

**Babenko V.,
Sidorov V.,
Savin R.**

ACTIVITIES OF INTERNATIONAL AGROHOLDINGS IN THE WORLD MARKET OF FOREIGN INVESTMENTS: INVESTIGATION OF TRENDS AND FACTORS OF IMPACT IN CURRENT FINANCING CONDITIONS

У якості об'єкта дослідження розглядається діяльність міжнародних агрохолдингів. Недостатня формалізація причинно-наслідкових зв'язків на основі аналітичних залежностей, що визначають перспективи розвитку агрохолдингів, є недоліком дослідження діяльності агрохолдингів в сучасних умовах фінансування. Проведений аналіз тенденцій розвитку підприємств агропромислового комплексу (АПК) України свідчить, що останнім часом спостерігається тенденція до розвитку і територіально-організаційного укрупнення підприємств АПК шляхом формування холдингів, корпорацій, інших агроформувань. Існує також тенденція об'єднання підприємств в агрохолдинги. Це дозволяє компаніям не тільки контролювати якість і собівартість продукції, що випускається, а й підвищує ймовірність отримання кредитних ресурсів. При цьому зростає роль інвестиційних процесів, розробки методик їх впровадження і ефективного управління ними. Для відображення закономірностей функціонування агрохолдингів і механізмів їх внутрішніх взаємозв'язків досліджено фактори впливу на їх діяльність в розрізі її складових. На основі факторного аналізу розроблені системи моделей латентних факторів, що впливають на складові діяльності агрохолдингів. Встановлено, що до них відносяться:

- динаміка інвестування в розширення виробничої діяльності агрохолдингів;
- динаміка витрат і джерел фінансування;
- динаміка впровадження інноваційної діяльності агрохолдингів.

В аспекті динаміки витрат і джерел фінансування найбільш істотними латентними факторами є:

- питома вага агрохолдингів, які впроваджували інновації;
- загальна сума витрат агрохолдингів на впровадження нових технологій;
- кількість впроваджених нових маловідходних, ресурсозберігаючих процесів.

Завдяки отриманим результатам забезпечується можливість отримання найбільш значущих чинників на основі взаємозв'язку сукупності показників. Це, на відміну від аналогічних відомих відокремлених показників, забезпечує переваги знаходження перспектив розвитку діяльності агрохолдингів на світовому ринку іноземних інвестицій на основі комплексу латентних ключових факторів.

Ключові слова: агрохолдинги в умовах фінансування, латентні фактори інвестування в аграрне виробництво.

1. Introduction

Every year the global food crisis is growing, the economic and financial crisis is expanding in Ukraine and abroad, the world's natural resources are depleted. There is a general deterioration in the ecological situation, as evidenced by the dynamics of climate change and the deterioration of the health and life of the world population.

These and other reasons indicate the need to intensify the sphere of agricultural production.

Recently, there has been a trend towards the development of enterprises of the agro-industrial complex on the basis of territorial-organizational enlargement – the formation of holdings, corporations, etc. At the same time, current trends in the activities of the agro-industrial sector of Ukraine are based on low-technology production. These trends, as well as the continuing decline in production in the agro-industrial complex, actualizes the need to apply scientific approaches to the study of the mechanism for

managing production activities at large agro-enterprises both in Ukraine and abroad.

No less relevant is the study of the activities of international agricultural holdings in the world market of foreign investment. As the world practice shows, the level of investment is one of the main factors influencing the activities of agri-culture in the current financing environment. Therefore, the analysis of the activities of international agricultural holdings and the elucidation of the factors that determine the prospects for the development of agricultural holdings in the global investment market is an actual and practically important task of research.

2. The object of research and its technological audit

Since 2005, in the agrarian sector of Ukraine there has been a tendency to the emergence of «big players» (agro-holdings), which are present in all sectors of the agrarian

business: agricultural production, storage, processing, export through own terminals [1]. For example, in the structure of the agrarian sector of the Ukrainian economy more than 30 % of the capacity belongs to large agrohholdings, which, first of all, are intended for storing and processing their own crops.

