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Tranchenko L.V.

Doctor of Economics, Professor

Department of Management of

Uman National

University of Horticulture, Uman

Lopatyuk R.I.

Ph.D., lecturer in economy of enterprise,

finance, accounting and auditing

Uman State Pedagogical

University. Tychina

STATE SUPPORT INVESTMENT AGRICULTURE

Summary

In the circumstances, the investment problem in the agricultural sector enterprises gained much attention. In a society based on market principles, investment activity is free and regulated by general economic laws. However, there are circumstances when the state takes over the functions of regulation and activation of investment in priority sectors, which in the agricultural sector are the prerequisites for sustainable development. Lack of role of the state to mobilize investment resources in enterprises of agricultural sector in the complex transformation processes led to the investment crisis, whose consequences are still unable to overcome.

Keywords

Investing, investment, investment climate, investment flows, mechanism, state aid, agriculture, and agriculture.
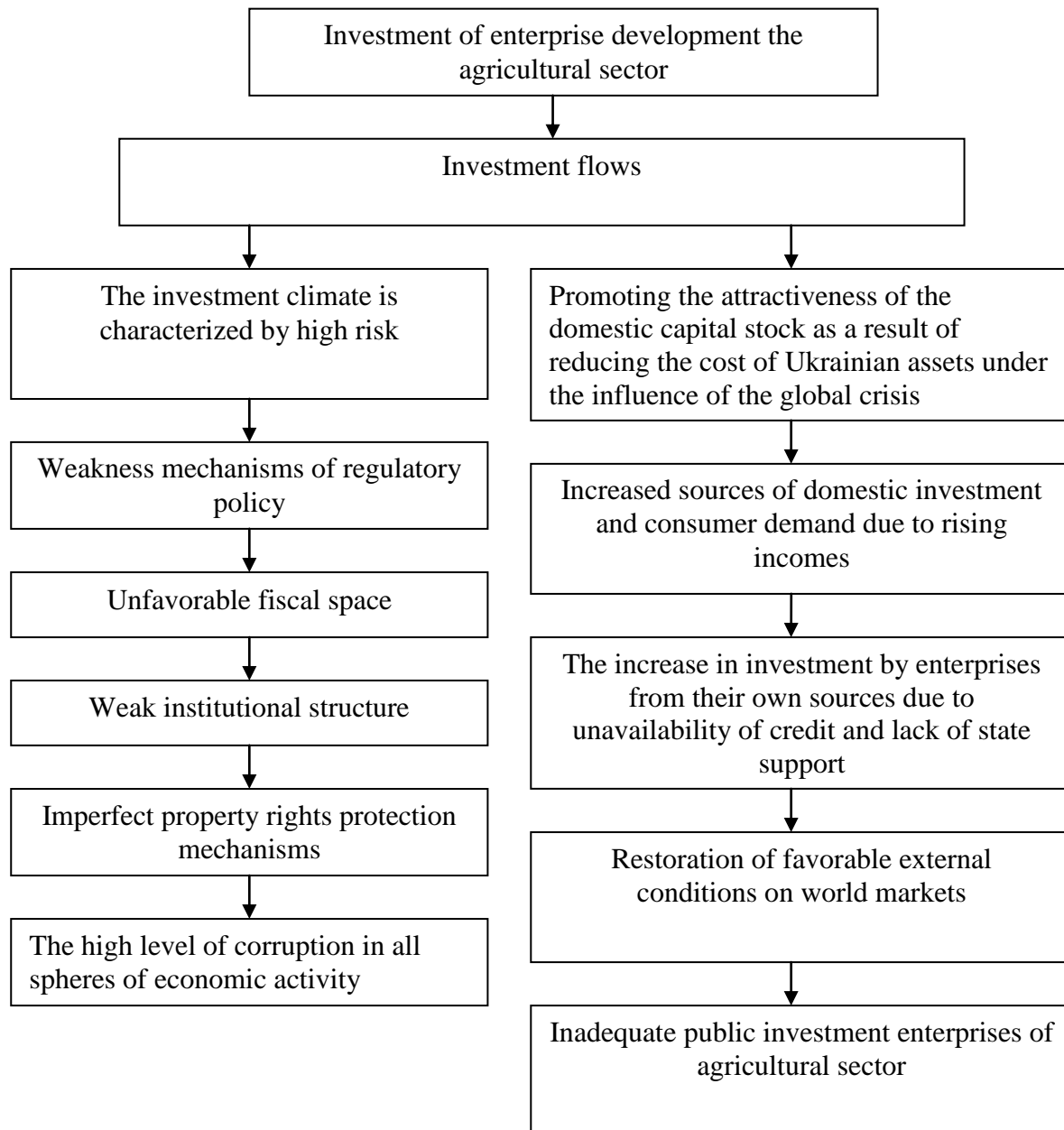
Statement of the problem in general and its relationship to important scientific and practical tasks. Effective reform of the economy, as international and domestic experience only possible on the basis of Investment Promotion, a substantial increase in investments and consolidate all sources of investment. It is only possible modernization of production, new technologies based on modern scientific research. The highest level of investment activity in agriculture Ukraine

