

## INVESTMENT SECURITY OF STRATEGIC MANAGEMENT OF UKRAINE'S AGRICULTURAL SECTOR DEVELOPMENT

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### Abstract

*The current situation of the Ukrainian economy's agricultural sector and investment processes associated to its development, as well as the essential organizational measures aimed at assuring the long-term economic impact of the state economy's agrarian sector development, have been studied. The study is divided into three sections that provide the theoretical foundation of the concept of "investment"; analysis of the development of the agrarian sector of Ukraine, its role in the national economy with the determination of trends in the export potential of agricultural production; analysis of the capital investments volumes in the agricultural sector by their production directions and types of assets. Correlation and regression analysis has been applied in order to assess the influence of the actual amount of capital investment during 2010–2021 in the agrarian sector of the Ukrainian economy on the effectiveness of agricultural production, which is evaluated by the indicator of the gross added value amount of the agrarian sector. It has been established that the investment policy of Ukraine's agrarian sector is currently not an effective driver of the economic processes development in the agrarian industry. Due to this, the results of the activities of business entities are inefficient, which is caused, first of all, by the lack of financial and material resources, the disparity of prices and other organizational, economic and institutional factors. The importance of ensuring the competitiveness of agricultural production through the activation of investment support aimed at updating the organization of technological processes of production, the introduction of scientifically based norms of economic activity, and the systematization of the organizational and management system is highlighted.*

**Key words:** agricultural sector, investments, investment support, sources of investment resources, national economy.

### INTRODUCTION

The agricultural sector is an important strategic branch of the Ukrainian national economy. Not only the viability and self-sufficiency of the country, but also the foreign economic development of the state depend on the stable functioning and development of the agricultural sector. Ukraine is a country with a powerful agro-industrial potential and huge prospects for the development of agriculture, because it has high-quality land resources and favorable climatic conditions. The area of agricultural land in Ukraine is 42.7 million hectares, which is 70.7% of the total area of the country. This is one of the largest indicators among European countries, because the average indicator of the share of agricultural land in the total area of European

countries is on average 46.8 %. The availability of such a large amount of agricultural land in Ukraine makes the agricultural sector one of the priority areas of the country's economy for the Ukrainian state. In addition to the stable supply of the country's population with high-quality, safe, affordable food, the agricultural sector of Ukraine is undoubtedly capable of making a significant contribution to solving the world hunger problem.

The issue of organizing and ensuring food security for every country is relevant at all times. Modern global challenges facing humanity today, in particular climate change, which affects massive natural disasters, the pandemic spread of new viral diseases, problems with overpopulation in some regions and depopulation in other parts of the world

cause demographic problems on a global scale, the growth of armed conflicts on planet, have a negative impact on the spheres of human activity, and first of all, on areas that are impossible without the involvement of natural resources.

The Ukrainian agrarian sector, with the potential for the production of agricultural products, which significantly exceeds the needs of the domestic market, and primarily of grain and oil crops, is able to secure leading positions in the world market of agricultural products and food [4]. Confirmation of the importance of Ukraine as a supplier of food grains to the world market was the blocking of supplies of Ukrainian grain under international contracts after February 24, 2022 in connection with the beginning of Russia's military aggression against Ukraine. It caused a shortage of food consumption and a significant increase in food prices in countries of Africa, East Asia and Europe. The further entry and consolidation of Ukrainian agricultural products into the world economic space, the strengthening of the processes of globalization and trade liberalization require adaptation of the Ukrainian agriculture to new and constantly changing conditions, and, accordingly, the further improvement of the strategy for managing agrarian policy.

The papers of many researchers are devoted to the problems of investment support of the Ukrainian agriculture strategic development. Among the Ukrainian economists who study the theoretical aspects of investments in the economy such scientists as I. Umantsiv et al. [25], V. Makohon et al. [10] should be mentioned. The peculiarities of theoretical and methodological problems of investments and investment support of the economy agrarian sector development are studied by N. Bakhur [1], I. Bezpiata [2], A. Kucher [8; 9], T. Matsyhora [11], N. Patyka [16], P. Sabluk, I. Khomyn [17]. Agrarian scientists today have a common opinion regarding the extreme relevance of investment support in order to activate the country's economic development. V. Mesel-Veseliak and M. Fedorov consider investments as the main tool for the transformation of the agriculture in terms of modern market conditions [12]. Ukrainian

scientists P. Sabluk and I. Khomyn devote close attention to the difficulties of locating sources of investment activity and implementing appropriate mechanisms for financial support of the agriculture [17]. In the works of N. Bakhur, I. Bezpiata, A. Kucher, T. Matsyhora [1; 2; 8; 9; 11], attention was paid to determining the role of investments in the economic development of the agrarian sphere.

General theoretical and applied aspects of investment activities regulation in agriculture are covered by the following authors: V. Ilchuk, T. Shpomer [5], I. Krukova [6], A. Mykhailov [14], V. Onegina, Y. Vitkovskiy [15], S. Savitska et al. [18]. Coverage of the theoretical and methodological principles and substantiation of promising directions for the transformation of the practice of investment activities regulation in the agriculture will provide a scientific foundation for enhancing the specified investment process, as well as contribute to the creation of a favorable investment climate and the attraction of foreign and domestic investments in the Ukrainian agricultural sector.

Taking into account a number of important theoretical, methodological and practical developments carried out by the mentioned scientists, the implementation of which caused significant positive changes in the economy of agricultural enterprises of Ukraine, the latest realities of economic and political changes raise a set of issues related to the need to intensify investment activities in the agricultural sphere of Ukraine, taking into account the strengthening of conditions of competition and development of today's globalization processes. That is why the problematic issues of strategic management investment support of Ukraine's economy agrarian sector development, the determination of financial aspects of the investment processes implementation in agricultural production require in-depth research on the basis of a holistic, systemic analysis which is of strategic importance for the development of the country's economy agrarian sector.

The purpose of the article is to study the current state and directions of investment development of Ukrainian economy's agrarian sector with the justification of conceptual approaches regarding investment support of the strategic development of the national economy agrarian sector.

## MATERIALS AND METHODS

The methodological basis of the research is general scientific cognition methods. The theoretical basis of the research is the scientific works of domestic and foreign scientists in the field of investment science and the agrarian sphere development. The information basis of the research consists of legislative and regulatory acts of the Verkhovna Rada of Ukraine and the Cabinet of Ministers of Ukraine concerning investment support of the agrarian sector of the state's economy; statistical materials of the State Statistics Service of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine; analytical reports of the World Bank, international rating agencies, scientific periodicals, monographic studies of domestic and foreign scientists. To achieve the goal and solve the set tasks, the following research methods were used: the method of analysis and synthesis (in the study of modern foundations of investment of the national economy agrarian sector provision); logical generalization (to generalize the features of investment support for the strategic development of the national agricultural sector); systemic approach (when justifying conceptual approaches regarding sources of investment support of the agricultural sector strategic development); economic and statistical methods (for a parametric analysis of the development processes of the agricultural sector and the state of its investment support).

