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TOWARDS SUSTAINABLE DEVELOPMENT VIA INTEGRATION OF ECONOMIC SECTORS: A CASE STUDY

**Zhanara Y. Yesilbayeva [1], Marina Y. Anokhina [2],
Gulnar K. Joldasbayeva [3], Dariko K. Balakhanova [4], Galina M. Zinchuk [5]**

[1,3]*Almaty Technology University, 100, Tole bi, 050012, The Republic of Kazakhstan*
[2,4,5] *Plekhanov Russian University of Economics, 36, Stremyanny lane, Moscow, 117997 Russian Federation*

Abstract. The aim of the study is to develop the mechanism of integration in the agro-industrial complex (AIC) of Kazakhstan as a basis for ensuring the efficiency of agricultural production in the country. In methodological terms, using classical approaches to the definition of economic integration, the authors interpret this phenomenon as a process of mutual adaptation of economic entities. This methodological position allowed, taking into account the specifics of agricultural production and regional features, to prove the impact of integration mechanisms on the efficiency of Kazakh AIC. Accordingly, the concept of increasing the efficiency of agricultural production in the republic creating agro-industrial integrated formations (AIIF) is proposed. The result of the study should consider the algorithm of AIIF creation and the economic mechanism of its functioning, ensuring the interest of counterparties in increasing the efficiency of joint activities.

Keywords: agro-industrial complex; Kazakhstan; economic integration; agro-industrial integrated formation; economic mechanism; efficiency of agricultural production

1. Introduction

Modern theory and practice of integrated relations development should be based on an objective assessment of the essence of ongoing processes and their inherent economic categories in the light of the doctrine on material production taking into account natural, economic, social and other conditions.

Issues of integration processes' influence on the economic development of AIC are in the focus of attention of economists, politicians, and practitioners. The complexity of assessing the integration effect in AIC is determined by the fact that the main and obligatory link in the integrated structure is agriculture, which is quite specific in its technological, technical, organizational, social and natural conditions. One of the main requirements that should

meet the cooperation of the integrated formation participants is to achieve results from joint activities exceeding the previous ones obtained before participating in the integration. But these results need to be assessed not only from an economic point of view (although the economic result in the conditions of market relations is decisive), but also taking into account leveling of social differentiation and provision of food security. These aspects in assessing the role of agro-industrial integration in ensuring the efficiency of AIC, in our opinion, are the key ones.

Modern agrarian economy is characterized by reduction of the resource base, high demands of consumers to the quality of agricultural products, increased competition both in regional and world food markets. Economic integration as a process of mutual adaptation of economic entities of the agro-food market allows due to the general synergetic effect when using the joint agrarian potential of counterparties, to ensure the dynamic development of the country's agricultural sector and to achieve a high level of agro-industrial production efficiency. The object area of research was the agro-industrial complex of Kazakhstan. The subject of research is economic relations related to ensuring the efficiency of agricultural production in the region based on the integration mechanisms usage.

1. Theoretical basis

Theory and practice of integration processes development in the economy, substantiation of efficient forms and models of integrated structures in evolutionary terms enjoy quite extensive methodological base. First of all, the neoclassical theory should be highlighted, there the problems of vertical integration and justification of expediency of a single enterprise in the conditions of technological interdependence of final product manufacturing processes were studied (Bain, 1968; Clarke, 1985). Neoclassics noted the reduction of marginal costs of integrated enterprises as a source of their competitive advantage to produce more products at lower prices (Greenhut & Ohta, 1979).

The neoclassical analysis also pays considerable attention to the study of the vertical integration impact on the creation of entry barriers for new actors in certain markets. It is shown that if one of the firms before vertical integration had a monopoly on any rare resource, then, integrating forward, they will complicate the entry of new firms to the stage of final product manufacturing. Scherer and Ross (1997) also noted that vertical integration increased barriers to the emergence of new firms because of the increased need for financial resources. Additional barriers also arise from vertical mergers, which may create negative conditions for non-integrated firms such as price discrimination, poor services, supplies rejection.

Evolutionary theory largely expanded the possibilities of modeling the economic systems development from existing equilibrium positions to new quasi-equilibrium states, it also expanded the horizon of research in the evolution of organizational forms and institutional changes. The formal framework of nonequilibrium and irreversible evolutionary processes is the theory of nonlinear systems self-organization. Economic systems are an example of self-organizing systems whose important feature is the effect of competition. In fact, any orderly structure is a consequence of competition. As a result of the final selection, it appears as the dominant technology in the new technical-economic paradigm. A group of economic agents united by a particular technology has a single genotype. Around each technology a specific institutional infrastructure is formed, the institutions of which "coevolve" with technology. In this framework, studies by L. Prahalad and G. Hamel (2001) should be considered as they defined the possibilities of forming the root competencies of corporations as integrated structures.

The neo-institutional approach to the study of integration processes in the economy focuses on identifying incentives for integration and their impact on the efficiency of the integrated link (Williamson, 1990). The integrated corporate structure is considered not as a separate company but more as a system of economic entities interaction. The main problem of studying the firm is the explanation of the phenomenon of an integrated structure emergence, its development and, ultimately, disappearance.

The theory of transaction costs is a classic approach to the study of integration and as a tool of disclosure of the decisive factors of an economic organization efficiency, it uses the comparative contracting. Coase (2001) in his article "The Nature of the Firm" (Coase, 2001, p. 53) explores the reasons for the production integration. Firm's size boundaries in the market exchange conditions are determined by minimization of transaction costs in comparison with average market costs. "The firm will seek to expand until the costs of arranging additional transactions within the firm are equal to those of performing the same transactions by means of exchange in the open market or the costs of setting up another firm."

Williamson (1994) developed the idea of R. Coase on the reduction of transaction costs within an economic entity and justified as the most important integration parameter in comparative assessment the degree of specific assets, to which he attributed the specificity of location, physical assets, human capital, and targeted assets. Later on, these types of specific assets were extended to include investment in the creation of a brand and the temporal specificity that arises in the technological interconnectedness of the parties, when the timely mobilization of human resources is vital (Williamson, 1996). Provided that the interacting parties are promising and profitable, taking into account a significant degree of the assets specificity, their contractual relationship may be transformed into a relationship of mutual participation in the capital that is integration becomes more preferable.

North (1997) introduced an "extended" concept of transaction costs which included not only the costs of production and handling, but also the costs of using appropriate coordination mechanisms, determined to a large extent by the institutions together with the technologies applied. Which economic institutions are established and in place — rules and frameworks for business structuring — ultimately define the nature of the links and relationships between economic units.

