

Technological Communication

Effect of Exogenous Factors on Transformation Processes in the Russian Agro-Industrial Complex

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ABSTRACT

The purpose of the research is to study the trends of transformation of forms of management in the Russian agro-industrial complex in the conditions of preserving the general contradictions of the development of small and large forms of management. The main objective is to analyze the Russian agro-industrial complex. The subject of the study is the forms of management and the trends of their development. The last two decades are considered as the main time horizon of the study. The study made it possible: firstly, to reveal a stable tendency towards the predominance of large farms in the structure of production and the dynamics of output volumes given the existing institutional factors; secondly, to determine scenario forecasts (conservative, basic and optimistic) of the main trends in the further development of small and large forms of management; thirdly, to show the influence of the phenomenon of a global pandemic on transformation processes in the Russian agro-industrial complex. The relevance of this study is since during the thirty years of the market transformation of the national system of agrarian relations, significant changes have occurred among the main economic entities: especially in the issues of the evolution of the content, motivation of activity, sustainability factors and classification criteria for economic entities engaged in the production of agricultural products. These processes are reflected in the solution of common strategic problems: issues of ensuring both national food security and global food security issues.

KEY WORDS: AGRARIAN RELATIONS, AGRICULTURAL HOLDINGS, FORMS OF MANAGEMENT, INSTITUTIONS, PEASANT FARMS.

INTRODUCTION

According to established approaches, economic entities in the system of agrarian relations of the Russian economy, regardless of the specifics of their activities, the size of the total number, the volume of revenue, are called forms of management (FM). However, the attitude to this category among researchers is ambiguous: when, for example, FM is associated with different methods of management. As a rule, attention is focused on two main FM in Western literature: farms or large agricultural corporations. Farms that have their specifics in each country are considered as the main market entity that ensures competitiveness in food markets (Knickel and Renting 2000; Bachev 2001; Meurs 2005).

The general trends in the agro-industrial sphere of the economy include quite obvious concentration processes that contribute to the reproduction of the stable nature of the model of imperfect competition: when large agricultural corporations are special cases of oligopolies in the markets of

agricultural products. Therewith, it is logical to assume that, according to the general features of imperfect competition markets, large players with a large share of market power in the industry have an indirect influence on the vector of economic policy on the part of the state and general trends in the transformation of large and small forms of management (SFM). The enlarged integrated formations are characterized by an ultra-high concentration of land resources: from several hundred thousand hectares to several million hectares (Goncharov et al. 2016; Shagaida 2020).

It is noteworthy that in matters of concentration of land resources, these are global processes: for example, in (2021), B. Gates was included in the list of the largest landowners in the world, whose sphere of interests in business for many decades had been far from agricultural issues. However, for Western agricultural holdings, it is more often characteristic that they are more often engaged in processing of produced crop, livestock, poultry products: as, for example, in Brazil. The complexity of the study of Russian agricultural holdings is that they remain out of the focus of official statistics, which makes it difficult to study their specifics and economic effects based on comparative analytical approaches. More and more scientific and analytical publications have

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appeared recently about Russian agricultural holdings (Shagaida 2020; Uzun 2020).

Therewith, a certain phenomenon remains that agricultural holding, as before, are not taken into account separately in the Russian economy by official statistics. A significant degree of uncertainty, from a theoretical point of view, is added by the fact that a generalized approach is also absent in English-language translations of FM, which can be represented as "forms of economic management"; "forms of farming" or laconically "farms" (forms of farms or agricultural holdings), "forms of business" ("forms of doing business or forms of entrepreneurship) and even "lifestyles" (way of life). Our position is that the Russian specifics are more objectively reflected by the translation options from Russian into English: "forms of business" and "lifestyles", since, firstly, the concept of a form of doing business is broader than the concept of, for example, the forms of agricultural holdings; secondly, the use of a variant of the "way of life" concept allows focusing on the specifics of farming on the land. When considering the essential characteristics of modern FM, and hence the specifics of their transformation, uncertainty is already inherent from the very beginning, when the problem of identifying FM remains relevant: for example, as an object of state support (Uzun 2020).

