



## PERFORMANCE OF KAZAKHSTAN'S AGRIFOOD MARKET

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### ABSTRACT

This paper focuses on foodmarket performance and analysis of Kazakhstan experiences with developing agriculture. In the paper the theoretic aspects of industry market performance, background of agriculture with emphasis on agrifood market is given. Examples from Kazakhstan's experiences with development of the agrifood sector, and data from Kazakhstan Committee on Statistics are used. The result of analysis indicate that Kazakhstan has to develop the non-primary sector of the food supply chain in order to make it more competitive in global competition. Steps in this direction have already been taken by the agricultural policy of Kazakhstan. However, it is recommended that various issues must be addressed by the government, including the improvement of product quality and the creation of national brands, infrastructure development, creation of conditions for improving the technical support of agricultural production. Agriculture as the main activity of the rural population needs support. In this case indicators of agrifood market performance should be assessed.

**Key words:** market performance, agricultural policy, effectiveness, agrifood market

### INTRODUCTION

The main trends of world development in the agrifood sector are the globalization of trade, vertical integration, the increasing demand of product safety and product quality and the increasing demand for organic products.

The rapid transformation of the agrifood industry in developing countries has gained a lot of research interest in recent years [Reardon et al. 2009]. A wide range of studies has investigated the effects through enabling access to credit, inputs, information and secured prices [Danilowska 2016]. There is a growing literature on agrifood supply chain transformations for Eastern European countries, such as for example: Poland, Hungary, Moldova and Bulgaria [Falkingham 2005, Gorton et al. 2006, Cungu et al. 2008, Dries and Swinnen 2010, Van Herck et al. 2012]. The role of small-scale producers in agricultural production and food security in the country discusses [Bobojonov et al. 2015]. Yet there are several literatures, emerging which discuss the challenges associated with supply chain constraints [FAO 2010, Petrick and Oshakbaev 2014].

Kazakhstan is one of the countries where agrifood sector has undergone enormous changes since independence in 1991. There were sharp drop in production, processing and formal retail trade during the first decade and their fast recovery in the second decade. Nowadays Kazakhstan belongs to the top 10 exporters of wheat and wheat flour and due to its good economic performance and relative political stability, has gained an internationally recognized position among the Common Wealth of Independent States (CIS) countries [Liefert et al. 2010, Petrick and Oshakbaev 2014].

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Even though the share of agriculture in total GDP declined from 34% in 1990 to 8.1% in 2015, agriculture is still of great importance in Kazakhstan. The percentage employed in agriculture is 18.9% of the Kazakh population [Kazakhstan... 2016] and there is a large share of subsistence-oriented producers involved in meat, dairy and horticulture production. However, existing studies in the region mainly discuss the challenges according to observations from several case studies and quantitative impact of agrifood sector transformation is yet to be investigated.

The effectiveness in terms of the Harvard paradigm is the result of the interaction of a number of parameters and has different forms of manifestation.

The effectiveness of the function of any industry market can be represented as a function that of a whole set of variables. These include: assessment the industry performances of firms functioning in the international market; assessment of various aspects of the market development at the level of inter-sectoral linkages; assessment the performance of industry market functioning; an overall assessment of the industry market performance; an integrated assessment of the industry market performance from the government's position. The total performance of the industry market is a function of the integrated variables enumerated [Porter 1980]. Thereby, the agrifood market performance is analyzed on different levels by multilevel approach. Agrifood market is assessed in terms of the world economy. Expansion or attenuation a one or another market industry of the national economy could change the country's position geopolitically. At the national level, productivity is investigated in terms of the inter-industry linkages. The industry's share of production in GDP and GNI, the rate of their impact on the stability of the national economy as a whole are determines.

For the government, the industry market is a source of tax revenue. The evolving effectiveness of the agrifood market takes into account the changes that need to be pushed forward by the public administration system, which should also consider the social effects of development.

Effectiveness is assessed from the perspective of the activities of individual companies and industry market agents. The changing in the consumer surplus is important indicator of the industry market functioning. It is associated with a change in domestic demand in the national economy.

Therefore, public policy is based on expectations of growth in aggregate demand of the population, the growth of citizens' self-esteem; reduce production costs on the basis of rational use of limited resources. Therefore, it is important to record the change of the free time in the society, the growth of household spending on leisure and creativity.