was observed in 1991. When capital investments from all sources exceeded 20 billion at equivalent prices. This, in particular, contributed to the enactment of legislation on priority social development of the village and agricultural production. In the period since 1992 to 1998 economic crisis led to a decline in investment activity in agriculture. To modernize and expand production necessary source of funding is the foreign investment.

Analysis of recent research and publications. Problems investment, investment activity has always been the focus of Ukrainian and foreign scientists and economists. Marx deeply analyzed the socio- economic foundations of the process of accumulation in the capitalist system. Fundamental economic- theoretical analysis of the investment process in a market is held in the writings of John Maynard Keynes, J. Fisher , L. berth, D. Jorgenson, W. Mita, LT Geier and others. Questions address the problem of efficiency of investment attracts many domestic scholars: LI Brovko, ON Golovanov, MJ Demyanenko, II Dorosh, Ivanyshyn V. [3] JO Curls, Kodenska M. Yu [4] Korotych P. Kisil MI, Kropyvko M. Lavruk VV, II Lukinova Mazur GF, burial LM, GM Pidlisetskoho, V. Radchenko, MA Sadykova, II Stalyeva, AV Chupisa, Hvesyk MA and others. However, some issues require detailed study. Thus, at this stage no comprehensive development to invest in agricultural production in terms of market transformation. Science and practice little color ways to accelerate investment activity of agricultural enterprises.

Problem. The aim of the study is to develop a mechanism for investing agriculture based economic analysis of investment processes, evaluation of investment attractiveness of agricultural enterprises in market conditions.

Results. Investment companies of agricultural sector is characterized by the following factors enhance investment processes (Fig. 1). Despite some positive trends in the investment processes of agrarian areas is not yet enacted a system of economic incentives to encourage investment and investment regulation.