METHODOLOGY

In the context of those problems that remain open when clarifying the substantive aspects of FM as subjects of production, it is important to adhere to a comprehensive systematic approach to the subject of the problem under study, including the definition of the main determinants of transformation, the selection of dominant components from them and the identification of possible trends for further development. This methodological approach also involves the use of the principles of verifiability: when analyzing the economic effects of production activities of different FM and identifying the causes of recessions (or rises) in the agricultural sector of the economy as a whole. In addition, studying the peculiarities of the transformation of FM in the national system of the agro-industrial complex, we guided by the methodological principle that Academician of the Russian Academy of Sciences that has repeatedly expressed that any scholar should have the full right to express his/her opinion, without claiming that he is the only owner of the truth (Uzun 2020).

Monopoly in science inevitably leads to its death. Abalkin (2009) ranked: price disparity, the fight against monopolies, and the creation of a competitive environment among the most serious problems in the field of the agro-industrial complex (Abalkin 2009). These problems remain relevant decades later. General scientific methods allow approaching the clarification of the dual, often burdened with a complex of contradictions, nature of the manifestation of the essential characteristics of FM both as the main subjects of production activity and as objects of their further reform.

It is also important to choose the dominant theoretical paradigm for defining the concept under study. Thus, if we

consider the FM, from the point of view of the political-economic approach, it is logical to consider SFM from the standpoint of the small-scale way of life. At the beginning of market reforms, this approach seemed justified when there was a transformation of land ownership relations and the emergence of new FM: agricultural enterprises (AE). Currently, this approach requires dialectical adjustment, since different FM continue to develop in the conditions of unresolved problems on land relations (Uzun 2020).

If we adhere to the mainstream (or the prevailing concept) of the basic principles of the neoclassical theory of market economy, which continues to dominate the basic disciplines of economic theory and is based on the principles of rational behavior, profit maximization, and personal utility, then it is logical to assert that the FM, as economic entities, perform the functions of firms in the market of goods and services. In this case, FM (as firms) supply food markets and, consequently, changes in the volume of supply and the supply itself (or shifts in the entire supply curve: an increase/decrease in volumes at the same prices) are determined by the same factors that are studied in the supply theory with the neoclassical approach. In the resource markets, the role of FM in the simplest model of circular flows is changing: they demand the main groups of resources (first of all: land, labor, and capital). Finally, from the position of the institutional approach that is quite widespread at present, each type of FM can be considered as a local institution at the micro-level with its built structure (Uzun 2020; Maksimova et al. 2020).

In recent years, the authors have increasingly preferred the methodology of institutional analysis in the context of studying the peculiarities of the influence of formal and informal institutions, the specifics of the impact of which on the transformation processes can be traced most clearly on the example of the agro-industrial sphere of the national economy. It does not exclude the synthesis of an institutional and political-economic approach, since the nature of land ownership and land use relations remains an important dominant in the field of agrarian relations. In general, the use of an institutional approach allows: firstly, establishing the relationship between the resource support of the investment process and the innovations being introduced when improving the ways of organizing the production process using effective contracts; exploring the possibilities of using smart contracts in the new conditions of the digital economy; secondly, carrying out a comparative analysis of the potential opportunities of horizontal integration (for example, in models of production cooperatives) and vertical integration (in models of modern Russian agricultural holdings and agro-industrial clusters), including the use of features of the spatial development of rural areas; thirdly, developing options for scenario modeling of long-term trends in the development of small and large FM, searching for optimal development scenarios (Maksimova 2020; Maksimova et al. 2020).

