DIVERSIFICATION OF ACTIVITY OF AGRICULTURAL ENTERPRISES AS AN INSTRUMENT FOR PROVIDING THEIR ECONOMIC SUSTAINABILITY

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Abstract

The main research tasks are: to determine the peculiarities of diversification of agricultural activities of agrarian enterprises and their impact on sustainable development; to specify criteria and indicators characterizing diversification of production activity; to systematize the factors of diversification of agricultural activity of agricultural enterprises and to determine its influence on the formation of indicators of efficiency; to substantiate the strategies of diversification of agricultural activity of agricultural enterprises and to determine its influence on efficiency.

Paper's objective (s). The purpose of the article is to solve the following tasks: to determine the peculiarities of diversification of agricultural activities of agrarian enterprises and their impact on sustainable development; to specify criteria and indicators characterizing diversification of production activity; to systematize the factors of diversification of agricultural activity of agricultural enterprises and to determine its influence on the formation of indicators of efficiency; to substantiate the strategies of diversification of agricultural activity of agricultural enterprises and to determine its influence on efficiency.

Data / Methods. When writing the article, data from official statistics, data from consulting institutes and own researches, scientific works of domestic and foreign authors were used. In carrying out the research, we used the following methods: economic and statistical - in determining the dynamics, structure and performance of the development of production activities; comparative - in assessing the effectiveness of activities and comparing the levels of diversification of production of agrarian products; calculation-constructive - in substantiating the directions of diversification of production for agricultural enterprises. In the article the author calculated the
Herfindel-Hirschman coefficient, the entropy index, the indicators of concentration and diversification of production in agricultural enterprises in Ukraine.

**Results** In the agricultural sector, there is a process of vertical diversification of capital through the creation of vertically-integrated structures that combine the production, processing and marketing of agricultural products to end users. Calculated values of the entropy and diversification coefficients indicate an increase in trends in the concentration of production both in certain agricultural enterprises (egg and poultry, pigs, dairy cattle), and within the product groups (growing of cereals and industrial crops). The concentration of agrarian enterprises in the production of a particular group of agricultural products increases the risk of economic activity. Thus, in 2016 compared to 2005 there is an increase in the number of agricultural enterprises in 482 farms that specialize in the production of one type of agricultural product; 2 species - at 1574; In 3 types - 867 farms, which is evidence of a reduction in multi-sectoral enterprises. Currently, highly specialized enterprises are engaged in the production of mainly crop production. There is a process of horizontal diversification in the production of grain crops due to the growth of the concentration of corn production on grain and reducing the economic attractiveness of barley cultivation. Constraining factors of the development of unrelated diversification of the enterprises of the corporate sector through the provision of services are: imperfect tax legislation; high level of market saturation; high level of agronomy of machine-tractor fleet of agricultural enterprises, low competitiveness in the price segment, provision of services in specialized enterprises and individuals.

**Conclusion** The positive influence of diversification of agricultural activities of agrarian enterprises on increasing their efficiency with increasing share of livestock products in the structure of commodity products has been proved. The concentration of productive resources on the production of mono products in the absence of a system of strategic and tactical planning of production leads to an increase in production risk for agricultural enterprises. The study of the processes of diversification of agricultural enterprises should be carried out taking into account regional peculiarities of the development of the industry, the level of use of commodity producers’ production potential and risks of production activity.

**Keywords:** Diversification, agribusiness, production concentration, business risk, sustainable development.

**JEL classification:** Q 12
1 Introduction

Current conditions of agricultural development have led to the manifestation of destabilizing factors on the conditions of conducting production and marketing activities and the possibility of expanded reproduction. The effect of which is to reduce the economic stability of agricultural producers. Under such conditions, the need to use commodity producers approach, which involves the development of a sustainable economic strategy and its implementation in the direction of continuous adaptation to environmental factors.

Particularly difficult is the solution of these problems in the agricultural sector of the economy, which is a multi-sectoral and territorially divided system. It is obvious that in this area the development and implementation of a strategy for the development of agrarian enterprises is complicated by a combination of natural and climatic and market variability. In this regard, it is necessary to formulate a system of measures for the diversification of production activities. The could ensure the efficient functioning of enterprises and contribute to the achievement of the strategic guidelines for their development.

