Investment trends in the development of the agricultural economy sector

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Abstract. The purpose of the study is to determine the development of investment trends in agricultural enterprises, assess the impact of external and internal factors on their activation, and justify the direction of increasing investment in the agricultural sector of Ukraine. It was established that the volume of investments in 2022 decreased compared to 2021 by 30%. As for the share of agricultural sector investments, the total amount was 12.11 % in Ukraine. The results of the study are that the investment trends of agricultural enterprises were analysed, and the factors that directly affect the amount of investment resources that are attracted to the agricultural sector of the economy of Ukraine were determined and evaluated. The increase of investment resources in agriculture has proven to depend on active measures to ensure business efficiency. Finding mechanisms for increasing the volume of investment resources will contribute to developing business processes at the sectoral and regional levels and strengthen their financial security. Indeed, agricultural enterprises that quickly provide a return on invested capital with the most significant profits are more attractive to investors. Considering this, the more promising thing for the Ukrainian economy is not the production of agricultural products but their processing.

1. Introduction

The agrarian sector of the Ukrainian economy can ensure the progressive development of a qualitatively new social and economic level in Ukrainian society. In order to fulfil this goal, this industry must go through a difficult path of reconstruction and modernization. It is necessary to determine the strategic interests of the state and their compliance with European joint development plans to develop a legislative framework for the regulation of agricultural activity, starting from the regulation of property rights and land use, price policy, tax policy, policy import-export, policies for the development of transport and social infrastructure around agricultural production, environmental issues [1-4].

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It is possible to increase the production volume of high-quality and ecologically clean products, reduce costs, introduce the latest agricultural production technologies, and increase labour productivity only under transparent operation conditions [5-7]. The restraint of the development of the country's economy is caused by an ineffective investment policy, which in our country is implemented under the condition of violation of the optimal ratio between national savings and investments in the economic complex, reduction of accumulation volumes, reduction of budgetary capital investments, ineffective use of foreign direct investments [8-10].

An essential condition for investment support for increasing production agricultural potential is the definition and application of tools with the help of which the set goal is achieved. Stimulation of investment activity in the agricultural sector is related to [11-13]:

- stimulation of investment activity by establishing preferential taxation for business entities that invest from domestic sources;
- the development of mortgage relations, which is quite attractive for most investors since it is about providing inflation-resistant objects as collateral;
- the interest of financial and credit institutions in attracting their resources for production and investment purposes;
- creation of a favourable legal framework for attracting foreign investment in the agricultural sector, which will be of great importance in increasing the production potential; at the same time, it should be taken into account that benefits are not the primary criterion for making an investment decision.

The timely involvement of additional financial resources, particularly investment investments, can directly affect agricultural enterprises' financial security level. Investments can stimulate the activity of enterprises, contributing to their development and modernization. Attracting investments can help enterprises improve production processes, introduce new technologies and improve product quality. This, in turn, can lead to an increase in demand for enterprises' products, contributing to their financial condition and competitiveness in the market.

2. Theoretical framework

The issue of ensuring the attractiveness of investment in the agricultural sector is becoming increasingly urgent in conditions of limited financial resources. Determining the factors that directly affect the investment activity of agrarian enterprises in the modern conditions of economic activity is quite relevant. The exact content of investments is reflected in the writings of Ukrainian economists [3, 6], where it is stated that investments are the investment (expenditure) of money, capital to increase it further, obtain income, or both.

As the researchers note, investment attractiveness is the element of investing that characterizes the agricultural sector of Ukraine and specific agricultural enterprises. If the enterprise functions profitably, it shows positive dynamics to increase the net profit, and advanced capital increases equity share, is liquid and financially stable. Also, it repays debts on time, has a positive image, is attractive, and allows investment funds for certain project activity development [5, 7, 10].

In the research methods were used: modelling as a method of scientific knowledge, systematic generalization (establishing the trends in the development of investment activity in the agricultural sector), economic and statistical (determining changes in the number of investment resources), correlation and regression analysis (for assessment of the closeness of the connection between the researched factors) tabular and graphic (to depict the obtained research results), analysis and synthesis (to find out the reasons that cause changes in the volume of capital investments), abstract and logical (when making theoretical and methodological generalizations).