Special attention should be paid to the emphasis on informal institutions, which are of particular importance at the micro-level of rural territories, and the effects of their impact determine the nature of the activities of SFM in the agro-

industrial sphere of the Russian economy as a whole. A clear example is agricultural enterprises in the Russian economy (AE), as one of the types of small businesses that differ not only from the Western model of farms but also from the "Chayanov" model of peasant farms that was historically established in the pre-Soviet period, based mainly on the use of family labor (Nort 1997). Therewith, the "Chayanov" model of peasant economy also significantly lost its original features during the decades of the Soviet period. When peasant and landowner farms were transformed into collective farms and state farms based on the principles of the common use of means of production and land use, on the principles of collective economic activity (Maksimova et al. 2020).

Logically, there is a transformation of the mentality and motivation of management in the new institutional conditions: from personal interest to the general. However, some signs of the stability of peasant farms, experience, and management practices were preserved at the micro-level of private farm holdings (PFH) in rural areas. Another radical "breaking" of the established economic practices took place by the beginning of market reforms in the last decade of the twentieth century: the reorganization of collective farms and state farms and the return to the practice of SFM. However, it is necessary to take into account that the transition to market methods of management was carried out on a different, transformed platform of the mentality of economic entities.

The fact that a new type of economic entity has been formed in rural areas over the decades of market transformation helps to understand and realize the use of the case method, which in recent years has been increasingly used by analysts in various fields of activity, and in the context of the development of digitalization, including the use of various variants of Internet technologies, this method is logically considered as complementary to the method of field research when studying intermediate results and features of the transformation of different FM (Maksimova et al. 2020).

In this regard, it is worth recognizing the positive effects of professional communities in social networks when studying and analyzing various specific situations: especially when economic entities maintain their professional blog as an exchange of experience, diary entries about their economic activities, share their problems, and opinions on ways to solve them. In modern conditions, this method, when the main information flows are transmitted through Internet technologies, acquires a separate meaning: in fact, the economic entities themselves recognize that Internet technologies become an additional assistant not only for professional communication but also for the exchange of experience, as well as a promotion of their products according to the model: "from the manufacturer to the buyer", for finding suppliers and partners. A detailed analysis of such case situations with feedback opportunities becomes not only complementation but sometimes a substitute for field research (Maksimova 2020).

Analysis of the study: The results of the study of the specifics of FM based on the methodological approach

of comparative analysis of the variability of theoretical approaches and practical realities indicated that there is no unity of approaches. Thus, there are following main types of FM: agricultural organizations (AO), AE, individual entrepreneurs (IE), and individual farms (IF), including personal subsidiary farms. The same approach was used during the first and second All-Russian agricultural censuses (Federal State Statistics Service 2016). The analysis of approaches in the economic literature allows distinguishing a more extended "line" of the typology of modern FM from the position of one or another selected criterion (Chayanov, 1989). Thus, from the position of such a criterion as "the use of hired labor", it is logical to distinguish commodity farms that use hired labor, and family farms that continue to remain the basis for the stability of the rural way of life at the micro-level of rural territories. Interestingly, family farms do not have a clear legal status, and therefore they are not singled out separately by official statistics (Sokolnikova 2021).

The peculiarities of the transformation and evolution of different FM will also be influenced by such a factor as the nature of the use of labor resources from the position of territorial affiliation (the work of local villagers or migrant labor) and the position of the temporary factor (the use of hired workers permanently or the use of seasonal workers). Another important criterion is size. There is its specificity: if the official statistics rank the size of enterprises (economic entities) according to the specified numerical parameters of the number of employees, then the numerical parameters of land areas and acreage are more important in the agricultural sphere of the national economy. For example, large and medium-sized agricultural enterprises can own or lease from several hundred hectares to several thousand hectares of land area and more than 60 employees, receiving all types of rent. Agricultural enterprises with the size of the cultivated land area in the range of up to 100 hectares and with a small number of employees are already referred, as a rule, to SFM (Sokolnikova 2021).