2 Data and Methods

When writing the article were used data from official statistics, data from consulting institutes and own researches, scientific works of domestic and foreign authors. In carrying out the research, we used the following methods: economic and statistical – in determining the dynamics, structure and performance of the development of production activities; comparative – in assessing the effectiveness of activities and comparing the levels of diversification of production of agrarian products; calculation-constructive – in substantiating the directions of diversification of production for agricultural enterprises. In the article the author calculated the Herfindel-Hirschman coefficient, the entropy index, the indicators of concentration and diversification of production in agricultural enterprises in Ukraine.

3 Results and Discussion

The economic expediency of production activity diversification is determined by its impact on the economic and financial position of the enterprise. The result of any diversification should be the reduction of risk and the emergence of synergistic effects, especially in the field of finance, which is developing the most dynamically. The effect of diversification depends largely on the choice of directions
(vertical integration, diversification based on existing activities, creation of conglomerates).

The link between diversification and efficiency should be seen as complex. After the implementation of diversification efficiency increases because of rational redistribution of production, financial and human resources, but then over time it decreases. The management process becomes more complicated, contradictions in the principles and procedures of development and management decisions in different divisions of the enterprise are revealed.

The situation in the agrarian sector of Ukraine is uncharacteristic for a country with a developed agricultural sector, above all, the presence of imbalances in the development of agricultural sectors. It should be noted that domestic climatic conditions contribute to the production of the main types of livestock products. Therefore, according to our belief, the violation of the proportionality of branch development can be explained by the unevenness of demand.

During 2010-2016, the largest share in the structure of agricultural enterprises of agricultural products at the level of specialization is being thrown by the enterprises of the corporate sector of the agrarian economy. They are engaged in growing annual and biennial crops and production of livestock products, mainly meat and egg poultry and pigs (Table 1).

Table 1  The dynamics of the agricultural enterprises number by the level of specialization

| Year | the cultivation of annual and biennial crops | growing of perennial crops | animal husbandry | mixed agriculture |
|------|---------------------------------------------|---------------------------|------------------|------------------|
|      | unit in % total | unit in % total | unit in % total | unit in % total | unit in % total |
| 2010 | 11092 69,3 | 518 3,2 | 2560 16,0 | 379 2,4 |
| 2011 | 33505 83,9 | 870 2,2 | 3022 7,6 | 1012 2,5 |
| 2012 | 39282 85,5 | 1070 2,3 | 2807 6,1 | 1189 2,6 |
| 2013 | 41131 86,0 | 1192 2,5 | 2717 5,7 | 1217 2,5 |
| 2014 | 38112 86,3 | 1064 2,4 | 2459 5,6 | 1093 2,5 |
| 2015 | 38856 86,5 | 1121 2,5 | 2426 5,4 | 1028 2,3 |
| 2016 | 37999 87,6 | 1042 2,4 | 2141 4,9 | 898 2,1 |
| 2016 in % to 2010 | 342,6 18,3 | 201,2 -0,8 | 83,6 -11,1 | 236,9 -0,3 |

Source: Author's calculations.
Such imbalance in the development of the economic activity of agricultural enterprises is due to objective and subjective factors. Among them, it is necessary to mention: violation of price parity between crop production and livestock production; for a long time animal husbandry was a financial donor of plant growing as an object of collateral for bank loans; the lack of parity between producers of livestock products and processors that exist in crop production; lack of effective state support for livestock development, especially sub-sectors with a long-term payback period, etc.

The concentration of productive resources on the production and sale of grain crops, mainly corn on grains and sunflower. The over-saturated the domestic market adds to the dependence of agricultural producers on the policy of grain traders. They occupy about 70-80% of the realization structure and increasing the threats of an economic nature.

Most agricultural enterprises have refused to produce such labor-intensive agricultural products as growing vegetables and fruits - in crop production, meat cattle breeding, and sheep breeding.

During 2006-2016 there was a deepening of the specialization of agricultural enterprises. So the share of farms in the corporate sector of the agrarian economy, which specialize in 1 industry, has grown by 6.4 percentage points, indicating an increase in specialization in the agrarian sector of the economy. Positive tendency to increase the number of farms specializing in the production of 2 and 3 types of products (Table 2).

