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FOOD SECURITY AND THE MACROECONOMY: THE RELATIONSHIP, ANALYSIS AND PROBLEM

Abstract

The problem of food security is one of the most important in the modern economy. It affects the interests of various countries, social and political forces, becoming increasingly relevant with the development of trade in agricultural products and food, the acceleration of globalization. The article considers the issues of food security in Kazakhstan. A comparative analysis with some Central Asian countries and with countries with more developed economies is carried out. The analysis of the leading indicators of the agricultural industry, the analysis revealed the problems of the food supply are given. Also, the interrelation between macroeconomic indicators of the country, in particular, GDP and the level of food security is established. As practice has shown, the essential tools for achieving food security and import independence include a properly organized system of foreign economic activity in the field of agriculture. The critical role of the state is also to create conditions for the rational use of productive resources to increase the competitiveness of the agro-industrial complex. Internal factors of competitiveness in addition to the resource and territorial factors include the appropriate transport and logistics infrastructure; low-interest rates for lending to agricultural enterprises; the availability of preferential treatment in importing countries; adequate protection of the domestic food market; investment and tax incentives; stimulation of the introduction of innovative processes. Thus, the country faces new challenges to achieve self-sufficiency in food.

Key words: food security, agriculture, competitiveness, productivity, macroeconomic indicators, national economy, economic analysis.

The study and analysis of the problem of food security are one of the most popular areas of modern Kazakh economic science. Such a significant interest in this problem is due to many circumstances.

Providing the population with food is a fundamental element of economic, social and political security of the state. Agriculture, which provides food security of the country, takes the place of the most important structural factor in the national economy. Food security in all its manifestations reflects the ability of this complex to ensure the balance and sustainability of economic development. At the same time, food security needs to ensure an optimal balance between domestic production and imported food supplies. Only under the condition of a stable situation in the domestic food market, the state can pursue an independent domestic and foreign policy.

The main priority of functioning of all agri-food national system - the person and satisfaction of his need for food therefore transformation of agri-food system has to be regulated within evolutionary development of the existing regional models of agri-food system on the basis of the analysis of dynamics of their development not only in the Kazakhstan territories, but also in foreign countries [1]. Local agricultural production cannot become either the primary source of income for rural residents or the main source of food for urban residents, so it is necessary to analyze not only local production but also the food distribution system and the population's food needs [2].

According to FAO of the Food and agriculture organization of the United Nations, the number of people in hunger reached 821 million in 2019 [3]. As planned in 2015, the number of hunger is expected to increase to 794.6 million people and reached its value (Figure 1, p. 243). In 2017, this indicator rose again; the situation was complicated and not optimal. However, in the world, according to the UN, 2 billion people eat low-quality food.

By the research of professor Sebastian Peyrouse, who is an expert in Central Asia, the macroeconomic data of the Central Asian States are often distorted, which makes attempts to measure

the real indicators of living standards impossible. Poverty is undoubtedly one of the main reasons for the unfavourable situation in the food sector. The share of family spending on food remains very high: 80% in Uzbekistan and Tajikistan, 58% in Kyrgyzstan. He also notes regular inflation, which affects the currencies of the Central Asian States, affects nutrition not only in terms of quantity but also quality. In all countries of the region, except Kazakhstan, the quality of wheat is so weak that it is used mainly as livestock feed, while high-quality wheat has to be imported from abroad. Whenever world wheat prices rise sharply, the people of Tajikistan and Kyrgyzstan switch to local wheat, which is less expensive but also less nutritious [4].