The following criteria are also relevant: the prevailing goals of functioning, which become decisive in the observed processes of deurbanization, which, in particular, are manifested in increased demand for suburban life, suburban farms, and the evolution of economic interests towards the production of eco-friendly horticultural products, vegetables. The criterion of legal registration of economic entities remains relevant: state and municipal enterprises; joint-stock companies; limited liability companies; individual entrepreneurs; peasant (farmer) farms; agricultural production cooperatives (APC), etc. This criterion is of paramount importance in terms of issues of monitoring and control by tax institutions. The presented variants can also be dialectically supplemented. Thus, it is logical to use the criterion of "forms of land ownership and land use" in the system of agrarian relations. Considering separately farms, activities of which are based on a certain nature of land ownership (having land in ownership) or farms activities of which are regulated by the nature of land use (lease relations) could contribute to the theory of rent relations in modern conditions (Sokolnikova 2021).

When analyzing individual FM, the criteria for determining them remain unspecified: for example, there are many questions when clarifying the AE, both from the point of view of conceptual approaches and in connection with some "innovations" in the regulatory framework. For example, in (2020), there were innovations on the part of tax institutions to cancel the registration form of the IE-head of the AE, in which the prefix "head of the AE" was proposed to be removed. This caused a very mixed reaction in professional communities since such an approach would lead to a distortion of the formal signs of the identity of the AE and the possibility of developing a farming lifestyle at the micro-level of rural territories: including an increase in obvious risks when providing targeted state support to farmers. Such regulatory changes form the content of asymmetric information for state institutions when considering issues of targeted support for farmers (Sokolnikova 2021).

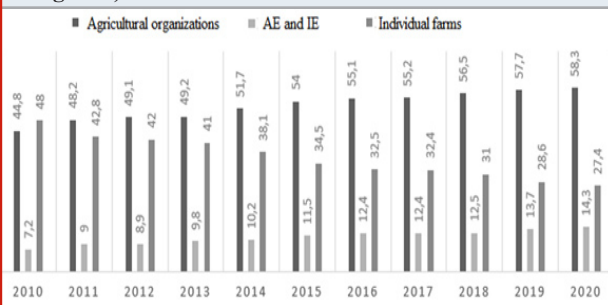
When studying the specifics of the transformation processes of different FM, obvious signals from government agencies are also of interest. Thus, at the end of 2020, the Ministry of Agriculture of the Russian Federation approved a list of system-forming organizations of the agro-industrial complex: 88 organizations are represented in this list together with JSC Rosagroleasing. Of these: 16 – in the field of crop production; 31 – in the field of animal husbandry; 33 – in the field of food and beverage production; 7 – in the field of fishing. Interestingly, most of these enterprises are large agricultural holdings, which include from one to several dozen farms with the legal status of an LLC or JSC. A quantitative analysis of such enterprises as part of agricultural holdings indicates that about 600 economic organizations with the status of LLC, CJSC, etc. are represented in the group of companies in the field of crop production and animal husbandry; 317 – in the food sector; 67 – in the field of fisheries. One more peculiarity: there is practically no AE in the structure of such backbone organizations (agricultural holdings) (Kabanenko 2019).

For comparison: according to the All-Russian Agricultural Census-2006, 36.1 thousand agricultural organizations, 174.8 thousand AE and IE (78% of them are AE and 22% are IE), 23.5 million PFH, and other individual farms were represented in the system of the Russian agro-industrial complex (Uzun 2005). For example, in the field of crop production in the Stavropol Territory, the agro-industrial holding "Eco-culture" is defined as such a system-forming enterprise, which includes 11 farms with the legal status of LLC and one farm with the legal status of CJSC. There are three largest agricultural corporations in the Krasnodar Territory – these are the Agrocomplex Group of Companies: JSC "Agrocomplex Firm" named after N.I. Tkachev", GC Progress: LLC Progress Agro, GC AFG National: LLC AFG National, each of which, in turn, includes up to 10 FM with the legal status of LLC and CJSC.