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┌─────────────────────────────────────────────────┐
│      Investment of enterprise development the     │
│                 agricultural sector               │
└─────────────────────────────────────────────────┘
                        │
                        ▼
┌─────────────────────────────────────────────────┐
│                 Investment flows                  │
└─────────────────────────────────────────────────┘
         │                              │
         ▼                              ▼
┌──────────────────────┐   ┌──────────────────────────────┐
│ The investment       │   │ Promoting the attractiveness  │
│ climate is           │   │ of the domestic capital stock │
│ characterized by     │   │ as a result of reducing the   │
│ high risk            │   │ cost of Ukrainian assets under│
│                      │   │ the influence of the global   │
│                      │   │ crisis                        │
└──────────────────────┘   └──────────────────────────────┘
         │                              │
         ▼                              ▼
┌──────────────────────┐   ┌──────────────────────────────┐
│ Weakness mechanisms  │   │ Increased sources of domestic │
│ of regulatory policy │   │ investment and consumer       │
│                      │   │ demand due to rising incomes  │
└──────────────────────┘   └──────────────────────────────┘
         │                              │
         ▼                              ▼
┌──────────────────────┐   ┌──────────────────────────────┐
│ Unfavorable fiscal   │   │ The increase in investment by │
│ space                │   │ enterprises from their own     │
│                      │   │ sources due to unavailability │
│                      │   │ of credit and lack of state   │
│                      │   │ support                       │
└──────────────────────┘   └──────────────────────────────┘
         │                              │
         ▼                              ▼
┌──────────────────────┐   ┌──────────────────────────────┐
│ Weak institutional   │   │ Restoration of favorable      │
│ structure            │   │ external conditions on world  │
│                      │   │ markets                       │
└──────────────────────┘   └──────────────────────────────┘
         │                              │
         ▼                              ▼
┌──────────────────────┐   ┌──────────────────────────────┐
│ Imperfect property   │   │ Inadequate public investment  │
│ rights protection    │   │ enterprises of agricultural   │
│ mechanisms           │   │ sector                        │
└──────────────────────┘   └──────────────────────────────┘
         │
         ▼
┌──────────────────────┐
│ The high level of    │
│ corruption in all    │
│ spheres of economic  │
│ activity             │
└──────────────────────┘
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Figure . 1. **Factors enhance investment processes agricultural sector ***
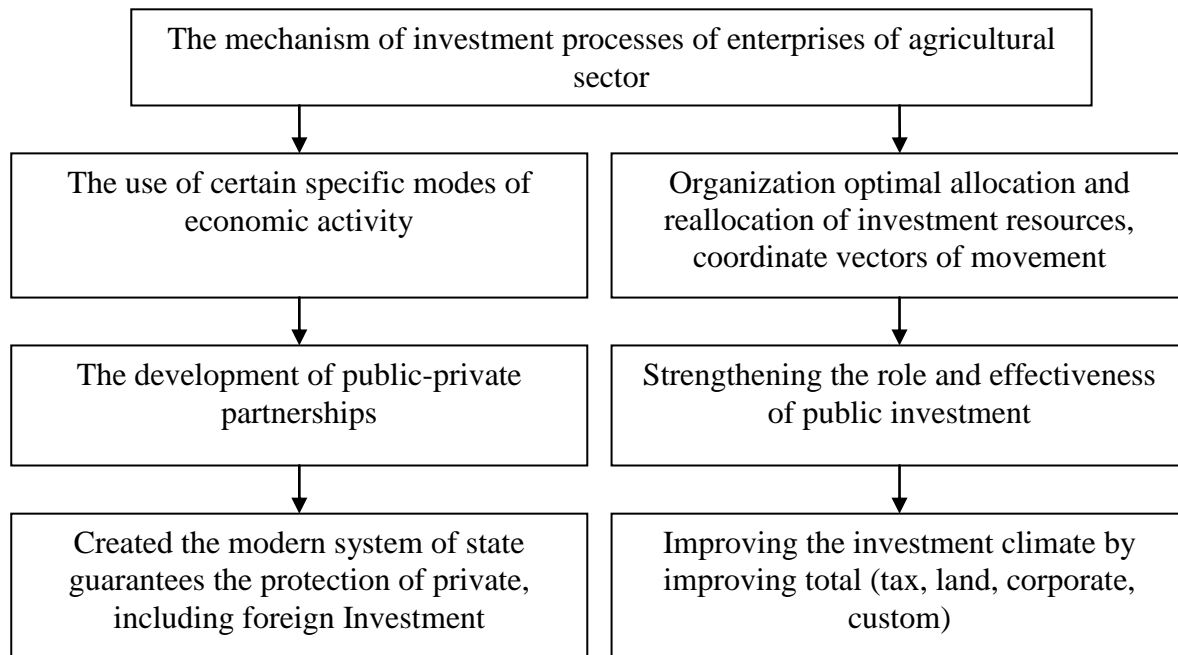
* Developed by the author

In particular, measures to reform of land ownership and property were not stimulating investment focus, financial and lending institutions are not interested in the investment business operations in the agricultural sector, the system of depreciation does not provide conditions of simple reproduction of fixed assets not leverage the preferred orientation of foreign investment in agriculture, agricultural producers have practically not used modern methods of investment projects. For a

long time remains unsatisfactory investment firms providing agricultural sector, public sector enterprises in rural areas.