3. Results

The agricultural sector of the economy is important in developing the national economy as a whole. First, it is connected to ensuring the state's food security. However, to a large extent, the agrarian sector affects economic, environmental, and energy security and it directly impacts the development of technologically related sectors of the economy.

Despite the rather difficult situation in the country, the agricultural sector has a production potential that significantly exceeds the needs of the domestic market. This industry, on the one hand, plays a significant role in developing the national economy and promoting integration into the global economic space. On the other hand, it ensures the development of rural areas and increases the income of the rural population.

The effective development of the agrarian sector of Ukraine is primarily determined by an effective agrarian policy and directly depends on the state's participation in its formation and implementation. It is worth noting that the country has limited budgetary resources, which determines the need to stimulate the state mechanism for regulating economic processes, which involves introducing legal financial and economic influence methods. A special place is occupied by the methods of financial regulation, which include budgetary, tax, price, investment and others.

The effective development of agricultural enterprises depends on the material and production base and the level of training of highly qualified employees. The studies that were conducted show that the share of the agrarian sector of the economy of Ukraine in the total volume of the gross domestic product has rather heterogeneous dynamics. Thus, the highest indicated indicator was in 2015 and amounted to 12.1%. Thus, the highest indicated figure was in 2015 and amounted to 12.1%. However, starting in 2016, this figure has tended to decrease, and in 2022, it amounted to 8.2% [14]. It is worth noting the slight positive changes, in particular, the increase in the share of the agricultural sector in the total volume of GDP in 2021 compared to 2020 by 1.3% (Table 1) [14].

Table 1. The specific weight of the agricultural sector in the economy of Ukraine, 2013-2022. % [14].

Indexes	Year										Deviation 2022 to 2013
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
The share of the agricultural sector in the total GDP	8,8	10,2	12,1	11,7	10,2	10,1	9	9,3	10,6	8,2	-0,6
The share of the agricultural sector in the total amount of gross added value	10	11,7	14,2	13,8	12,2	12	10,4	10,8	12,4	9,3	-0,7
The share of fixed assets in the agricultural sector	4,8	4,9	4,0	5,3	6,6	7,8	8,9	8,8	8,9	9,1	4,3
The share of employed workers in the agricultural sector	9,0	9,7	9,9	10,3	10,0	9,5	8,7	8,2	8,0	7,4	-1,6

Thus, the lowest share of the agricultural sector in the total volume of gross added value was 10.0% in 2013, and its growth to 14.2% in 2015 is followed in the next few years. During 2016-2022, the heterogeneous dynamics of the investigated indicator were followed. In 2021, its growth compared to 2020 was noted due to obtaining significant financial results due to favourable natural and climatic conditions in the specified year. However, in 2022, due to the challenging economic situation, this indicator had the lowest value of 9.3% during the entire study period.

The issue of effective development of the agricultural sector of the economy is of primary importance for the state. This is connected, first of all, with the integration of Ukraine into the EU and a significant increase in competition in the domestic and foreign markets of agro-industrial products. In recent years, there has been a sharp rise in food prices and food shortages worldwide. The growing crises in different parts of the world have been caused by geopolitical, economic, and natural factors such as extreme heat, floods, and drought caused by climate change. Crises follow food security and economic crises during the COVID-19 pandemic [9]. The situation in Ukraine is quite complicated, given the escalation of the military conflict in the east of the country, which in 2022 manifested itself in a full-scale war.

The issue of solving food security worldwide is becoming increasingly important in light of the aggravation of the economic and political crisis. It causes the question of finding ways to effectively develop the agricultural sector of the economy and strengthen the financial and economic security of agricultural enterprises.

According to Fig. 1, positive dynamics are observed in agricultural enterprises regarding the volume of gross product production until 2019. However, in 2020, it decreased by 12% compared to the previous year, amounting to UAH 395,718 million. This trend is mainly related to the decrease in gross crop production in 2020 by more than 14%, relative to the value of gross livestock production, so the situation is relatively stable [14].