The current market situation can be considered as an institutional direction of market development through the promotion of large FM, supported by the state (Kabanenko 2019). In turn, a comparative economic analysis of official statistics data shows that despite the orientation at the initial stage of market transformations to SFM, in fact, the share

of AE in the structure of agricultural production, although increasing, is significantly lagging behind agricultural organizations (Figure 1) (Uzun 2020).

Figure 1: The structure of agricultural products by the main FM (in actual prices; as a percentage of farms of all categories).



A comparative analysis over a longer time interval (using 5-year time slices) shows another paradox of the results of market transformation in the agro-industrial sphere: the share of AO in the total structure of agricultural production decreased by only 15% over the 30 years of reform, and the share of IF remained almost unchanged, having decreased by only 1% (Table 1). In addition, at the beginning of the market transformation in 1990, AO were represented by collective farms and state farms, and by (2021), these are enterprises, sometimes even larger, both in terms of land area and revenue (Uzun 2020).

Hence, the obvious question is whether it was worth carrying out radical reorganizations of existing FM if the institutional conditions for creating a competitive environment for the development of small businesses in the form of AE and IE were not created, including, for example, institutions for the implementation of land ownership rights. We are not ready to give an unambiguous answer to this difficult question within the framework of this article and believe that this is the subject of further research: including, possibly, based on using the methodology of cyclical development from the position of criteria for the validity of production concentration and the use of positive effects of the scale of production in the agro-industrial complex (Uzun 2020).

Compiled by the author based on official statistics (Ministry of Agriculture of the Russian Federation 2021). If we carry out a comparative analysis over the past five years, when the dominant character has increasingly begun to manifest itself from exogenous factors, including geopolitical factors and the phenomenon of sanctions confrontation, it can be argued that there are no significant changes in the transformation processes. This is confirmed by the preservation of leading positions in the production structure of large FM and the growth rates of AO and AE are almost at the same level (the share of AO in the production structure increased by 4%, and AE – by 3% against the background of a decrease in the share of personal subsidiary farms in the total production structure) (Figure 2) (Maksimova et al. 2020).

Compiled by the author based on official statistics (Ministry of Agriculture of the Russian Federation 2021). The analysis

of quantitative indicators of the dynamics of output volumes also indicates that the growth rates are significantly higher

for agricultural organizations, which, form the basis of large FM, including agricultural holdings (Figure 3).

Table 1. The structure of agricultural products by the main FM for 1990-2020 (in actual prices; as a percentage of farms of all categories)

FM	Years						
	1990	1995	2000	2005	2010	2015	2020
Farms of all categories							
Of these:	100	100	100	100	100	100	100
AO	73.7	50.2	45.2	44.6	44.8	54.0	58.3
AE and IE	...	1.9	3.2	6.1	7.2	11.5	14.3
PFH and individual farms	26.3	47.9	51.6	49.3	48.0	34.5	27.4

Figure 2: The structure of agricultural products by the main FM in 2015 and 2020

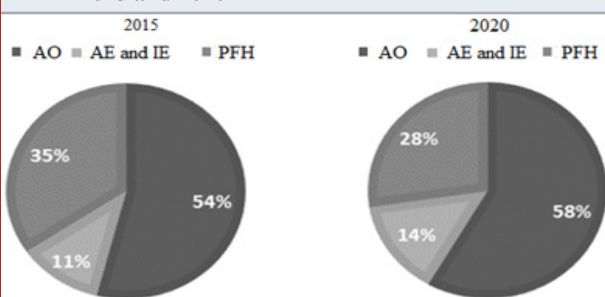


Figure 3. Dynamics of agricultural output volumes for the main FM (in actual prices; as a percentage of farms of all categories)