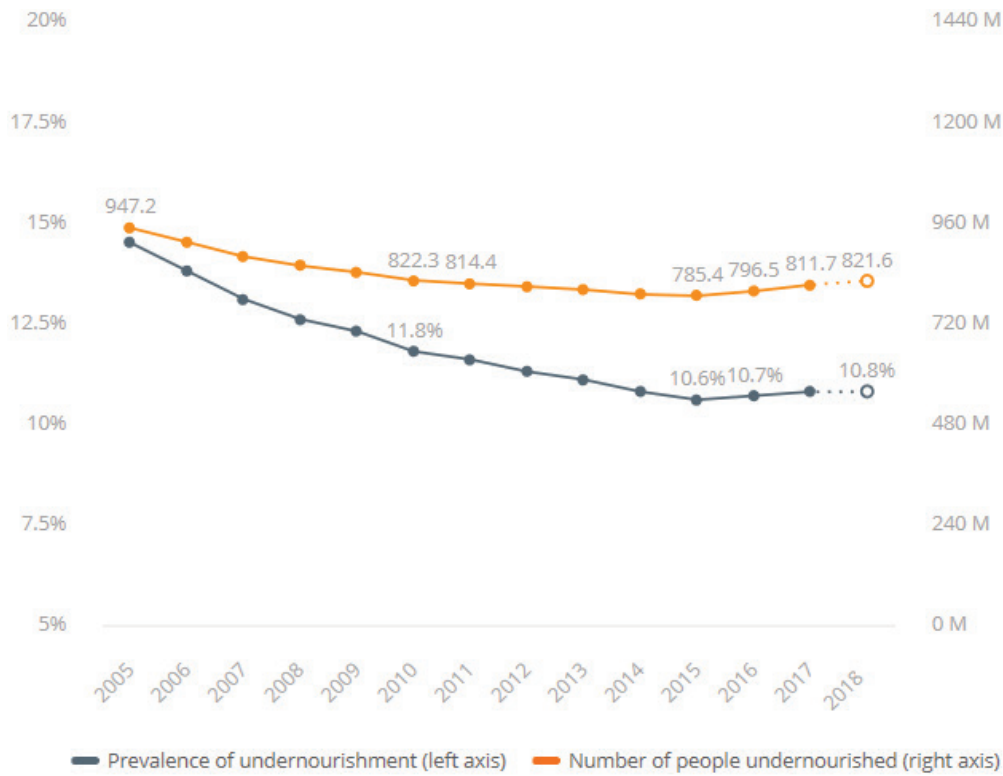


Figure 1 – Dynamics of the number of people affected by hunger in the world [3]

Despite programs designed to increase production, of all five Central Asian countries, only Kazakhstan was able to meet its grain needs. The other countries have no choice but to import on a large scale. Kyrgyzstan imports 43% of wheat consumed. Tajikistan buys abroad more than 50% of consumed grain, as well as 30% of beef, 80% of poultry, three-quarters of vegetable oil and almost all sugar.

Despite the above fact, according to the Economist Intelligence Unit food security index, Kazakhstan ranks 56th out of 109 countries. Several indicators need to be taken into account when assessing the food security index because the level of food security is assessed not only unilaterally. It is influenced by social, economic, political and environmental factors. It depends on the economic and physical capabilities of the population of the region. In this regard, it is necessary to revise the index of quality of life of the population. According to national statistics, the quality of life index for housing conditions of Kazakhstan in 2017 was 2.3, and the income index – 2.1, the health index – 5.9, the life satisfaction index – 8.9, the security index – 9.1 [5].

In our past research, we have repeatedly focused on the above factors, dividing them into external and internal. The influence of the state on the development of agricultural enterprises, improve the level of food security, in the form of financial support (concessional lending, subsidies, etc.), but still, do not give high indicators of food security. The share of agriculture and forestry in Kazakhstan’s GDP in 2019 was – 3.9% (Table 1, p. 244).

Table 1 – Comparative analysis of some economic indicators of Kazakhstan and other countries in 2018

Name of indicators	Kazakhstan	Uzbekistan	Kyrgyzstan
GDP in millions of US dollars	170 539	48 600	8 081
GDP per Capita in of US dollars	9 331	1 293	1 331,9
Share of agriculture, forestry in the GDP structure	3,9	28,7	12,1
Country population	18 608 079	31 032 925	6 294 587
Number of active agricultural enterprises			
- large	63		
- average	293	–	13
- small	6 592	18 051	417
Number of employees in agricultural thousand people	1 220,7	3 454,4	10,7
Livestock and poultry total, thousand heads	68 382	103 790	14 411
Expenditures from the state budget on agriculture in millions of US dollars	804,5	102,3	278,3
Note – Compiled by the authors based on the studied data of different departments of the countries [5, 6, 7].			