The total impact of the functioning of the industry market is a function of these variables integrated. It represents the final performance indicator industry market. Undoubtedly, settled performance monitoring allows implementing a balanced agricultural policy both from the state and from civil society.

The study contributes to the existing literature as analyze agrifood market performance in Kazakhstan and discuss the role of agriculture. The objective of study is to analyze the current condition of agrifood market in Kazakhstan, discover main problems of development and elaborate perspective tools to ensure sustainability.

## **MATERIAL AND METHODS**

The analysis involved data of statistics agency of the Kazakhstan Republic and was done using mainly quantitative and qualitative information, and descriptive statistics. In the analysis, method comparative analysis was implemented. Annual data from Kazakhstan for the period 1995–2015 is obtained from the Committee on Statistics of Kazakhstan.

The current status of the agrifood market of Kazakhstan was analyzed. Attention is paid to the social factors of agricultural development. All this is carried out due to objective studying of levels, structure and tendencies of economic development of the agribusiness in Kazakhstan.

## RESULTS AND DISCUSSION

### Background of Kazakh agriculture

Kazakhstan is geographically the 9<sup>th</sup> largest country in the world and the proportion of agricultural land is 34.3%. The population of the republic is relatively low – 17.7 million people, of whom 43.3% is rural. The share of the employed population in the economy of the agricultural sector is about 18%. The population of Kazakhstan settled on its vast territory is very unevenly distributed [*Kazakhstan...* 2016].

Through economic reform, Kazakhstan tries to overcome the raw-material orientation of its economy, largely inherited from the Soviet system. The agrarian sector of the country is playing an active role in this process. The agrarian policy of Kazakhstan aims to develop a globally competitive specialization in non-primary sectors. Given the role of food security in ensuring the independence of the country, and that about half of the population lives in rural areas, the state and development of the agriculture is great importance for the sustainable development of the country.

The agriculture in Kazakhstan is one of the most promising sectors of the economy. One percent growth of agricultural products provides an additional increase in output of industrial infrastructure by 2.5%, of the processing industry by 1.4%, of transportation services by 0.33%, of trade by 2.7% [Overchuk 2001].

However, there are various issues that must be addressed by the government, including the improvement of product quality and the creation of national brands, infrastructure development, improvement the quality of rural labor resources in agribusiness and the creation of conditions for improving the technical support of agricultural production.

The agricultural sector is crucial of national food security and development of export potential, and therefore has paramount political importance. The issues of food security are included in the list of national interests. Their decision is related to the sustainable development of agriculture and agribusiness. Export potential of agriculture in the country is very high, especially for the production of grain and flour. In conditions of essential dependence of the country on export of raw materials, realization of export opportunities of agrifood can make a significant contribution to the development of the economy.

The agricultural production is also very important for the social and economic rural development, for example through creation of employment in remote areas and areas with difficult climatic conditions. There is high need for greater equality across regions, to ensure the territorial integrity of the state, and the rational use and protection of unique natural and biological resources. Kazakhstan has a large area and uneven settlement of the inhabitants.

However, the agribusiness of the country still has some disadvantages – low rates of structural and technological modernization of the industry, unsatisfactory level of development of market infrastructure, small-scale agricultural production, instability of the financial sector, lack of private investment in the development of the industry and the shortage of skilled personnel etc. [Bobojonov et al. 2015].

During the reforms domestic agriculture could not reach a new qualitative level. Certain products still have not reached pre-reform levels of production. For example, in 2014 the production of meat (slaughter weight) in farms of all categories was 59.2% of the 1991 level. The scale of the agricultural production is also reduced; the crop area declined by 38.6% between 1991 and 2015, the number of animals also reduced during this period: cattle by 35%, sheep, goats, pigs and poultry by 50%. Agricultural productivity remains low, the yield of grain, which is the main export product was 12.7 cwt per 1 ha in 2015, while in developed countries it fluctuates from 20 to 45 cwt per ha [*Agriculture, forest and fish...* 2016].

The main object of the present industrial and innovative state policy is the development of a globally competitive specialization of Kazakhstan in the manufacturing sectors of economy for sustainable economic development. In order to diversify and increase the competitiveness of Kazakhstan's economy in the long

term the *Master Plan on Forced Industrial-Innovative Development of Kazakhstan for 2015–2020* [2014] has been adopted and is being implemented.

In this regard, a large and important task is raising the agricultural sector of the economy to a qualitatively new level of development and thereby improving competitiveness, which is especially important in light of the country's integration with Russia and Belarus, and the subsequent entry into the World Trade Organization.

