

COVID-19 and its economic impact on the agro-industrial complex

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Abstract. The world market has lost its status due to the closure of all borders, restrictive measures in the field of world trade. Before the COVID-19 crisis, manufacturers of goods had a good profit from their sales. But due to the closure of the borders and the inability to export their goods, the producer suffered losses, since he could not sell all the grown crops in his country. The pandemic has affected the delivery of goods in a logistics form. This problem has affected all types of transport for the transport of goods.

1 Introduction

COVID-19 is not only a dangerous virus but also an economic crisis for people. The crisis of 2020 differs in unique features from those that occurred in the global economy. The first feature is that the heads of state themselves stopped, voluntarily, the economy. The reason for this was not an interstate military conflict, not a market collapse, and not the terrible contagious diseases of the Middle Ages, after which half of the inhabitants of Europe survived. The second feature is that they made this decision almost unanimously.

The country has not taken a decision in the first place to isolate and treat patients without disrupting the work of the economic sector. The work of this sphere of almost all states stopped working at one point. The third feature is that countries sacrificed the development of their economies, for the first time in history, to prevent the spread of the virus, although, given the fact that the pandemic had a global scale, and the number of cases and losses was relatively small. This shows the humane attitude of almost all States to their citizens. In the middle of the last century, the leaders of many countries did not revise the internal policy of the country, when they even had millions of human losses not in wartime (the Pol Pot regime, the Chinese Cultural Revolution, the Holodomor in Ukraine and other territories of Russia during the reign of Stalin).

2 Methodology

By means of the method of complex analysis of the experience of the impact of the epidemic COVID-12 agro-industrial complex of Central Asia and the Caucasus deals with the loss after the epidemic and improving agriculture.

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3 Results of the research

We consider the agricultural sector during the spread of the COVID-19 virus. The advantage of the agro-industrial complex is that it has a focus on basic needs. Compared to other industries, the agro-industrial complex was not affected by the crisis. Online services, IT, the food industry and food retail did not suffer losses during this period, on the contrary, their revenues increased. The agro-industrial sector was not shocked, although the coronavirus period affected it very much. There was a certain devaluation during the crisis period, no crisis could avoid it, it occurred to a greater or lesser extent. In comparison with the previous crisis periods, the devaluation was relatively mild, only 20-27 % [2]. During this period, business development stopped. Businessmen have invested in the most necessary and is committed to the ongoing business projects. This led to a reduction in raw materials and material reserves, incomplete or absolute sequestration of all non-mandatory reserves, such as marketing. Producers of agricultural products have increased foreign exchange costs due to the depreciation of the ruble. They grew by about 20-50%, in the share reflection, they were individual for each, depending on the quality, complexity and duration of the production cycle of the products produced. When the quarantine began during the pandemic, the borders of all countries were closed, it happened quickly and completely. This has also had an impact on life-saving supplies for the agro-industrial complex. Food intake from European countries, which included daily chickens and seeds, stopped. Vitamins and substances for the NWR were not supplied from China.