The vast majority of investment in the agricultural sector enterprise comes from private sources, whose share in total investment in fixed capital industry is 95-97%. The share of state (3.4 %) and utilities negligible (less than 1%) and should increase to a level that will ensure the implementation of national objectives to support and regulation of investment activity of enterprises of agricultural sector and rural areas [2]. Target State Target Program for Ukrainian village until 2015 to finance the reproduction of fixed assets budget organizations and institutions, and academic institutions have not yet met.

The reasons for the investment crisis, which resulted in depressive character development in the agricultural sector enterprises can be considered as macroeconomic factors reduce their investment sources producers through increased disparity of prices and depreciation of investment resources in terms of inflation , reduction of direct state investment support is not compensated own and borrowed sources financing investment, a sharp deterioration in terms of access to credit, financial and credit crisis of the banking system in the early 90's, the growth of non-payment, breach of economic ties, the destruction of the logistics[3].

Constructing investment strategy in the agricultural sector businesses based on economic mechanisms of investment flow field, shown in Fig. 2. Evaluation capacity development in agricultural business sector has proved its importance for the national economy. Production enterprises in the agricultural sector is one of the traditional branches of agriculture. The share of the agricultural sector of Ukraine is 26 % of gross production, and 30% of fixed assets , it employs 25% of workers in the fields of agriculture of Ukraine [1].

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┌─────────────────────────────────────────────────────────┐
│   The mechanism of investment processes of enterprises   │
│              of agricultural sector                      │
└─────────────────────────────────────────────────────────┘
         │                                    │
         ▼                                    ▼
┌──────────────────────────┐   ┌──────────────────────────────┐
│ The use of certain       │   │ Organization optimal          │
│ specific modes of        │   │ allocation and reallocation   │
│ economic activity        │   │ of investment resources,      │
│                          │   │ coordinate vectors of movement│
└──────────────────────────┘   └──────────────────────────────┘
         │                                    │
         ▼                                    ▼
┌──────────────────────────┐   ┌──────────────────────────────┐
│ The development of       │   │ Strengthening the role and    │
│ public-private           │   │ effectiveness of public       │
│ partnerships             │   │ investment                    │
└──────────────────────────┘   └──────────────────────────────┘
         │                                    │
         ▼                                    ▼
┌──────────────────────────┐   ┌──────────────────────────────┐
│ Created the modern       │   │ Improving the investment      │
│ system of state          │   │ climate by improving total    │
│ guarantees the protection│   │ (tax, land, corporate,        │
│ of private, including    │   │ custom)                       │
│ foreign Investment       │   │                               │
└──────────────────────────┘   └──────────────────────────────┘
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Figure . 2. **Priorities for improving investment processes ***

* Developed by the author

Thus, the investment of enterprises of agricultural sector should be a system that should facilitate dynamic socio-economic development and improving the competitiveness of agricultural products and requires consideration of conditions that include international, social, economic, ecological features of the agricultural sector. Thus, the objectives of large-scale modernization of the national production, energy conservation, productivity growth, strengthen the competitive position of domestic producers is possible through extensive use of investment and innovative development model.

Among the measures to mitigate the negative effects the main place should belong to the state support of enterprises of agricultural sector, stimulate the process of investing in capital agricultural sector, development of state regulation of agricultural production with related industries and the state, which should be based on the cluster approach [3]. State regulation of investment business processes in the agricultural sector should contribute to the development of production, processing and marketing of agricultural products, logistics and service of agricultural

production, measures and instruments which directly or indirectly affect the volume of investment in agriculture.

Effective management of modern enterprise of agricultural areas is not possible without the use of modern methods of economic- mathematical modeling and economic and statistical analysis. On the activities of any enterprise affecting the agricultural sector are some factors. Evaluate the results of their actions possible methods of statistics, the basis of which is the construction and analysis of the corresponding mathematical model. For multifactor models or events appropriate to use the method of multiple correlation and regression analysis, which allow to study and quantify the internal and external effect relationships forming between model factors and establish patterns of functioning and trends in the study of effective features.