The growth of Kazakhstan's exports, the most part of which, as before, are mineral resources (oil, gas, metals), certainly mitigates the country's crisis and assists the implementation of the structural reforms. However, it leaves the national economy vulnerable to the global economic downturn and to the decline of the energy prices. Moreover, the dependence on imports for many vital goods including food remains.

It becomes evident that to further increase the pace of the extraction of raw materials while maintaining an expensive and inefficient production structure will threaten the country with a gradual transformation into a raw materials appendage of the world economy. The only way to mitigate this is by upgrading of economic structure, the transition on the innovative resource-saving path of development in all sectors of the economy, including agriculture. First steps in this direction have already been made, but given the scale of the lag, they must repeatedly accelerate, in order to maintain the existing scientific and educational potential, to restore cooperative communication, to provide a competitive regime, and an effective partnership in science and technology, to create conditions for the transformation of innovation in a powerful lever of the economic recovery.

### Performance of Kazakh agrifood market

Although in recent years, Kazakhstan, like other CIS countries, has higher economic growth than the most developed countries, including the United States and the majority of the countries of the European Union, the quality of that growth still remain unsatisfactory. In recent years the volume of Kazakhstan's trade in the total world trade has grown rapidly (Table 1). Last two years there is a decline in these indicators. Although in 2015 the foreign trade turnover of country exceeded the level of 1995 by 10 times. However, currently the exports of Kazakhstan mainly consist of commodities of the raw group: 72.4% – mineral raw materials and fuel, 15.4% – ferrous and non-ferrous metals [Committee on Statistics of Kazakhstan 2016].

**Table 1.** Trends in international trade turnover of Kazakhstan in 2011–2015

Indicator	2011	2012	2013	2014	2015
Total turnover (m USD)	121 241.7	132 807.2	133 506.0	120 755.3	75 911.6
Export (m USD)	84 335.9	86 448.8	84 700.4	79 459.8	45 725.6
Export of agrifood (m USD)	–	898.1	911.5	930.7	794.9

Source: Statistics agency of Kazakhstan [2016].

Assessment of agrifood market in terms of the world economy shows the sharp in agrifood export for last two years and evidences the change the Kazakhstan's position geopolitically. The share of agrifood export in international trade turnover account 1.01%.

The share of agriculture in the GDP of Kazakhstan for the past 25 years has decreased from 34 to 4.7% in 2015 (Table 2), while employed labor force in rural areas accounted for 18%. This is a confirmation of the low labor productivity in the sector and low primary incomes of the rural population. The reduction of the prices on agricultural products by more than 50% and the growth of price indices for industrial goods considerably accelerated the decline in the share of agriculture too.

**Table 2.** Trends in food production of Kazakhstan in 2011–2015

Indicator	2011	2012	2013	2014	2015
Share of agriculture in the GDP (%)	4.7	4.0	4.4	4.2	4.7
Share of food production in the GDP (%)	2.82	2.69	2.62	2.71	2.63
Share of food production in industrial output (%)	5.2	5.1	5.4	6.0	7.3
Share of milk in industrial output (%)	0.8	0.8	0.9	1.2	1.3
Share of meat in industrial output (%)	0.6	0.7	0.7	0.8	1.0

Source: Statistics agency of Kazakhstan [2016].

Currently, one of the main factors hampering the development of food production in Kazakhstan is the persistently low level of industrial processing and incomplete utilization of the capacities of processing enterprises. The fact that the share of agriculture in GDP is twice as high, than the share of the food industry speaks the non-use capacity of the raw materials base of the agribusiness. So, the share of food production in total industry in 2015 was 2.63% of GDP [*Agriculture, forest and fish...* 2016].

It should be noted that growth in agricultural production is constant, but despite this, the share of industrial processing of agricultural raw materials is very low, and the finished product has a weak competitiveness, which is due to the lack of new technology in many processing companies.

In 2015, production of meat expressed as carcass weight increased by 4.6% compared to 2009. The share of industrial processing in the total meat production amounted to 24.2%. The use of the average annual capacity of the meat processing plants was 65% [*Agriculture, forest and fish...* 2016].

Dairy products market in Kazakhstan is currently experiencing considerable difficulties. In the republic there is shortage of raw milk: according to statistics, only 15% of the milk produced is sent for further processing in to sour milk, cheeses and other products. The system of collecting small quantities milk has led to a deterioration of its quality and higher prices of the final product.