The activity of international agrohholdings is considered as an *object of research*. Data of the Agrarian Exchange of Ukraine, agroportals, Internet resources and other information sources are used to analyze the current state and trends in the development of production activities of agrohholdings.

One of the most problematic places is the formalization of factors for the development of agro-associations. Particularly significant practical results can be obtained on the basis of a complex of latent factors taking into account the interrelationship of the set of basic indicators.

3. The aim and objectives of research

The aim of research is modeling the development factors of agrohholdings in the current socio-economic conditions by establishing cause-effect relationships in the form of analytical dependencies that determine the prospects for the development of agrohholdings in the global investment market.

Achieving this aim involves the following tasks:

1. Study of the problems associated with the development of agrohholdings in modern investment conditions, namely: the definition of the current state and trends in the development of production activities of agrohholdings.
2. Definition of the most significant factors in the development of agricultural holdings.

4. Research of existing solutions of the problem

For the consideration of the mechanism for managing the productive activities of agrohholdings under certain economic conditions, various models are proposed that show its dynamics, the role and influence of various factors [2–4].

In the 60s of the XX century the methods of enterprise management prevailed, based on such management models in which scientific research was considered the main development factor and the market as a secondary element.

Such models are called models of technological thrust and the driving force of the market [5, 6]. In the second model, more attention was paid to the marketing of products. With the development of innovative technologies, a model was developed that balanced the relationship between the role of research and the market, the so-called combined model [7, 8]. Within the framework of this model it was assumed that the management of the enterprise should be accompanied by innovations in the sphere of marketing, management and production [9, 10].

In recent years, interest in the development and management of agro-enterprises, their production and innovation activities in the world has grown very much, which draws the attention of managers and scientists. The emergence of new approaches to the introduction of innovations based on the application of advances in information and communication technologies has acted as a catalyst for the integration and consolidation of business, including the sphere of agricultural production [11]. So, for example,

scientists [12] have become developers and distributors of the concept of business modeling innovation (BMI) with the help of Internet resources. In [12] it is noted that BMI is an integral part of the economic behavior of the subject of management.

Scientific and technological achievements in the so-called post-industrial technologies were accompanied by the development of organizational methods and management structure. For example, software or biotechnologies that are fundamentally different from those that are observed in a traditional manufacturing organization and are accompanied by the emergence of new ways of doing business [8, 9, 12]. In addition, it needs to be determined that, despite the fact that the «right» product design is a prerequisite for penetrating new markets, management is crucial, based on the allocation of resources and the establishment of sales channels. This is necessary for the successful execution of business operations [7, 11]. Thus, in the activities of modern foreign enterprises, special importance is given to organizational forms of management.

The analysis of the literature sources based on the chronology of trends in the development of management forms of agrohholdings has shown that the mechanisms of development and management of enterprises are accompanied by the emergence of new ways of doing business.

The main are two areas are:

- 1) use of post-industrial technologies;
- 2) efforts on the corporate sector to enter new markets and attract new customers.

In modern economic conditions, any agro-industrial enterprise is forced through management to adapt its resource opportunities to external and internal conditions, taking into account the risks associated with instability and complexity of the socio-economic conditions of the domestic and foreign markets. In addition, it is necessary to take into account the specific nature of agricultural production, the main features of which are its sectoral orientation, which leads to the appearance of «agrarian» risks [13]. The main source of risks in agricultural production is the natural and climatic conditions and weather fluctuations leading to loss of production [14]. It must also be taken into account that in a number of cases agricultural raw materials are basically a perishable product, and also one that quickly loses its useful nutritional properties, which must also be taken into account in its production, transportation and storage.

Thus, the specificity of the holding's activities related to the agricultural sphere increases the significance and role of investment processes, as well as the need to study other factors of influence in the current financing environment. Therefore, the definition of the current state and trends in the development of production activities of agrohholdings in the world market of foreign investment, modeling of factors of development of agricultural holdings in the current financing environment is an important scientific and practical task.