Table 2 The dynamics and structure of agricultural enterprises for the number of sub-sectors

| Farm groups | Year 2006 | Year 2010 | Year 2016 | 2016 in relative indicators to 2006 | 2016 in relative indicators to 2010 |
|-------------|-----------|-----------|-----------|-------------------------------------|-------------------------------------|
|             | 2006      | 2010      | 2016      | 2006                               | 2010                               |
| 1 branch    | 4,6       | 9,9       | 11,0      | 6,4                                | 1,1                                |
| 2 branches  | 11,2      | 25,6      | 33,5      | 22,3                               | 7,9                                |
| 3 branches  | 15,4      | 21,9      | 24,2      | 8,8                                | 2,3                                |
| 4 branches  | 16,7      | 14,7      | 13,5      | -3,2                               | -1,2                               |
| 5 branches  | 17,4      | 10,5      | 7,7       | -9,7                               | -2,8                               |
| 6 branches  | 14,0      | 7,3       | 4,8       | -9,2                               | -2,5                               |
| 7 branches  | 9,7       | 4,9       | 2,6       | -7,1                               | -2,3                               |
| 8 branches  | 5,4       | 2,5       | 1,5       | -3,9                               | -1                                 |
| 9 branches  | 2,9       | 1,4       | 0,5       | -2,4                               | -0,9                               |
During the analyzed period, their number increased on 22.3 and 8.8 percentage points respectively. Consequently, there is a process of quantitative reduction of multi-sectoral agricultural enterprises, which indicates the process of deepening the specialization of economic activity.

Based on the results of the study, it would be reasonable to conclude that the disproportions of the development of agricultural enterprises arose as negative consequences of destructive phenomena in the agrarian economy of Ukraine and led to the destruction of the material base of livestock breeding. The failure of agricultural enterprises to produce livestock products was affected by the violation of price proportions among the main branches of agriculture. Therefore, for a long time, the grain price, pork and poultry prices were not favorable. Only in recent years, there has been a positive trend in such areas as pig and meat poultry farming.

Confirmation of the author’s conclusion is the value of the Herfindel-Hirschman coefficient, the coefficient of diversification, the index and the relative index of entropy (Table 3).

| Farm groups | 2006 | 2010 | 2016 | 2006 | 2010 |
|-------------|------|------|------|------|------|
| 10 branches | 1,4  | 0,8  | 0,3  | -1,1 | -0,5 |
| 11 branches | 0,8  | 0,3  | 0,2  | -0,6 | -0,1 |
| 12 branches | 0,4  | 0,2  | 0,1  | -0,3 | -0,1 |
| 13 branches | 0,2  | 0,1  | 0,0  | -0,2 | -0,1 |
| 14 branches | 0,1  | 0,02 | 0,01 | -0,09| -0,01 |

Source: Author's calculations.

Table 3 **Calculation of indicators of concentration and diversification of production in agricultural enterprises of Ukraine**

| Indexes                        | Year         | 2016 to |
|-------------------------------|--------------|---------|
|                               | 2005 | 2010 | 2016 | 2005 | 2010 |
| Herfindel-Hirschman coefficient | 0,823 | 0,790 | 0,795 | -0,028 | 0,005 |
| Index of entropy               | 1,949 | 1,851 | 1,889 | -0,06 | 0,038 |
| Diversification factor         | 0,855 | 0,816 | 0,809 | -0,046 | -0,007 |
| Relative index of entropy      | 0,093 | 0,088 | 0,086 | -0,007 | -0,002 |

Source: Author's calculations.
Calculations of indicators in table 3 testify to the presence during the investigated period of the monopolization process of production in agricultural enterprises. It confirms the values of the entropy coefficients, which have a direction vector to zero. The coefficients of agricultural production diversification decreased slightly during the period under study. Consequently, the tendency towards concentration of production is observed in certain agricultural enterprises (egg and poultry breeding) and in the commodity group of crops (for example, growing of cereals and industrial crops).