The share of milk produced by households is 45.7% of its total volume. While the share of agricultural enterprises account for 23.2% and farms – 31.1%. However, there are changes in the structure of output compared to 2011. Thus, the share of small household products decreased by 11.1 point. Therefore, in recent years there is a growing demand for cheaper Russian and Belarusian dairy products.

The average percentage of imports into the Kazakh market for milk and dairy products is 35–40%, but for some product categories it can be much higher: cheese and cottage cheese – 80%, butter – 75%, condensed milk – 90%. The volume of dairy production in the Kazakhstan Republic in 2015 amounted to more than 0.7 million t, of which about 70% are milk and cream, and 26% others dairy products.

In order to support Kazakhstan producers of dairy products the program *Agribusiness 2020* is implemented, according to which by 2020 large farms, where the number of livestock more than 1,000 cows, should build as well as 20 small farms has been developed. It is expected that Kazakhstani goods could compete with products from Russian and Belarusian both in terms of volume and price after the implementation of this program [*The program...* 2013].

The development of milk processing is hampered by delays and incomplete utilization of production capacities of most of the specialized companies. The reasons of this situation are a violation of the economic relationship between raw material suppliers and processors, the low quality of raw materials, imperfect system of contracts between enterprises and the low purchase prices on the products of agricultural producers.

A more positive situation emerged in the grain processing sphere. Today (2015) in the republic the capacity of the mills is 8,423,600 t per year; nearly 3 times higher than the domestic demand for flour and therefore

most flour is exported. In 2015, more than 55% of grain produced in the Kazakhstan Republic was industrially processed for flour, the mills working at 45% of their capacity. The share of flour exported from the production volume amounted to 61% in 2015. There is potential in the country for the export of pasta. However, the infrastructure of the grain production requires attention: the technological level of the transport and the grain elevator infrastructure lag behind the increased capabilities of national grain production. The active procurement of the grain carriers, construction of the grain elevators, including the terminal type near the port and the international transport corridors are required.

The next factor adversely affecting the development of the food industry regarding a processing of agricultural raw materials and an increasing the competitiveness of production is the very low level of implementation of international quality and safety management standards, namely ISO 9001 and ISO 22000, and of the HACCP system in the food industry. As a result, quality of the products is not so consistent and of reliable quality as imported food. This is currently due to lack of modern technologies for processing, packaging and storage (there is a shortage of storage facilities for fruits, vegetables, refrigeration for meat, milk, and slaughter houses, etc.). Moreover, the agricultural raw materials supplying of the food industry also largely do not meet high standards of quality. Process management must be organized in a way to ensure compliance international standards. At the same time, the new technology for processing of the agricultural raw materials can significantly reduce the loss of product during its storage and processing and provide long-term maintaining their quality.

Production of high-quality agricultural products in accordance with the requirements of technical regulations and standards is one of the target indicators of the The program for the development of agro-industrial complex in the Republic of Kazakhstan for 2013–2020 years, adopted in 2013 [*The program... 2013*] and it is implemented currently. Within the mentioned program a package of measures provides to establish a system of quality control, scientific and personnel support agricultural industries, informational and marketing provision of the farmers.

It should be noted that at present, a major obstacle in the transition to an intensive economic model in the agricultural sector is low level of the government support. The experience of developed countries, in which the agribusiness system was controlled by the state for a long time, clearly confirms that in a market economy the viability of agricultural enterprises, the efficiency of agricultural production and the relative stability of social realms in rural areas significantly depends on government regulation.

The improvement of access for agricultural producers to credit is one of the important areas of state support in agriculture. The agricultural lending market in Kazakhstan is characterized by high transaction costs and low allocative efficiency of resources. The unstable financial situation of borrowers and lack of insurance of the bank sector leads to tighter credit conditions: high interest rates, a limit of the loan length and an overestimation of the requirements for collateral. This in turn reduces the demand for loans and limits a supply on credit resources.

Agriculture is not included in the main areas of funding the domestic banks, its share in total bank loans is very small – 2.4% in 2015. The agriculture banks set the highest interest rate – about 16%, when an average level is 14.5%. Moreover, the banks distribute loans mainly among medium and large agricultural producers, which accounted for 95% of loans. The share of small farms is only about 4–5%, while they produce almost half of the gross agricultural output [Bisenova 2011].