## RESULTS AND DISCUSSIONS

The effective functioning and development of the modern economy is largely determined by the sufficient provision of various resources, one of which is investment resources. Solving

the problem of attracting investment resources is quite relevant for modern Ukraine, especially for the basic component of its economy, in which agrarian sector plays an important role. The development of the agricultural sector and its investment support depend on many factors and require an in-depth study of their essence.

In Ukraine, for the first time, the concept of investment was legally defined in the Law of Ukraine "On Investment Activity" dated September 18, 1991. It states that "investments are all types of property and intellectual values that are invested in business and other types of object's activities, as a result of which profit (income) is created and/or a social and environmental effect is achieved" (Article 1) [22]. Article 14 of the Tax Code of Ukraine stipulates that an investment is defined as "an economic transaction that involves the purchase of fixed assets, intangible assets, corporate rights and securities in exchange for funds or property" [23].

Taking into account the rather significant number of various approaches to defining the essence of "investment" that characterize the studied economic category in the selected field or field of scientific research, we suggest dividing the understanding of "investment" into groups:

- object of investment – means of production: property (movable and immovable), financial assets (securities, valuables, monetary assets), labor resources;
- the direction of investments – in the spheres of the economy, into entrepreneurial activity;
- method of application – purchase, investment, placement;
- term of investments – short-term, medium-term, long-term;
- the purpose of investments – to obtain income (profit), to increase capital, to obtain a future result, social effect.

Investments in the agricultural sector of the economy will have their own characteristics. First of all, this concerns the direction of investments, i.e. investments by sectors and their sub-sectors: crop production (growing of grain, technical, fodder crops, vegetable growing, berry growing, horticulture,

cultivation of planting material, seed production), animal husbandry (in the development of cattle breeding, pig breeding, sheep breeding, poultry breeding and other sub-sectors of animal husbandry).

Land is a specific means of production in the agricultural sector. Land (land plot) as an investment object is mainly considered from the position of capital investment for the possibility of construction. In agricultural production, land, as the main means of production, is of interest to investors, as the object of production itself. Due to the possibility of expanding the lease of land areas, and with the introduction of the market agricultural land circulation from July 2021, the land turns into a rather attractive area for investment, with a fairly high growth potential.

Systematization and classification of investments are carried out for a proper understanding of the concept of investment management economic efficiency. In the context of the study of investment support of the agricultural sector strategic development, it is important to take into account such a criterion as the motivation or interest of the investor in the classification of types of investments. When classifying direct investments according to the directions that motivate investors to make capital investments, the main groups should most often be distinguished according to the following guidelines:

- resource provision (investment in natural resources (land, water supply), raw materials, equipment, labor resources);
- market direction (adaptation of goods and products to local and foreign markets, implementation and improvement of marketing policy);
- strategic management (striving to optimize production costs, implementation of integration processes aimed at combining material interests in the production and sale of final products).

The development and determination of issues of strategically oriented investments are decisive from the point of view of the investor's potential interest of in the implementation of the investment project and

its characteristics. Strategically oriented investments are aimed at progress in solving the following issues:

- formation of innovatively oriented forms and methods of investment support;
- ensuring long-term relationships, effective communications, business contacts with elements of solving strategic tasks;
- involvement of the latest technologies and principles of cooperation, targeted information resources;
- study of the features and characteristics of the investment process, investment climate, investment culture, national and industry interests in the implementation of global and strategically significant projects;
- forecasting the priorities and prospects of investment support, taking into account global and national changes in the markets, in the business environment of the countries;
- perspectives of global trends and corresponding changes in the investment provision of the domestic producer of the respective countries;
- assessment of institutional changes, progress of institutional support in the investment resources involved.

Strategically oriented investments in the context of strategic development investment support, both the national economy and its individual branches, depending on the importance of achieving goals, can be divided into strategic and supporting investments. Investments with strategic goals involve directing capital into highly profitable projects, the task of which is to achieve a significant increase in capital. Therefore, the realization of the set goals encourages the owners of investment resources to carefully select investment objects in order to minimize the unpredictable costs of capital investments, which can be negatively marked when obtaining the final goal (income) from the investment project.

Thus, when solving long-term tasks for the strategic development of the agriculture of Ukraine with the involvement of investment support, it is important to take into account the motives and interests of strategic investors. The specification of goals and objectives in the realization of investment

projects, taking into account the state and regional vision of the development of agricultural production in the country, makes it “transparent” and promotes the activation of the investment capital attraction in the industry.

Regarding the sources and forms of the agricultural sector investment support, the following types can be distinguished:

- self-financing, this is when a business entity invests its own resources in the development of production;
- attraction of credit funds, at the expense of bank loans, union loans and other funds raised;
- government, regional target programs for providing grants, subsidies, loans at the expense of budget funds of various directions;
- attraction of grant resources of domestic and international funds;
- due to the merger, unification of enterprises on a corporate basis;
- issue of shares, sale of securities;
- rent, leasing of the main means of production.

Agriculture is the basis of the agrarian sector of the economy. The field of its activity is the agricultural crops cultivation and animals breeding. As objects of investment, agricultural production has a number of specific features. First of all, the crop industry has a seasonal nature of production processes and is largely dependent on climatic conditions. The livestock industry is characterized by a high level of capital intensity and a significant period from growing products to their sale.

The specificity of agricultural production is characterized by the slow return of working capital and capital investments. Thus, when cultivating seasonal crops, the spent working capital can be returned in the form of income from product sales no sooner than six months after it was spent. This payback period is substantially longer in the sector of animal husbandry. Fixed capital investments, both in crop production and in animal production, have a somewhat long payback time and, on average, begin in the fifth to sixth year following investment.

At the same time, it should be noted that the

agricultural sector, as a strategic branch of ensuring food resources, has a fairly significant investment attractiveness. The investment provision of this segment of the state economy reflects a certain system of economic relations between the subjects of investment processes in the branches of agricultural production, which interact with regard to the attraction, investment, distribution, use in their activities of property and intellectual values to achieve the socio-economic goals of the industry development as a whole.