According to the research "The largest holdings in crop production in Ukraine" AgriSurvey Agency of the Association "Ukrainian Agribusiness Club", the first place for grain production take UkrLandFarming of Oleg Bakhmatyuk. As the largest latifundist not only in Ukraine but also in Eastern Europe, the company produces almost a tenth of all grain grown by agroholdings and generates about 3% of the total Ukrainian crop. Three of the leaders are the largest producer of chicken "Myronivsky Hliboproduct" and New Century Holding of George Rora [1].

According to FAO estimates, aggregate grain crops production in Ukraine is estimated at 8 to 9 million tons. By 2015, it can be 60-80% and reach 13-16 million tons, according to the FAO Regional Office for Europe and Central Asia. Dynamics should be considered a natural phenomenon, since large companies have opportunities for investing in production, access to modern agrotechnologies and highly skilled management [2].

One of the main preconditions for diversification is the improvement of the financial condition of economic entities. Accordingly, the efficiency of the diversification process of agricultural enterprises is characterized by an increase in the level of profitability of economic activity, improvement of the financial state, etc.

Agriculture today is in a state of uncertainty. On the one hand, thanks to the natural and climatic conditions, the industry provides high yields, a flexible tax system is created, state subsidies programs and support to the agrarian sector are implemented. However, due to an imperfect algorithm for the implementation of planned programs, the lack of an active market mechanism for product sales, the manual management of pricing in the industry, the dominance of traders and intermediaries reduces the positive indicators to nothing [3].

During 2010-2016 there is a positive value of the level of profitability of operational activities of highly specialized agricultural enterprises, which specialize in the production of both crop and livestock products (Table 4).
### Table 4: Dynamics of the financial result of operating activities of agricultural enterprises depending on the level of specialization

| Year     | the cultivation of annual and biennial crops | growing of perennial crops | animal husbandry | mixed agriculture |
|----------|---------------------------------------------|----------------------------|------------------|------------------|
|          | profitability, %                           | the share of profitable in the total number of enterprises, % | profitability, % | the share of profitable in the total number of enterprises, % | profitability, % | the share of profitable in the total number of enterprises, % |
| 2010     | 27,8                                        | 72,9                        | 21,3             | 67,0             | 19,9             | 63,0            | −2,3            | 69,6             |
| 2011     | 26,3                                        | 86,2                        | 19,0             | 68,6             | 22,1             | 69,0            | 10,4            | 81,9             |
| 2012     | 21,7                                        | 80,1                        | 52,3             | 68,7             | 27,6             | 71,2            | 12,2            | 79,2             |
| 2013     | 8,8                                         | 81,8                        | 70,8             | 70,0             | 23,1             | 70,8            | 1,9             | 75,6             |
| 2014     | 23,0                                        | 86,5                        | 68,9             | 69,0             | 23,8             | 74,6            | −32,4           | 80,7             |
| 2015     | 47,2                                        | 90,7                        | 43,8             | 75,6             | 33,1             | 78,0            | −13,6           | 80,9             |
| 2016     | 38,4                                        | 90,4                        | 26,1             | 72,2             | 16,0             | 72,8            | 10,6            | 80,5             |
| 2016 in relative indicators to 2010 | 10,6                                           | 17,5                        | 4,8              | 5,2              | −3,9             | 9,8             | 12,9            | 10,9             |

*Source: Author’s calculations.*
However, in the multi-sectoral farms of the corporate sector there is no stable pattern of profitability of production. It is evidence of the absence of a positive effect on the diversification of production and economic activity of business entities in the field of agribusiness.

There is an increase in the share of farms in the corporate sector of the agrarian economy that have gained profit by the results of the fiscal year, indicating positive trends in the development of the Ukrainian agrarian sector. The proof of this is the increase in the profitability of economic activity of agrarian units of the corporate sector of the agrarian economy of Ukraine.

According to the assessment of the agricultural enterprises economic activity, the concentration of productive resources for the production of monoproducts in the absence of a system for planning production and consumption of agricultural products and foodstuffs leads to a significant risk and affects the level of profitability. A similar situation occurs in multi-sectoral farms (Table 5).