The property rights theory expands the possibilities of integration processes analysis. The main theses of the property rights theory are based on the following fundamental principles:
- Ownership rights determine what costs and rewards agents can expect for their actions;
- Restructuring of property rights leads to shifts in the system of economic incentives;
- Reaction to these changes will be the changed behavior of economic agents.

Thus, it can be argued - from the point of ownership theory - that the structure of ownership rights affects the allocation and use of resources. While in the traditional sense ownership is regarded as an absolute right to resources, the property rights theory affirms the opposite - it is wrong to equate property with material objects, it represents "bundles" of rights to the relation of actions with these objects: use them, assign income thereof, change their form and location.

In the theory of economic organizations, the firm is considered through the prism of the transaction approach, as a network of contracts, a system of processing and transmission of information, a structure to ensure economic power and control over property objects. Research has focused on the search for efficient forms of inter-firm relations that take the intermediate position between a purely market relationship and an inter-firm organization. Defining the essence of the transactional approach to the problem of vertical integration, it is noted that integration should be selective, because a high degree of integration is not always the best solution (Williamson, 1996).

The range of issues in agency agreement theory considered in relation to integration is known as the "agent-principal problem" (The problem can be called "outsider-insider problem" or "engager-executor problem"). The basic model of this theory, which formalizes the concept of corporate governance, was developed by Jensen and Meckling (1976). Separation of property from control in large integrated structures creates a conflict of interest between owners and managers. Therefore, the growth of the organization forces the principal to move to the complex power relations scheme delegating part of the authority to control agents to his representatives.

Therefore, as the firm grows, its efficiency may decrease - "diminishing marginal management efficiency" (Coase, 2007).

Exploring modern approaches to the study of economic integration, it should be noted that its methodological base constitutes the synergistic theory of mergers and its alternatives: agency theory of free monetary flows and theory of pride (Tsvetkov, 2011). The latter, although they focus on such an essential factor of any corporation functioning as a factor of interests differentiation of different groups involved in the integrated formation management, but they do not explain the reasons for the formation of corporate structures other than simple mergers of companies. Therefore, a corporation as a form of integrated structure is defined as an alternative to merger. The formation of corporations is due to the compromise of insiders and outsiders interests in the management of companies that find themselves depending on the central element and seek to take advantage of all the benefits of integration while maintaining a certain degree of autonomy.

Large integrated structures as a strategic resource actively use economic power. Therefore, the theory of economic power, taking into account the volitional component in the actions of economic entities, is considered as basic in the analysis of integration processes (Movsesyan, 1998; Galbraith, 1983). Within the framework of the integrated formation, the relationship of power consists of four components: the organizational power of each counterparty's management; the power of the central element over other constituent parts of the integrated structure; market power and power in social and economic systems of the most integrated formation. Therefore, in such a specific power space, the central element of the integrated formation controls the main aspects of the functioning not only of counterparties, but also of all economic agents related to its activities.

An important role in the study of integrated structures from the point of view of their interaction with the external environment is played by developments in the field of industry and branch economy organization theory (Scherer & Ross, 1997). The role of integrated structures in the country's economy as complex phenomena, according to the authors, is implemented by them insofar as they include banks, industrial companies, etc. At the same time, some authors associate the integration development with the desire of the world economy to "increase the level of systematic" (Kazakov, 2000). In the most recent years plethora of studies on clusters (e.g. Monni et al., 2017; Tvaronavičienė, 2017; Razminienė, Tvaronavičienė, 2018; Petrenko et al., 2019; Tvaronavičienė, Razminienė, 2017; Amraoui et al., Bublienė et al., 2019; Razminienė, Tvaronavičienė, 2017; Sarma et al., 2019) stemmed from classic foundations presented above.

2. Methodology of management of integration processes in agro-industrial production

The concept of integration from a methodological point of view is rather complex and multidimensional in nature. It can be interpreted from the perspective of three main approaches reflecting different components of the essential characteristics of this phenomenon.
1.   Process approach - integration as a process.
    Integration is the process of connecting parts into a single unit. This component determines the volume and intensity of relationships between the elements in the whole.
2.   Structural-functional approach - integration as a state, as a result. This component characterizes the way of joining parts into a single unit, determines the features of building holistic integrated structures.
3.   Content approach - integration as a mechanism. This component determines the nature of the interaction of the parts in the whole and ensures the development of the system as a whole.

On the basis of philosophical understanding of the integration process essence without denying or criticizing any of presented definitions since in each particular case, taking into account the development conditions, there is

certain logic and importance of the noted specific aspects of this phenomenon, the following definition can be given to reflect the objectivity of the ongoing social and economic processes at the current stage.

Economic integration is a process of individual economic entities mutual adaptation, leading to the formation of orderly relations system between them. The orderly relations system between economic entities is characterized by the presence of more or less long-lasting ties, strictly regulating the actions of participants in the implementation of common tasks and contributing to the institutionalization of their activities (Anokhina, 1998).

In practical terms, the concept of integration reveals complex real processes of social production and the corresponding relations and connections. With regard to integration in view of the whole system development, the "connection" can be qualified: by its content, which is the subject of connection; by its main forms; by its type and strength of the processes taking place; by its nature, direction of action and counteraction; by the degree of the organizational systems integrity, etc.

It is possible to assess the state and to outline trends in the development of economic integration, to distinguish subjective factors from objective factors on the basis of identification and study of its regularities. At the present stage of economic integration development, it is possible to speak about the following key patterns of its development.
  1. Nature of the integration subjects determines the nature of the integrated relations between them.
  2. Influence of formation conditions of integrated relations on their character.
  3. Relationship between the form and content of integrated connections.
  4. Restriction of integrated interaction forms with unlimited subjects of integration.
  5. Properties of the integrated structure differ and qualitatively exceed the sum of the properties of its elements, subjects of integration.
  6. The integration development regularity.
  1). The process of integrated structures development, characterizing their life cycle, is natural.
  2). It is natural to ascend from the simplest forms of interaction to more complex (the pattern of the interaction form evolutionary development).

Research in the field of agro-industrial integration has a sufficiently broad theoretical and empirical basis. In the current context of globalization, studies of integration problems are becoming relevant both at the regional and at the international level. The development of integration processes in agro-industrial production within the framework of the EEU market was investigated by Rau (2017), Marwa et al. (2017). Assessment of integration processes in the Eurasian Economic Union (EAEU) was conducted by Siptits, Romanenko, Evdokimova (2018).

Integrated formations with all variety of forms, their possible intertwining, and convergence from the point of view of organizational design can be classified into eight different types (Table 1).