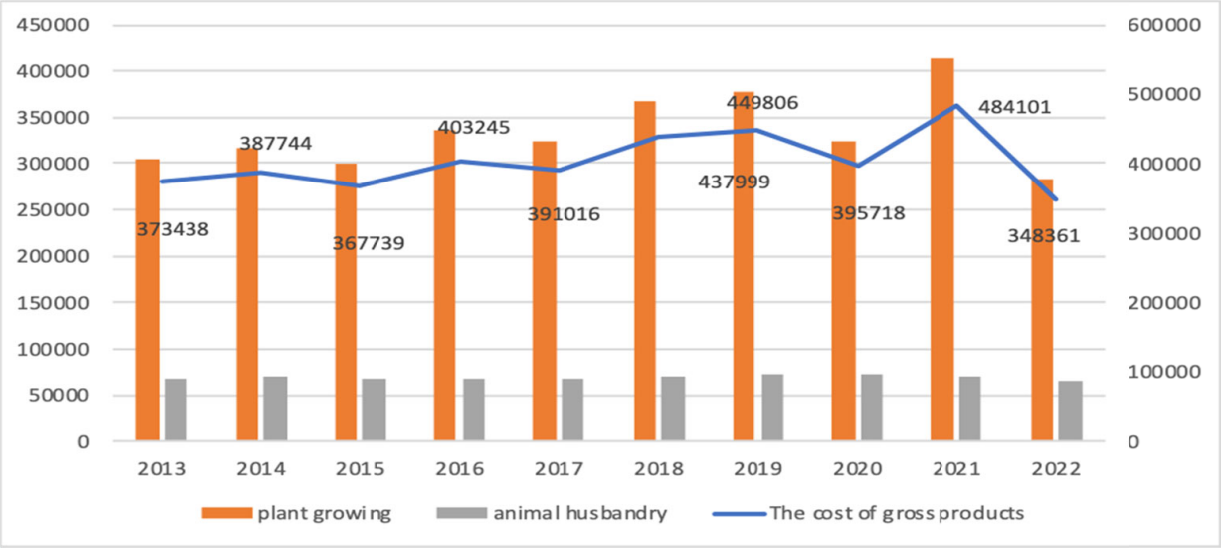


Fig. 1. Volumes of production of gross agricultural products (at constant 2016 prices) in Ukraine, total, million hryvnias [14].

However, taking into account that the share of animal husbandry products is relatively insignificant compared to crop production, in the range of 16–18% during the studied period, it was not able to stabilize the situation with a significant decrease in the value of products in the field of crop production. The highest indicated indicator was in 2021, which is due to favourable natural and climatic conditions, which made it possible to obtain yields for individual crops 1.5 times higher than the average.

Concerning the situation that has arisen in the field of crop production, it is worth noting that in 2020, a significant decrease in the production of almost all types of products was observed compared to 2019. Thus, wheat production decreased in 2020 compared to 2019 by almost 13%, corn by 14.3, soybean by 24.8% and sunflower by 12.2% [14]. Considering this situation, it is natural to decrease the value of the gross production of crop production.

In 2022, a significant decrease in gross production value by almost 30% compared to 2021 was observed, which is due to the war in the country. In the section on individual industries, it is worth noting that in grain production, the indicated indicator decreased by only 8%, while in crop production, it decreased by 31% compared to the previous year [14]. Despite the negative trends observed in agriculture, it is worth remembering that this industry is and remains the leader in increasing foreign trade turnover.

During 2013-2022, the agrarian sector of Ukraine became extremely important for the development of Ukraine's economy, which is mainly connected with the growth of production and export of agricultural products. Stable high indicators of agricultural production allow the country to meet its internal needs fully and expand the industry's export potential.