5. Methods of research

During the execution of the work general scientific and special research methods were used:

- analysis and synthesis – to study the features, current status and conditions of the activities of agricultural holdings at the present time;

– multivariate statistical analysis based on factor analysis to formalize the analytical dependencies of latent factors in the development of agricultural holdings and the formation of the most significant of them.

6. Research results

According to the data posted on the sites of the agricultural holding «Harmelia» and the national Agroportal «Lati-fundist» [15], the first place among vertically integrated com-

panies is occupied by the agroholding «UkrLandFarming», the second and third – «Kernel» and «Myronivsky Plant for Manufacturing Groats and Feeds» (Table 1).

The structure of the agricultural holding UkrLandFarming includes 6 sugar plants, 5 seed plants, 111 grain storage facilities. In addition – 19 meat processing plants, 10 farms for growing laying hens, 3 breeding farms, 3 reproducers, 6 feed mills, 3 warehouses for long-term storage of products. It also includes the egg production factory Imperovo Foods and 25 distribution centers.

Table 1

The largest vertically integrated agroholdings of Ukraine

No.	Name	Kind of activity	Investments, mln. UAH	Leadership
1	«UkrLandFarming» (with «Avangardo»)	Crop production (including seed production) Dairy and meat cattle breeding Production of eggs and egg products Sugar production Meat processing Storage and trade of grain and industrial crops Distribution	532	The leader in the production of grain and eggs in Ukraine
2	«Kernel»	Crop production Export of cereals Sunflower oil production Grain storage services	329	Leader in the production and export of sunflower oil
3	«Myronivsky Plant for Manufacturing Groats and Feeds»	Industrial production of chicken meat Growing of cereals and oilseeds Manufacture of meat and sausage products	288.5	Leader for the production of poultry meat
4	«Astarta»	Sugar production Crop production Livestock raising	240	Leader in the production of sugar
5	«Harveast»	Crop production Livestock raising	220	Is not a leader
6	«Agroton»	Crop production Livestock raising Manufacture of food products (cereals, flour, bakery products, etc.)	209	Is not a leader
7	«Industrial milk company»	Crop production Dairy farming Crop storage and processing Processing of milk Potato growing	122.69	One of the top ten milk producers
8	«Privat-agro»	Crop production Livestock raising	120	Is not a leader
9	«Druzhba-Nova»	Crop production Livestock raising	110	Is not a leader
10	«Ukrprominvest»	Sugar production Crop production	96	Is not a leader
11	«KSG Agro»	Crop production Livestock raising Seed production Vegetable growing Gardening Processing and production of food products, energy pellets and biofuel	92	Is not a leader
12	«VV-Agro»	Crop production Livestock raising	85	Is not a leader
13	«Glencore»	Crop production Trading	80	Is not a leader
14	«Nibulon»	Crop production Storage and bringing products to market condition Livestock raising Fodder production Processing (production of sausages) Trading	79	Is not a leader
15	«SvarogWestGroup»	Crop production Livestock raising Gardening	78.1	Is not a leader

Note: developed by the authors on the basis of data [16]

According to the national agro portal «Latifundist» and the magazine «Focus», the agroholding «UkrLandFarming» in 2017 became the largest producer of grain and eggs in Ukraine. So, in 2017 the share of the group's market occupied about 33 % of Ukrainian egg production and about 88 % of dry egg products, for grain crops the share of the group was about 4.2 % of the total production in the country [16].

Agroholding Kernel is the leader among producers and exporters of sunflower oil. Seed processing was carried out at seven oil extraction plants in Ukraine and three – in Russia. Thus, the group «Kernel» produces about 7–8 % of the world production of sunflower oil. «Myronivsky Hliboproduct» (MHP) combines the production capacities of the entire technological chain of meat production – from growing and making feeds, hatching eggs, raising cattle and poultry to processing and selling finished products. The meat processing segment in MHP is an integral part of the company's work and produces a wide range of products, including production from smoked chicken and other food products such as foie gras and veal. The main share of the assortment of products falls on the chicken meat of its own production (50 % of the Ukrainian market of industrial production). MHP belongs to one of the most powerful product brands in Ukraine, Nasha Ryaba.