Russia has abandoned food and food ingredients of foreign production. Analysts showed a decrease in the consumption of food and agricultural products. The second important problem for maintaining the health of the population is the consumption of products with sufficient protein content, it has been redistributed to the demand for simple carbohydrates and not expensive fats. During the pandemic, there was a possibility of a shortage of seasonal workers, which the agro-industrial complex needs in the amount of 500 thousand people, there was almost no investment. The crisis situation, the reduction in demand and the revaluation of the currency caused the termination of investment in projects. But the Russian government has not stopped financing projects that have already begun and are actively working, in which the main share of capital was invested. Leave with the preservation of wages on the part of business, and not the state, could undermine the financial stability of the agro-industrial complex, but the state has allocated additional funds for these expenses. The government reviewed the financing of the agro-industrial complex in order to prevent the threat of disruption of the work of national projects [3]. COVID-19 has changed agriculture. Russian and foreign experts noted the locality of the production and supply of agricultural products. Many agricultural enterprises, and those that are engaged in processing products, have reduced the costs associated with delivery to a certain remote location. Entrepreneurs who are engaged in this type of activity know perfectly well, sending their goods to remote areas, not everyone has a guarantee to bring it to the designated point. COVID-19 has further compounded this problem. The heads of the republics and certain regions independently decided to allow this or that activity on their territories. Such conditions dictated the employees of the agro-industrial complex to look for buyers and those who would be engaged in processing their products closer, so as not to risk losses associated with the transportation of products. This method of work of representatives of the agro-industrial complex reduced the number of cases and prevented new outbreaks that could occur in other territories during contact work. Buyers of agricultural products were offered goods that were produced in their region. They had the opportunity to compare the same products and give preference to the one that was produced in their territory. Of course, this type of conducting trade relations with agricultural products was not beneficial for all representatives of this sphere. Those regions and enterprises that have established business with the capital, during the spread of

the virus infection could not continue it. Many suppliers had to find buyers in their own regions, and some of them suffered losses due to restrictive travel measures throughout the country. Prior to the start of restrictive measures related to the spread of coronavirus in Russia, the Ministry of Agriculture had already largely made expenditures for the passing year. These costs were invested in seeds and in the purchase of fuel and lubricants. Farmers started work on time this spring despite a shortage of workers in some regions in Russia. The pandemic has to some extent affected the unplanned cultivation of agricultural land. Some companies did this because of the lack of NWR. Statistics showed that residents of rural areas were ill in quantitative terms less than residents of small and large cities. This factor has had a positive impact on the work of the agro-industrial sector. This year's harvest depended on the weather conditions, which are considered traditional. Traditional conditions also include the level of technological readiness of farmers and enterprises for field and other work, and measures of agro-industrial content. Spring field work began on time, despite the coronavirus, and farming activities did not stop either. There are suggestions from analysts that COVID-19 will have an indirect negative impact on the 2021 harvest. They predict that the autumn market situation will worsen, the demand for agricultural products will fall. This will also cause a deterioration in the financial situation of not a small number of farmers in Russia. They will not be able to plan their activities for the next year. Many people who work in the agro-industrial complex will not want to upgrade their equipment. With the money saved, they will allocate mainly territories in the sowing turnover for crops that have increased prices at the end of this year [1]. The Ministry of Agriculture of Russia in April reported to the government that the 2020 harvest will exceed the 2019 harvest (2019-121.2 million tons, 2020-125.3 million tons of grain). The ministry's forecast and report did not take into account the impact of COVID-19 on the economy, it was based on weather data [4].

COVID-19 has affected the fact that not a small number of urban residents have moved to the countryside, opening their own agricultural enterprises. Many competent employees of the agro-industrial complex will restore the traditions of the Russian village and help it to revive. It is hoped that the personnel who will work in agriculture in Russia will help to positively change its social climate, and in the future, their children can stay in the village, engaged in entrepreneurship or other activities in agriculture. During self-isolation, millions of people in Russia, and not only in our country, but all over the world, found out for themselves that there is no need for permanent presence in the workplace, both for employees and employers of enterprises or organizations. Remote work also made it possible for people to go somewhere where the air is cleaner, the rent is lower, and self — isolation is more pleasant if something happens. The pandemic has moved everyone to remote work. During the isolation, specialists in the agro-industrial complex worked remotely from large cities. They helped the agro-industrial complex with their ideas, business plans, and programs. IT specialists are now needed not only in the life of the city, but also Russian farmers need them. COVID-19 has created a crisis situation for some time around the world with a considerable number of negative consequences. Analysts say that people's lives will change and take a different form, it will need to be adjusted to new changes in the world. The changes indicate the depreciation of the world's currencies, and the value concept and the concept of well-being will be subjected to metamorphosis [1]. The consequences of the crisis affected the entire world economy, its functioning in all areas. Today, the field of IT solutions is in great demand. But despite this, the crisis also affected them. Scientists and analysts dealing with the problem of the agricultural sector of the economy predicted that the crisis would almost pass the agro-industrial complex. And if entrepreneurs in this area invest certain funds in the agricultural sector, they will be able to benefit from this. Their investments will benefit if they invest in industries where automation is at a high level. It is not difficult to guess what effect COVID-19 left behind. The main number of citizens began to live even worse, many companies were closed. As for the products of the agro-industrial complex, high-quality and