During 2015–2022, agricultural product exports fluctuated within 38–53% of the total structure of Ukrainian exports. In Ukraine, revenues from the export of agricultural products increased significantly during 2013–2022, which indicates a significant increase in the role of the agricultural sector in total exports [14]. The share of exports of agro-food products in 2021 amounted to almost 40.7%, but in 2022, this indicator is expected to grow to 53% despite the decrease in exported products (Fig. 2).

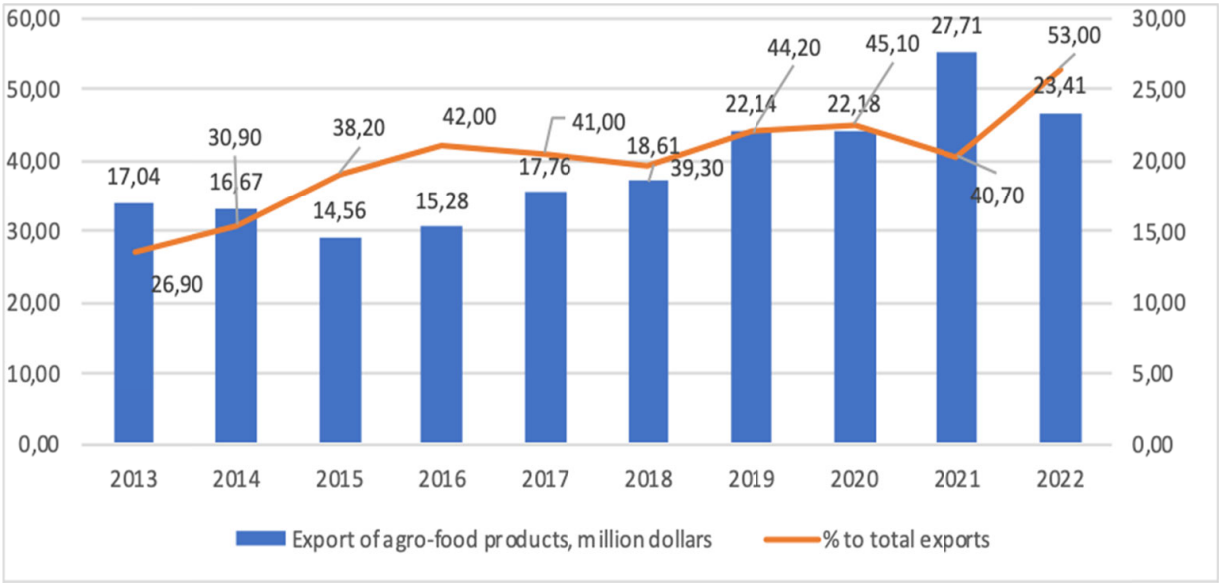


Fig. 2. The structure of agricultural exports, 2013–2022 [14].

The active growth of foreign trade turnover is gradually deepening the integration of the agricultural sector into the world market. Note that there is a gradual increase in the export of agricultural products and, as a result, an improvement in the trade balance. Thus, from 2013 to 2021, exports increased by more than 60%, and in 2021, they amounted to 27,708.9 million US dollars. In 2021, 9,905 agricultural enterprises exported their products to foreign markets. In the structure of agricultural exports in 2020, the main place was grain crops (42.4%), animal fats and vegetable oils (25.9%), prepared food products (15.2%) and live animals, products of animal origin (5.4%) [14].

During the studied period, a positive trade balance was observed, and in 2022, it amounted to 17.3 billion US dollars; the highest value was in 2021 as 2,062 billion US dollars [14]. The decrease in the indicated indicator in 2022 is due to the blockade of sea routes, which were the main ones for the export of agri-food products.

Despite the positive dynamics, the studies show that the structure of agricultural exports continues to be dominated by raw materials. That is, the rate of added value in the agricultural sector of Ukraine is growing very slowly, and decisive steps must be taken in this matter. It is necessary to understand that raw materials in Ukraine are mainly bought, from which finished products with added value are manufactured. Therefore, foreign companies receive additional profits, reflected in other countries' budgets [2]. Since Ukraine is an agrarian country, it must export raw materials and finished products to receive additional profits. Understanding the situation, large agrarian companies are gradually switching to the export of finished products, but their number needs to be increased and should gradually increase.