In practice, management of enterprises to evaluate the agricultural sector are widely used economic- mathematical methods. Practical tasks of economic and mathematical modeling are: analysis of economic institutions and processes, economic forecasting, prediction of economic processes, making management decisions at all levels of the economic hierarchy. Among the large number of models should provide such statistical methods as methods of trend and correlation-regression analysis. The main task of correlation and regression analysis methods to analyze the statistical data to identify the mathematical relationship between the studied traits and install using correlation coefficients comparative evaluation of density relationship, which is a numeric expression.

Correlation and regression analysis techniques solve two main tasks: identification by regression equations analytical form of connection between the variation of attributes X and Y , and statistical evaluation of the equation between effective and factor variable based on regression analysis, interpretation of the resulting equation and its of use. Often, there are the following types of connections: - factor variable is directly related to effective - productive trait determined by a complex operating factors - two effective signs caused by the action of a common cause.

An important feature of investment attractiveness of enterprises of agricultural sector with the level of profitability, including indicators pointing to financial result (profit margin of an enterprise during the period). Therefore, it is necessary to analyze how the emerging profits, identify the main route from and methods of management. In order to identify the major components that affect the amount of profits, conduct correlation analysis of individual financial performance of the company. To determine data dependence conduct correlation- regression analysis and build economic and mathematical model.

Analysis of the impact of individual factors on the net income, the cost effectiveness makes it possible to evaluate certain trends that have emerged as a result of agricultural enterprises Vinnytsia region during the 2002-2011 biennium Draw quantify the combined effect of the studied factors on the resultant figure . The complex interaction of all factors (X1, X2 , ... n) of the performance indicators (Y) can be described by the linear equation multivariable regression of the form:

$$Y = a_0 + a_1 \chi_1 + a_2 \chi_2 + a_n \chi_n \qquad (1)$$

Using data correlation - regression analysis , we determine the impact of these factors on the net profit, mln. (Y) for farms Vinnytsia Oblast assortment structure of enterprises ,% (X_1), seasonality of production, % (X_2) , and the average product price UAH / t. (X_3), capital productivity (the ratio of net income to the average annual value of fixed assets), rub. / USD. (X_4) materialootdachi (ratio of net income to total material costs) UAH . / USD. (H_5), the number of workers people. These indicators were grouped by 20 enterprises, which examines the dynamics for the 2002-2011 biennium, for the analysis used the average for the study period (Table 1).

Table 1

Summary data for correlation and regression analysis of influence factors on profit agricultural sector Vinnytsia region *

Years	Y	X1	X2	X3	X4	X5	X6
2002	10,53	0,22	0,18	0,8	1,87	0,96	332
2003	56,33	0,17	0,24	0,84	1,73	0,67	290
2004	5,571	0,19	0,23	1,14	1,33	1,07	249
2005	5,567	0,19	0,22	1,45	1,18	0,59	226
2006	6,171	0,18	0,23	1,32	2,13	0,72	165

2007	0,914	0,18	0,24	1,58	2,99	0,96	105
2008	-0,740	0,16	0,23	2,14	4,38	0,72	78
2009	-0,197	0,14	0,22	2,16	2,86	0,8	90
2010	1,026	0,19	0,22	2,84	3,4	0,83	89
2011	0,769	0,17	0,21	3,3	2,76	0,71	84
On average over 10 years	8, 6	0,18	0,22	1,76	1,87	0,96	170,8

* Grouped and conducted calculations based on [2, 4]

Using MS Office Excel - 2007 were the following regression equation :

$$Y = -92,6 - 325,3 \, x_1 + 555,3 \, x_2 + 11,6 \, x_3 - 12,9 \, x_4 - 166,7 \, x_5 + 0,26 \, x_6 \qquad (2).$$

This equation indicates that the greatest impact of all 6 - you factors on output indicators are: seasonality of production - an increase in the weight of the seasonality index by 1% profit increase by 555 mln. materialootdachi - an increase of this factor on 1grn. the net income decline by nearly 167 million. assortment structure - in the expansion of assortment structure on a 1% revenue decrease by 325 mln.