The highest level of agricultural production profitability was made by commodity producers who specialize in the production of 2 types of agricultural products. A stable level of profitability was maintained throughout the period under study. In 2006-2016 there were significant fluctuations of the efficiency indicator in multi-sectoral agricultural enterprises, indicating a sub-optimal selection of economic activities.

Thus, agricultural enterprises that produce 14 types of products during the investigated period were unprofitable. In 2006 and 2010, in agricultural enterprises that produced 6-7 types of products, the amount of profits received from growing crop production compensated losses from the production of livestock products, which ultimately ensured a positive result from the conduct of economic activity.

Table 5 Efficiency of agricultural enterprises functioning in Ukraine depending on the number of branches

|          | 2005 |          | 2010 |          | 2016 |          |
|----------|------|----------|------|----------|------|----------|
|          | incl. | plant    | animal | incl. | plant | animal |
|          |       | growing  | husbandry |       | growing | husbandry |
| 1 branch | 10,2  | 1,5      | 18,6  | 16,6  | 21,6  | 11,7    |
| 2 branches | 16,6 | -0,5     | 34,9  | 15,6  | 14,8  | 17,2    |
| 3 branches | 9,1  | 9,1      | 8,9   | 12  | 12,8  | 7,5     |
| 4 branches | 5,9  | 7        | 4,2   | 14,7  | 16,9  | 4       |

Table 5 Efficiency of agricultural enterprises functioning in Ukraine depending on the number of branches

|          | 2005 |          | 2010 |          | 2016 |          |
|----------|------|----------|------|----------|------|----------|
|          | incl. | plant    | animal | incl. | plant | animal |
|          |       | growing  | husbandry |       | growing | husbandry |
| 1 branch | 10,2  | 1,5      | 18,6  | 16,6  | 21,6  | 11,7    |
| 2 branches | 16,6 | -0,5     | 34,9  | 15,6  | 14,8  | 17,2    |
| 3 branches | 9,1  | 9,1      | 8,9   | 12  | 12,8  | 7,5     |
| 4 branches | 5,9  | 7        | 4,2   | 14,7  | 16,9  | 4       |
The focus on the production of mono products in the corporate sector of the agrarian economy can lead to a significant decline in soil fertility. Most agricultural producers, by concentrating their productive resources on the cultivation of a small list of crops, ignore scientific recommendations on the effective use of agricultural land. Thus, in the structure of sown areas during 2005-2016, the share of grain and leguminous crops was 52.7-53.2, technical crops (mainly sunflower) – up to 27%.

In assessing the structure of the crop area of agricultural enterprises, that according to scientific recommendations, the share of grain in the total area of crops should be up to 50%. The actual value exceeds the standard by 2.7-3.2%. It should be noted that the proportion of sunflower, the share of which in crops, on the development of scientists and practitioners, should be no more than 15% [4, 5, 6, 7], is also not scientifically justified. In the investigated period, in fact, this indicator was 80% higher than the above-recommended level. This leads to rapid depletion of soils, deterioration of the environment. In addition, due to the high proportion of grain and sunflower, scientific-based crop rotation is not allowed (since there are not enough precursors for demanding crops).

The narrow specialization of agricultural producers, and sometimes practically monoculture, increases the risks of both agrobiological and economic nature. Violation of crop rotation leads to soil depletion, pest reproduction, unstable crop
yields and a significant dependence of economic performance on the weather and climate conditions of a given year. In order to ensure rational use and protection of land, the decision of the Cabinet of Ministers of Ukraine in November 2, 2011 № 1134 "On approval of the Procedure for the development of land management projects that provide ecological and economic rationale for crop rotation and land management" has obliged land users and landowners by January 1, 2013 to develop a land management project [8].

It should take into account the norms of the optimal ratio of crops in crop rotations in different natural and agricultural regions approved by the Government Decree No. 164 of February 11, 2010 [9]. The control and inspections by the re-organized agricultural inspection are intended to encourage landowners and land users to comply with them.

A similar situation is also manifested in livestock farming, where the main productive resources of agricultural enterprises are oriented towards the production of meat and poultry, dairy and pigs.

