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International grain markets: Russia as a new power?

Russia, a former net importer of wheat, has developed into one of the leading actors in the world wheat market within the last decade. Forecasts suggest that Russia's share in the world market may increase even further and Russia might become the world's largest wheat exporter by 2020. One key research question resulting from this development is whether Russia could use its newly-gained market position in order to exercise market power or price discrimination. This issue could be of particular significance for countries in Central Asia and the Caucasus where Russia – due to their geographical location – is facing hardly any competition. This Policy Brief analyses if and in which countries Russian wheat exporters exercise market power.

One factor for the prosperity of a society is how well markets are functioning. This is not a new finding; the question if and how markets and trade are functioning has been dealt with both by scholars, entrepreneurs and politicians for ages. Hence, it is commonly known that markets function only imperfectly in the presence of market power. Effects of market power are that markets fail in allocating resources efficiently. Businesses are capable of setting prices that are higher than in a perfect competitive environment and realising "excessive" mark-ups. Incomes might be redirected to the detriment of consumers and in favour of suppliers and economic welfare might be reduced. Questions of market power are highly relevant in international agricultural markets with shifting supply concentrations and demand conditions as currently observed in the world wheat market.

Recent developments in the world wheat market

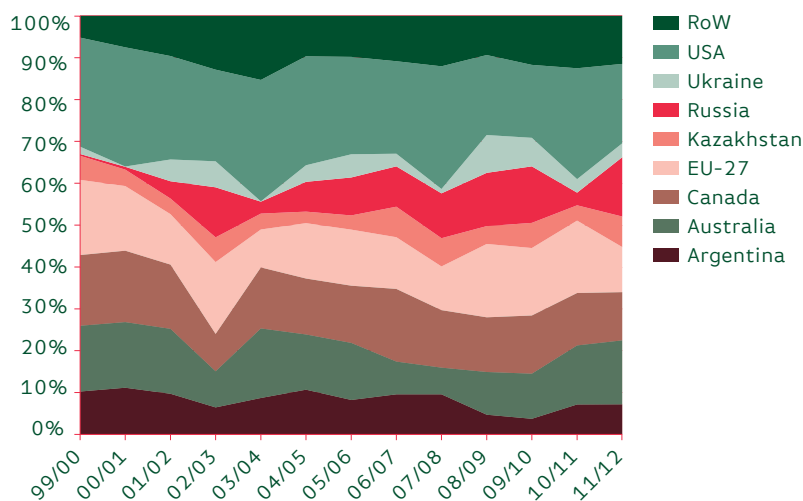
Wheat world market prices, like world market prices of other agricultural produce, have continually risen since the turn of the millennium and brought dramatic price peaks and increased price volatilities. This development was and is linked to a fear of a further considerable increase in poverty, malnutrition and hunger with relevant consequences for political and social stability, notably in regions highly dependent on imports. Rising agricultural prices, on the other hand, also provide opportunities. Higher prices open investment incentive and income-

generation opportunities in the agricultural sector and rural areas which could counteract the world food problem in the mid- and long-term (Djuric et al. 2009, Glauben, Götz 2011). Considerable importance for worldwide grain production and international trade is in particular attributed to grain exporters in the East, namely Russia, Ukraine and Kazakhstan, provided their further mobilisation of as yet untapped agricultural market potentials (Prishchepov et al. 2012).

Even though large production potentials in Russia are still unused, this nation – formerly a net importer of wheat – has developed into one of the key actors in world wheat markets in the course of one decade. Russia had a market share of a mere 0.5 per cent at the turn of the millennium but this share rose to ca. 15 per cent in 2010/11 (cf. Figure 1). Today Russia is the fourth-largest wheat exporter in the world. This transformation from a net importer to a net exporter is due to a dramatic collapse in livestock production after 1990¹ and also due to wheat yield increases since 2000. Forecasts predict a further growth of Russia's world market share and by 2020 Russia may become the world's largest wheat exporter.

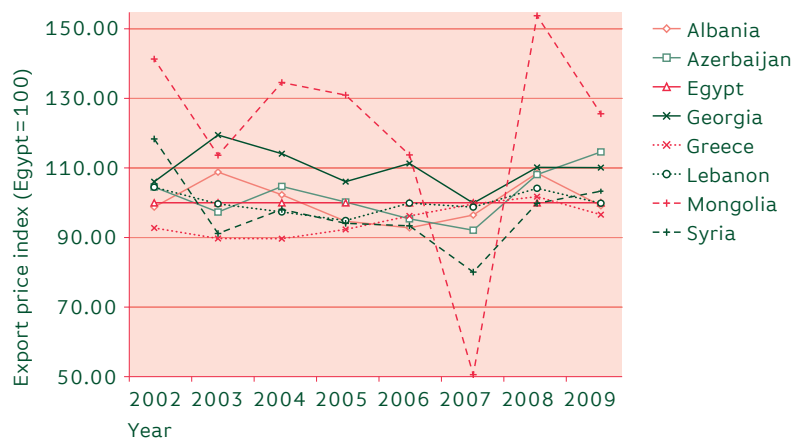
¹ Russia has meanwhile become one of the world's largest meat importers.