In order to ensure the effective operation of agricultural enterprises, the level of their financial security should be increased, and financial support should be improved.

Investment resources are indeed critical for enterprises. They determine the processes of innovative development, help enterprises maintain the competitiveness of their products, improve the quality of goods and services, and ensure financial stability and security. In addition, investment resources can affect the external environment of the enterprise, contributing to the improvement of its reputation, increasing the population's employment level and other positive factors. Therefore, it is crucial to carefully plan and effectively use investment resources to achieve success and sustainable development of the enterprise.

The dynamics of capital investments in Ukraine's agriculture have shown that negative dynamics regarding capital investments have been observed in recent years. In 2021, the situation stabilized, and there was an increase in capital investments in agriculture by almost 40% compared to the previous year. The situation in 2022 regarding the attraction of investments has significantly worsened, both in Ukraine and the agricultural sector in particular. Thus, investments decreased by almost 30% compared to the previous year and in 2022 and amounted to 49,612 million hryvnias. However, there was an increase in the share of agricultural sector investments in their total amount to 12.11% (Fig. 3) [14].

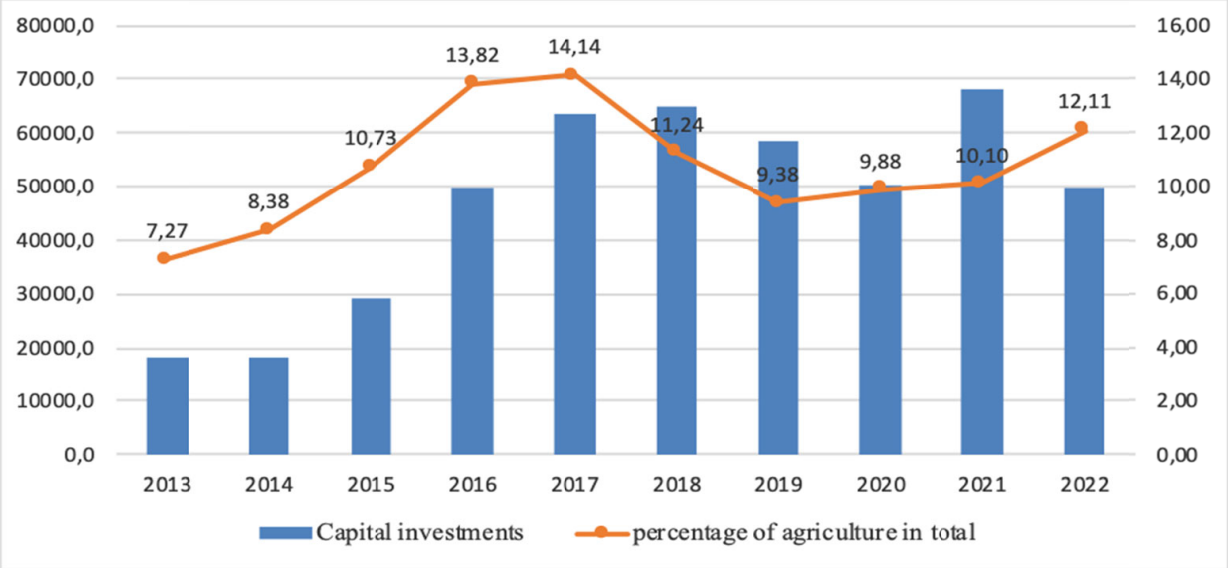


Fig.3. Dynamics of capital investments in the agriculture of Ukraine, million hryvnias [14].

In the economic crisis in the agricultural sector, the attractiveness of investment is deteriorating, as evidenced by the index of capital investments, which reflects the change in capital investments. Thus, despite the growth of the volume of capital investments in agriculture, the heterogeneity of the index of capital investments is observed. It is worth noting that the rapid growth of the index in 2016 was 167.4% [14].