As practice shows, the integration of agricultural production allows farmers not only to control the quality and cost of production, which increases their competitiveness. And also to become more attractive to investors and banks in comparison with other «players» in the agrarian market. However, now in Ukraine the investment climate is unattractive, insufficiently transparent, inconsistent and devoid of appropriate state regulation. Experts in the field of agriculture (Bleyzer International Foundation) recommend a number of measures that can improve the investment attractiveness of Ukraine's agrarian business, namely:

- ensuring transparency and predictability of agrarian policy;
- protection of investments, providing for guarantees of land lease rights, rights to products, income and profits received as a result of investment;
- establishment of optimal lease periods, sufficient for the effectiveness of investments, which guarantee their stability and duration of business;
- preferential taxation regime; reduction of interference in operational activities;
- development of the infrastructure of agrarian regions; activation of the state in the field of social investment and strategic research in the agricultural sector.

But, despite the risk, Ukrainian farmers still manage to attract credit. Thus, the «agrarian» share of Ukraine in the loan portfolio of the European Bank for Reconstruction and Development (EBRD) varies between 20–25 % annually. This in monetary terms is about 200 million euros (Table 2), while the average loan amount in the domestic agribusiness is about 30 million euros. According to the national agricultural portal «Latifundist», the first place

for attracting loans from the EBRD is occupied by the agricultural holding «Nibulon», which managed to raise 200 million USD to finance the elevator network [15].

In addition to the EBRD, the appearance of new «players» is expected on the banking market for crediting the agrarian sector. Thus, 12 such banks, such as VABank, Aktabank, Alfa-Bank, Credit Dnepr Bank, Credit Agricole Bank, Nadra Bank, OTP Bank, announced their willingness to lend to the agricultural sector of Ukraine, «FUIB» and «Raiffeisen Bank Aval» [15]. However, the agricultural sector and others are in need of credit. Thus, according to the National Bank of Ukraine, at the end of December 2017 the volume of loans granted to the agro-industrial complex amounted to 37 billion UAH. According to experts, the total industry demand for loans is from 90 to 250 billion UAH [1]. Of these, the annual requirement for working capital amounts to 7–8 billion UAH, the rest of the funds are directed to the restoration of fixed assets.

Table 2

The largest investments of the European Bank for Reconstruction and Development in the agrarian sector of the Ukrainian economy in 2017

Company	Amount of funds, mln USD	Purpose of financing
«Nibulon»	200	Financing of working capital, creation of a network of elevators
«Astarta»	72	Support of dynamic development of the company in the agro-economic, dairy and sugar business. Part of the loan will go to build a biogas plant for the utilization of beet processing products
«Alfred S. Topfer International»	50	Replenishment of working capital for agricultural production
«Inter-Zaporizhzhia»	25	Modernization and expansion of existing production facilities, construction of a premix plant
«AgroTrade»	23	Replenishment of working capital, implementation of measures for energy efficiency and expansion of capacities for processing and storage of cereals
«Agrofusion»	20	Provision of medium-term working capital
«John Deere»	20	Partnership project of the EBRD and Raiffeisen International in Ukraine. Investing in innovative technologies based on John Deere technology
«ED&F Man Ukraine»	15.9	Investment funds will be used for the installation of innovative equipment and for the processing of sugar beets in the Mykolaiv region

Note: developed by the authors on the basis of data [15]

In Ukraine, we observe an acute shortage of storage capacity, which in the next three years can significantly increase, so it is not surprising that many agroholdings in their development programs have announced investments in increasing storage capacity [16]:

- «Kernel» plans to build three elevators in the Khmelnytsky region, capacity of 150–200 thousand tons each;
- the company «UkrAgroCom» intends to build two elevators in the territory of the Kirovograd region, capacity of 60–70 thousand tons;
- «Creative» company plans to launch two elevator complexes; the company «Ukrainian Agrarian Investments» plans to increase its capacity for storing grain by 75 %.