As can be seen from Table 1, some macroeconomic indicators of Central Asian countries (Uzbekistan, Kyrgyzstan) are shown. Over the past decades, Kazakhstan as a whole has a tendency to increase GDP, and in 2018 it amounted to 170 539 million US dollars, which is 4.7% higher than in 2017. The share of agriculture in the GDP of the Republic of Kazakhstan in 2018 was 3.9% and in Russia 4%. The share of agriculture in GDP is traditionally lower for countries with more developed economies. Developed economies such as the United States and Germany are characterized by a 1–3% share of agriculture in GDP. It should be noted that expenditures from the state budget for agriculture in 2018 amounted to 804.5 million us dollars.

The practice of state support for the agricultural sector of the economy, which has developed over the last time, covers a relatively wide range of sectors and sub-sectors of agriculture. The main volume of subsidies goes to support agricultural producers in such sectoral areas as livestock breeding and sheep breeding, the acquisition of chemicals and the development of crop production, crop insurance, financial resources are allocated to compensate for the costs of interest payments on loans and loans, for the implementation of regional programs and agricultural projects involving significant production and commercial effect. Support of domestic agriculture in order to ensure food independence of the country declared a priority task of the state.

In general, analyzing the results of macroeconomic indicators of the three Central Asian countries, it can be noted that Kazakhstan has good position indicators. However, to achieve high economic development indicators, the country needs to increase the efficiency of agricultural production.

The number of active agricultural enterprises in 2018 is 6948. The share of small business is 95%. The number of employed people in agriculture 1 220.7 thousand people. The number of cattle and poultry thousand heads 68 382. In General, the number of livestock and poultry since the beginning of the 90s has decreased sharply and had a positive trend only since 2000. At the end of 2018, the number of cattle was 7 673.1 thousand heads, sheep and goats 21 757.25 thousand heads and poultry 45 177.76 thousand heads.

It should be noted that the indicators of agricultural efficiency in Kazakhstan tend to improve, but compared to countries with more developed economies are relatively low. For example, the average milk yield in Kazakhstan in 2018 was 2 341 kg per cow, while in Germany 7 348 kg, and the United States 9 471 kg (Table 2, p. 245).

Low productivity indicators of the agricultural sector are characterized by an insufficient level of scientific and technological progress, which in turn reduces the level of competitiveness of agricultural enterprises.

The noted shifts in the 2000s were mainly a kind of “response” to the construction of the system of state support for agriculture of the country, first of all, the redirection of part of state spending based on the program-target approach.

Table 2 – Comparative analysis of agricultural productivity of different countries, 2017–2018

Name of indicators	Kazakhstan	Kyrgyzstan	Uzbekistan	Russia	Germany	USA
Average milk yield per 1 cow, kg	2 341	1 982	2 150	5 829	7 348	9 471
Average annual egg production, pieces	242	120	181	312	330	300
Grain yield, centners/hectare	13,5	31,3	43,4	22	73	82,7
Note – Compiled by the authors based on the studied data of different departments of the countries [3, 5, 6, 7].						

Against the background of extremely complex and contradictory macroeconomic situation and periodically escalating the crisis in agriculture over the past period of agrarian reforms, significant changes took place both in the overall structure of the industry and in the production of necessary food products.

The level of consumption of meat and dairy products in Kazakhstan is still very lagging in comparison with developed countries. For example, the level of consumption of meat and meat products is the highest in the United States and Australia – more than 100 kg per capita per year, i.e. almost 1.5 times higher than in Kazakhstan. According to the level of milk consumption, the highest indicators belong to France and Germany – 430 kg per capita per year, while milk consumption in Kazakhstan is almost twice lower than this level.

The analysis of the main factors of food security in Kazakhstan showed that their impact on the solution of this problem over the last quarter of a century was very spontaneous and mostly contradictory. On the one hand, some progress is evident in strengthening the food security of the state, on the other-threats to it retain their potential. Moreover, at the turn of the second decade of the 2000s, new internal and external threats that Kazakhstan had to face in the agro-industrial sphere in solving the problems of food security and availability came to the fore. New factors include the destabilization and decline in the world economy after the crisis of 2008–2009, the deterioration of the economic situation in the country, the fall in revenues from commodity exports, the strengthening of inflation since the end of 2014 and others.

According to the authors, it is possible to ensure the competitiveness of domestic food products only through constant technological and technical updating of existing production facilities, and, above all, in terms of expanding capacity and deepening the processing of raw materials in order to obtain products with higher added value.

The study shows that without significant measures of state support, the growth rate of production in the agricultural sector will be reduced, and accordingly, the food security index, especially against the background of a fall in GDP in 2016 by 26.5% compared to 2015.

