

2.10. EVALUATION OF ECONOMIC PERFORMANCE OF FARMS IN UKRAINE USING THE RISE METHOD

Current processes of globalization necessitate the creation of a highly effective, competitive farms, capable to support the country's food security. The success of market transformations in the agrarian sector is largely determined by the potential of farming¹. The most important step in creating a profitable, sustainable, efficiently functioning farm with a strong market position is the regular assessment of the farm and timely progress of a strategic development plan. Therefore, it is now very important to carry out a qualitative analysis of Ukrainian farms, with a comprehensive assessment of economic activity and factors leading to a change in the level of key indicators, since this will allow to identify vulnerable places of economic activity of farms and to substantiate the main components of the mechanism for their stabilization.

Agriculture is one of the main sources of currency revenues in the Ukraine². The country entered the top 10 European nations where economy depends on the farmers. Agriculture occupies 10.43% of Ukraine's GDP, ranking 3rd just behind Albania (21.83%) and Moldova (13.8%) according to this indicator.

The evaluation of farms was carried out using the RISE- method, which is a computer method developed by the HAFL (Bern University of Applied Sciences, Institute of Agriculture, Forestry and Food Sciences). This method allows for a comprehensive assessment of agricultural production which is based on 10 parameters, that reflect the environmental, economic and social aspects of the farms. This method can also be used for monitoring purposes and allows visualization of sustainable development trends at agricultural and regional level³.

As of November 1 of 2015, 38850 farms were registered in Ukraine, which is 2.5 times more compared to 1991, where their number at the end of the year amounted to 14681 farms. The total aggregate area of these farms is equivalent to 4391.90 hectares where some of the largest portions could be found in Kirovograd, Odesa, Mykolayiv, Dnipropetrovsk, Kherson and Zaporozhye regions⁴.

The purpose of the study is to evaluate the economic performance of selected farms in North - Eastern region of Ukraine using the RISE method. The main attention is paid to the study of economic feasibility indicators and the existing farm management system.

In the course of this research, the following general methods were used:

- General scientific methods: analysis, synthesis, induction, deduction.
- Heuristic methods: questioning, interviewing⁵;
- Economic-logical methods: methods of general analysis (methods of comparison and grouping, methods of averages, graphic methods, methods of integrated assessment)⁶.
- Economic and mathematical methods: methods of correlation-regression links⁷.

As for the main tool of the analysis, the used RISE method which is a complex tool to assess different areas of farm sustainability. RISE users work in agricultural consultancy, education, in development projects and in raw material sourcing. The steps of a RISE analysis are goal and scope

¹ Babich, M. (2007): Essence and features of classification of farms, Bulletin of agrarian science of the Black Sea region, Issue 3, T.1, pp. 87-92.

² [online] [access: date] <http://agravery.com/uk/posts/show/ukraina-vvijsla-v-top-10-zaleznih-vid-agrariiv-evropejskih-krain>

³ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

⁴ [online] [access: date] <http://minagro.gov.ua/ministry?nid=22001>

⁵ Eremenko, D. (2017): Methodical aspects of evaluation of the competitiveness of farms, Scientific Bulletin of the Mukachevo State University, Series Economics. Issue 1 (7): p. 81.

⁶ Zbarsky, V., Kalchenko, S., Yeremenko, D. (2016): Optimization of the method of estimation of competitiveness of high-quality farms of family-labor type, Scientific Bulletin of Uzhgorod University, Series Economics. Issue 1 (47): T.2, p. 272.

⁷ Zbarsky, V., Kalchenko, S., Yeremenko, D. (2016): Optimization of the method of estimation of competitiveness of high-quality farms of family-labor type, Scientific Bulletin of Uzhgorod University, Series Economics. Issue 1 (47): T.2, p. 272.

definition, farmer selection and contacting, data collection and interpretation, farmer feedback discussion and reporting.

The sustainability performance of farms in Ukraine was assessed and analyzed in two phases (Figure 1). In the first phase, the assessment process was prepared by training auditors, selecting farms, contacting farmers and entering available data in RISE. Fifteen consultants from Sumy National Agrarian University were trained as RISE 3.0 auditors by the tool developers from Switzerland. This training included a joint assessment and discussion of assessment procedures. RISE method is the transdisciplinary approach, in which stakeholders from farming practice (i.e., farmers, advisors and processing companies) and research collaborate, can help to address sustainability challenges. Farms out of two sectors (crops and livestock) were selected by SNAU experts.