However, starting in 2017, a gradual decrease to 85.7% in 2020 was observed. As mentioned earlier, in 2021, the situation stabilized, and the index of capital investments accordingly increased to 138% [14]. For comparison, it is worth noting that the index of capital investment in food production is significantly lower than in agriculture. As regards its dynamics, it is also not homogeneous. However, the indicated index in the production of food products tended to increase; the highest indicator was in 2018. However, in Ukraine and the indicated industry, it has significantly decreased in the following periods (Fig.4).

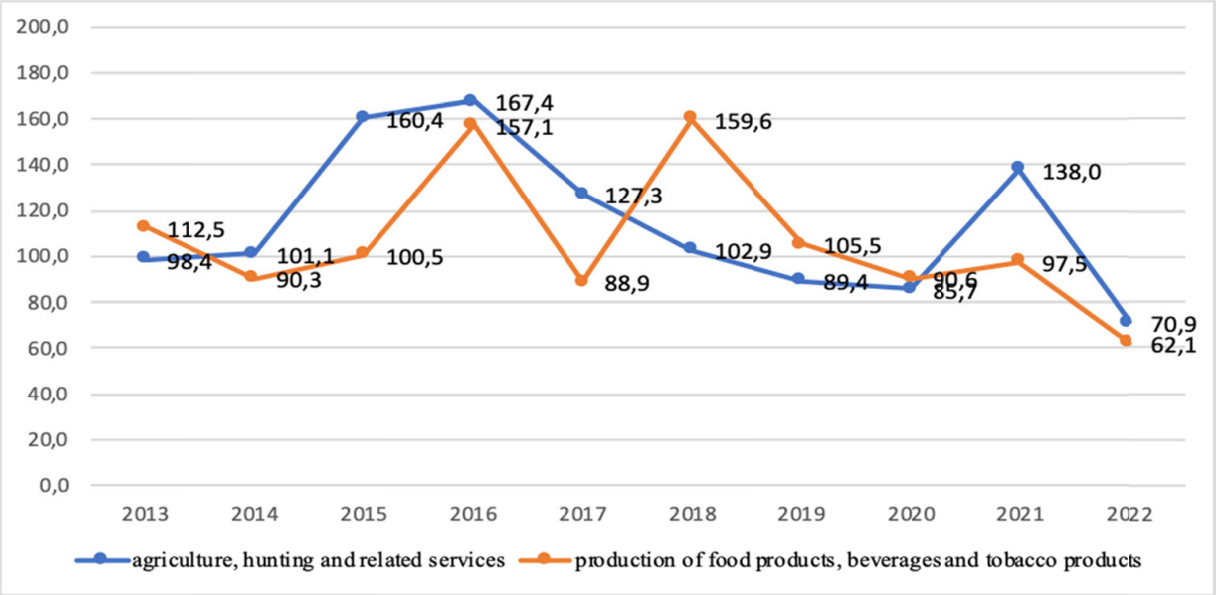


Fig. 4. Indices of capital investments in Ukraine, % [14].

The situation regarding the investment of funds in the development of animal husbandry is somewhat different, although from 2016 to 2022, the development of capital investments in animal husbandry has gradually increased. Thus, it grew almost 2.1 times during 2013-2022, but its share in the structure decreased from 21.6% in 2013 to 16.9% in 2022. The low attractiveness and unprofitability of many animal husbandry products explain this situation. A significant part of livestock premises is physically and morally worn out. The number of livestock and the production volume of the industry's products have decreased sharply. However, it should be remembered that increasing the volume of investments in the livestock industry will significantly improve the situation by reducing the volume of imports. It will ensure the improvement of their financial results.

Although the primary source of investment financing remains the company's funds, it should be understood that in order to ensure the financial stability of enterprises and increase the level of their financial security, it is necessary to use not only their sources of financing but also to attract other, in particular, borrowed funds, state and local budgets, pay significant attention to attracting funds from foreign investors [18].

Various factors affect the amount of investment resources, and there is a need to determine the closeness of the connection between them [19-20]. The analysis of the mentioned factors shows that the volume of the involved investments is influenced by the size of the income and the size of the equity capital of the enterprises [21].