When creating an integrated formation, there is usually an integration effect that makes the integration of different units into a common system mutually beneficial and cost-effective. The integration effect can be defined as the sum of all the benefits of an integrated entity for each participant, including marketing, technology, information, economic and financial components — benefits that would not be possible to derive from the fragmented functioning of the participants.

There is no single methodology for measuring this indicator, as determining the feasibility of creating an integrated formation is a rather complex task. Existing conceptual approaches to the integration effect determining are characterized by the following features.

1. Transactional cost approach. It focuses on the possibilities of different forms of the economy by bringing order to the market behavior of individual firms through the conclusion of long-term contracts governing joint activities.

2. Competitive advantage approach. It has been very popular since the 1980s. According to this approach, integration solutions should be aimed at achieving long-term competitive advantages of the company.

3. An approach focusing on the potential of mutually beneficial long-term business relations. In this case, the signs of efficient integration can be the following: development of the mutual connections and relations system within the group, intensive exchange of financial, personnel, information resources, the sustainability of the financial position of the company.

4. The approach based on the theory of financial management. The focus is on synergies, the availability of operational savings through the elimination of management functions duplication and centralization, and the other benefits of the production expansion, diversification and the exchange of financial resources.

5. The approach related to the specifics of the interaction between shareholders and managers. The main goal is to align the actions of the corporate managers and owners.

6. Approach with emphasis on the "main banks phenomenon". The integration effect appears due to close connections with banking structures, which allows participating enterprises to better navigate the financial market, more accurately predict financial flows and optimize financial and economic policy.

Each of these approaches takes into account mainly only one of the sides of integration, focuses on individual processes. However, integration processes are very multifaceted and manifest in different ways, which should be taken into account when assessing the integration impact. It is possible to formalize the process of determining the integration effect using the following formula (Kirilenko, 2001):

$$Se = Ee + Es + Eo - En, \qquad (1)$$

where: Se - synergic effect;
Ee - effect of economic properties;
Es - effect of social properties;
Eo - effect of other properties;
En - effect of negative properties.

If the formula gives a positive result, this means that the integrated formation has happened; if the result is negative, the situation is doomed to challenges, or even to complete failure. The closer the sum of the total effect to the annual revenue of the integrated structure, the more stable it is, more efficient.

3. Results

The problems of increasing the efficiency of agro-industrial production in Kazakhstan based on the development of integration processes are revealed in the works of such republics as Bajdurin (2010), Tireuov (2011), Zhunusov and Bel'gibaeva (2012), Joldasbayeva and Yesilbayeva (2017), Joldasbayeva and Esaidar (2018), Daribayeva and Anokhina (2019).

The need to ensure the food security of the country, to meet the food needs of the population and to address social problems puts the task of increasing Kazakh AIC efficiency in the priority list. Without highly efficient and competitive agro-industrial production it is impossible to solve many primary and strategic tasks for the development of the socially oriented economy of the country and to form a civilized agri-food market. In the republic on January 01, 2018, the number of agricultural formations amounted to more than 200 thousand units, of which 94.0% or 187.9 thousand were small peasant (farm) households. In the structure of the gross agricultural output of the country, these farms occupy 27.1% (Table 2).

Table 1. Classification and characteristics of integrated formations in AIC

Classification features	Organizational forms of integrated formations								
	Strategic alliances	Consortia	Clusters	Associations and unions	Consumer cooperatives	Financial participation	Holdings	FIG	Full merger
Principles of joining	Associative					Agglomerative			
Characteristics of economic activities	Non-commercial	Commercial	Depends on participants' choice	Non-commercial		Commercial			
Legal entity status	Preserved								Lost
Degree of rigidity of internal connections	Non-rigid connections			Medium-rigid connections					Rigid
The right of participants to join other groups	Have the right to participate in other groups					For financial institutions without the right to participate in other groups			Without the right to join other organizations
Management subjects	Centralized management bodies (possible)			Meeting of cooperative members		Participating companies	Centralized management		Basic subject of integration
Management tools	None			Membership in the cooperative		Stock of shares			Administrative
Completeness of life cycle stages	Production, scientific and production, agro-industrial, commercial and industrial								
Degree of diversification of production	Product diversification is possible			Products are related to sales and technology		Possible wide diversification of production			Technologically connected production
The time frame of the formation existence	Limited by the implementation of joint works	Unlimited							
Possibility of implementing a single investment policy	Not possible		Possible	Not possible			Possible		
Sectoral level of integration	Intereconomic, intra-industry, intersectoral								
Sectoral level of integration	District, regional, interregional, national, transnational								

**Table 2.** Structure of gross agricultural output of Kazakhstan (2013-2017 average)

Indicators	Cost of gross agricultural output, billion tenge	Structure of gross output in terms of categories of farms, %
Gross output of agricultural, forestry and fishery products (services) - total	3447.7	100
of which:		
agricultural enterprises	751.4	21.8
individual entrepreneurs and peasant or farm households	932.7	27.1
population households	1763.6	51.1

Source: Ministry of National Economy of the Republic of Kazakhstan. Committee on Statistics, n. d.

The study of the problem of Kazakh AIC efficiency ensuring (Fig. 1) allowed to substantiate the integration processes development in the form of agro-industrial integrated formations (AIIF) as one of its solution directions.

Agro-industrial integrated formation (AIIF) is a long-term agreement on cooperation of independent economic entities in the sphere of agro-industrial production related to the general process of added value formation and establishing relationships that provide a synergistic effect in the form of added value for agricultural products consumers. AIIF model (Fig. 2) is built taking into account the following provisions:
- the main idea of forming integrated structures in the AIC is based on the technology of business process management to form a value chain for the consumer of agricultural products taking into account maximizing the regional potential of agro-industrial production;
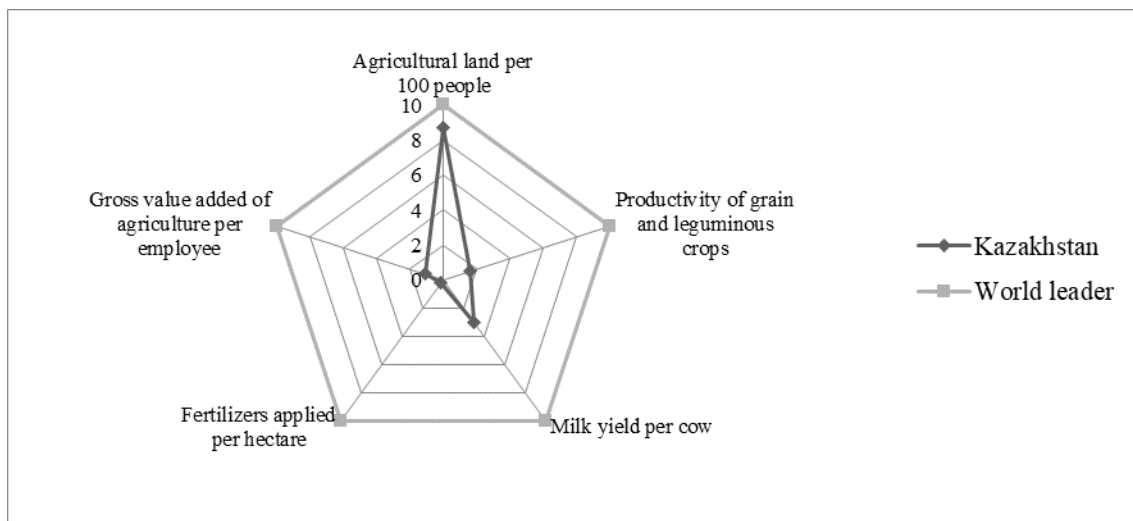
Source: FAOSTAT, n. d.; The World Bank, n. d.