expensive products were in low demand, in contrast to the cheap products that are necessary for people every day, these products were in high demand. The world market has lost the status of "world" due to the closure of all borders, and the imposition of restrictive measures in the sphere of world trade. In the Russian market, there were cases of increasing prices for products by 10 or even more times, which were in great demand during self-isolation. These were, for example, such products as lemon and ginger in many regions of Russia. Before the COVID-19 crisis, producers of these products had a good profit from their sales, but due to the closure of borders and the inability to export it, the manufacturer suffered losses, since he could not sell all the grown crops in his country and this product was not high in price. People who were engaged in this type of production, no longer have an incentive to continue their business due to unprofitability [1]. The virus pandemic has affected the delivery of goods in a logistics form. Many ships have not been able to go to sea for a long time. Due to the fact that the vessels were idle, the products that do not withstand long storage deteriorated. This problem affected not only the sea transport for the transportation of goods, but also the carriers of products by rail and air transport. COVID-19 also had a negative impact on the work of farmers related to harvesting, due to the lack of workers who were engaged in such work seasonally, and the quarantine and viral infection of people coincided with the work of farmers. Not all the work of large and small farms was successful. They were faced with the problem of providing full-cycle production. This led to a deterioration in the productivity of many production facilities and the quality of goods [2].

During the crisis period, the population's demand for many goods fell, especially for those that were previously sold with added value and expensive at a price. This primarily affected the meat production industry, and the demand for expensive varieties decreased significantly. Agricultural products such as poultry meat have retained their position, which was before the crisis, as it is the cheapest in comparison with other types of meat. Heterogeneous development was observed in the crop industry. Specialists who deal with the problem of analyzing the population's demand for products pointed out that the most popular were those that are necessary for the preparation of ordinary borscht, showing the deterioration of the financial situation of the consumer. Crisis situations also increase the demand for cereals and grains, which are the most affordable for the population. We can identify the main trends that have emerged due to the crisis situation in the world, in our country and in our region. First, the crisis affected people's culture in food consumption. In order to reduce the risk of COVID-19 infection, they bought products that could be stored for a long time, protecting themselves with rare visits to the market or shops. The so-called borscht set, consisting of potatoes, carrots, beetroot and onions, was in high demand, and such products as tomatoes, cucumbers, herbs and berries were rarely bought, as they are quickly perishable. The population also bought local products with a low price threshold. Due to layoffs, especially those who were employed in the economy and small business, the financial situation deteriorated [3]. Since the introduction of restrictive measures, fruits and vegetables of exotic species, asparagus, nuts and organic products have ceased to be in demand due to high prices, which is still noted. The population increased their immunity with inexpensive products in the form of garlic, lemon and onion. Products in packages were considered and are considered safe, although this is not always the case, they were popular, by purchasing them, the buyer could protect himself from infection [4]. Markets in many regions stopped working due to the introduction of quarantine and, accordingly, sales markets were lost. Such decisions have caused financial damage to small and medium-sized farms. The import and export of goods outside the borders of states has stopped, borders have been closed, and trade and movement is possible only with the assistance of people. Prices for some fruits have doubled and tripled due to their irregular delivery. Today, globalization has increased the opportunities for cross-border trade, the interdependence of national economies, the production of high-value-added products and certain types of products, and the availability of goods, services and

technologies in all sectors, including the agricultural food sector. However, given globalization, various pandemics have occurred in the 21st century, and the latest

Coronavirus (COVID-19) has seriously affected the economic and technological structure of organizations and disrupted global life. The pandemic has caused huge uncertainty in demand and devastated the agricultural food sector (Cappelli and Cini, 2020), and securing AFSC is a big challenge (Hobbs, 2020). He stressed that disabled agricultural processes have affected production capacity, the accumulation of food that has a whiplash effect, and the fragility of supply chains that contribute to unintended consequences for the economy as a whole.