In addition to the construction of elevators, the companies announced plans to build a seed factory, increase production of sugar, milk, soybean processing capacity, etc. (Table 3).

context of its components, the method of multidimensional statistical analysis (factor analysis) was used. This analysis is designed to identify and quantify generalizing characteristics that sufficiently describe the entire set of initial and resulting indicators, thereby reflecting the patterns of production activities of agroholdings and the mechanism of their internal relationships.

Business development plan for some Ukrainian agricultural holdings

Table 3

Company	Direction of activity	Development plan
«UkrLand-Far-ming»	Poultry farming	Construction of a plant for the production of egg powder in the Khmelnytsky region
	Meat and dairy cattle breeding	Construction of five complexes for fattening cattle in the Rivne region and two dairy complexes in the Poltava region
	Production of biofuel	Construction of 30 biogas plants in 18 regions of Ukraine with a total capacity of more than 750 million m ³ of bio methane per year
«Kernel»	Pig breeding	Construction of a pork production complex in the Poltava region
«Agrotrade»	Crop production	Construction of a seed plant in the Kharkiv region (corn, oily cultures)
«Astarta»	Sugar production	The increase in production by 62 % – up to 600 thousand tons of sugar per year. The increase in the share in the Ukrainian market from 19 % in 2012 to 25–30 %
	Crop production	The increase in the storage capacity of cereals to 800 thousand tons. An increase in the harvest of oil crops by 127 % – to 1,500,000 tons per year. Increase of sugar beet harvest by 91 % – up to 4 million tons
	Dairy farming	The growth of milk production by more than 100 % – up to 150 thousand tons per year
«Nibulon»	Crop production, trading	Implementation of a comprehensive program to support and improve the technical condition of elevators and reloading terminals
		Increase of elevator capacity up to 2.5 thousand tons of one-time storage
«Creative»	Crop production	The increase in the capacity for processing soybean in 3.1 times – up to 270 thousand tons per year
«MHP»	Chicken production	Construction of Vinnytsia poultry complex

Note: developed by the authors on the basis of [15, 16]

In the context of energy dependence on energy supply sources, alternative energy, more efficient use of resources, minimizing the consumption of energy resources, the use of energy-saving technologies and energy-saving technologies are of particular importance. Therefore, many agroholdings are trying to implement innovative projects for the installation of biogas equipment, or the construction of biogas plants. For example, the company «Myronivsky Hliboproduct» in December 2012 at the poultry farm «Orel-Leader» in the Dnepropetrovsk region in the test mode, commissioned the first biogas plant with a capacity of 5 MW. The biogas plant operates on chicken litter and poultry farm waste. Ecoprod has already received funds from the EBRD for the construction and commissioning of a biogas plant with a capacity of 1.5 MW.

Kernel at the oil extraction plants uses the husk of sunflower as a fuel for the production of steam and electricity. In addition, Kernel began installation of one of its elevators experimental equipment for drying and cleaning the grain. The plant will operate on the husk of sunflower instead of the natural gas commonly used in industry.

To study the mechanism of agricultural holdings on the basis of determining the factors of influence in the

Calculations were performed on the example of international agricultural holdings of Ukraine with the help of statistical package Statgraphics Centurion.

To develop a system of models of latent factors that affect the productive activities of agroholdings, it is advisable to compute integral indicators, namely:

- 1) the dynamics of investment in the expansion of production activities of agroholdings;
- 2) the dynamics of expenditures and sources of financing;
- 3) the dynamics of innovation activities (ID) of agroholdings.

Each component is characterized by a system of separate indicators.