Before the actual assessment, each farmer was contacted and asked to provide available data (i.e., farm accounts, financial report, crop rotation plan). These data were entered in RISE beforehand to reduce on-farm assessment time.

Finally, assessments of 21 farms were carried out and involved two farm visits, calculation and reporting. Each farm assessment started with a short farm tour. After this introduction, the questionnaire-based interview with the farmer was carried out by two auditors – agronomist and economist. In case a farmer did not have all data needed available at the moment of assessment, these data were emailed later to the auditor and entered in the RISE software.

When all data needed for the assessment were gathered, the outcomes were calculated in RISE, and a report was made. This report included an explanation given by the auditors on the outcomes and was discussed with the farmer during a second farm visit. Based on the outcomes of the tool and priorities of the farmer, a brief action plan for improvement was made.

Stages of evaluation of 21 farms in the North-Eastern region of Ukraine with RISE were as follows:

In the RISE analysis, the economic, environmental and social sustainability performance of agricultural production is captured and assessed along ten thematic axes. Each theme score is the arithmetic mean of several indicator scores.

The sustainability analysis of an individual farm starts with contacting and informing the farmer. If he or she agrees to participate in the analysis, a schedule for the farmer interview is set. This interview usually takes three to four hours, including a short tour of farm and fields, and is the main source of information for the RISE analysis. The existing farm documentation is used to the greatest extent possible (“best available data”).

Data are entered online or offline into the RISE software, or recorded on a paper questionnaire and entered in the office. Data collection covers agricultural production at farm level during one year (calendar or agricultural year).

For some aspects, this scope of the analysis was extended temporally or spatially to better cover the sphere of impact of agricultural production. Parts of the questionnaire and of the calculation and valuation functions can be adapted to the regional or even the individual context of the farm. Once all data have been entered and checked for plausibility, the RISE indicator and theme scores can be calculated.

This was done through a sequence of calculations, partly using reference data from the RISE database. All scores are combined with a color code and range from 0 to 100, whereas 100 represents an optimal (fully sustainable production) and 0 an unacceptable situation. Some of the RISE valuation functions are regionally adapted at the beginning of a project; e.g. humid and arid climates are distinguished, and regional water scarcity is taken into account. Some of the reference values and weightings can be adapted by users as well. Thus the tradeoff between universal applicability and relevance under the conditions of the farm can be partly overcome.

RISE covers 10 themes divided into 50 sub-themes. The scores of the sub-themes ranges between 0 and 100 and is based on an aggregation of indicators. The online software calculates the scores based on a farm interview, data from farm accounts and references to regional and master data.