The functioning of an effective agrarian sector, adapted to the conditions of a market economy, is impossible without an appropriate organizational and economic mechanism for attracting investment resources, which ensures the enhancement of the management system, organizational and industrial relations, profitability and financial stability, balancing the interests of companies, the state and society. The agricultural sector's growth in all of its economic and historical aspects has a variety of global, strategically oriented processes with drivers of innovation, technological and technical modernization, specific investment support, targeted allocation of resources. Analyzing the strategic changes that have taken place in the Ukrainian agriculture since independence, it is necessary to emphasize the high value of the reforms in agricultural industry. Development of the country's agrarian business was positively impacted by the adoption of land reform and the transition from collective management to organizational and legal forms of business entities based on private and private-lease forms. Today, the position of the agricultural sector of Ukraine is high in the world agricultural markets, the value of land and production potential is recognized all over the world [13].

In order to determine the state of the Ukrainian economy agrarian sector as well as to compare its state with other countries, individual indicators of the statistical database of the World Bank have been analyzed (from the section “Agriculture and development of rural areas”) [24]. For a comparative analysis of the indicators of the condition and

development of the Ukrainian economy agrarian sector, the world averages of relevant indicators, individual countries of the European Union and the post-Soviet space have been used.

An indicator that reflects the specific share of the production of gross agricultural products

in the total amount of gross domestic product can be one of the main indicators that characterizes the place and role of the agricultural sector in the country's economy. This comparative analysis is shown in Figure 1.

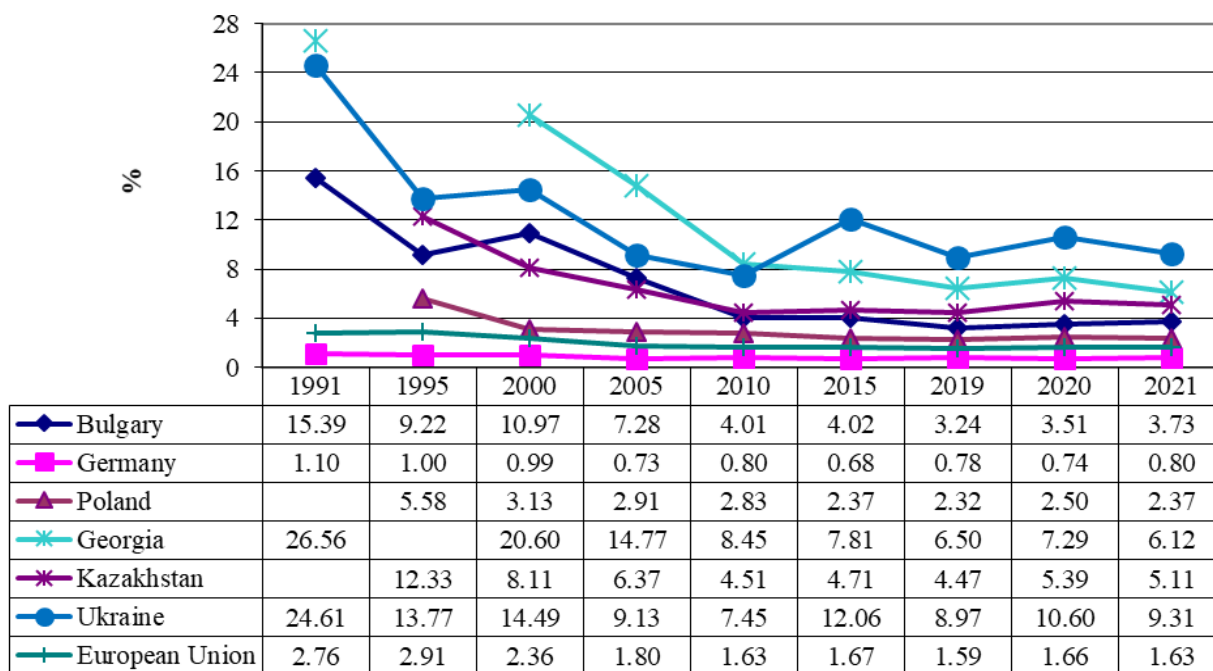


Fig. 1. Dynamics of the specific share of the agricultural sector gross production in the volume of gross domestic product (%)

Source: compiled by the authors based on [24].

The dynamics of the data shown in Figure 1 proves that in the countries that left the post-Soviet space (Ukraine, Kazakhstan, Georgia) between 1991 and 2000, the share of production of the agricultural sector remained quite high at the level of more than twenty percent of the gross national product. In Ukraine in 1991, the percentage of agricultural production in the volume of gross domestic product was 24.61 %. The specific share of agricultural products in the structure

of the gross domestic product in Ukraine during 2000–2020 remained quite high, and for 2021 it is 9.31 %, which is the largest indicator among European countries and countries selected for comparison. An indicative rate that determines the degree of development of the economy's agricultural sector is the characteristics of available land resources in the country.

Table 1. Comparative characteristics of the state of land use in European countries and Ukraine

| Indicator name                                      | Ukraine | European countries | EU countries |
|---|---------|--------------------|--------------|
| Land area, million hectares                         | 60.4    | 1015.6             | 437.4        |
| Black soil area, million hectares                   | 28      | 84                 | 18           |
| Area of agricultural land, million hectares         | 42.7    | 474.8              | 177.7        |
| The share of agricultural land in the total area, % | 70.7    | 46.8               | 40.6         |
| Area of arable land, million hectares               | 32.5    | 277.8              | 115.7        |
| The share of leased agricultural land, %            | 97.0    | 62.0               | 53.0         |

Source: compiled by the authors based on [7, p. 29].

Among European countries, Ukraine has the largest share of agricultural land, which

occupies 70.7 % of the total area of the country and amounts to 42.7 million hectares.

Agricultural lands make up 96.7 % of agricultural lands.