Figure 1. Evaluation of Kazakh AIC efficiency in comparison with the world leaders of the agro-food market
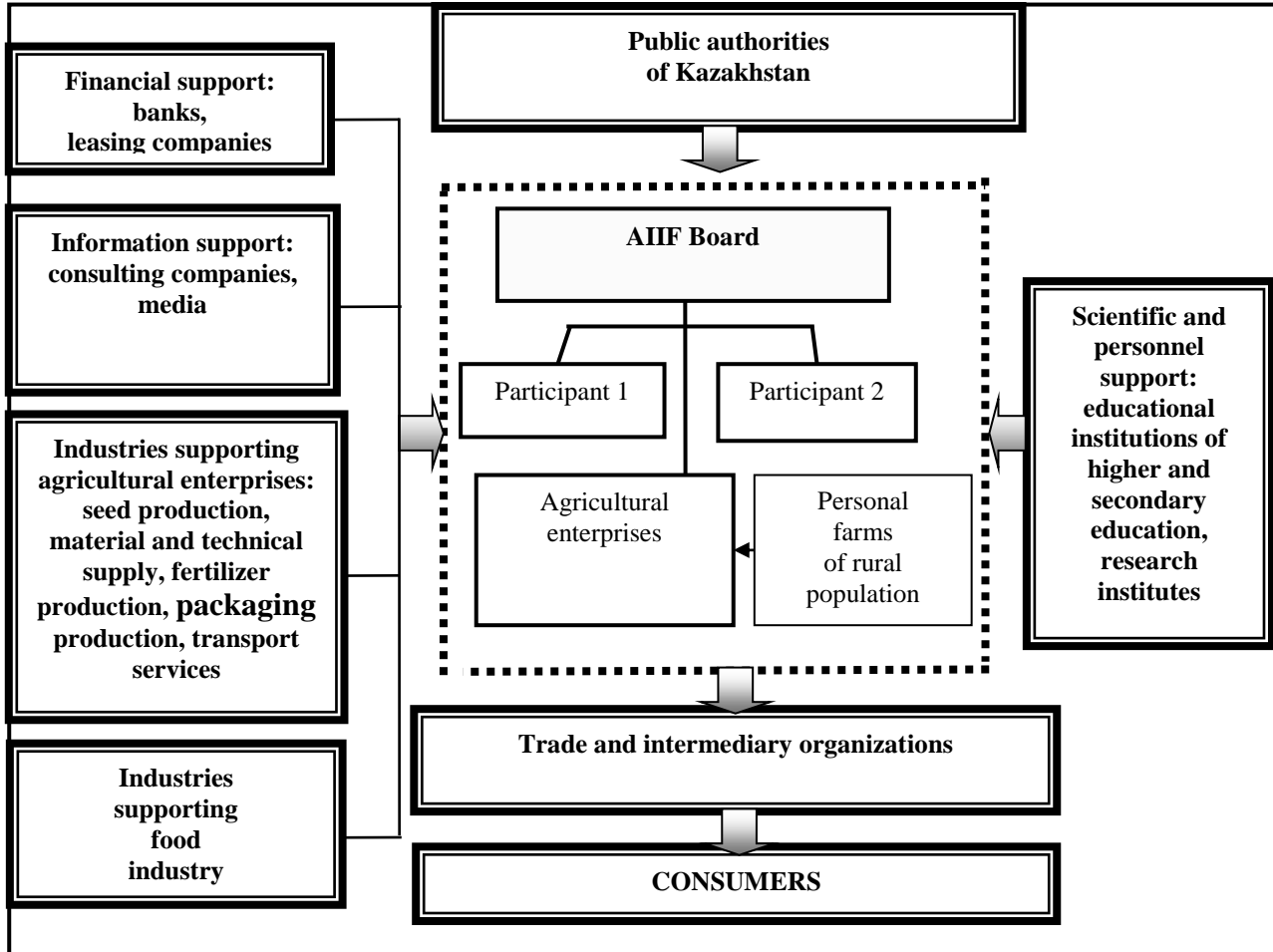

Figure 2. Model of agro-industrial integrated formation in Kazakhstan

- AIIF activity should be focused on the agro-industrial products manufacturing, ensuring the balance of food in the region due to its demand both within the region and beyond its limits. Thus, the main purpose of the integrated formation is implemented as a tool to increase the efficiency of production in the country, taking into account the factor of social responsibility of market participants;

- core (key sector) of agro-industrial integrated formation is formed at least by two firms able as a result of interaction through synergistic effect to produce competitive products. Most often, they are processing enterprises, the joint activity of which represents the final stage of the business process to create value for the consumer;

- AIIF includes agricultural enterprises (raw materials sector) whose activities at the initial stage of the business process through the production of competitive agricultural raw materials determines the well-being of the whole integrated formation;

- AIIF structure has a flexible character allowing depending on its objectives to change the composition of participants of feeding and supporting blocks, keeping intact the core and raw materials sector integrated formations;