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Аңдатпа

Азық-түлік қауіпсіздігі проблемасы қазіргі экономикадағы ең маңызды мәселелердің бірі болып табылады. Ол әр түрлі елдердің, қоғамдық және саяси күштердің мүдделерін қозғайды және ауыл шаруашылығы өнімдері мен азық-түлік саудасының дамуына, жаһандану үдерістерінің жылдамдығына қарай неғұрлым өзекті болып келеді. Мақалада Қазақстанның азық-түлік қауіпсіздігі мәселелері қарастырылған. Орталық Азияның кейбір елдерімен және экономикасы неғұрлым дамыған елдермен салыстырмалы талдау жүргізіледі. Ауыл шаруашылығы саласының негізгі көрсеткіштеріне талдау жасалынды, талдау барысында азық-түлікпен қамтамасыз ету проблемалары анықталды. Елдің макроэкономикалық көрсеткіштері, атап айтқанда ЖІӨ мен азық-түлік қауіпсіздігі деңгейі арасындағы өзара байланыс белгіленген. Зерттеудің өзектілігі азық-түлік қауіпсіздігінің ішкі және сыртқы факторларының маңыздылығымен анықталады. Тәжірибе көрсеткендей, азық-түлік қауіпсіздігі мен импорттық тәуелсіздікке қол жеткізудің маңызды құралдарына агроөнеркәсіп кешені саласындағы сыртқы экономикалық қызметтің дұрыс ұйымдастырылған жүйесі жатады. Мемлекеттің маңызды рөлі, сондай-ақ мемлекеттің агроөнеркәсіптік кешенінің бәсекеге қабілеттілігін арттыру мақсатында өндірістік ресурстарды ұтымды пайдалану үшін жағдай жасау болып табылады. Бәсекеге қабілеттіліктің ішкі факторлары ресурстық және аумақтық фактордан басқа тиісті көліктік-логистикалық инфрақұрылымды, ауыл шаруашылығы кәсіпорындарын кредиттеудің төмен пайыздық ставкаларын, импорттаушы елдерде жеңілдікті режимнің болуын, ішкі азық-түлік нарығын тиімді қорғауды, инвестициялар мен салықтық жеңілдіктерді, инновациялық процестерді енгізуді ынталандыруды қамтиды. Осылайша, елдің алдына азық-түлікпен өзі-өзі қамтамасыз ету деңгейіне қол жеткізу бойынша жаңа міндеттер қойылды.

Тірек сөздер: азық-түлік қауіпсіздігі, ауыл шаруашылығы, бәсекеге қабілеттілік, өнімділік, макроэкономикалық көрсеткіштер, ұлттық экономика, экономикалық талдау.

Аннотация

Проблема продовольственной безопасности является одной из самых значимых в современной экономике. Она затрагивает интересы различных стран, общественных и политических сил, становясь все более актуальной по мере развития торговли сельскохозяйственной продукцией и продовольствием, ускорения процессов глобализации. В статье рассмотрены вопросы продовольственной безопасности Казахстана. Проводится сравнительный анализ с некоторыми странами Центральной Азии и со странами с более развитой экономикой. Дан анализ основных показателей сельскохозяйственной отрасли, выявлены проблемы обеспечения продовольствием, установлена взаимосвязь между макроэкономическими показателями страны, в частности, ВВП и уровнем продовольственной безопасности. Как показала практика, к важнейшим инструментам достижения продовольственной безопасности относится правильно организованная система внешнеэкономической деятельности в сфере агропромышленного комплекса. Важная роль государства заключается в создании условий для рационального использования производственных ресурсов в целях повышения конкурентоспособности агропромышленного комплекса. Внутренние факторы конкурентоспособности помимо ресурсного и территориального фактора включают в себя соответствующую транспортно-логистическую инфраструктуру, низкие процентные ставки кредитования сельхозпредприятий, наличие льготного режима в странах-импортерах, эффективную защиту внутреннего продовольственного рынка, инвестиции и налоговые льготы, стимулирование внедрения инновационных процессов. Таким образом, перед страной поставлены новые задачи по достижению уровня самообеспеченности продовольствием.

Ключевые слова: продовольственная безопасность, сельское хозяйство, конкурентоспособность, продуктивность, макроэкономические показатели, национальная экономика, экономический анализ.