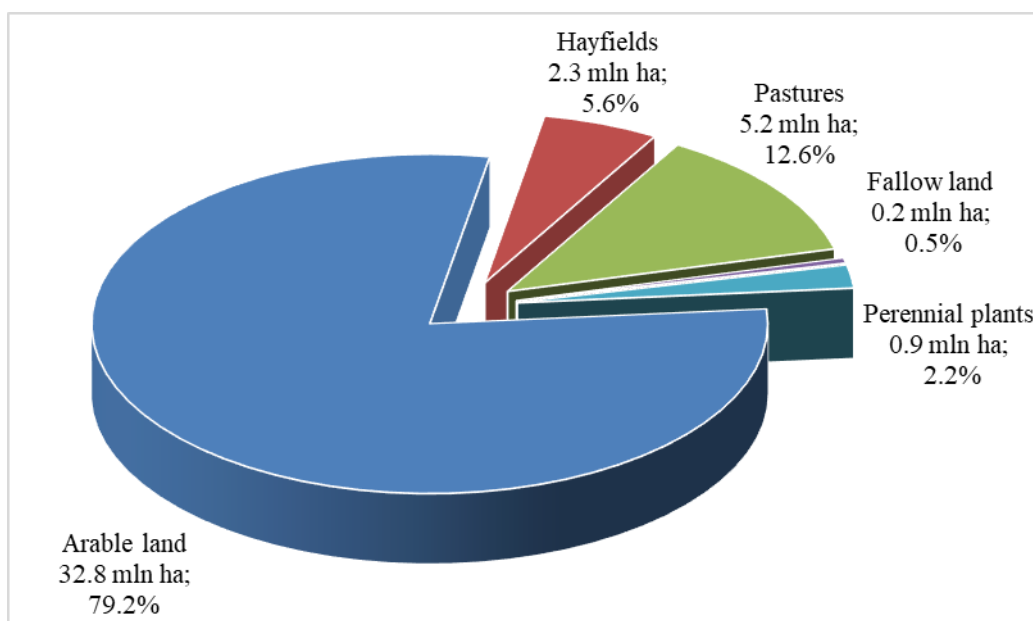


Fig. 2. The structure of agricultural land in Ukraine, 2020, million hectares, (%)

Source: built by the authors based on [19].

The land-resource potential of Ukraine is considered to be the primary foundation of the national economy, and in agriculture it is the main means of production. The country has 79.0 % of arable land in the structure of

agricultural land, the total area of which is 32.8 million hectares, that is why the branch of crop production is the specialization of agricultural production (Table 2).

Table 2. Dynamics of the agricultural products production structure of Ukraine by species in percentage

| Indicators                         | 2010  | 2015  | 2018  | 2019  | 2020  |
|------------------------------------|-------|-------|-------|-------|-------|
| Agricultural products              | 100,0 | 100,0 | 100,0 | 100,0 | 100,0 |
| Crop production                    | 70,5  | 75,9  | 78,9  | 79,1  | 77,3  |
| - grain and leguminous crops       | 27,1  | 32,4  | 33,6  | 35,2  | 33,9  |
| - technical crops                  | 21,0  | 25,0  | 28,4  | 28,6  | 26,5  |
| - potatoes, vegetables             | 14,5  | 13,0  | 12,1  | 11,4  | 12,9  |
| - fruits and berries, grapes       | 2,7   | 2,5   | 2,6   | 2,1   | 2,2   |
| - fodder crops                     | 2,4   | 1,7   | 1,4   | 1,3   | 1,3   |
| - other of crop production         | 2,8   | 1,3   | 0,8   | 0,5   | 0,5   |
| Animal husbandry products          | 29,5  | 24,1  | 21,1  | 20,9  | 22,7  |
| - breeding of agricultural animals | 13,8  | 11,8  | 10,8  | 10,9  | 12,0  |
| - milk                             | 10,7  | 7,9   | 6,7   | 6,3   | 6,7   |
| - eggs                             | 4,2   | 3,3   | 2,8   | 2,8   | 3,1   |
| - other livestock products         | 0,8   | 1,1   | 0,8   | 0,9   | 0,9   |

Source: compiled by the authors based on [19].

The analysis of the given data in Table 2 proves that the crop industry production remains a priority from year to year and the total share of its products is more than seventy percent in the total agricultural production. Traditionally, the volumes of grain and oil crops production remain almost unchanged and high. For 2020 their shares in the total agricultural production were 33.9 % and 26.5 %, respectively.

Having significant land resources, sufficient labor resources, and favorable climatic

conditions, Ukraine is among the top five countries in the world that export grain crops, oil crops, and oil. At the same time, it should be noted that Ukraine exports oil crops as raw materials within 1.5 % of production, and 97.0 % of raw materials are processed in the state. Up to 96.0 % of the produced oil as a product of processing oil-rich crops is exported. The sale of processed agricultural products allows to increase the value of the product due to the production added value.

Table 3. Dynamics of the balance of grain and leguminous crops in Ukraine, thousand tons

| Indicators  | 2010  | 2015  | 2017  | 2018  | 2019  | 2020  |
|---|-------|-------|-------|-------|-------|-------|
| Production  | 39271 | 60126 | 61917 | 70057 | 75143 | 64933 |
| Export  | 14239 | 38338 | 42499 | 42940 | 57925 | 52245 |
| The share of exports from the total volume of production, %             | 36.3  | 63.7  | 68.6  | 61.3  | 77.1  | 80.5  |
| Consumption fund  | 6808  | 5897  | 5655  | 5610  | 5470  | 5379  |
| The share of the consumption volume from the total production volume, % | 17.3  | 9.8   | 9.1   | 8.0   | 7.3   | 8.3   |

Source: compiled by the authors based on [19].

Cereal crops, the share of exports of which increases annually (Table 3), are sold by Ukraine on the international market in the form of raw materials, which significantly reduces financial income. In order to create added value for grain products, and first of all, for grain of the food group, investment projects should be considered and implemented to increase grain processing with the production of high-quality, competitive food group goods.

The most general indicator of the effectiveness of the economy agrarian sector investment provision can be the growth of the volume of gross added value of the agricultural production.

The successful functioning of agrarian business in modern conditions requires it to adapt to rapid changes in the needs of consumers in updating product assortments and their quality indicators. Achieving effective results is ensured by modernization and expansion of production, development of new directions and spheres of activity. All identified measures require the investment of financial and material resources, must be carefully planned, evaluated from the point of view of their expediency, economic efficiency

and cannot be carried out spontaneously. World trends of globalization, rapid technical and technological growth of production, growth in the pace of national markets development, increased competition place high demands on the activities of economic entities.

Ukraine, which today leads a liberation war on its territory against Russian aggression, will need a lot of attention to the creation and implementation of promising investment programs to support the innovative development of all sectors of the economy, including agricultural production, which was and remains one of the driving segments of the state's economy. In connection with the high competition of agricultural products on the world market, Ukrainian farmers need to implement innovative production technologies that would ensure the production of competitive products, with a reasonable return on costs, increased labor productivity, and reduced production costs.

The dynamics of the capital investments volume in the economy of Ukraine and the economy agrarian sector (by type of activity "agriculture, forestry and fisheries") is shown in Table 4.

Table 4. The dynamics of capital investments into the economy and agricultural sector of Ukraine

| Indicators  | 2010   | 2015   | 2018   | 2019   | 2020   | 2021   |
|---|--------|--------|--------|--------|--------|--------|
| Capital investments into Ukraine's economy, million UAH | 189061 | 273116 | 578726 | 623979 | 508217 | 528802 |
| Growth rate until 2010, %                               | x      | 144.5  | 306.1  | 330.0  | 268.8  | 279.7  |
| In agriculture, forestry and fisheries, million UAH     | 11568  | 30155  | 66104  | 59130  | 50680  | 49127  |
| Share in the total volume of investments                | 6.1    | 11.0   | 11.4   | 9.5    | 10.0   | 9.3    |
| Growth rate until 2010, %                               | x      | 260.7  | 571.4  | 511.2  | 438.1  | 424.7  |
| Chain growth rate, %                                    | x      | 260.7  | 219.2  | 89.4   | 85.7   | 96.9   |

Source: compiled by the authors based on [19].