It should be noted that the growing dependence on prices on the world market for grain and oilseeds. Thus, the price of wheat on the world market continues to decrease for the ninth year in a row. As of March 3, 2017, the cost per ton of wheat - 429.61 USD / BU, while in 2012, was all $ 900, and in 2008 it reached historical maximum - $ 1194.5. The pricing situation on the market is not advantageous for small and medium-sized producers who do not have access to significant logistics capacities. Therefore, in order to maintain the profitability of grain production, they are constantly forced to save on logistics. The cost of transporting grain by 40% exceeds costs in Germany or by 30% - in the United States. As a result, domestic producers of grain annually lose about $ 600 million.

It is obvious that significant influence on the efficiency of the agricultural activities diversification process of agrarian enterprises has a sales activity, the formation of a rational system of sales (Table 6).

Table 6 **Economic efficiency of sales of the main types of livestock products by agricultural enterprises in Ukraine**

| Years | Processing enterprises | *processing enterprises* | *shareowners at the expense of rent* | *on the market* | *other business entities* |
|-------|------------------------|--------------------------|-------------------------------------|----------------|-------------------------|
|       | Total cost, c/ha       | price, c/ha              | price, c/ha                         | price, c/ha    | price, c/ha             | price, c/ha              | price, c/ha              | price, c/ha              |
|       |                        | profitability, %         | profitability, %                    | profitability, %| profitability, %        | profitability, %         | profitability, %         | profitability, %         |
| Milk  |                        |                         |                                     |                |                         |                         |                         |                         |
| 2005  | 92                     | 115,8                   | 25,9                                | 95,3           | 3,6                     | 95,7                     | 4,0                     | 96,9                     | 5,3                      |
| Years | Total cost, c/ha | processing enterprises | shareowners at the expense of rent | on the market | other business entities |
|-------|-----------------|------------------------|-----------------------------------|--------------|------------------------|
|       | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % |
| 2010  | 229           | 294,9                  | 28,8               | 249,4         | 8,9              | 308,8         | 34,8              | 272,4          | 19,0             |
| 2016  | 395           | 433,68                 | 9,9                | 359,32        | -9,0             | 463,76        | 17,5              | 453,07         | 14,8             |

**Pigs**

|       | Total cost, c/ha | processing enterprises | shareowners at the expense of rent | on the market | other business entities |
|-------|-----------------|------------------------|-----------------------------------|--------------|------------------------|
|       | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % |
| 2005  | 819           | 1062                  | 29,7               | 1144          | 39,7             | 927           | 13,2             | 927           | 13,2             |
| 2010  | 1324          | 1284                  | -3,0               | 1458          | 10,1             | 1128          | -14,8            | 1249          | -5,7             |
| 2016  | 2190          | 2430,17               | 11,0               | 2198,28       | 0,4              | 2365,32       | 8,0              | 2448,71        | 11,8             |

**Eggs (thousand pcs)**

|       | Total cost, c/ha | processing enterprises | shareowners at the expense of rent | on the market | other business entities |
|-------|-----------------|------------------------|-----------------------------------|--------------|------------------------|
|       | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % | price, c/ha | profitability, % |
| 2005  | 207           | 248,5                  | 20,0               | 240,2         | 16,0             | 238,1         | 15,0              | 257,9          | 24,6             |
| 2010  | 398           | 528,8                  | 32,9               | 532,5         | 33,8             | 418           | 5,0               | 484,1          | 21,6             |
| 2016  | 863           | 1378,6                 | 59,8               | 898,1         | 4,1              | 1043,2        | 20,9              | 1347,2         | 56,2             |

**Source:** Compiled and calculated according to the data of the State Statistics Service of Ukraine.

Assessing the sales efficiency of the main types of livestock products, it should be noted that the highest level of profitability in milk sales is observed through a network of retail food markets and branded stores. The highest level of efficiency in the sale of pigs in 2016 occurs when sold through food markets and business entities. Although in 2005 the sales channel was the most profitable for processing enterprises.

A similar change in the profitability vector is observed when eggs are sold by agricultural enterprises. In accordance with the fluctuations in the efficiency of implementation, depending on the distribution channels, the structure of the implementation of the main types of livestock products should also change. Thus, during 2005-2016 there is a further increase in the share of milk sales to enterprises of the corporate sector of the agrarian economy by processing enterprises, despite a decrease in the level of profitability.