4 Discussion of results

Transportation restrictions have led to increased food losses due to delays in food supply chains, especially perishable food. In addition, the task of meeting consumer demand for food is determined by the prevailing situations that have arisen in connection with the use of COVID-19, which affects the overall food supply chain. The agricultural food industry needs unprecedented policy measures to control the flow of products throughout the supply chain, especially in the face of such pandemics. Somehow, if agricultural products do manage to complete their journey from the farm to the food industry, there are still many challenges left (Larue, 2020). Packaging industry also reported a decline due to the fact that customers are reluctant to accept ready-to-drink non-alcoholic packages. Transport restrictions primarily affect small and marginal agricultural food enterprises. Farmers in the perishable business also face the consequences of falling demand and export volatility. The health of dairy animals, as well as the quality of dairy products, is also hindered by the lack of appropriate equipment and facilities. Reduced consumption of meat and fish as non-vegetarian products due to fear of contamination, forced closure of slaughterhouses. Government agencies offer general social panacea tactics to deal with these situations.

But, nevertheless, there are exciting and difficult questions: what happens if at least one farmer gets hurt? How will the chain break in such a situation? Although still available stocks are being used. However, due to unrest in agriculture, industrial processing, and the supply chain, there may be a recession and food shortages after that. this is a disaster. A report by the Food and Agriculture Organization, cited by grain analysts, states that “the problem is not supply, but behavioral changes in relation to food security” (UN News, 2020). Disruptions caused by the COVID-19 pandemic are now threatening the food security of billions of people around the world, and emerging threats to the food chain have raised questions about food distribution, increased demand, and food shortages (Zurayk, 2020). Thus, to overcome such challenges, the agricultural food industry must manage its own: logistics, retail, manufacturing, e-commerce, catering, etc. In addition, the government, non-governmental organizations and the food industry need to partner to accelerate procurement and production, to combat supply chain disruptions and market volatility. Despite the fact that some companies are successfully working in response to failures due to the introduction of digital technologies, an efficient supply chain and the evolution of the business model. Training in food hygiene ethics to address the risk of surface localization and food packaging materials (FAO, 2019; WHO, 2020). From this perspective, the management of the agricultural food industry, including the procurement, processing and distribution of food and catering, has become a priority industry, and applied research is needed to examine the impact of COVID-19 on AFSC, taking into account future crises, identifying weaknesses and opportunities in this sector. The COVID-19 pandemic has proved to be a serious challenge to the global economy, affecting all sectors and spheres of economic activity. Agriculture did not remain aloof from this influence. Agricultural producers around the world, both small farms and large holdings, have faced extremely severe shocks caused by the consequences of the

coronavirus infection. The main consequences of the pandemic in agriculture: 1. Supply chains were disrupted; 2. There was a decline in the purchasing power of the population; 3. The outflow of seasonal workers. According to available data, in the European Union, the 2020 harvest is expected to be less by 18 million tons than in 2019. And the number of undernourished people, currently estimated at about 690 million, could rise by 132 million by the end of this year, according to forecasts by the Food and Agriculture Organization (FAO) [1]. In such critical conditions, it is extremely important to develop further steps within the framework of cooperation programs. On these issues, a meeting of the Ministers of Agriculture of the BRICS countries was held on September 23, 2020. The area of cultivated agricultural land in the BRICS countries is almost 40% of the global level.