Figure 1: Development of market shares in the world wheat market



Source: Graph compiled and designed by the authors based on USDA data
Note: RoW = Rest of World

Figure 2: Relative Russian export prices (fob) for wheat by selected export countries, 2002–2009 (Egypt = 100)



Source: Graph compiled and designed by the authors based on Global Trade Atlas
Note: All wheat export prices (in USD/MT) were related to prices for exports to Egypt as market experts deem the Egyptian market to be very transparent and competitive; i.e. Egypt is being used as a benchmark.

Russia is already one of the major wheat suppliers in the world market and its importance is bound to increase in the future, hence, questions relating to Russia's exertion of market power and price discrimination in the international wheat market are attaining higher relevance. This is especially true for importing countries that have not yet sufficiently integrated into international markets, such as countries in Central Asia and the Caucasus. Even though aspects of market power have been and are controversially debated by political decision-makers and mass media, notably against the backdrop of a potential formation of a so-called "Grain-OPEC"², there is a conspicuous absence of scientific literature on this topic. Above all, there are no quantitative analyses of pricing strategies of Russian wheat exporters and their competition behaviour in the most important export markets.

Previous studies of the world wheat market exclusively dealt with pricing strategies of US, Canadian and Australian exporters. The majority of those studies conclude that the world wheat market is generally rather highly competitive. Several countries, however, are characterised by incomplete competition, i.e. market power may be wielded by

individual exporters. This fact, in conjunction with the observation that Russian wheat export prices (fob prices) grossly differ in various export markets (cf. Figure 2), inevitably prompts the question whether Russian wheat exporters are exercising market power in several export countries.³ This issue is analysed in this Policy Brief.

² Grain OPEC: Wheat marketing cartel to be formed by Russia, Kazakhstan and the Ukraine; as discussed by leading agricultural politicians in those three countries; however, shelved for the time being.

³ The "Law of one price" is one fundamental economic principle of competitive markets. It stipulates that free-on-board (fob) prices of a given commodity have to be the same when exchange rates are taken into consideration. In the case under review this would mean an identical fob wheat price across all export markets.

Table 1: Selected import countries – Shares of Russian wheat in total wheat imports and Russia's main competitors (Average 2002–2009)

Export country	Russia's market shares in total wheat imports in %	Main competitors
Albania	61.4	Ukraine (7 %), Hungary (6 %), Bulgaria (4 %)
Egypt	30.4	France (25 %), USA (12 %), Australia (11 %)
Azerbaijan	51.2	Kazakhstan (45 %)
Georgia	66.7	Kazakhstan (18 %), USA (9 %), Ukraine (2 %)
Greece	28.0	France (17 %), Hungary (12 %), Ukraine (7 %), Germany (6 %), Kazakhstan (5 %)
Lebanon	53.7	Kazakhstan (11 %), USA (10 %), Ukraine (5 %)
Mongolia	54.1	Kazakhstan (26 %)
Syria	64.7	Ukraine (20 %), Kazakhstan (3 %)

Source: Calculations made by the authors based on Comtrade data

Structure of the Russian export market – principal customers and competitors

In recent years, Russia annually exported between 11 and 17 million MT wheat to almost 60 different countries. Key buyers of Russian wheat are located in the Caucasus (Armenia and Georgia) as well as in the Near East and Northern Africa (Egypt, Turkey, Iraq, Yemen, Israel, Libya, Iran and Syria). The most important wheat export market is Egypt, followed by Turkey: In 2010, some 40 per cent of all Russian wheat exports were sold to Egypt and over 10 per cent to Turkey, the remaining 50 per cent to a large number of countries.

In terms of imports, there are several countries that grossly depend on Russian wheat exports. The average share of Russian wheat in total imports for 2002–2009 was higher than 50 per cent in the following countries: Albania, Armenia, Azerbaijan, Georgia, Lebanon, Mongolia and Syria. The majority of countries in the Near East and Northern Africa depend heavily on wheat imports and there is reason to believe that Russia's export restrictions in 2007/08 and 2010/11 had impacts on wheat prices in several countries in this region.