Thus, in the agricultural sector with its high level of operational risks and financial instability, the implementation of the credit system is more complex than in any other industry, and therefore often budgetary funds are used as credit. The problem of providing rural producers with long-term loans in order that they invest in fixed capital, the need for which is enormous, requires the implementation of major public-private long-term investment.

The main operator of the state micro-credit programs of the rural population is the joint-stock company (JSC) *Fund for Financial Support of Agriculture*, which is a subsidiary of JSC's National Holding KazAgro.

Since 2011, the Foundation carried out six lending programs, in particular: *Rural microcredit* is aimed at the micro agricultural producers and rural residents, *MCO* is intended to finance micro-credit organizations, *Sybag* is for the purchase of breeding stock and bulls for reproduction young meat breed cattle, *Eginzhay* is for lending during the spring, *Tabigiorta* is to support projects for the development of ecological tourism and the implementation of alternative energy sources, for development of forestry, fishing, hunting, and leasing of the complexes of a greenhouse.

The radical-liberal market reforms in the agricultural sector of Kazakhstan in the 1990s led to the degradation of the social sphere of the agricultural sector. As a result of the reorganization, there was a complete collapse of many components of rural infrastructure leading to about 700 villages abandoned just over the years 2000–2009. The standard of living of the rural population is lower than the urban population. About 12% of the rural population lives below the poverty line, while in urban areas this figure is 4.1%, it is more than three times less. Thus, the successful solution of social problems and improving the welfare of the people necessitates more attention to the problems of agricultural sector. Agribusiness as the main activity of the rural population and a preservation of rural areas as background of their habitat needs support.

## CONCLUSIONS

International food and agricultural markets have changed dramatically over the last several decades due to technological change, increased international trade, industry integration, consolidation and regulation, and issues such as increasing disposable incomes, food safety and environmental concerns. The agrifood system has evolved from producing and selling primarily homogeneous agricultural commodities to focusing more on value-adding, differentiation and coordination with other firms in the food chain. In order to remain competitive, some agribusiness firms are developing more of a marketing orientation, focusing increasingly on product development to meet heterogeneous consumer preferences and distinct market segments. The dynamic and increasingly global nature of food systems increases the need for sophisticated skills in market analysis, market planning and marketing management. This course approaches global food and agricultural marketing from a managerial perspective. The unique technical aspects of food and agricultural production, processing, distribution, wholesaling and markets are integrated with business marketing principles and strategy. Business marketing principles are then applied with strategic marketing extensions, and a focus on the final consumer of food products.

The sustainable balanced development of the national economy in the coming decade should achieve through accelerated diversification and increasing competitiveness. An important segment of diversification is the development of agriculture.

The development of national competitive advantages of domestic production needs to create high-commodity farms, industrial associations, to develop downstream products, to develop a modern product storage systems, to regulate a prices on socially important food products, to insure food quality on all parts of product promotion, as well as to create long-term inter-regional relations between the producing regions and the consuming regions.

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## PRZEMIANY NA RYNKU ROLNO-ŻYWNOŚCIOWYM W KAZACHSTANIE

### STRESZCZENIE

Praca koncentruje się na przemianach na rynku żywności oraz doświadczeniach Kazachstanu w rozwoju rolnictwa. Przedstawiono teoretyczne aspekty przemian na rynku przemysłu spożywczego, ze szczególnym uwzględnieniem rynku rolno-żywnościowego. Przedstawiono przykłady doświadczeń Kazachstanu w rozwoju sektora rolno-spożywczego. Wykorzystano dane z Krajowego Komitetu Statystyki. Analiza wykazała potrzebę dalszego rozwoju kolejnych ogniw w łańcuchu dostaw żywności w celu zwiększenia konkurencyjności na rynku globalnym. Kroki w tym kierunku zostały już podjęte przez politykę rolną Kazachstanu. Zaleca się jednak, aby rząd wspierał różne kwestie, w tym poprawę jakości produktów i tworzenie marek krajowych, rozwój infrastruktury, stworzenie warunków do poprawy wsparcia technicznego produkcji rolnej. Rolnictwo jako główna działalność ludności wiejskiej wymaga wsparcia. W tym celu należy wykorzystywać wskaźniki efektywności w odniesieniu do rynku rolno-żywnościowego.

**Słowa kluczowe:** przemiany na rynku, polityka rolna, efektywność, rynek rolno-żywnościowy