The meeting raised the issue of the impact of the pandemic on the food and agricultural sectors of the economy, as well as the subsequent mutual cooperation of the countries [2]. The main goal of agriculture is to reduce the starving population - more than 820 million people.; and the population experiencing moderate or serious food shortages or suffering from a lack of trace elements, which negatively affects the health of 2.5 billion people. The declaration sets out the global agenda for sustainable agricultural development for the period up to 2030, and countries have developed plans for implementing international programs to ensure food security, nutrition and support for vulnerable groups. According to the FAO report "The situation in the food market in Europe and Central Asia and the policy response to the COVID-19 pandemic", the impact of the pandemic has affected consumers, farmers and other participants in food production and marketing. In a number of countries in Central Asia and the Caucasus, prices for most basic food products increased significantly in the first half of 2020 compared to the same period in 2019. Tajikistan, Kyrgyzstan, and Georgia were the hardest hit. In particular, in Tajikistan, prices for the following products increased by more than 50 percent:

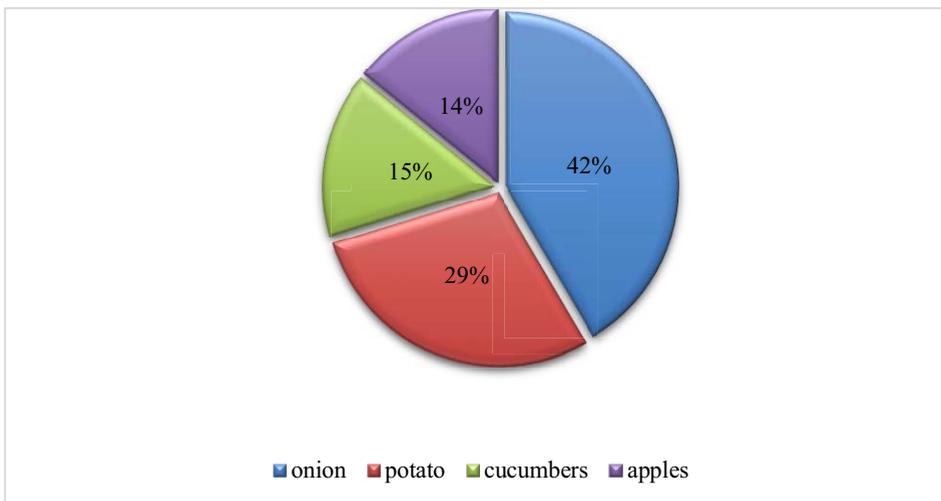


Fig. 1. Rising prices.

5 Conclusions

According to a survey conducted in July 2020 by the Russian Presidential Academy of National Economy and Public Administration (RANEPA), about 40% of labor migrants from Central Asia working in Russia said that they were dismissed during the quarantine [5]. Although agriculture was not included by the Ministry of Finance of the Russian Federation in the list of sectors of the economy that were most affected by the coronavirus, the state still

provided certain measures of support to the agro-industrial complex. On April 21, 2020 the Ministry of Agriculture of the Russian Federation prepared a list of 66 large agricultural holdings that will be able to apply for state support measures in the future. The subjects of the agro-industrial complex receive planned financing that contributes to the maintenance of production and harvest. During a pandemic, it has become vital to the Internet through it conducted the sale of almost all types of goods, especially fresh produce. Digital technology helped the economy to continue its work and not stop completely, although this type of business was a necessary measure. The global pandemic has taught us to invest more effort and resources to track the factors that are changing. One change leads to the failure of another, the business has also changed, there are more online purchases. We must use new tools on a par with traditional methods of doing business. In order to achieve the goal and run a successful business, representatives of this field should be armed with different options for its implementation. Those who will take this into account will pass the crisis period almost without losses in their own business. Thus, despite the many negative consequences that the pandemic has already brought to our lives, and which will still bring in the future, we can say with confidence that the business in the agro-industrial complex has largely benefited during the first wave of the virus spread, showing a significant increase in its indicators.

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