In general, there are different import structures in individual countries. There are some countries which, besides Russian wheat, also buy wheat from many other exporting countries, such as the US, Canada, EU-27 or Australia. This group is contrasted by countries like Mongolia which import only Kazakh besides Russian wheat. Table 1 provides an overview of selected import countries, the importance of Russian wheat in those countries and Russia's main competitors.

⁴ The authors applied the Pricing to Market (PTM) and Residual Demand Elasticity (RDE) approaches. Both approaches enable analyses of market power in international markets. Our analysis covered 25 countries which imported wheat from Russia between 2002 and 2009. Those 25 countries bought on average 87 per cent of all Russian wheat exports in the period under review.

Russian wheat is generally classified as being of mediocre quality as its protein content is often lower than in Canadian or US wheat. Protein content is a key quality indicator for wheat. Yet, it is specifically this assumed quality-deficit that is conducive to exports to the Near East because low-protein wheat is preferred for making traditional bread in that region.

Central results

The presented findings are based on empirical analyses in the context of trade theory approaches which assume that international trade is characterised by imperfect competition and oligopolistic market structures and which examine whether such set-ups are combined with exertion of market power. The authors applied two different approaches in order to detect both the presence and scope of market power. This procedure (Glauben, Loy 2003) also permits a review of the stability of results.⁴

Findings from both analyses suggest that Russia is exercising market power in some import countries and is capable of setting prices above marginal costs. Even though no clear pattern regarding exertion of market power and the market share of Russia and/or the number of competitors could be identified for each country, market power was determined in Central Asian and Northern African countries that are rather heavily depending on Russian imports, such as Azerbaijan, Lebanon, Mongolia, Pakistan and Syria. Particularly Mongolia has consistently paid higher prices for Russian wheat than other importing countries. Russia covers a large part of wheat imports in Mongolia and Kazakhstan is its only steady competitor (as shown in Table 1). Findings of the second analysis suggest exertion of market power in Albania, Georgia and Greece, albeit at a low level.

In 2007/8, Russia limited respectively suspended its exports in response to first grain price surges in international markets by means of an export levy. This move doubtlessly led to demand bottlenecks in some countries and a relatively improved competitive position of marketers. This situation seems to have enabled Russian exporters to increasingly

charge price mark-ups. Hence, it is not astonishing that exertion of market power by Russian grain exporters was observed in further destinations in the post-2008 period.

Initially, we raised the question whether Russian exporters are exercising market power in international wheat trade. This question can be answered in the affirmative: Market power was observed in various importing regions in Central Asia and Northern Africa where Russian grain exporters were apparently able to strategically discriminate prices and generating extra rents. However, it also became evident that no market power exertion by Russian

exporters was found in the majority of destinations. All in all, the presented outcomes re-iterate the assessment that Russia indeed has developed from a net wheat importer into one of the major players in international grain export markets within one decade and now is holding a key position.

Further information

The findings are documented in detail in the following publications

Djuric, I., Glauben, T., Götz, L., Perekhozhuk, O. (2009): Nahrungsmittelkrise und Transformation: Staatliches Krisenmanagement und Marktreaktionen östlicher "Getreidenationen", Presentation given at the 49th Annual GeWiSoLa Conference: "Agrar- und Ernährungsmärkte nach dem Boom", Kiel/Germany, 30.09.2009–02.10.2009.

Glauben, T., Götz, L. (2011): Nahrungsmittelkrise: Protektionismus und Marktreaktionen in osteuropäischen "Getreidenationen", IAMO Policy Brief, No. 2.

Glauben, T., Loy, J. P. (2003): Pricing-to-market versus residual demand elasticity analysis of imperfect competition in food exports: evidence from Germany, *Journal of Agricultural & Food Industrial Organization* 1 (1): 1–19.

Päll, Z., Perekhozhuk, O., Teuber, R., Glauben, T. (2011): Wheat trade – does Russia price discriminate across export destinations?, Vortrag präsentiert auf dem 9. IAMO Forum 2011 des IAMO: "Will the BRICS decade continue? Prospects for trade and growth", Halle (Saale)/Germany, 23.06.2011–24.06.2011.

Prishchepov, A. V., Radeloff, V. C., Baumann, M., Kuemmerle, T., Müller, D. (2012): Effects of institutional changes on land use: Agricultural land abandonment during the transition from state-command to market-driven economies in post-Soviet Eastern Europe. *Environmental Research Letters* 7, 024021, doi: 10.1088/1748-9326/7/2/024021.

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The Leibniz Institute of Agricultural Development in Central and Eastern Europe (IAMO) is addressing with more than 60 scientists and in cooperation with further leading research institutions urgent scientific and social issues in agricultural and food economics and rural areas. Main regions under review include Central and Eastern Europe

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