The constructed regression model of the dependence of the size of investments on the amount of income received is as follows:

$$Y = 0.19\,X^{0.90} \quad (1)$$

where, Y is capital investment, UAH billion; X – volume of income of agricultural enterprises, UAH billion.

The coefficient of determination describes the closeness of the connection and shows that the capital investment of agricultural enterprises depends on their income by 82%. According to the obtained equation, if the income of agricultural enterprises increases by 1 hryvnia, the cost of involved investments will increase by 0.9% on average (Fig. 5).

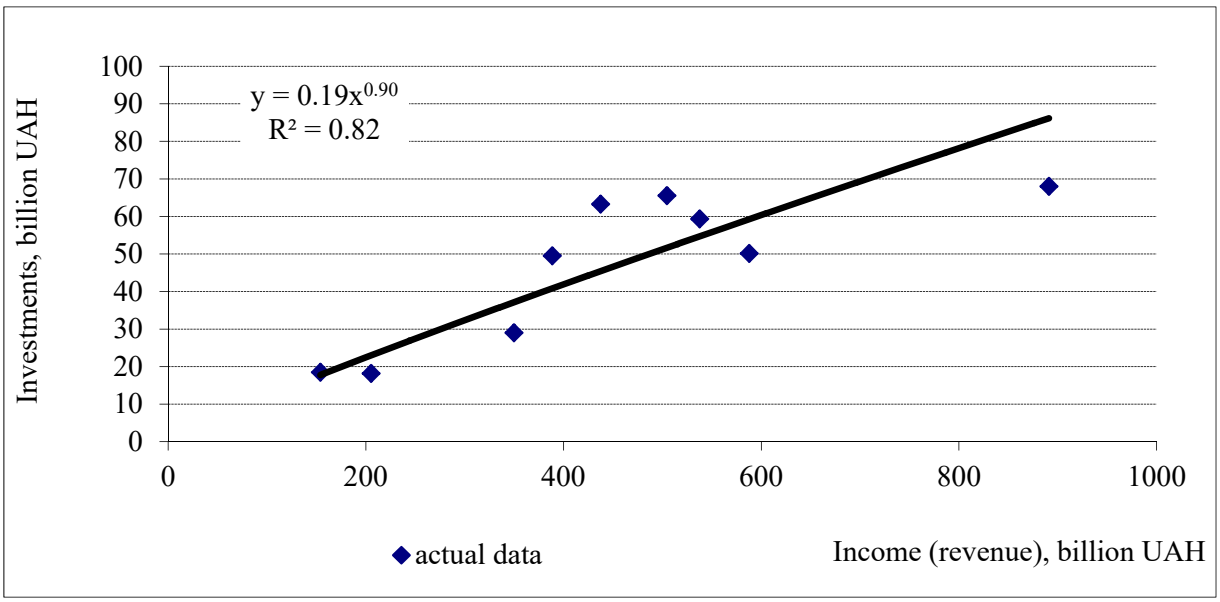


Fig. 5. The influence of the amount of income of agricultural enterprises on the amount of capital investments in Ukraine, 2013–2022.

The analysis of the influence of the amount of equity capital on the attraction of investment resources is described by the equation:

$$Y=0.105\,X^{1.02} \quad (2)$$

where Y – capital investment, UAH billion; X – equity capital of agricultural enterprises, billion UAH.

The conducted studies indicate a significant impact of changes in the capital of agricultural enterprises on the volume of investments, which is confirmed by the coefficient of determination - 0.89. If the capital of agricultural enterprises increases by 1%, the volume of involved investments will increase by 1.02% (Fig. 6).

For the sustainable socio-economic development of the regions of Ukraine, it is necessary to attract sufficient funds from both internal and external sources. Involved investments make it possible to create new jobs and as a result, to increase the volume of tax deductions, which will favourably affect the formation of additional sources of financing for social and economic development, as well as improve the quality of infrastructure; stimulates the development of entrepreneurial activity and diversifies its industry structure, in addition, there is a reduction of risks associated with the cyclicality of industry development [4, 8].