Thus, the dynamics of investment in the expansion of production activities of agroholdings is described by such indicators:

- x_1 – the share of agroholdings engaged in innovations;
- x_2 – the total cost of agroholdings engaged in the introduction of new technologies;
- x_3 – the amount of expenditure on research and development;
- x_4 – the amount of expenditures for internal research work (R&D);
- x_5 – the sum of expenditures for external R&Ds, decipher the abbreviation;
- x_6 – the amount of expenses for the acquisition of new technologies;
- x_7 – the amount of expenses for the preparation of production for the introduction of new technologies;

x_8 – the amount of costs for the acquisition of machinery and equipment;

x_9 – the amount of costs of other costs associated with the introduction of new technologies.

The second component – the dynamics of costs and sources of financing of agricultural holdings, depends on the following indicators:

- x_{10} – the total cost;
- x_{11} – the amount of costs from own funds;
- x_{12} – the amount of expenses from the funds of Ukrainian investors;
- x_{13} – the amount of expenses at the expense of foreign investors;
- x_{14} – the amount of expenses from other sources.

Evaluation of the dynamics of the implementation of the ID of agroholdings is the third component, which is characterized by the following indicators:

- x_{15} – the share of agroholdings, which introduced innovations;
- x_{16} – the number of new technological processes introduced;
- x_{17} – the number of implemented new low-waste, resource-saving processes;

x_{18} – the number of titles for the development of innovative products;

x_{19} – the number of titles for the development of innovative types of equipment;

x_{20} – specific weight of realized innovative products by agrohholdings in the industrial volume.

The first component – the dynamics of investment in the expansion of agricultural holdings are influenced by several factors, which we will consider by three factors. They account for 73.667 % of the variability of the indicators that determine this component. Latent factors influencing the investment indicators of agrohholdings are described by the following equations:

$$F_{11} = 0.705x_{11} + 0.217x_{12} - 0.023x_{13} + 0.094x_{14} + 0.152x_{15} + 0.771x_{16} + 0.377x_{17} - 0.747x_{18} + 0.857x_{19} - 0.931x_{20},$$

$$F_{12} = 0.549x_{11} - 0.634x_{12} - 0.195x_{13} - 0.201x_{14} + 0.766x_{15} + 0.366x_{16} - 0.213x_{17} + 0.282x_{18} + 0.927x_{19} + 0.075x_{20},$$

$$F_{13} = 0.077x_{11} + 0.029x_{12} + 0.918x_{13} + 0.909x_{14} - 0.026x_{15} - 0.300x_{16} - 0.428x_{17} - 0.292x_{18} - 0.090x_{19} + 0.085x_{20}.$$

Thus, in the whole aggregate of agrohholdings, the first factor, and, consequently, the most significant one is the generalizing factor (the first factor). It is formed by indicators formed in the direction of reducing factor loads (coefficients with variables): x_{20} , x_{19} , x_{16} , x_{18} , x_{11} the remaining indicators can be neglected, since their factor loadings are less than 0.5. The second factor is indicators x_{19} , x_{15} , x_{12} , x_{11} . The third factor of the state of agrohholdings is characterized by the following sequence of indicators: x_{13} , x_{14} .

Thus, after analyzing, we have the first three latent factors that significantly affect the dynamics of innovative activity of enterprises, this is x_{20} , x_{19} , x_{13} .

The second component – the dynamics of costs and sources of financing of agricultural holdings is influenced by several factors, which we will also consider three latent factors, the equations of which look like:

$$F_{21} = 0.902x_1 + 0.203x_2 + 0.925x_{15} + 0.382x_{16} - 0.112x_{17} + 0.536x_{18} + 0.787x_{19},$$

$$F_{22} = -0.311x_1 + 0.864x_2 + 0.125x_{15} + 0.611x_{16} - 0.018x_{17} - 0.778x_{18} + 0.308x_{19},$$

$$F_{23} = -0.151x_1 - 0.024x_2 + 0.135x_{15} + 0.558x_{16} + 0.959x_{17} - 0.060x_{18} - 0.049x_{19}.$$

Rating indicators for these factors is: x_{15} , x_2 , x_{17} . The second group of three factors explains by 85.489 % the invariability of the indicators that determine this component.