It should be noted, that the economic benefit of selling agricultural products to intermediary structures is to minimize transportation costs, short settlement times, and so on. A similar situation occurs in the implementation of eggs.

In general, the problem of diversification of livestock production distribution channels is characterized by a certain degree of conservatism, the biological
characteristics of the product, such as the impossibility of storing for a long time and the lack of seasonality in production.

One of the components of the activity of agricultural enterprises is the provision of services. According to statistics, agricultural enterprises that specialize in providing services in agriculture during 2010-2016, activity is loss-making, with the exception of 2012 (Table 7).

Table 7 Dynamics of indicators of financial and economic activity of enterprises of the branch of agriculture, in which the main type of economic activity is "Supporting activity in agriculture and post-crop activity"

| Year | Number of enterprises | Profitability, % | Enterprises that have earned a profit in % of the total number of enterprises |
|------|-----------------------|-----------------|--------------------------------------------------------------------------|
|      | unit                  | in % to the total |                                                                           |
| 2010 | 1057                  | 2,1             | -2,6                                                                     | 44,3 |
| 2011 | 1067                  | 2,6             | 6,5                                                                      | 42,3 |
| 2012 | 1055                  | 2,2             | 4,5                                                                      | 40,8 |
| 2013 | 966                   | 1,9             | -2,6                                                                     | 36,8 |
| 2014 | 894                   | 1,9             | -25,1                                                                    | 36,2 |
| 2015 | 890                   | 1,9             | 4,2                                                                      | 29,4 |
| 2016 | 763                   | 1,7             | 8,1                                                                      | 32,4 |
| 2016 in % to 2010 | 72,2 | -0,4 in relative indicators | 10,7 in relative indicators | -11,9 |

Source: Compiled and calculated according to the data of the State Statistics Service of Ukraine.

The presented calculations in Table 7 indicate that the decline in the share of farms that ended the fiscal year with a positive financial result. In 2016, against 2010, the share of profitable agricultural enterprises with KVED "Support activities in agriculture and post-harvest activity" decreased by 11,9.

It should be noted that the share of profitable in the structure of farms providing services is small. Nevertheless, the level of profitability of services is also low. According to the results of the research during 2010-2016, there is a gradual decrease in the profitability of the aforementioned type of activity of agricultural enterprises.

Now the agricultural services segment is not engaged the number of operators and the product portfolio and has the potential to expand and accordingly diversify the production activities of commodity producers in the industry. The results
of grouping of agricultural enterprises by the level of profitability of services rendering, evidence of a significant variation in the values of this indicator (Table 8).

Table 8 Group of agricultural enterprises by the level of profitability of services rendered, 2016

| Groups on the profitability of services, % | Number of farms in the group | Share of households in the whole, % | Revenues from services rendered to 1 enterprise, ths. UAH | Profit from services rendered, UAH million | Income from services rendered to one enterprise, ths | Cost-effectiveness of services, % | Share of revenue from services rendered in total revenue, % |
|------------------------------------------|-----------------------------|-----------------------------------|--------------------------------------------------------|------------------------------------------|---------------------------------------------|---------------------------------|--------------------------------------------------------|
| To 0                                     | 964                         | 28,0                              | 1629                                                   | -379                                     | -393                                       | -19,4                           | 3,4                                     |
| 0,14-20                                  | 768                         | 22,3                              | 2016                                                   | 113                                      | 148                                        | 7,9                             | 3,7                                     |
| 20,1-40                                  | 405                         | 11,8                              | 2402                                                   | 213                                      | 525                                        | 28,0                            | 3,5                                     |
| 40,1-60                                  | 238                         | 6,9                               | 2274                                                   | 178                                      | 749                                        | 49,1                            | 4,3                                     |
| 60,1-80                                  | 174                         | 5,1                               | 3585                                                   | 255                                      | 1463                                       | 69,0                            | 4,0                                     |
| 80,1-100                                 | 145                         | 4,2                               | 1617                                                   | 111                                      | 764                                        | 89,6                            | 2,6                                     |
| More than 100                            | 749                         | 21,8                              | 2009                                                   | 983                                      | 1312                                       | 188,4                           | 4,2                                     |
| Total                                    | 3443                        | 100,0                             | 2032                                                   | 1474                                     | 428                                        | 26,7                            | 3,7                                     |

Source: Calculated by the author.