During the analyzed period, the dynamics of the increase in the share of capital investments of the agricultural sector in the total amount of invested capital in the country's economy during the last ten years is monitored. In

2021, the share of capital investments in the agricultural sector made up 9.3 % in the total amount of capital investments of the national economy, which is 1.5 percentage points more compared to the corresponding indicator in



2010. The year 2018 was marked as the most productive year for the development of capital investments, both in the total amount of the country's economy and in its sub-sector "agrosector".

The highest growth of the average annual value of the capital investments basic growth rates (relative to 2010) into agricultural production was achieved in 2018, 2019. In comparison with the corresponding period (chain growth rate), during 2019–2021, there is a reduction in investments, but the difference of capital investments volume in the monetary equivalent during this period decreased. So, if in 2020, compared to 2019, the amount of investments decreased by 8,450 million UAH, in 2021, compared to the figure of 2020, it decreased by 1,553 million UAH.

Analyzing capital investments into the

country's agriculture by types of assets (Figure 3), it can be stated that within 98 % of investments during the years 2019–2021 were invested in tangible assets. The largest share annually with a tendency to increase is the cost of updating machines, equipment, inventory: 47.9 % in 2019, 50.4 % in 2020, 51.3 % in 2021. During the analyzed period, the share of invested capital was 16.2%–14.7 % for the renewal of vehicles. These facts indicate the modernization of production resources, which will have a positive effect on the increase in productivity. Considerable financial resources are also invested in the construction/reconstruction of non-residential and residential buildings, with slight fluctuations when the share of this type of investment decreased in 2021 (17.5 % in 2019–2020, 15.4 % in 2021).

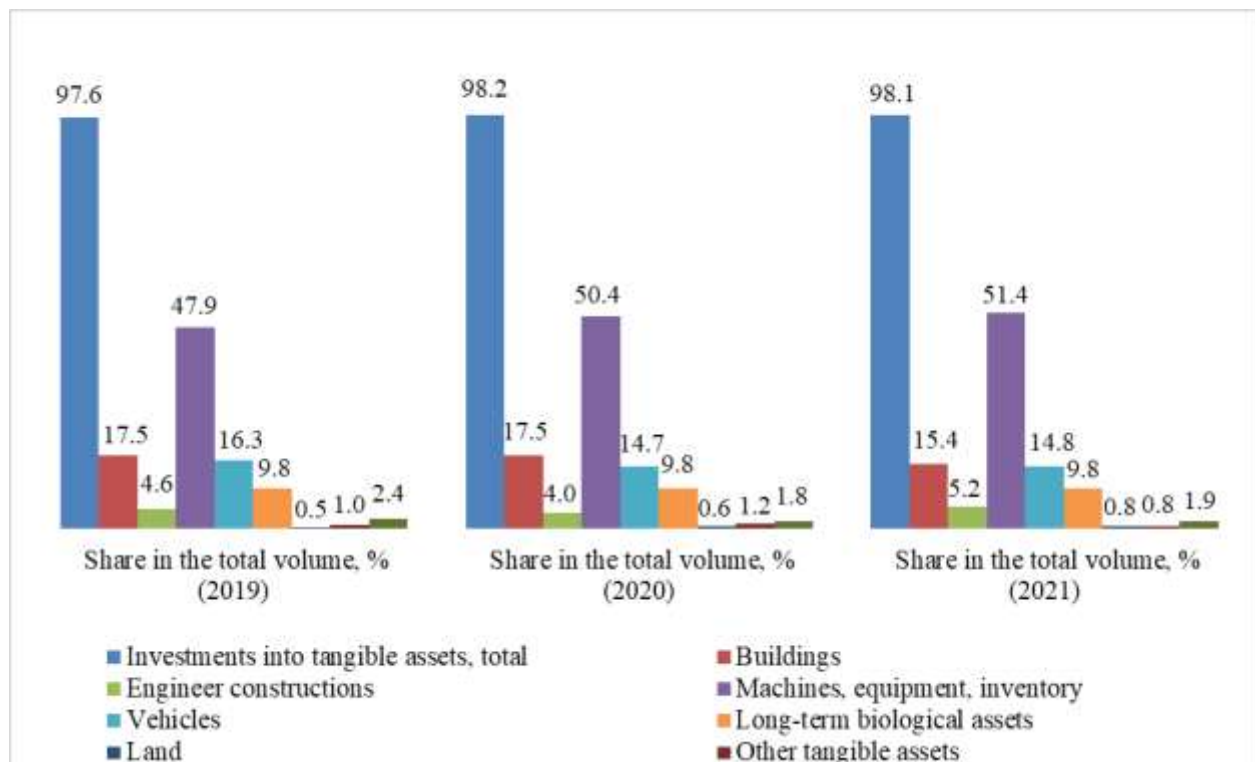


Fig. 3. Distribution of capital investments in Ukraine's agriculture by types of assets as a percentage of the total volume

Source: built by the authors based on [19].

As already noted above, the most important type of agricultural production is crop production, which produces more than 70.0 % of gross agricultural products. This specialization of agricultural production is caused by the available significant country's

land resources and a shorter period of production processes, which allows the economic entity to return the invested into production financial resources (working capital) in a significantly shorter period and to receive income from the products in

comparison with the livestock industry. Therefore, the field of crop production is more attractive for the implementation of

investment projects and the attraction of capital investments (Fig. 4).