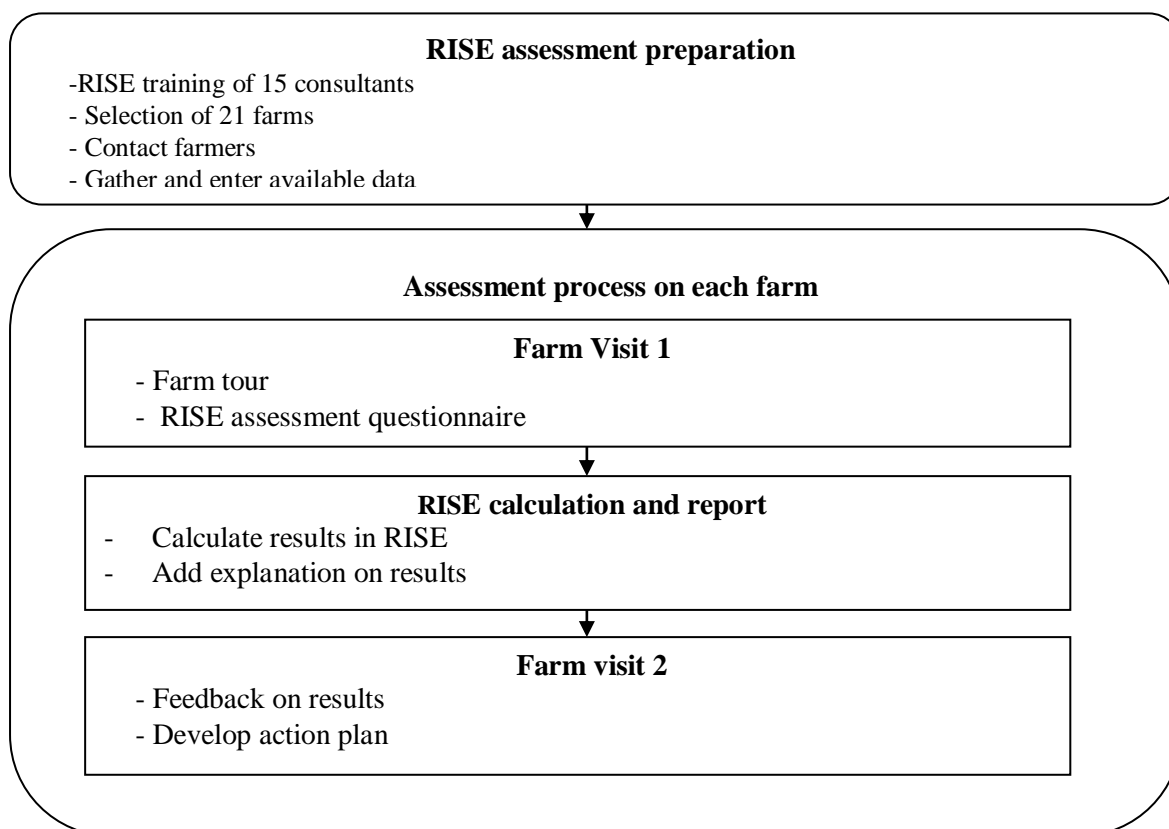


Fig. 1. Stages of evaluation of 21 farms in the North-Eastern region of Ukraine using RISE 3.0. Source: formed by the authors

Tab. 2. Themes and indicators in RISE 3.0

Theme	Indicators
1. Soil use	1.1 Soil management 1.2 Crop productivity 1.3 Soil organic matter 1.4 Soil reaction 1.5 Soil erosion 1.6 Soil compaction
2. Animal husbandry	2.1 Herd management 2.2 Livestock productivity 2.3 Opportunity for species-appropriate behavior 2.4 Living conditions 2.5 Animal health
3. Materials use and environmental protection	3.1 Material flows 3.2 Fertilization 3.3 Plant protection 3.4 Air pollution 3.5 Soil and water pollution
4. Water use	4.1 Water management 4.2 Water supply 4.3 Water use intensity
5 Energy and Climate	5.1 Energy management 5.2 Energy intensity of agricultural production 5.3 Greenhouse gas balance

Theme	Indicators
6. Biodiversity	6.1 Biodiversity management 6.2 Ecological infrastructures 6.3 Distribution of ecological infrastructures 6.4 Intensity of agricultural production 6.5 Diversity of agricultural production
7. Working conditions	7.1 Personnel management 7.2 Working hours 7.3 Safety at work 7.4 Wage and income level
8. Quality of life	8.1 Occupation and Training 8.2 Financial situation 8.3 Social relations 8.4 Personal freedom and values 8.5 Health 8.6 Other areas of life
9. Economic viability	9.1 Liquidity 9.2 Profitability 9.3 Stability 9.4 Indebtedness 9.5 Livelihood security
10. Farm management	10.1 Business goals, strategy, implementation 10.2 Availability of information 10.3 Risk management 10.4 Resilient relationships

Source: RISE-program

The sustainability performance of each subtheme is based on an aggregation of various indicators. These indicators are normalized (i.e., converted to a 0–100 scale) differently for each subtheme and can include comparisons between farm and reference data. The score at the theme level is based on the average of the scores of the 4–7 subthemes included in each theme. Scores on theme and subtheme level range from 0–100.

According to RISE manual, a performance between 0 and 33 is considered problematic, while between 34 and 66 is critical and between 67 and 100 positive. RISE results are presented in a farm report, which includes the farm's sustainability polygon, a table with the theme and subtheme scores and an explanation of the calculation and scores. Based on this report, a farmer and auditor define the measures for improvement. The RISE software is available on a license and requires training¹.