On the third component of the activities of agrohholdings – the dynamics of the introduction of the ID of agrohholdings are also influenced by three factors. They explain by 81.837 % the variability of the indicators that determine this component. The equation of this group of latent factors has the form:

$$F_{31} = 0.944x_1 + 0.042x_2 + 0.109x_3 + 0.887x_{15} + 0.261x_{16} - 0.112x_{17} + 0.668x_{18} + 0.719x_{19},$$

$$F_{32} = -0.179x_1 + 0.796x_2 + 0.781x_3 + 0.309x_{15} + 0.689x_{16} + 0.042x_{17} - 0.690x_{18} + 0.484x_{19},$$

$$F_{33} = -0.138x_1 - 0.128x_2 + 0.234x_3 + 0.113x_{15} + 0.485x_{16} + 0.955x_{17} + 0.002x_{18} - 0.077x_{19}.$$

Thus, we have the seventh, eighth and ninth latent factors affecting the dynamics of the implementation of the IDs of agrohholdings, which ratings of ratings have the following sequence: x_1 , x_2 , x_{17} . Thus, latent factors are modeled according to the three components of agricultural holdings.

7. SWOT analysis of research results

Strengths. There is a tendency of merging enterprises into agrohholdings. This allows companies not only to control the quality and cost of products, but also increases the likelihood of obtaining credit resources.

Weaknesses. The agrarian business of Ukraine is experiencing a deficit of investment resources, but despite the risks, the Ukrainian agribusiness sector is an investment-attractive business.

Opportunities. Agrohholdings become big «players» of the agro-sector, namely:

- «UkrLandFarming» – the leader in the production of grain and eggs in Ukraine;
- «Kernel» – the leader in the production and export of sunflower oil in Ukraine;
- «Myronivsky Hliboproduct» – the leader in the poultry meat production in Ukraine;
- «Astarta» – the leader of the sugar production in Ukraine.

Thanks to the effective development of the production activities of agrohholdings, the sphere of the agrarian sector of the Ukrainian economy can become one of the main sources of increasing the country's economic growth. The development and implementation of new ones, improvement and improvement of existing approaches to managing instruments for financing agricultural holdings provide an additional impetus for the positive development and economic growth of the industry.

Threats. The infrastructure of the agro-industrial complex requires repair and reconstruction, to minimize the consumption of energy resources, some of the agricultural holdings started using biofuel.

8. Conclusions

1. The conducted research of tendencies of development of the enterprises of agrarian and industrial complex of Ukraine testifies, that recently the tendency to development and territorially-organizational consolidation of the enterprises of agrarian and industrial complex by formation of holdings, corporations, other agroformations is observed. At the same time, the role of investment processes, the development of methods for their implementation and effective management of them is growing.

2. To determine the patterns of functioning of agricultural holdings and the mechanisms of their internal interrelations, factors of influence on their activities in the context of its components have been investigated. Factor analysis is performed. On its basis, systems of models of

latent factors that affect the components of agricultural holdings have been developed. These include:

- dynamics of investment in the expansion of production activities of agroholdings;
- dynamics of expenditures and sources of financing;
- dynamics of innovative activity of agroholdings.

Modeled latent factors should be used for forecasting and as a basis for building development strategies for agroholdings.