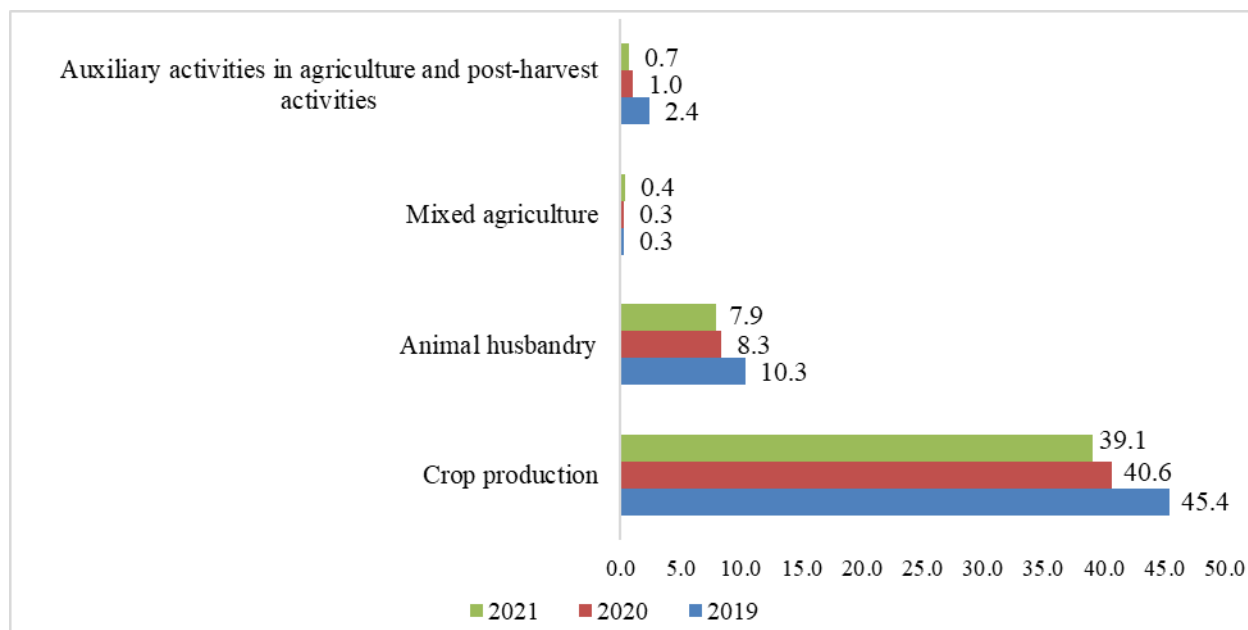


Fig. 4. Dynamics of capital investments into Ukraine's agriculture by production areas (billion UAH)  
 Source: built by the authors based on [21].

The evaluation of the main investment sources is an important factor in the analysis of the

attraction of capital investments in the agricultural sector of the Ukrainian economy.

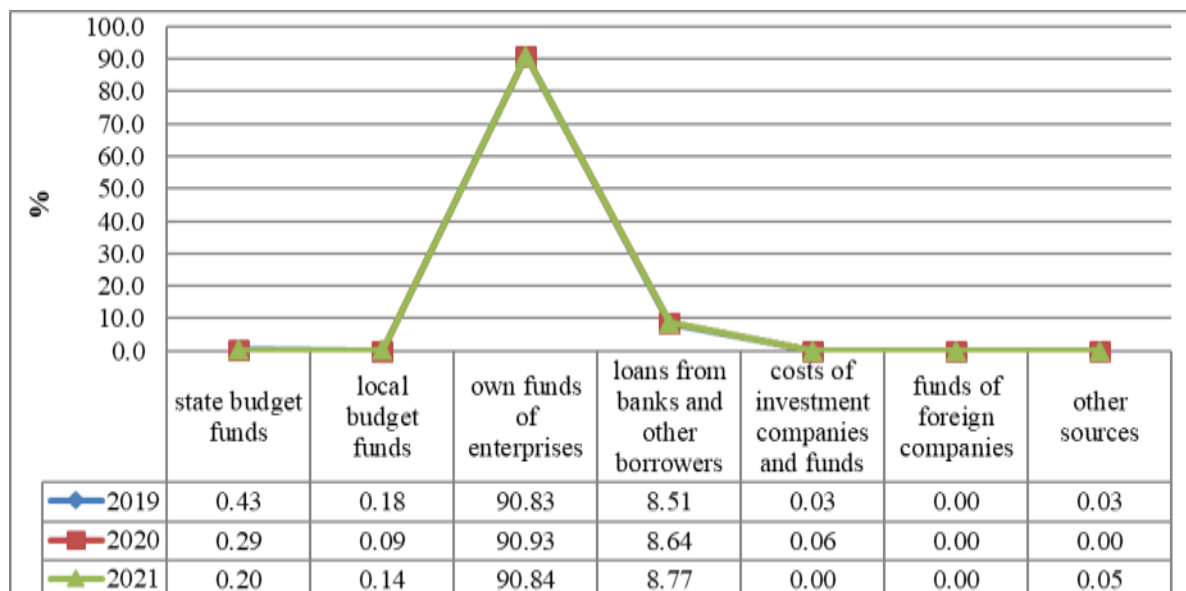


Fig. 5. Dynamics of the structure of capital investments sources involved in the agricultural sector of Ukraine's economy as a percentage of the total  
 Source: built by the authors based on [20].

The analysis of the given data in Figure 5 shows that own funds of enterprises and organizations are the main source of financing capital investments in the agrarian sector of the Ukrainian economy. Their share annually is almost 91.0 % in the total volume of

investments in the sector. Credit resources of the banking system and other borrowers occupy the second place among the sources of financing capital investments in the agricultural sector. During 2019–2021, the share of credit loans was from 8.5 to 8.8 %.

The analyzed structure of sources of capital investments indicates that agrarian entrepreneurs themselves are the main investors in the agricultural sector, attracting their own funds and credit funds from banking institutions. The main goal of investment activity is to direct financial and material resources to ensure the growth of production volumes, which ultimately aims to increase the gross added value from economic activity. An assessment of the actual capital investments influence during 2010–2021 in

the agrarian sector of Ukraine’s economy on the effectiveness of agricultural production has been conducted with the use of tools of correlation and regression analysis, It is evaluated by the indicator of the amount of gross added value. To carry out the analysis, the volume of mastered capital investments in general and by funding sources were selected as factor indicators: funds from state and local budgets, own funds of business entities (enterprises), borrowed funds, resources of investment companies and funds.

Table 5. Assessment of the dependence of the gross added value volume of the agricultural sector on investment support from various sources of investment resources according to the calculated coefficients of determination

