

Issue No. 16
April 2014

Eastern breadbasket obstructs its market and growth opportunities

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Because of its enormous land and yield potentials, the breadbasket of the East, i.e. Russia, Ukraine and Kazakhstan are increasingly important for world grain markets. However, counterproductive market and trade policies, continual farm-level productivity gaps and deficits in marketing infrastructure consistently obstruct the breadbasket's production and market potentials. A prerequisite for their realization would be prioritizing market-conforming and export-oriented policies, as well as massive investments into spatial and farming infrastructures.

Eastern European and Central Asian transition countries, not least because of their vast land and yield reserves, are important for world grain markets and thus for global food supplies. This applies specifically to the major grain-producing nations of Russia, Ukraine and Kazakhstan, as well as to smaller countries, such as Serbia, which are key grain suppliers for their adjacent regions. The agricultural sector in many transition countries, however, is still caught in a post-Socialist dilemma: It has to cope with a rather persistent straightjacket of post-Socialist structures and simultaneously live up to the dynamism and complexity of market-economy processes. In view of this situation it appears doubtful whether those countries will indeed be capable of mobilizing their agricultural production and market potentials in the foreseeable future to make adequate use of their agricultural growth and market opportunities.

Below is a summary discussion of the findings from various studies on production and market potentials in the grain industries of Russia, Ukraine and Kazakhstan. Answers will be provided to two specific questions: First, which market and growth potentials can be expected in view of past developments and different forecasts? Second, what are the obstacles encountered by Eastern grain producers in their sustainable pursuance of growth and market chances in the grain industry? In addition, we identify three impediments to growth that not only restricted the mobilization of market potentials in the past but will presumably do so in the future. The latter include problematic trade and market policies, a low level of production reserve usage and significant deficits in marketing infrastructures.

Eastern grain nations boast immense land and yield reserves

Grain production in Russia, Ukraine and Kazakhstan drastically decreased after the collapse of the Soviet Union, but picked up again around the turn of the millennium. All in all, those three nations produce almost 100 million tons of wheat. In other words, the three states currently produce nearly 15 per cent of the world's wheat on approximately 50 million hectares, or one-fifth of the world's wheat acreage. These countries' average wheat yields, however, of approximately three tons per hectare in Ukraine, two tons per hectare in Russia and one ton per hectare in Kazakhstan account for less than half of average yields on Western European farmland. Yet, not least due to production growth in recent years, those countries are now among the key players in nearby international grain markets such as Europe, Northern Africa, the Middle East and Asia.

Based on positive developments since 2000, international observers forecast good chances for a considerable extension of wheat production and an increase in wheat exports in the next one to two decades. Though forecasts arrive at quite different results due to various assumptions, models and underlying data, their combination provides a plausible corridor for potential developments. Thus, the Organisation for Economic Co-operation and Development (OECD) and Food and Agriculture Organization (FAO) of the United Nations (OECD-FAO, 2013) as well as the United States Department of Agriculture (USDA; Liefert et al., 2010) anticipate production increases of up to 36 million tons of wheat per annum until 2020 in all three countries as a result of yield increases and farmland recla-

mation. Current IAMO calculations (Schierhorn et al., 2014), however, indicate that in Russia alone wheat production can be increased by up to 50 million tons per annum. Such gains in production may be achieved through the reclamation of approximately 4.5 million hectares of recently set-aside land (since the early 2000s) and yield increases of approximately 60 per cent due to intensified use of fertilizers and pesticides. In addition, recultivating recently set-aside land also entails an eco-friendly production increase, that is – in contrast to reclamation of older set-aside land – a markedly lower release of carbon bound in soil and vegetation (Prishchepov et al., 2013; Schierhorn et al., 2013). Massive export increases can be expected if such rises in production can be largely realized in the next two decades.

Mobilizing such production and export potentials in the grain industry, however, requires enormous efforts. The decisive factors for success will be the future production and competitive conditions, as well as political framework conditions and, hence, the functionality of grain markets. Yet there are serious concerns when it comes to growth-oriented production and competitive conditions.

Policy-induced market interventions hamper mobilization of grain market potentials

As discussed in IAMO Policy Briefs 2, 6 and 11, Russia, Ukraine and Kazakhstan have intervened in grain markets over the last decade with a series of export restrictions in response to rising world market grain prices, and with the (official) objective of preventing gross price increases. Between 2008 and 2011 all three countries intervened up to fifteen times with foreign trade with export taxes, quotas and bans. Such measures were accompanied by state interventions, export license systems and price controls in domestic markets. The results: Considerable market uncertainty, a virtual cessation of exports, and a malfunction of controlled price formation.