According to the results of the research conducted, 72% of the enterprises of the corporate sector receive a profit from the provision of services. In the structure of total revenue, the share varies between 3.4-4.3%, which indicates a low level of unrelated diversification of production and economic activity. This circumstance is due in the first place to the peculiarities of taxation of agricultural enterprises.

4 Conclusions

Assessing the level of agricultural enterprises efficiency, there is a clear picture: the dispersion of production and financial resources leads to a decrease in the efficiency of their functioning. The most optimal in terms of efficiency are farms that produce 2-3 types of agricultural products, which are part of the livestock and plant industries, which minimizes production risks.

Consequently, in the case of agribusinesses diversifying into related industries, that is, when existing technologies and equipment can be used for the production
of new products, this allows us to determine the widest possible range of diversification in related industries. So, if the income after diversification is greater than the amount of existing income and income growth, further diversification is appropriate, since it allows you to reduce specific fixed and conditional fixed costs (cost savings are positive). As soon as the specified condition is not met, the company should use a different approach to determining the appropriateness of diversification, as diversification either does not already have the character of a related one, or further increase in output will require significant new investments.

An important factor that can increase the efficiency of the enterprise because of choosing a diversification strategy is the application of new technologies. Innovations in this case act as a factor that can improve the efficiency of the enterprise, as well as a prerequisite for the implementation of diversification.

When implementing the strategy of economic diversification ensuring an acceptable ratio between profitability and risk level. This ratio is determined by each enterprise for itself, and it depends, on how owners and managers of agrarian enterprises are at risk. The general risk consists of two components: unsystematic (diversified) risk - it is inherent in a particular enterprise and is subject to a reduction because of diversification and systematic (not diversified, market) risk - it is generated by external factors of the environment of agricultural enterprises.

References

1. ANDRIYCHUK, V. G. (2007). Capitalization of agriculture: state and economic regulation of development. Nizhyn: Aspect-Polygraph.
2. Cabinet of Ministers of Ukraine. (2010). The Resolution of "On Approval of the Norms for the Optimal Ratio of Crop in Crop rotations in Various Natural-Agricultural Regions" (publication No. 164). Retrieved from http://zakon4.rada.gov.ua/laws/show/164-2010-%D0%BF
3. Cabinet of Ministers of Ukraine. (2011). The Resolution of "On Approval of the Procedure for the Development of Land Management Projects Providing Environmental and Economic Justification for Crop rotation and Land Management" (publication No. 1134). Retrieved from http://zakon4.rada.gov.ua/laws/show/1134-2011-%D0%BF.
4. DOBRYAK, D. S., KANASH, O. P. (Eds.). (2009). Classification of agricultural land as a scientific prerequisite for their ecologically safe use. Kyiv: Harvest.
5. DOBRYANSKA, N. A., NIKIFORCHUK, A. A. (2013). The Influence of the Economic and Institutional Environment on the Activities of Diversified Corporate Associations. Visnyk KhNUU, Kharkiv, No. 6, p. 117-122.
6. GALINSKA, T. S. (2010). Efficiency of production and strategic directions of its intensification in the agricultural enterprise. Scientific works of the Poltava State Agrarian Academy. Vol. 1, 45-53.

7. KRASNOLUTSKYY, O., TIKHENKO R., YEVSYUKOV T. (2010). Drafting of land management projects that provide ecologically-economically justified crop rotations and landscaping. Land Management Bulletin, No. 4, p. 14-17.

8. KRAVCHENKO, O. M. (2014). Land Use Efficiency in Ukrainian Agriculture. Bulletin of the Kharkiv National Technical University of Agriculture named after Petr Vasilenko. Vol. 149, p. 186-195.

9. Top 10 agroholdings for the cultivation of grain crops in Ukraine Retrieved from http://www.online-agro.com/ua/publications/item_213/.