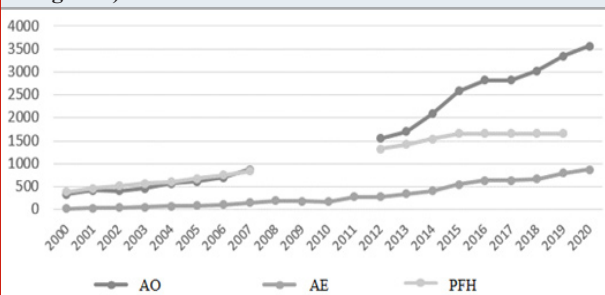
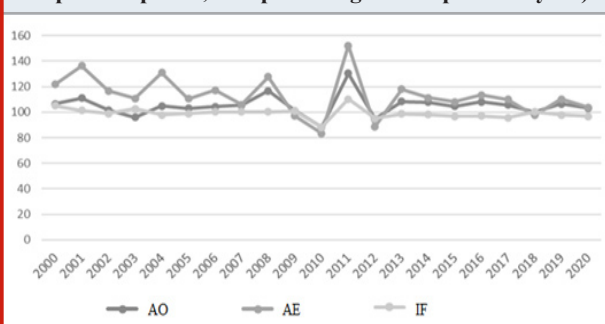


Figure 4: Indices of agricultural production by main FM (in comparable prices; as a percentage of the previous year)



Compiled by the author based on official statistics (Ministry of Agriculture of the Russian Federation 2021). Therewith, if relatively slow growth rates are observed in the first

decade of the 20th century, then a rapid upward leap is evident in the second decade. It seems that these indicators are an indirect sign to confirm the hypothesis not only about the remaining dominant features of large FM but also about their predominant development in the last decade. The "gaps" observed on the graph are evidence of the lack of integrated official statistics data for these years (Maksimova et al. 2020). The analysis of agricultural production indices (without highlighting the analysis of crop production and animal husbandry) for the main FM over the past 20 years indicates the following:

- there is a clear predominance of the growth rates of manufactured products in AE, compared with AO and PFH (Figure 4);
- until 2013, the amplitude of fluctuations in the production indices had been expressed most acutely in AE, while the development rates for AO and IF have a more smoothed character;
- on the one hand, common peak points of decline in 2010 are characteristic for all FM, which once again indicates the importance of the natural and climatic factor in the agro-industrial complex (in particular, with an abnormal drought in 2010);
- there are general peak points of growth in 2011.

Compiled by the author based on official statistics (Ministry of Agriculture of the Russian Federation 2021). It should also be noted that the indices of agricultural production in IF among the general trends are significantly inferior to AO and AE. However, the general nature of the "wave-like" dynamics of agricultural production indices remains stable for AE and AO (Maksimova et al. 2020). Thus, following the results of decades of market transformation, the problems in the system of agrarian relations are stable, which remain obvious internal challenges for the development of a long-term economic policy for further transformations in this area of the economy:

– firstly, it is the lack of unified approaches to identifying the essential characteristics of FM, in general, and determining their unified typology;

– secondly, these are obvious trends in the consolidation of FM into whole integration associations, which are still

not considered by official statistics, and it becomes difficult to carry out a comprehensive analysis of the volumes and production structure of functioning "de facto" agricultural holdings;

– thirdly, the output volumes and their dynamics prevail among agricultural organizations, which is logical to consider as indirect signs of a stable concentration of agricultural production.

A significant feature of recent years is the degree of influence of exogenous factors on the development of the entire agricultural sector of the national economy as a whole, and individual processes of transformation of economic entities. This is also manifested in the constant change of the internal institutional environment, since state institutions react quite quickly to many external factors, constantly developing, changing, and improving both the instruments of state support and dialectically changing the instruments of regulation. Therewith, despite the obvious "signals" about the priority attention "from above" to large market players, there is hope that external shocks as a protracted process of a global pandemic can have a positive effect on the sustainable development of SFM. This is primarily due to increased consumer demands for farm products to maintain and preserve the quality of life. Hence, it can be assumed that the vector of attention will shift to SFM not only from consumers but also from state institutions, ensuring a balance of interests between small and large FM in the long-term period of development while maintaining the dominant position of large farms (Uzun 2020; Maksimova et al. 2020).