Econometric analyses based on non-linear price series models (Götz et al., 2013 a, b) have shown that domestic wheat markets in Russia and Ukraine were decoupled from price developments in the world markets. Inland producer prices, however, could only be stabilized at a moderately low level. In Russia, the inland wheat price was reduced by 15 to 20 per cent and in Ukraine by 30 per cent, while first analyses for Kazakhstan did not find any tangible effects. Nevertheless, the equilibrium was disturbed. National producer prices were too low compared to the world market and in 2008 alone farmers had to tolerate substantial income losses, for example approx. 1.8 billion USD in Russia and approx. 1.2 billion USD in Ukraine. Lost export revenues in 2008 amounted to about 1 billion USD for both countries (Djuric et al., 2010). In addition, numerous policy changes in the context of export restrictions further aggravated market uncertainty

and grossly advanced price volatility. Notably for Ukraine, a permanent destabilization of the wheat market was found, even after export controls had been lifted (Götz et al., 2013 c). Such state interventions reduce incentives to invest into the grain industry in the medium and long term, and thereby stifle the mobilization of its growth potentials.

Low and (regionally) heterogeneous exhaustion of productivity and yield potentials

Besides the effects of political measures on growth and market chances, the question arises to which extent the grain production sector is capable of realizing the abovementioned potentials in technological and organizational terms. Markedly large differences were found between individual regions; both between the countries under review and within the individual countries. Current econometric estimates suggest that the development of grain production in Russia over the past 15 years was effectively enabled through technical and organizational progress. This was accompanied in Russia by a decrease in arable land. In Ukraine, on the other hand, arable terrain remained largely constant and only little technical and organizational progress was achieved (Belyaeva/Hockmann, 2013). Also in Kazakhstan, only minor productivity advances have been observed.

In Russia, however, major regional differences in production conditions and productivity development have been found. Heterogeneity in production conditions has even risen over the past few years, not least as a consequence of regional specialization according to natural and economic location factors. Drivers of such developments included region-specific agricultural policies and restructuring measures in agrohholdings. Further, variation in agricultural productivity is still large across Russian regions even after 20 years, despite a certain inter-regional convergence. Hence, an intensified mobilization of production reserves should only be expected in the foreseeable future in a few regions with more favorable natural and political location conditions and particularly well-organized enterprises.

Substantial investment deficits in marketing infrastructure obstruct export chances

Initial IAMO analyses (Renner et al., 2014 a, b) indicate that all three countries suffer from marked investment deficits into national warehousing and processing systems, transport networks and export harbor capacities. This results in severe bottlenecks in grain marketing, and thus grossly restricts the future mobilization of market potentials. Grain storage facilities are operated at their capacity limits in all three countries. More than 70 per cent of such installations in Russia are obsolete. Moreover, their territorial distribution fails to meet current

market requirements and is rather still geared to planned-economy targets from the bygone Soviet era. A similar situation prevails in inland transport networks, which are dominated by government-controlled rail transport. Producers and exporters are facing serious bottlenecks in rolling stock, totally obsolete traction engines and railcars, as well as high government-decreed tariffs. This results in delays in deliveries, as well as the non-fulfillment of delivery contracts.

Finally, the transshipment capacities of Black Sea ports, which handle approximately 80–95 per cent of Russian and Ukrainian grain exports, are working at their capacity limits despite comprehensive modernization measures. Handling capacities in Ukraine have been upgraded to 45 million tons of grain per annum and are distributed across 13 ports along the Black Sea-Asov coast (i.e. in the Odessa region) but are actually only available to a selected group of exporters. In contrast to Ukraine, grain transshipment capacities in Russia (approximately 30 million tons per annum) are largely concentrated in one harbor (Novorossiysk) in southern Russia. This concentration is an enormous logistic challenge to handling grain deliveries and batches from all regions in Russia. Smooth operations are currently not ensured. What is urgently required is a substantial investment into adequate port logistics and transport access in order to cope with incoming grain volumes from various Russian regions.

The discussed infrastructural deficits mean that transaction costs may amount to up to 40 per cent (or even up to 80 per cent for remote Russian regions) of world market prices and thus four times that of other grain exporting nations such as France (BE Berlin Economics, 2012; USDA, 2011). Hence, it is doubtful whether tangible production increases can be marketed in an economically reasonable and competitive manner.

Conclusions

Eastern European and Central Asian grain nations boast substantial land and yield reserves. These assets offer excellent market and growth opportunities for the grain sectors in those countries. The reviewed countries, however, fail to appropriately use their chances in the grain industry, and sometimes even obstruct their potentials. First, populist trade policies permanently hamper the functionality of grain markets and counteract the mobilization of production and export potentials. Second, persistent productivity gaps due to investment and management deficits inhibit farm growth and the efficient utilization of entrepreneurial resources. Third, investment and modernization deficits in marketing infrastructures (warehousing, inland transport, port capacities) restrain market transactions and the export orientation of the Eastern breadbasket. In view of these circumstances, it cannot be expected that Russia, Ukraine and Kazakhstan will be capable of realizing their respective market and growth potentials in the foreseeable future. Realizing these potentials would require market-conforming and export-friendly policies and institutions. Investments into spatial and farm infrastructures, as well as agricultural human capital are also urgently required.