- AIIF stability and efficiency of its activity is determined by the possibility of maximizing the synergistic effect from mutually supplementing internal capabilities of the integrated formation participants and the state of the business climate as a set of external factors forming its functioning conditions, among which, due to the specifics of agricultural production, the dominant role is played by the public authority bodies in the region. These provisions allowed to substantiate the concept of increasing the efficiency of Kazakh AIC on the basis of agro-industrial integrated formations creation (Fig. 3).
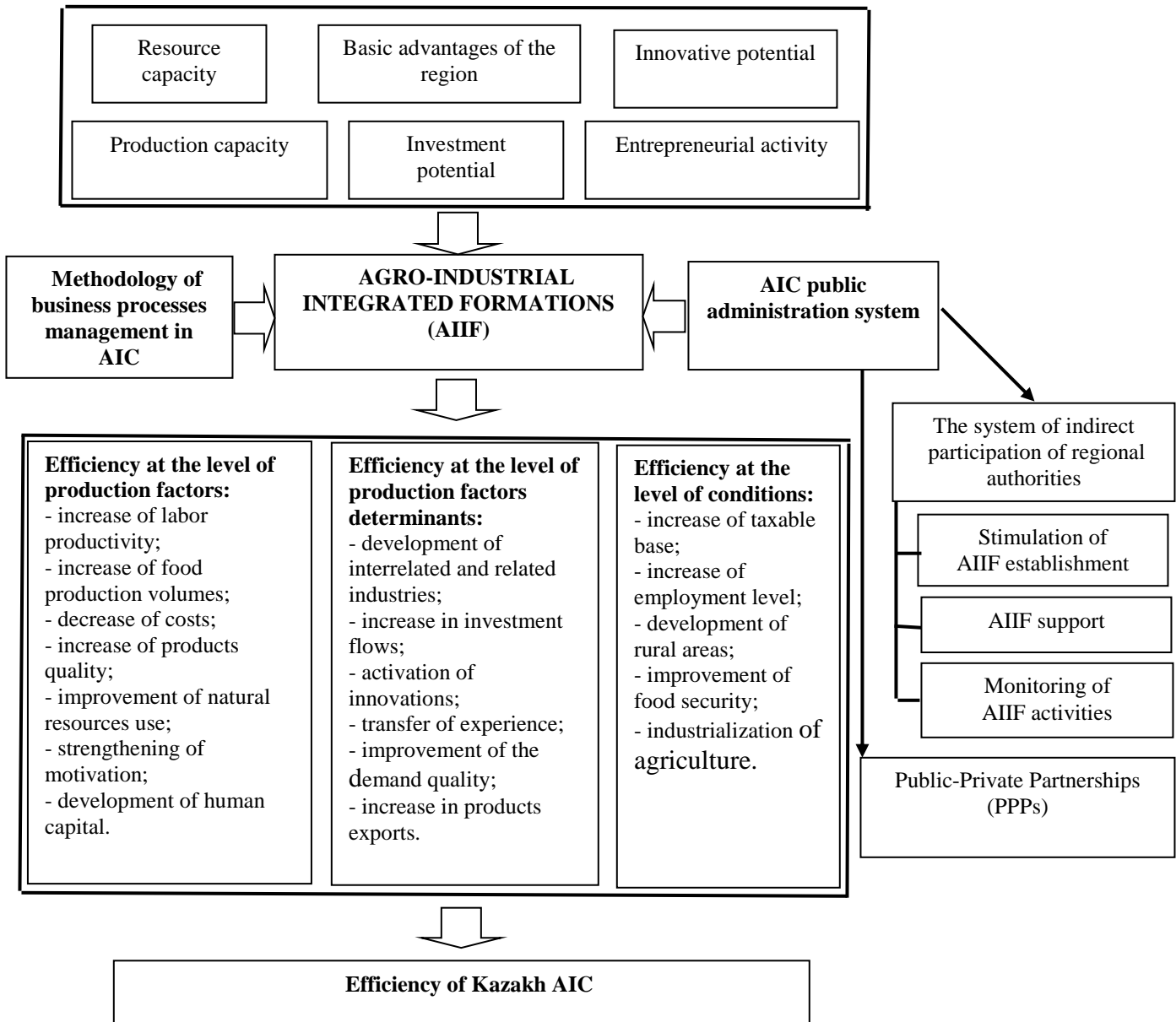

Figure 3. Concept of increasing the efficiency of Kazakh AIC on the basis of agribusiness integrated formations creation

The low level of sectoral attractiveness of agricultural production necessitates the formation of motivating conditions for the participants of the key sector of AIIF, which should be determined by the public authorities depending on their participation nature in the establishment and functioning of integrated structures. Two options for such participation are proposed.

The first option is based on the system of integration processes public regulation in the region and includes three areas of action for public authorities: to encourage, support and monitor the establishment of AIIF.
The second option is a Public-Private Partnership (PPP) as an institutional and organizational alliance between government and agribusiness, based on a joint project financing.