To determine the relative magnitude of the effect of individual factors on the outcome , it is necessary to calculate the partial elasticities (ε_i)showing and how much interest the average change in the sign of productive change by 1% each factor fixed position and other factors as follows:

$$\varepsilon_i = \frac{a_i * \chi_i}{\gamma} \qquad (3)$$

where

a_i - regression coefficient for the i- th factor ;

x_i - mean value of the i-th factor;

i_n - the average effective features.

Based on a formula was established as follows: an increase of assortment structure on the amount of 1% of net profit decreased by 5.4 %, while increasing the impact of seasonality on 1% of the net profit increased 11.5 %, while increasing production rates by 1% the amount of net income increase by 1.87 %, an increase in capital by 1% the net profit decreased by almost 3 %, an increase of 1% materialootdachi the net profit decreased by 12.4 % while increasing the average number of personnel in the amount of 1% of net profit fall 4 %;

So, on the basis of correlation and regression analysis can conclude that the profit growth study now subject to the corresponding specialization of enterprises. That is, each company should review the structure of production and its focus on several key activities. Since the organization of multi- production and the large number of branches leading to their crushing. This, in turn, reduces the possibility of introducing advanced technologies, industrial complexes, and thus growth efektyvnostii production.

The economic importance of specialization is that it opens up opportunities for the organization of mass production and rhythmic, you can improve technology and increase the return on capital investment, creating opportunities for technical progress and implementation of science and best practices in order to best use land, machinery, raw materials, labor and financial resources, along with an increase in gross production improves quality and increases production standards, increased skills development, new profession, achieved by reducing costs and increasing profitability of products [4].

On the opposite effect factor index - capital, it should be noted that it may increase in the reduction of fixed assets. Reducing the past will affect the amount of net profit. Indeed, the competitiveness of domestic agricultural production, the efficiency of natural and labor resources is largely determined by its material and technical base, the foundation of which is the main production facilities. For farms appropriate capital largely determines their production capacity and efficiency of management.

The coefficient of multiple correlation is $R = 0,9$, indicating a very tight relationship between the factor and effective basis. The value of the coefficient of multiple determination obtained shestyfaktornoyi linear regression $R_2 = 0,84$ means that the variation of the net profit of the investigated enterprises by 84% driven by given factors. The importance of the method of correlation and regression analysis is model checking for the presence of multicollinearity - a linear relationship between the factors. There stochastic (probabilistic) and the functional form of multicollinearity. When the functional form of the model must be present at least one

factor that is associated with any functional dependence - some other factor or model with all the others. In this case, the pair correlation coefficient $r_{ij} = \pm 1$. In economic models, multicollinearity is usually manifested in the form of stochastic. When between factors are closely model correlation, which does not reach the level of functional ($r_{ij} > 0,6$, with a direct connection and $r_{ij} > -0,6$ for feedback).

Thus, we can conclude that between pairs of factors X_1 and X6 and X_3 and X_4 there is a direct correlation significant density, which indicates the possibility of the presence of multicollinearity. As for the expansion of assortment structure requires the involvement of additional labor, it is quite clear is the fact that new products will increase the average number of staff. For availability of close association between indicators of the second pair of factors, it is because with an increase in prices of products increase sales revenue (which is used to calculate the return on assets) , and hence rate assets . In order to eliminate multicollinearity derive from the model the following factors: X_6 - average number of staff and X_1 - assortment structure. We perform regression analysis between parameters dependent and independent variables with each other using a regression mode MS Excel.

The value of the coefficient of multiple correlation R characterizes the quality of the resulting model. According to the results this ratio is 0.95 , indicating the presence of a high correlation models . R-squared value, ie, the coefficient of determination shows the raw data and the regression model because the value closest to 1 and equals 0.91. Thus, the linear model explains 91% of variation, which means that the right choice factor. Only 9 % due to other factors that affect the net income of enterprises surveyed but not included in the linear regression model. A high correlation coefficient and determination shows that this dependence is quite legitimate. Indicator significance of F shows that the evaluation results are sufficiently reliable. One should note the variance and F- statistics of high value indicates the variation of the dependent and independent variables , so the regression equation is significant. Then, using the same algorithm, we obtain the following regression equation :

$$\gamma = 36,6 - 104,16\chi_2 - 2,77\chi_3 - 1,56\chi_4 - 1,33\chi_5 \qquad (4)$$