| Source  | Function    | Equation                            | R <sup>2</sup> | Dependence  |
|---|-------------|-------------------------------------|----------------|-------------|
| Capital investments, billion UAH  | Linear      | $y = 5.6455x + 42.59$               | 0.606          | average     |
|   | Logarithmic | $y = 195.22\ln(x) - 421.57$         | 0.661          | average     |
|   | Polynomial  | $y = -0.2146x^2 + 22.264x - 196.09$ | 0.725          | significant |
|   | Power       | $y = 9.5448x^{0.9005}$              | 0.834          | significant |
|   | Exponential | $y = 81.792e^{0.0259x}$             | 0.754          | significant |
| Investments at the expense of the state budget, billion UAH               | Linear      | $y = 1430.30x + 140.58$             | 0.388          | moderate    |
|   | Logarithmic | $y = 155.70\ln(x) + 688.1$          | 0.618          | average     |
|   | Polynomial  | $y = -16277x^2 + 5619.5x - 29.846$  | 0.715          | significant |
|   | Power       | $y = 1570.4x^{0.712}$               | 0.768          | significant |
|   | Exponential | $y = 128.24e^{6.54x}$               | 0.480          | moderate    |
| Investments at the expense of the local budget, billion UAH               | Linear      | $y = 3339.6x + 99.00$               | 0.459          | moderate    |
|   | Logarithmic | $y = 168.241\ln(x) + 803.1$         | 0.557          | average     |
|   | Polynomial  | $y = -80346x^2 + 12376x - 81.39$    | 0.602          | average     |
|   | Power       | $y = 2675x^{0.772}$                 | 0.695          | average     |
|   | Exponential | $y = 106.64e^{15.15x}$              | 0.561          | average     |
| Investments at the expense of own funds, billion UAH                      | Linear      | $y = 6.31x + 52.45$                 | 0.572          | average     |
|   | Logarithmic | $y = 194.3\ln(x) - 387.67$          | 0.642          | average     |
|   | Polynomial  | $y = -0.2987x^2 + 26.726x - 208.27$ | 0.719          | significant |
|   | Power       | $y = 11.256x^{0.893}$               | 0.805          | significant |
|   | Exponential | $y = 85.99e^{0.0288x}$              | 0.704          | significant |
| Investments at the expense of bank loans and other borrowers, billion UAH | Linear      | $y = 32.74x + 120.0$                | 0.269          | slight      |
|   | Logarithmic | $y = 166.18\ln(x) + 42.82$          | 0.387          | moderate    |
|   | Polynomial  | $y = -17.817x^2 + 212.1x - 227.5$   | 0.534          | average     |
|   | Power       | $y = 75.193x^{0.8272}$              | 0.568          | average     |
|   | Exponential | $y = 108.87e^{0.1664x}$             | 0.412          | moderate    |

Note:  $R^2 < 0.1$  – there is no dependence;  $0.1 < R^2 < 0.3$  – dependence is slight;  $0.3 < R^2 < 0.5$  – dependence is moderate;  $0.5 < R^2 < 0.7$  – dependence is average;  $0.7 < R^2 < 0.9$  – dependence is significant;  $0.9 < R^2 < 0.99$  – dependence is absolutely significant.

Source: authors’ calculations.

The analysis carried out on the construction of the dependence between the mastered capital investments in the agrarian sector of Ukraine’s economy (period 2010–2021) on the effective impact on the activity of agricultural production, which is expressed by the obtained gross added value volumes of agricultural products, demonstrates an average and significant dependence. Regarding the establishment of the most promising sources of investment support for the agricultural sector, taking into account the strategic vectors of its development, the own economic

entities’ investment resources are the most significant.

As part of the study “Ukraine Investment Attractiveness Index”, the European Business Association (EBA) has been analyzing the investment attractiveness of Ukraine’s economy for 12 years in a row.

The integral indicator of the Investment Attractiveness Index of Ukraine in the first half of 2022 due to the full-scale war in the country fell by half a point and is 2.17 out of 5 possible. This value is the lowest since 2013. However, it is worth noting that according to the results of the European

Business Association (EBA) study, 91.0 % of companies expressed their intention to continue working on the Ukrainian market, and 55.0 % declared their desire to invest in

Ukraine even during wartime. Agricultural sector, energy, IT, construction remain the most investment-attractive industries.

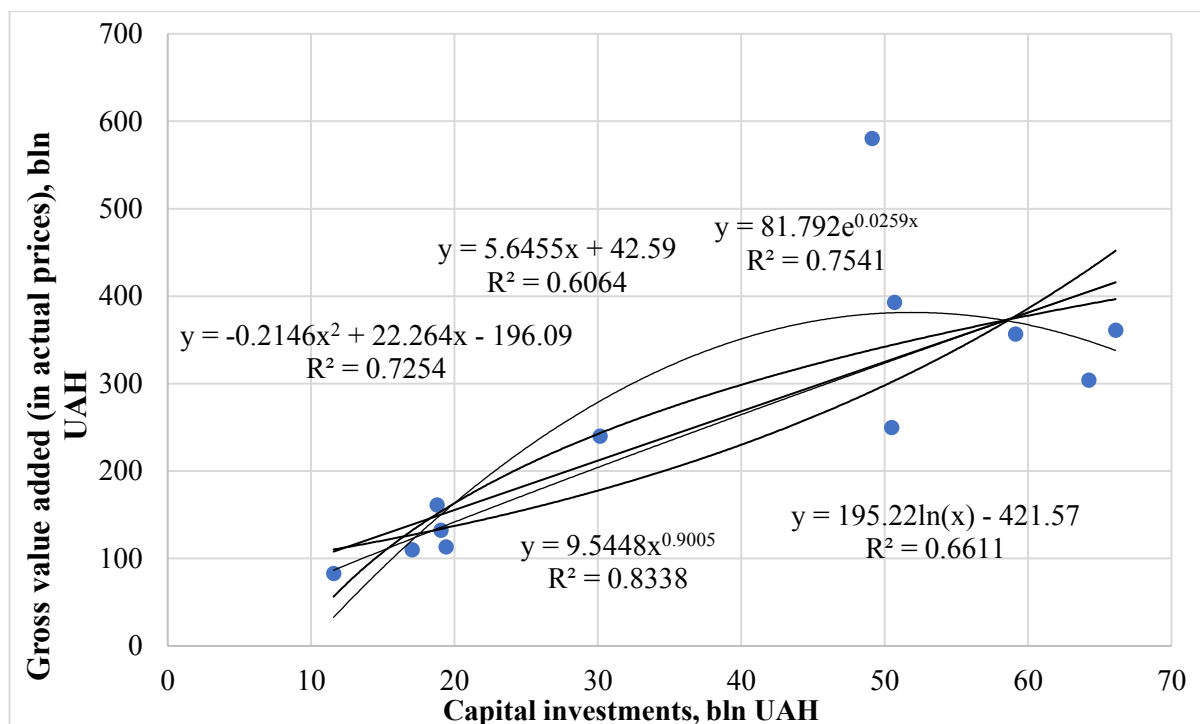


Fig. 6. Linear, logarithmic, polynomial, power and exponential trends of the gross added value volume dependence of Ukraine's agricultural sector on the capital investments volume during 2010-2021  
 Source: authors' calculations.