When creating AIIF in the region, it is necessary to take into account the agro-industrial potential of the integrated structure territories, which assumes the following actions (Fig. 4).
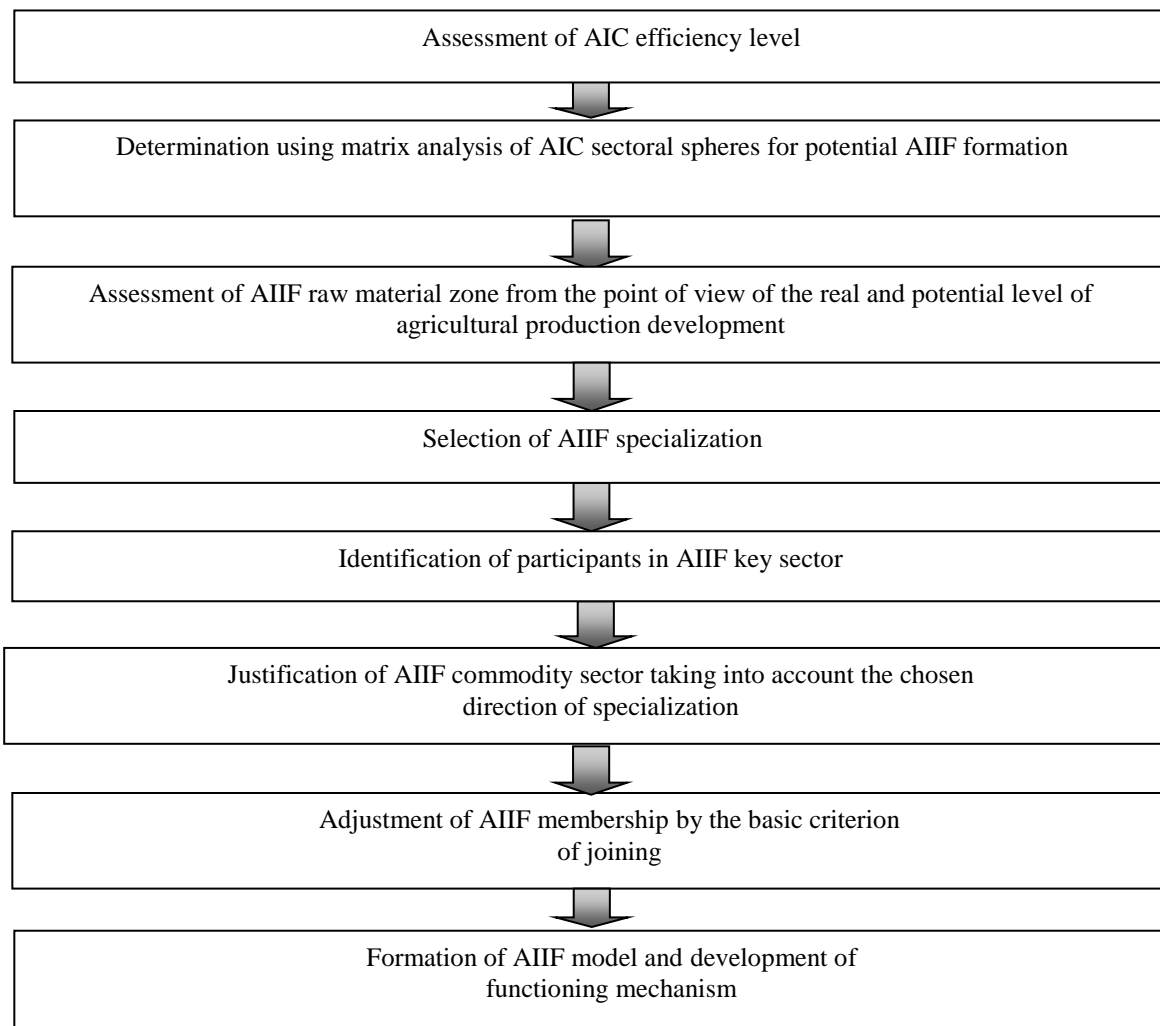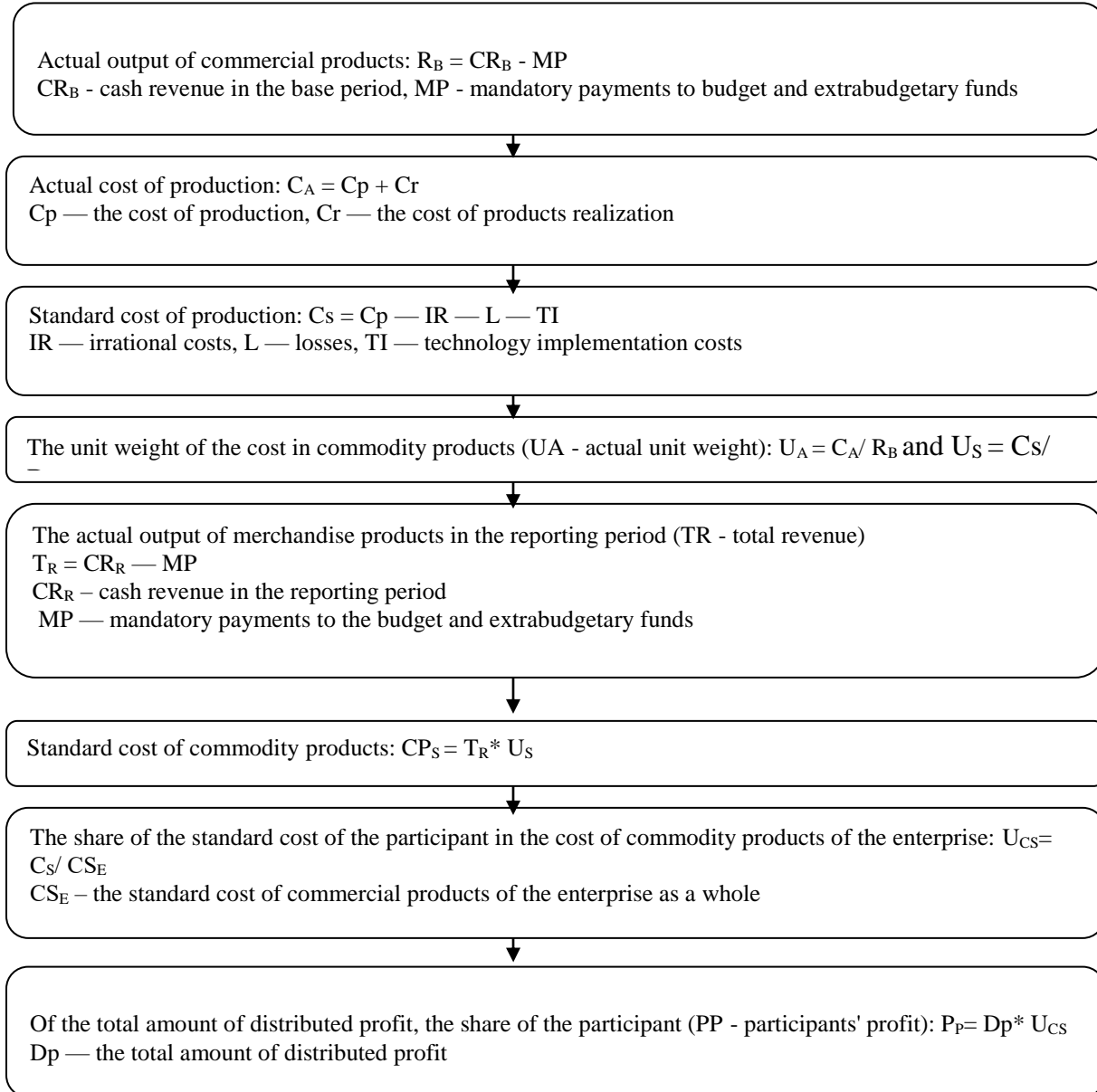

Figure 4. Algorithm of AIIF creation in Kazakh AIC

The fundamental moment determining the economic relations between AIIF participants is the relationship regarding the distribution of joint activities final result. When constructing the optimal mechanism of profit distribution, it is necessary to take into account that the needs of the counterparty should be met within the profit actually earned by this economic entity in as part of the integrated formation. The optimal distribution of profits between the enterprises that are part of the AIIF is the distribution of the total profit in order to determine the value of the objective profit that the enterprise earns, being an integral part of the integrated formation. Therefore, the share of profit obtained as a result of the optimal distribution must reflect the real performance of the enterprise within the association and be an objective value, appropriate to market conditions. Therefore, in order to distribute profits, it is necessary to compare the total amount of the stated expenses for all enterprises. Within the framework of the proposed AIIF model, it is possible to distribute the received profit from the sale of finished products or services on the basis of standard cost (Fig. 5).