References

1. Baronov V. V. Avtomatizatsiya upravleniya predpriatiem. Moscow: INFRA-M, 2000. 239 p.
2. Agribusiness time series forecasting using Wavelet neural networks and metaheuristic optimization: An analysis of the soybean sack price and perishable products demand / Puchalsky W. et. al. // International Journal of Production Economics. 2018. Vol. 203. P. 174–189. doi: <http://doi.org/10.1016/j.ijpe.2018.06.010>
3. Shedy E. The Analysis and Estimation of Efficiency of Agroindustrial Formations of Holding Type of the Belgorod Region // Russian Journal of Agricultural and Socio-Economic Sciences. 2012. Vol. 2, Issue 2. P. 10–14. doi: <http://doi.org/10.18551/rjoas.2012-02.02>
4. Bernstein H. Historical Materialism and Agrarian History // Journal of Agrarian Change. 2013. Vol. 13, Issue 2. P. 310–329. doi: <http://doi.org/10.1111/joac.12020>
5. The foundations theory and methodology of transfer of technologies for manufacturing high-tech production of the agrarian economy in Russia / Kuznetsov N. I. et. al. // The Agrarian Scientific Journal. 2018. Vol. 1. P. 65–68. doi: <http://doi.org/10.28983/asj.v0i1.251>
6. Theory and practice of controlling at enterprises in international business / Malyarets L. et. al. // Economic Annals-XXI. 2017. Vol. 165, Issue 5-6. P. 90–96. doi: <http://doi.org/10.21003/ea.v165-19>
7. Turner R., Ledwith A., Kelly J. Project management in small to medium-sized enterprises: Tailoring the practices to the size of company // Management Decision. 2012. Vol. 50, Issue 5. P. 942–957. doi: <http://doi.org/10.1108/00251741211227627>
8. Larson E., Larson R. Managing Small Projects. The Critical Steps. Watermark Learning, 2009. 12 p.
9. Pollack J., Adler D. Does Project Management Affect Business Productivity? Evidence from Australian Small to Medium Enterprises // Project Management Journal. 2014. Vol. 45, Issue 6. P. 17–24. doi: <http://doi.org/10.1002/pmj.21459>
10. Sidorov V., Babenko V., Bondarenko M. Researching factors of innovative activities of agrarian business of Ukraine under globalization of the world economy // Innovative Technologies and Scientific Solutions for Industries. 2017. Issue 2 (2). P. 70–76. doi: <http://doi.org/10.30837/2522-9818.2017.2.070>
11. Pyrez-Ezcurdia A., Marcelino-Sdeba S. The small project paradox in SMEs. Prime // Journal of Business Administration and Management. 2012. Issue 2 (9). P. 687–692.
12. Zott C., Amit R., Massa L. The Business Model: Recent Developments and Future Research // Journal of Management. 2011. Vol. 37, Issue 4. P. 1019–1042. doi: <http://doi.org/10.1177/0149206311406265>
13. Vytlynskyi V. V., Babenko V. A. Obzor metodov kolychestvennoi otsenky vliyaniya ryzkov v ahropromishlennom proyzvodstve // Rynkova transformatsiia ekonomiky. 2012. Vol. 14. P. 78–87.
14. Babenko V. A. Metody i modeli otsenivaniya riska na primere proyzvodstva produktii sel'skogo khozyaystva // Visnik Khmel'nits'kogo natsional'nogo universitetu. 2018. Issue 1. P. 182–186.
15. Agrovypusk agrokholdinga «Kharmeliya» // Agrokholding «Kharmeliya». URL: <http://www.agrogeneration.com/ua/> (Last accessed: 17.06.2018)
16. Top 100 latsfundystov Ukraini // Natsyonalnii ahroportal «Latifundist». 2014. URL: <http://latifundist.com/rating/top100/27866-harmelia> (Last accessed: 21.05.2018)

Babenko Vitalina, Doctor of Economic Sciences, Professor, Department of International Business and Economic Theory, V. N. Karazin Kharkiv National University, Ukraine, e-mail: vitalinababenko@karazin.ua, ORCID: <http://orcid.org/0000-0002-4816-4579>

Sidorov Vadim, PhD, Professor, V. N. Karazin Kharkiv National University, Ukraine, e-mail: v.i.sidorov@karazin.ua, ORCID: <https://orcid.org/0000-0002-5655-2221>

Savin Ruslan, Postgraduate Student, Department of International Economic Relations, V. N. Karazin Kharkiv National University, Ukraine, e-mail: irtb@karazin.ua, ORCID: <https://orcid.org/0000-0003-4634-0660>