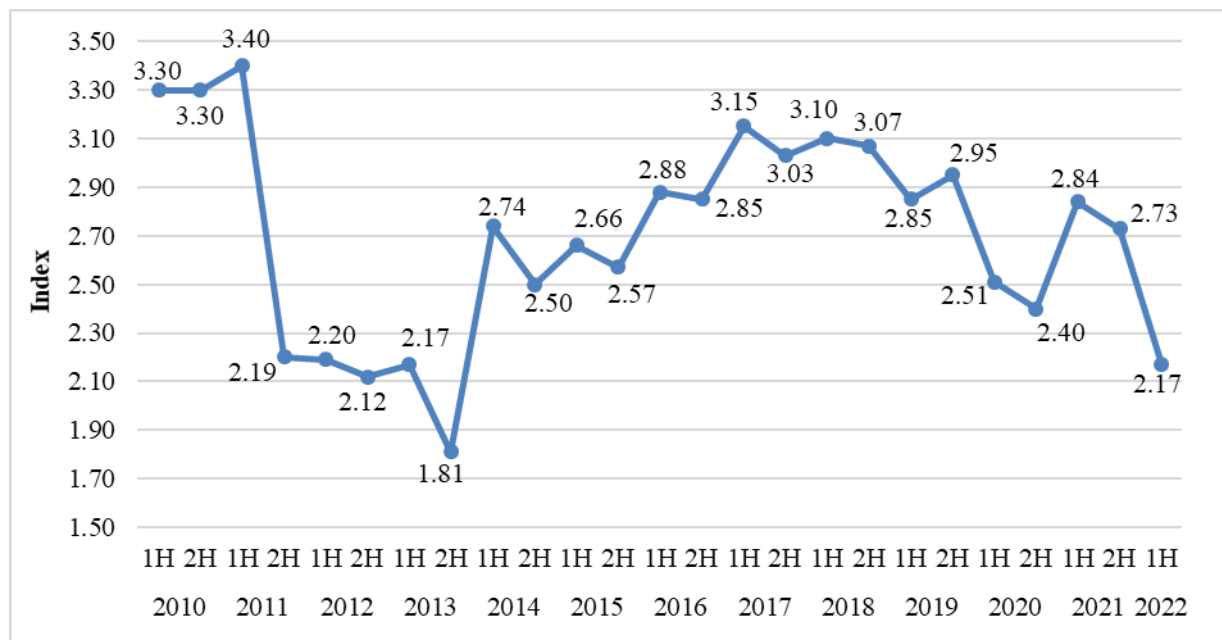


Fig. 7. Investment attractiveness index of Ukraine in the rating of the European Business Association  
 Source: built by the authors based on [3].

However, in the opinion of possible potential investors, the main factors that hold back the intensification of investment activity in

Ukraine's economy and directly in the agricultural sector should include:

- low legislative level of investors' rights protection (instability of legislation, mistrust of the judicial system);
- instability of the national currency;
- high interest rates for attracting credit resources;
- price policy disparity between producers of agricultural products and products of industrial and chemical industries for the agricultural production needs;
- the issue of lifting the moratorium on the sale (circulation) of agricultural land was not resolved for a long time (the moratorium was in effect from 2002 to July 2021 with certain restrictions until 2024).

Conceptual approaches to determining the strategic foundations of the investment support development as a complex economic process in the conditions of uncertainty of most market changes, manifestations of crisis situations in the complex conditions of today caused by the conduct of military operations on the territory of Ukraine, form a logical inclusion of the relevant issues of the investment process in the government's and business' tactical field of action (measures). The issue of combining conceptual approaches with investment support and strategic plans of the government to match the strategy of the state's economy development for short and long-term periods in interaction with industry plans and programs, which forms the newest platform for partnership interaction in the movement towards an effective model of the agricultural sector of Ukraine's economy, becomes really important. It is necessary to form a sustainable interest of agricultural sector enterprises in improving investment processes, managing relevant projects, updating business communications, expanding partnership relations with domestic and foreign investors in order to adopt experience in the agricultural production development.

From the standpoint of promising conditions for the development of the agrarian sector of Ukraine's economy, the prerequisites for the strategic investment support of the industry can be the development and formation of scientifically based models of the cluster economy. Cluster local networks of territorial

production systems are the sources and factors of ensuring a high level of agricultural production, its economic growth and sustainable territory development. Cluster associations as a platform for partnerships in competitive market involve solving a large number of problematic and conflicting issues with the involvement of state administration, the potential of science, the business environment into the directions of development of production and social – economy of the territory and the region. Such associations can contribute to ensuring the accumulation of best practices in production, improving the management system, opening up investment potentials, expanding areas of activity, etc.

## CONCLUSIONS

The relevance of the issue of the economy's agricultural sector investment attractiveness in modern conditions is caused with the growing practical need of humanity for quality food products, the supply of processing industries with raw resources, as well as the impact on the socio-economic development of territories. In the most general sense, it is advisable to consider investment attractiveness as a certain set of characteristics of the investment object ("assessed characteristics of the condition" of the investment object), which satisfies the investor's requirements and convinces him of the feasibility of investing in this object, motivates and satisfies strategic interests. Available natural and labor resources, geographical location, developed market infrastructure can be the basic components that determine the level of investment attractiveness of Ukraine's agricultural sector. It has been emphasized on the importance of agricultural production for the economy of Ukraine. It has been noted that investments are a key element of economic development, the use of which allows business entities to increase the capacity and volumes of production, processing and sales of products on the domestic and foreign markets.

The justification of a conceptual platform to the strategic vision of investment support for

managing the development of the agrarian sector of Ukraine can be identified by the following sequence of actions:

1) formation of development priorities (investment support for the implementation of sustainable intensification according to European standards);

2) strategic planning taking into account the role of the agriculture in the development of the national economy (the unity of government-business cooperation platforms, self-development, commercial and business communication);

3) communication with international partners (integration into the global community).

Conceptual approaches have their own multiplicity, actualization of economic and management knowledge, which should form an active field of changes with target vectors of influence on the country's agricultural sector, ensure the variability of development, improve approaches to the formation of a targeted state investment policy in the agriculture, taking into account the priority interests of the national economy.

The basic principles of investment support as an instrument of strategic management in the implementation of investment policy in the agriculture should be: scientific principle, systematicity, prioritization of the industry and its economic and social aspects, market efficiency, partnership relations, development of risk protection, optimization of risks and profitability, consideration of regional specificity, dynamism, priority of strategic vision and national interests.

According to the results of the study, a solution to the scientific problem of forming conceptual approaches to increase the efficiency of investment support management for the strategic development of the agrarian sector of Ukrainian economy is proposed. One of the stages of promising conditions for the development of the national agricultural sector should be the development and formation of scientifically based models of cluster associations within partnership relations involving state administration, the potential of science, and the business environment in the directions of production development. Such associations can

contribute to ensuring the accumulation of best experience in production management, improving the management system, unlocking the investment potential of agricultural production, and expanding the spheres of activity of the national agricultural sector.

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