CONCLUSION

The findings of the present study suggests that when developing a long-term economic policy for the further transformation of the main economic entities, the forecast of the following scenario modeling options is logical: a conservative scenario that assumes further concentration and oligopolization in the agricultural sector of the national economy; the basic scenario, according to which the existing proportions in the structure of agricultural production are maintained by large and small FM, which, in general, currently ensure the fulfillment of the main targets for food security; the optimistic scenario assumes that the combination of the phenomenon of the impact of the global pandemic with the improvement of state support tools for SFM will increase the level of competitiveness in the production of agricultural products.

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REFERENCES

- Abalkin, LI (2009). Agrarian tragedy of Russia Economic Issues Vol 9 Pages 4–14.
- Bachev, H (2001). Structures for organization of transactions in Bulgarian agriculture Journal of the Faculty of Agriculture of Kyushu University Vol 46 No 1 Pages 123–151.
- Chayanov, AV (1989). In Selected works, Organization of the peasant economy *Economika USSR* Pages 194–443.
- Federal State Statistics Service (2016). All-Russian agricultural census 2016. Preliminary results: Statistical Bulletin ISC Statistics of Russia Russia Page 70.
- Goncharov, VD, Koteev, SV and Rau, VV (2016). Problems of food security in Russia Problems of forecasting Vol 2 No 155 Pages 99–107.
- Kabanenko, MN (2019). Foreign and domestic experience and prospects for the development of forms of management in agriculture *Journal Of International Economic Affairs* Vol 3 Pages 1905–1924.
- Knickel, R and Renting, H (2000). Methodological and conceptual issues in the study of multifunctionality and rural development *Sociologia Ruralis* Vol 40 Pages 512–528.
- Maksimova, EA (2020). In Digitalization of society: state, problems, prospects. Materials of the 7th Annual All-Russian Scientific and Practical Conference, The use of smart contracts in the context of digitalization REU im. G.V. Plekhanov Russia Pages 165-170.
- Maksimova, TP, Bondarenko, TG, Zhdanova, OA, et al. (2020). Developmental factors of agricultural consumer credit cooperatives as an alternative financial institute for Russian agroindustrial complex *Scientific Papers. Series: Management, Economic Engineering and Rural Development* Vol 20, No 3 Pages 353-360.
- Meurs, M (2005). Agriculture in transition: land policies and evolving farm structures in post-Soviet countries *Comparative Economic Studies* Vol 47 No 3 Pages 582-585.
- Ministry of Agriculture of the Russian Federation (2021). The list of system-forming enterprises of the agro-industrial complex of the Russian Federation Available at: <https://mcx.gov.ru/ministry/departments/departament-ekonomiki-i-gosydarstvennoy-podderzhki-apk/industry-information/info-sistemoobrazuyushchie-organizatsii-apk/> (accessed on: 7.05.2021).
- Nort, D (1997). Institutions, institutional changes and the functioning of the economy Fund of economic book Nachala Russia.
- Shagaida, NI (2020). Assessing the size of agricultural holdings *Voprosy Ekonomiki* Vol 10 Pages 105-116.
- Sokolnikova, IV (2021). The impact of state support programs on the development of the agricultural sector of the Russian Federation] *Bulletin of the Altai Academy of Economics and Law* Vol 3-1 Pages 96-104.
- Uzun, VYa (2005). Large and small business in Russian agriculture: market adaptation and efficiency *Rosinformagrotech Russia* Pages 7-10.
- Uzun, VYa (2020). Bankruptcy of the agricultural holding: causes, consequences, lessons (The case of Eurodon) *Voprosy Ekonomiki* Vol 10 Pages 117-131.