Further information

Literature

- BE Berlin Economics (2012): Turning Ukrainian Agriculture into an Engine of Growth. A Strategy for the Development of the Grains and Oilseed Sector.
- Belyaeva, M., Hockmann, H. (2013): Russia as a New Big Player on the World Wheat Market: Production and Trade Volumes, International Food and Agribusiness Management Association (IFAMA), IFAMA 23rd Annual World Forum and Symposium: The Road to 2050: The Talent Factor, Atlanta, Georgia/USA, 16.06.2013 – 20.06.2013.
- Djuric, I., Glaben, T., Götz, L., Perekhozhuk, O. (2010): Nahrungsmittelkrise und Transformation: Staatliches Krisenmanagement und Marktreaktionen östlicher „Getreidenationen“ (Food Crisis and Transformation: Crisis Management and Market Reactions in the Eastern „Cereals Nations“), in: Loy, J.-P. and Müller, R.A.E.: Agrar- und Ernährungsmärkte nach dem Boom, Conference Proceedings of the 48th Annual Conference of the German Association of Agricultural Economists (GeWiSoLa), Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaus e.V., Vol. 45: 3–13.
- Glaben, T., Djuric, I., Götz, L., Koester, U., Loy, J.-P., Päll, Z., Perekhozhuk, O., Prehn, S., Renner, S. (2013): Funktionieren osteuropäische Agrarmärkte? Vorsicht vor staatlich verordneten Markteingriffen! IAMO Policy Brief No. 11, Halle (Saale).
- Glaben, T., Götz, L. (2011): Nahrungsmittelkrise: Protektionismus und Marktreaktionen in osteuropäischen „Getreidenationen“. IAMO Policy Brief No. 2, Halle (Saale).
- Glaben, T., Päll, Z., Perekhozhuk, O., Prehn, S., Teuber, R. (2012): Internationale Getreidemärkte: Die neue Macht Russland? IAMO Policy Brief No. 6, Halle (Saale).
- Götz, L., Glaben, T., Brümmer, B. (2013a): Wheat export restrictions and domestic market effects in Russia and Ukraine during the food crisis. Food Policy, Vol. 38: 214–226.
- Götz, L., Qiu, F., Gervais, J.P., Glaben, T. (2013b): Export Restrictions and Multiple Spatial Price Equilibria when International Prices Spike: The Wheat Export Quota in Ukraine, Invited Paper, IATRC Annual Meeting “New Rules of Trade?”, December 9–11, San Diego, USA.
- Götz, L., Goychuk, K., Glaben, T., Meyers, W.H. (2013c): Export Restrictions and Market Uncertainty: Evidence from the Analysis of Price Volatility in the Ukrainian Wheat Market, Selected Paper, Agricultural & Applied Economics Association's 2013 AAEA & CAES Joint Annual Meeting, August 4–6, Washington, DC, USA.
- Liefert, W., Liefert, O., Vocke, G., Allen, E., (2010): Former Soviet Union Region To Play Larger Role in Meeting World Wheat Needs. Amber Waves. U.S. Department of Agriculture, Economic Research Service.
- OECD-FAO (2013): OECD-FAO Agricultural Outlook 2013–2022. OCED Publishing and FAO.
- Petrick, M., Gramzow, A., Oshakbaev, D., Wandel, J. (2014): A policy agenda for agricultural development in Kazakhstan. IAMO Policy Brief No. 15, Halle (Saale).
- Prishchepov, A.V., Müller, D., Dubinin, M., Baumann, M., Radeloff, V.C. (2013): Determinants of agricultural land abandonment in post-Soviet European Russia, Land Use Policy, Vol. 30, No. 1, S.873–884.
- Renner, S., Kulyk, I., Götz, L., Glaben, T. (2014a): Logistical and institutional obstacles to the realization of the grain export potential of the Ukraine, IAMO Mimeo.
- Renner, S., Prehn, S., Götz, L., Glaben, T. (2014b): Factors affecting interregional wheat trade in Russian Federation, IAMO Mimeo.
- Schierhorn, F., Müller, D., Prishchepov, A.V., Faramarzi, M., Balmann, A. (under review/2014). The potential of Russia to increase its wheat production through cropland expansion and intensification. Global Food Security.
- Schierhorn, F., Müller, D., Beringer, T., Prishchepov, A.V., Kuemmerle, T., Balmann, A. (2013): Post-Soviet cropland abandonment and carbon sequestration in European Russia, Ukraine and Belarus, Global Biogeochemical Cycles, Vol. 27, No. 4, S.1175–1185.
- USDA (2011): Overview of Russian Grain Port Capacity and Transportation, USDA Grain Report RS1149.

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This Policy Brief was prepared with financial support by the German Federal Ministry of Food and Agriculture (BMEL) under the research project GERUKA (Global food security and the grain markets of Russia, Ukraine and Kazakhstan) and by Volkswagen Foundation as part of research work for the project MATRACC (The global food crisis – impacts on wheat markets and trade in the Caucasus and Central Asia and the role of Kazakhstan, Russia and Ukraine).

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