The question of replenishment of funds of the single development fund is quite complex, but in general it is reduced to the following sources:
- entrance fees from participants;
- deductions from the profits of each of the partners in the association;
- dividends on securities of enterprises that are not partners in the association;
- incomes from the sale / rental of property purchased with the funds of the development fund;
- borrowed funds, subsidies, subventions from the government;
- payments from insurance companies;
- interest on sight deposits and deposits of funds to various banks.

Actual output of commercial products: $R_B = CR_B - MP$
CR_B - cash revenue in the base period, MP - mandatory payments to budget and extrabudgetary funds

$\downarrow$

Actual cost of production: $C_A = Cp + Cr$
Cp — the cost of production, Cr — the cost of products realization

$\downarrow$

Standard cost of production: $Cs = Cp — IR — L — TI$
IR — irrational costs, L — losses, TI — technology implementation costs

$\downarrow$

The unit weight of the cost in commodity products (UA - actual unit weight): $U_A = C_A/ R_B$ and $U_S = Cs/$

$\downarrow$

The actual output of merchandise products in the reporting period (TR - total revenue)
$T_R = CR_R — MP$
CR_R – cash revenue in the reporting period
MP — mandatory payments to the budget and extrabudgetary funds

$\downarrow$

Standard cost of commodity products: $CP_S = T_R* U_S$

$\downarrow$

The share of the standard cost of the participant in the cost of commodity products of the enterprise: $U_{CS}= C_S/ CS_E$
CS_E – the standard cost of commercial products of the enterprise as a whole

$\downarrow$

Of the total amount of distributed profit, the share of the participant (PP - participants' profit): $P_P= Dp* U_{CS}$
Dp — the total amount of distributed profit

Figure 5. The scheme of profit distribution in AIIF on the basis of standard cost of products

It is advisable to make deductions to a single development fund from proceeds from sales of all products. It is possible to use two options of deductions: the first involves the payment of a fixed contribution, the amount of which is determined by the AIIF Board and depends on the financial position of the participant and its participation in the activities of the integrated formation. The second option is to establish a standard of contributions to a single fund:

$$C_{DF} =1/ S_C \qquad (1)$$

C_{DF} – the rate of contributions from profits to a single development fund,
S_C — the share of enterprise costs in the total structure of costs for the production of final products.
All AIIF participants may be entitled to receive payments from the fund under the following conditions:

- free of charge;
- on a return basis (in the form of interest-free loan or with a certain interest).

All decisions on the allocation of payments from the fund are made by the AIIF Board.

Thus, the presented conceptual provisions on the creation and functioning of AIIF are aimed primarily at:

- rational use of resources in the country - land, material, human, etc.;
- increase of the interest of economic entities in the development of agro-industrial production of the country;
- increase of AIC efficiency.

4. Discussion

The developed methodological foundations of economic integration taking into account the specifics of agricultural production were used for solving the problems of increasing the efficiency of agro-industrial production in Kazakhstan. The authors substantiate the possibility of applying any form of integration depending on the specific conditions, which is confirmed by the "niche theory", assuming the presence of many forms and the use of any of them where it will be more efficient than any other.

Peculiarities of the agribusiness create specific differences in technology, scale, location, and organization of agricultural production, which have fundamental differences from identical processes in other sectors of AIC, which is the reason for finding the most optimal form of intersectoral relations in each particular case.

An important determining point in the development of integration processes in the agro-industrial sphere is that at the macro level agricultural production does not fit into the modern model of the market economy. The essence of this problem is the following:

1. Growth in demand when incomes for non-agricultural products are increasing compared to the demand for agricultural products.
2. The downward trend in agricultural prices relative to other prices.
3. Low labor mobility for agricultural workers.

Together, these factors cause the peculiarity of the integration processes development in agro-industrial production, manifested in the need to adapt agriculture to market economy conditions. Therefore, it is possible to argue the positive impact of economic integration mechanisms in agricultural production on the efficiency at various organizational levels. It should be noted, however, that many of the disadvantages of agro-industrial integration should be seen as development diseases, which should be overcome as competition becomes more competitive and new forms of cooperation focused on innovation and progressivity appear.

However, the methodological discussion here is related to the question of assessing the effect of economic integration. At the moment, there is no comprehensive approach to assessing the integration effect taking into account all its aspects. Using known approaches, it is impossible to uniquely assess the efficiency of integration processes, accurately determine the value of the effect, let alone the management of these processes. In addition, it is often very difficult to understand whether there is any sense in creating an integrated company in general or departments are better to function independently. All these characteristics testify to the particular relevance of the problem.

Conclusion

The results of the study confirm the scientific hypothesis about the impact of economic integration on the efficiency of agro-industrial production. Using the example of agro-industrial complex of Kazakhstan we have proved the expediency of integration mechanisms usage in the management of agrarian production efficiency in the country. Thus, we can confirm that the goal of the study was achieved.

The presented scientific materials allowed to develop the concept of agro-industrial integration in terms of clarification of the economic integration essence, formulation of integration processes regularities and evaluation of efficiency thereof.

The developed conceptual model of increasing the efficiency of Kazakh AIC based on the formation of agro-industrial integrated formations demonstrates the advantages of the proposed recommendations, because it allows in a systematic format to manage the industrial complex at the level of factors, determinants, and conditions of agricultural production.

The model, algorithm of creation and mechanism of AIIF functioning, taking into account the specifics of agricultural production of Kazakhstan, proposed by the authors, are focused on the maximum use of agricultural potential country and increase of AIC efficiency in the long term.

Further research in the field of economic integration methodology and integration mechanisms improvement in the agrarian sphere requires the development of a pilot AIIF project with the aim of pilot testing of proposed approaches efficiency.

References

Amraoui, B., Ouhajjou, A., Monni, S., El Amrani El Idrissi, N.. Tvaronavičienė, M. (2019). Performance of clusters in Morocco in the shifting economic and industrial reforms. *Insights into Regional Development,* 1(3), 227-243. https://doi.org/10.9770/ird.2019.1.3(4)

Anokhina, M. E. 1998. *The Economic Mechanism of Agro-Formations*. Ph.D. thesis. Plekhanov Russian University of Economics, Moscow.

Bain, J. S. (1968). *Industrial Organization*. 2nd ed. New York: Wiley.

Bajdurin, M. S. (2010). *Экономический механизм развития интеграционных процессов в АПК Республики Казахстан [Ekonomicheskii mekhanizm razvitiya integratsionnykh protsessov v APK Respubliki Kazakhstan]*. Ph.D. thesis. Kazahsk. nacion. pedagog. un-t im. Abaja, Almaty, 2010. Retrieved from http://referatdb.ru/ekonomika/22496/index.htmlti

Bublienė, R., Vinogradova, I., Tvaronavičienė, M., Monni, S. (2019). Legal form determination for the development of clusters' activities, *Insights into Regional Development,* 1(3), 244-258. https://doi.org/10.9770/ird.2019.1.3(5)

Clarke, R. (1985). *Industrial Economics.* New York: Blackwell.

