further, in consideration of declining population forecasts for Russia, domestic grain consumption is foreseen to remain stable, hypothetically qualifying additionally produced grain for international exports. As African and Asian countries are located in close vicinity to Russia compared to other grain exporting countries, it is also highly likely that, in the future, these countries will rely on grain imported from Russia. Hence, increased grain production in Russia is crucial for meeting increasing agricultural demands and global food security. Historically, Russia has not been a grain exporting country; rather quite the opposite. However, it has become an increasingly significant player on global wheat markets over the past two decades. Since the dissolution of the Soviet Union in 1991, these post-soviet countries began transforming from centrally planned to market economies. This change in market structure has been accompanied by increased wheat production and consequently higher exports to the world market, especially since the early 2000s. Between 2000 and 2019, Russia increased its wheat production from 35 to 73.6 million tonnes and wheat exports from 0.7 to 34.5 million tonnes. Since 2017, Russia has been the largest wheat exporter to the world market, even though it is the fourth largest wheat producer in the world after the European Union, China, and India. Specifically, Russian wheat exports amounted to 21% and 18% of global wheat exports in 2018 and 2019, totalling 36 and 34 million tonnes of wheat exports, respectively. (Figure 1)

Russia is a key supplier of wheat to Turkey, Egypt, and other MENA (Middle East and North Africa) countries. In recent years, however, Russia has significantly increased its wheat exports to countries located far away from the Black Sea basin. Thanks to bumper crops in the last five years and generally lower wheat production costs in Russia compared to other exporting countries such as the US,
Canada, EU, and Australia, Russian wheat became highly competitive on the world market, leading to increased wheat supplies to markets in Sub-Saharan Africa and South-Eastern Asia (Figure 2). During the last decade, the share of these countries in Russia’s total wheat exports has substantially increased, from 6% in 2009 to 19% in 2019 (the share was the highest in 2018 at 29%), corresponding to an increase in wheat exports by 5 million tonnes during this period (11.5 million tonnes for 2018).

In spite of the generally increasing trend in wheat production, and consequently in wheat exports, the level of production is not stable in Russia. Weather conditions strongly influence grain production in Russia, resulting in large temporary variations across regions and years. For instance, total wheat production significantly decreased to 41.6 and 37.8 million tonnes in 2010 and 2012, respectively, when a critical drought hit wheat-producing regions in Russia, whereas in 2017 a record-high volume of wheat, 85.2 million tonnes, was produced.

Note Figure 1: Marketing years (July–June) are shown on the y-axis. Figure 2: Calendar years (January–December) are given on the x-axis.
Figure 3: Wheat yields and harvested area in Russia, 2014–2019
(a) average wheat yields (tonnes/ha)

(b) average wheat area (million ha)
Wheat production is spread across large geographic areas in Russia, characterised by high variations in wheat yields and harvested area across the regions. Wheat yields, as well as harvested area, are the highest in the highly fertile black soil areas of southern European Russia, which have high precipitation and use of fertilisers, varying between 3 and 6 tonnes/ha (Figure 3). In Altai Krai in West Siberia yields are particularly low, varying between 1 and 2 tonnes/ha, although the harvested wheat area there is one of the highest as this region has plenty of fertile black soil (Figure 3). The main reasons for low yields are the low application of fertilisers and herbicides and a lack of ideal farm management practices, particularly among small-scale farmers (PRISHCHEPOV et al. 2019).

In Russia, North Caucasus, the primary production region in southern European Russia, almost exclusively supplies wheat to the world market, while its role in Russia’s domestic trade is rather limited. North Caucasus accounts for almost 50% of Russia’s total wheat production and 80% of total wheat exports. In contrast, Ural and West Siberia, which are located in the Asian part of Russia, are far away not only from the world market, with the distance to the Black Sea ports amounting to 5,000 kilometres, but also Russia’s grain consumption regions. In particular, Moscow is about 2,000–3,000 kilometres away. West Siberia, which is the second largest grain producing region, exports only 1–5% of its total wheat production to the world markets. Wheat produced in West Siberia is mainly consumed within the region or delivered to the neighbouring region of Ural.