As a result of this study found multiple correlation coefficient R = 0,95174, indicating a very tight relationship between the 4 th - factors and effective basis. Multiple coefficient of determination (R_2 = 0,9058) indicates that the variation of net income of companies surveyed by 91% driven by factors such as seasonality of production, average price of goods and capital productivity materialootdachi that were introduced in the correlation model. Coefficient of determination of materiality connection check using Table F - test for 5% significance level. The actual value of F - criteria defined by the formula:

$$F = \frac{n^2}{1-n^2} = 3,75 \tag{5}$$

The critical value FT (0,95) = 2.74 , which is 1.1 less than the actual, FT (0,95) < Ff (2.74 < 3.75) , confirming the essentiality correlation between the studied traits . Based on the parameters of the regression equation and based on the calculation of the partial elasticities can be concluded that a decrease in the influence of seasonality on 1% of the net profit increased 2.19% , while increasing production rates by 1% the amount of net profit to decline by 0.5% , with a decrease of 1% on assets the net profit will decrease by almost 0.35 %, a decrease of 1% materialootdachi the net profit to grow by 0.1%. The greatest impact on the net income is seasonal production.

Conclusions. Thus , verification of the model for multicollinearity showed that between all pairs of factor no signs of strong correlation, so this model can be used for the primary. So, as a result of correlation- regression analysis can develop the following recommendations to increase net income as the main productive characteristics of the agricultural sector enterprises Vinnytsia region, in particular to reassess their own basic tools to ensure their reproduction, see the assortment policy of the enterprise and comply a specialization in production, one can not avoid the seasonality factor, try to consider it rationally .

The main focus of government regulation of the investment policy of Ukraine for agriculture should be prioritizing industries, ie primary objects of foreign investment . One of the major criteria for appropriateness of this choice should be to achieve a chain reaction of economic activity and growth throughout the agricultural sector as a consequence of the initial injection of capital. Involvement of both

domestic and foreign investment is currently relevant in addressing the priorities of economic growth and agriculture is an important part of his entry into the world economy.

In general, it should be noted that large-scale foreign investment are essential macroeconomic levers of government influence on the investment attractiveness of the country's economy , which are designed to compensate for the shortcomings of general economic conditions and enhance the investment attractiveness of the agricultural sector. Effective national policies in the field of foreign investment should include a number of incentive instruments, in particular for agriculture - the state (including budgetary) support.

One of the cardinal directions of increasing foreign investment should be significant changes in the technological structure of agricultural production based on its greening. The restructuring is subject to the terms of financing by foreign investors introduction of environmentally friendly technologies. But often investment projects by foreign partners include increasing the load on the environment. Therefore, it is necessary to work out common rules for the development of investment in the agricultural sector, which would be followed by foreign investors, and keep them in international treaties. In this connection it is necessary to refocus public investment and tax policies to improve the mechanism of attraction ekoinvestytsiy. Also, the legal framework should create conditions increase the proportion of long-term investments that will allow structural and technological restructuring of agricultural production.

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Резюме

В условиях, сложившихся инвестиционная проблема в предприятиях аграрной сферы получила особого внимания. В обществе, построенном на рыночных принципах, инвестиционная деятельность является свободной и регулируется общими экономическими законами. Однако существуют обстоятельства, когда государство берет на себя функции регулирования и активизации развития инвестиционной деятельности в приоритетных отраслях, в аграрном секторе выступают необходимыми предпосылками стабильного развития. Недостаточная роль государства по мобилизации инвестиционных ресурсов в предприятиях аграрной сферы в условиях сложных трансформационных процессов привела к инвестиционного кризиса, последствия которого до сих пор не удается преодолеть.

Ключевые слова

Инвестирование, инвестиционная деятельность, инвестиционный климат, инвестиционные потоки, механизм, государственная поддержка, аграрная сфера, сельское хозяйство.