Coase, R. (2001). *The Nature of the Firm*. Moscow: Business.

Coase, R. (2007). *The Firm, the Market, and the Law: collection of articles*. Moscow: New Publishing.

Daribayeva, E. B., & Anokhina, M. Y. (2019). The formation and development of clusters as a mechanism for ensuring the competitiveness of agricultural enterprises. In *Organizational, managerial and socio-cultural innovations in the development of the digital economy and e-*

education systems (pp. 210-216). Moscow: KnoRus.

FAOSTAT. (n. d.). Retrieved from http://www.fao.org/countryprofiles/ru (accessed 17.06.2019)

Galbraith, J. K. (1983). *The Anatomy of Power*. Boston: Mifflin Company Boston.

Greenhut, M. L., & Ohta H. (1979). Vertical Integration of Successive Oligopolists. The American Economic Review, *69*(1), 137-141.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs, and Owership Structure. *Journal of Financial Economics,* 3(4), 305-360.

Joldasbayeva, G. K., & Esaidar, U. S. (2018). *Providing sustainable development of enterprises of the milling industry of Kazakhstan*. Almaty: Ashirbaev N.N., p. 158.

Joldasbayeva, G. K., & Yesilbayeva, Z. Y. (2017). Improving the efficiency of agricultural enterprises in Kazakhstan based on the formation of integrated structures. Series: "Proceedings of Higher Educational Institutions". *Textile Technology, 5*(371), 44-48.

Kazakov, V. A. (2000). Transnational Corporations and Elements of Regulation of the World Economic Space. Moscow University Bulletin. Economy, 6(2), 71.

Kirilenko, A. S. (2001). The Cumulative Effect of Integration in Agriculture. *Siberian Journal of Agricultural Sciences,* 1-2.

Marwa, T., Bashir, A., Azwardi, M., Adam, M., & Thamrin, H. M. K. (2017). Market Integration of Agricultural Products. *International Journal of Economics & Business Administration, 5*(2), 69-82.

Ministry of National Economy of the Republic of Kazakhstan. Committee on Statistics. (n. d.). *Statistics on agriculture, forestry, hunting and fisheries.* Retrieved from http://stat.gov.kz

Monni, S., Palumbo, Tvaronavičienė, M. (2017). Cluster performance: an attempt to evaluate the Lithuanian case. *Entrepreneurship and Sustainability Issues,* 5(1), 43-57. http://doi.org/10.9770/jesi.2017.5.1(4)

Movsesyan, A. G. (1998). Anatomy of Economic Power. *Business and Banks,* 5, 1.

North, D. (1997). *Institutions, Institutional Change, and Economy Functioning*. Moscow: Foundation of the economic book "Beginning".

Petrenko, Y.. Vechkinzova, E., Antonov, V. (2019). Transition from the industrial clusters to the smart specialization of the regions in Kazakhstan. *Insights into Regional Development,* 1(2), 118-128. https://doi.org/10.9770/ird.2019.1.2(3)

Prahalad, K., & Hamel, K. (2001). *Core Competencies of the Corporation*. St. Petersburg: Piter.

Rau, V. V. (2017). Russian Food Exports: Trends, Opportunities, Priorities. *Problems of Forecasting, 4*(163), 94-102.

Razminienė, K., Tvaronavičienė, M. (2017). Economic globalization and its impacts on clustering, TERRA ECONOMICUS, 15(2), 109-121 10.23683/2073-6606-2017-15-2-109-121clustering.html

Razminienė, K., Tvaronavičienė, M. (2018). Detecting the linkages between clusters and circular economy, *Terra Economicus*, 16(4), 50-65. http://doi.org/10.23683/2073-6606-2018-16-4-50-65

Sarma, U., Karnitis, G., Zuters, J.. Karnitis, E. (2019). District heating networks: enhancement of the efficiency. *Insights into Regional Development,* 1(3), 200-213. https://doi.org/10.9770/ird.2019.1.3(2)

Scherer, F. M., & Ross, D. (1997). *Structure of Industry Markets*. Moscow: Infra-M.

Siptits S. O., Romanenko I. A. and Evdokimova N. E. 2018. Eurasian Economic Union Integration as Adaptation Effect in Agro-Food Trade. *International Agricultural Journal,* 2, 61-69.

The World Bank (n. d.). Retrieved from http://data.worldbank.org/indicator/ea.prd.agri.kd

Tireuov, K. M. (2011). Методология формирования агропродовольственного кластера [Metodologiya formirovaniya agroprodovol'stvennogo klastera]. *Исследования, результаты [Issledovaniya, rezul'taty], 3.*

Tsvetkov, V. A. (2011). *Corporate Business: Theory and Practice*. St. Petersburg: Nestor-History.

Tvaronavičienė, M., Razminienė K. (2017). Towards competitive regional development through clusters: approaches to their performance evaluation. *Journal of Competitiveness*, 9(4), 133 - 147, https://doi.org/10.7441/joc.2017.04.09

Tvaronavičienė, M. (2017). Clusters, innovations and energy efficiency: if relantionship could be traced. *Marketing and Management of Innovations,* 2, 382-391 http://doi.org/10.21272/mmi.2017.2-35

Williamson, O. E. (1990). Comparison of Alternative Approaches to Economic Organization. *Journal of Institutional and Theoretical Economics*, 146, 61-71.

Williamson, O. E. (1994). *Comparative Economic Organization.* California: CS Press.

Williamson, O. E. (1996). *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. St. Petersburg: Lenizdat; CEV Press.

Zhunusov, B. G., Bel'gibaeva, A. S. (2012). *Вертикально интегрированные структуры в агропромышленном комплексе страны в современных условиях [Vertikal'no integrirovannye struktury v agropromyshlennom komplekse strany v sovremennykh usloviyakh].* Almaty.

Zhanara Y. YESILBAYEVA
ORCID ID: https://orcid.org/0000-0002-2492-1248

Marina Y. ANOKHINA
ORCID ID: https://orcid.org/0000-0003-4152-8795

Gulnar K. JOLDASBAYEVA
ORCID ID: https://orcid.org/0000-0002-4634-0145

Dariko K. BALAKHANOVA
ORCID ID: https://orcid.org/0000-0001-9537-5646

Galina M. ZINCHUK
ORCID ID: https://orcid.org/0000-0003-3139-2054

Register for an ORCID ID:
https://orcid.org/register