Though grain transportation tariffs are generally low in Russia (AEGIC 2016), overall transport costs are high, largely due to inadequate and outdated transport infrastructure and logistics, which negatively influence regional wheat trade volumes within Russia (SVANIDZE and GÖTZ 2019b). In addition to high transport costs, grain markets in Russia are also characterised by high business and market risk. Trade costs are especially high due to the difficulty of enforcing contracts and unforeseen policy interventions for the grain markets, for example the 2007–08 grain export tax in; the 2010–11 grain export ban; the 2015 grain export duty; and the 2020 grain export quotas.

**The spatial efficiency of wheat markets in Russia**

Russia bears large additional grain production potential, especially in its remote regions (SWINNEN et al. 2017). However, the additional wheat production potential not only has to be mobilised, but it also has to be transformed into additional export potential to further increase Russia’s importance for global wheat exports, as well as global food security. This requires a spatially efficient domestic grain market, ensuring comprehensive and quick transmission of price changes from the grain exporting to the grain producing regions. In fact, spatial market efficiency is low in Russia, mainly explained by the negative influence of distance and high trade costs on the degree of market integration (SVANIDZE and GÖTZ 2019a). Specifically, transaction costs are the highest for the distant grain markets of Ural and West Siberia, which bear large additional grain production potential. However, under the current market conditions of a weakly integrated wheat market and high trade costs, the additional wheat production potential in Ural and West Siberia cannot be transformed into additional export potential.
In Russia, the physical trade of wheat mainly fosters market integration and the spatial efficiency of wheat markets, whereas information flows play a rather minor role for the integration of the Russian grain market (SVANIDZE and GÖTZ 2019a) due to the unstable market environment and the rudimentary development of futures markets, a lack of futures trading skills, and low levels of trust among financial market participants. For comparison, the spatial market efficiency of grain markets is high in the USA, where large information flows are induced by the heavy engagement of farmers and traders in commodity futures exchanges.

**Policy implications for increasing Russia’s grain export potential**

The United Nations has widely recognised the role international trade can play in achieving the Sustainable Development Goals. Under Goal 2 ‘Zero Hunger’, which aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture, the UN’s Agenda 2030 aims to ‘correct and prevent trade restrictions and distortions in world agricultural markets’ and ‘adopt measures to ensure the proper functioning of food commodity markets’ (p. 16). Therefore, the spatial efficiency of agricultural markets can affect the status of global food security. In particular, the performance of domestic grain markets in Russia, the largest grain exporting country in the world, can determine the extent to which additional grain production potential is transformed into export potential, having further implications for grain availability on the world market and, hence, future global food security. At the same time, the realisation of Russia’s export capacity largely depends on the performance of its regional grain markets domestically.

The enhancement of the efficiency of Russia’s wheat market would ensure the faster transmission of price signals between regions, inducing concomitant flows of trade from surplus to deficit regions.

For this, first, substantial investments in the grain market and transportation infrastructure are required to improve the integration of domestic markets, especially with the export region. Nonetheless, the development of trade infrastructure is not sufficient for improving Russian wheat market efficiency since, until now, commodity futures markets are only rudimentarily developed within the country, although they represent an essential aspect of efficiently functioning markets. Without upgraded market information services and the development of the commodity futures markets, the spatial market efficiency of grain markets in Russia cannot be improved to a level similar to the corn market of the USA. Strengthened integration of domestic wheat markets in Russia and increased price stability would reduce incentives for the government to implement export controls on the wheat market as a crisis management policy. Moreover, to foster global food security, it is not enough to focus on raising agricultural production potential, e.g. by technological progress in plant breeding and agronomic practices, but also explicitly boosting agricultural export potential by
enhancing spatial market efficiency in the agricultural sector is important.

References

— AEGIC (2016). Russia’s wheat industry: implications for Australia. AEGIC working paper.
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</thead>
<tbody>
<tr>
<td><strong>Fig. 1</strong></td>
<td>World wheat exports, 2011–2019 © Own presentation. Data: USDA-PSD (2020), author’s elaboration</td>
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<tr>
<td><strong>Fig. 2</strong></td>
<td>Wheat exports from Russia, 2006–2019 © Own presentation. Data: UN-Comtrade (2020), author’s elaboration</td>
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<tr>
<td><strong>Fig. 3</strong></td>
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<tr>
<td>p. 67</td>
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</tr>
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