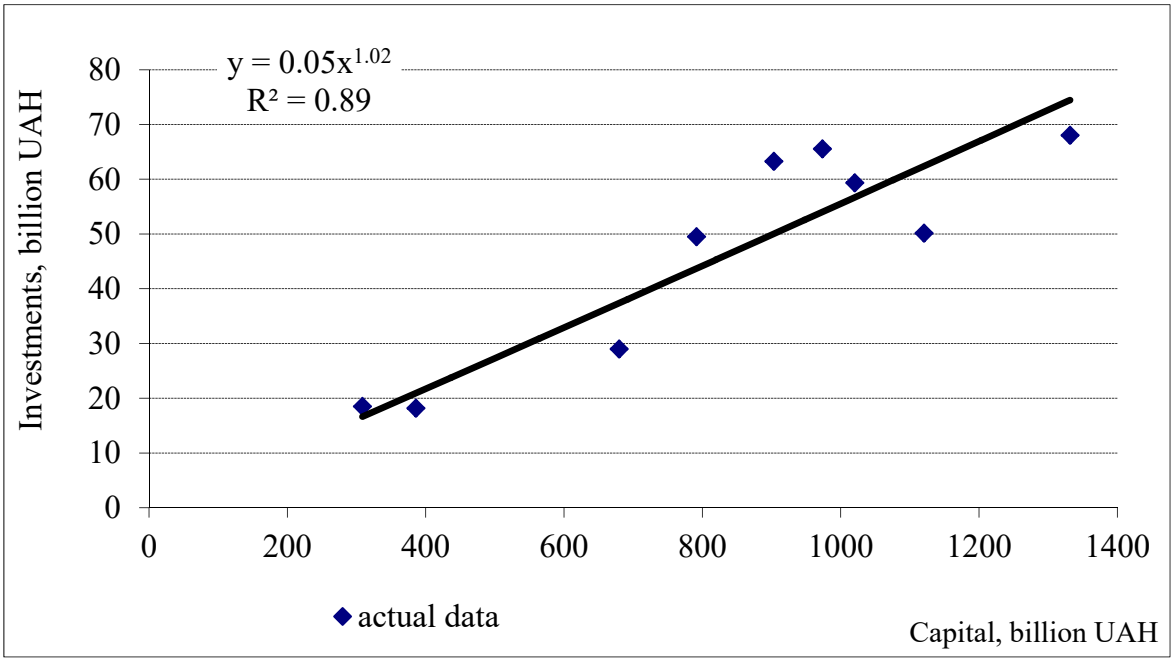


Fig. 6. The influence of the amount of capital of agricultural enterprises on the volume of capital investments in Ukraine, 2013–2022.

The further development of agricultural enterprises requires a significant increase in the volume of investments due to the activation of the use of existing sources of financing. This makes the question of determining the level of investment in agricultural production and highlighting the most promising areas for attracting capital urgent.

4. Conclusions

Creating conditions for attracting foreign investment is essential in developing agrarian enterprises, as this will make it possible to compensate to a certain extent for the deficit of national funds. In addition, it will make it possible to introduce leading production technologies into the production process, which will undoubtedly contribute to increasing the level of financial security of enterprises.

However, from 2013 to 2022, there has been a decrease in investment by foreign investors, both in the economy in general and in the development of agriculture in particular. Objectively, a radical increase in the industry's investment resources depends on active measures to ensure business efficiency. The search for mechanisms to increase the amount of investment resources will contribute to the development of business processes at the branch and regional levels and increase the efficiency of enterprises. Despite stabilising the investment situation, in 2022, the index of capital investments in agriculture decreased significantly and amounted to 70.9 per cent.

The attractiveness of Ukrainian agricultural enterprises for foreign investors could be higher due to high investment risks and insufficient profitability on invested capital. Enterprises that quickly ensure the return on the invested capital with the most significant profit are more attractive to investors. Considering this, the more promising thing for the Ukrainian economy is not the production of agricultural products but its processing.

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