A certain amount of points (positive or negative) are given based on the answers of the farmer, farm worker and/or auditor to questions on farm management, activities and the on-farm situation (e.g., animal welfare conditions). This way, qualitative information is translated into a quantitative score.

Box I. Example points-based subtheme: farm stability (90.2)

The score on this subtheme is based on the average score on four questions:

1. What proportion of total sales is attributable to the activity with the highest sales turnover?
2. Has the farm at least two (potential) customers for each significant income source?
3. What is the state of the infrastructure for the main sources of income (>25% sales)?
4. Is the farm in a position to invest in maintains and expansion?

Each question can be answered with yes (100 points): partly (50 points) or no (0 points).

¹ Evelien M. de Olde, Frank W. Oudshoorn Eddie A. M. Bokkers , Anke Stubsgaard , Claus A. G. Sørensen Imke J. M. de Boer, (2016). Assessing the Sustainability Performance of Organic Farms in Denmark: Sustainability. P. 957 [online] [access: date] doi:10.3390/su8090957

Source: formed by the authors of the RISE program

The RISE Method consists of 40 subtopics grouped in 10 Themes. Of these subthemes, 19 subthemes are exclusively based on points allocated to certain measures, activities or situations on-farm. These subthemes are related to quality of life, farm management, animal husbandry, soil use, water use, nutrient flows and working conditions. For the remaining 21 subthemes, this type of data is combined with one or more of the other data types.

The RISE report consists of a farm profile, the sustainability polygon, which is a visualization of whole-farm sustainability, as well as comprehensive tables including intermediate values needed to better understand indicator and theme scores¹.

Farms are an economic-legal form of entrepreneurship, an independent, equal economic entity of the organizational system of agricultural production engaged in the manufacture of commodity agricultural products, its sale or processing².

The evaluation of farms in the Northeastern region of Ukraine is based on the results of the questionnaire of the RISE-method. The system of indicators for assessing the activity of farms can be conditionally divided into 10 groups that characterize various aspects, namely economic viability, farm management, land use, materials utilization and environmental protection, water use, energy and climate, biodiversity, working conditions, standard of living. Each group, in its turn, includes several indicators³. However, during analyzing farms we considered only the indicators of economic viability and management of the farm.

The farm must achieve economic goals, working within the appropriate environmental and social constraints. The purpose of the farm's activity is to ensure the short-term and long-term profitability of the economy, as well as the preservation or increase of labour productivity, for independent and stable development. This will guarantee the receipt of funds both for the development of the farm and provide all the necessary payments.

The following aspects of the economic viability of farms in the North-Eastern region of Ukraine are considered in this section:

- liquidity and profitability;
- stability and indebtedness;
- livelihood security.

Liquidity and profitability indicators related to the economic expediency of the activity of farms were analyzed (Table 1).

In order to preserve the confidentiality of the information of farms, the names of enterprises were indicated by letters of the English alphabet.

The assessment of liquidity characterizes the ability of the company at any time to pay off its obligations with the property that is on its balance sheet⁴. The essence of calculating the liquidity indicator by the RISE - method is the ratio between cash and available credit lines, which is averaged over weekly payments.

Tab. 2. Indicators of financial results of Ukrainian farms as a result of a questionnaire in June 2017

Indicators	Total AV	min	max	Crop (AV)	Livestock (AV)
Profitability	70	25	100	69	82
Liquidity	74	25	100	74	75

¹ [online] [access: date] https://www.hafl.bfh.ch/fileadmin/docs/Forschung_Dienstleistungen/Agrarwissenschaften/Nachhaltigkeitsbeurteilung/RISE/What_is_RISE.pdf

² Gnatyshyn, L. (2012): Farmers in the Organizational Agricultural Production System, Agrarian Economics, T. 5, No. 1-2, pp. 19.

³ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

⁴ Gangal, L. (2014): Analysis of the financial situation of agrarian enterprises of different organizational forms and ways of its improvement, Innovative economy, Issue 2, pp. 58-70.

Source: Own research

For example, 100 points = 40 weeks of the liquidity provision, 0 points = 0 weeks of the liquidity provision. Limits may vary depending on the region¹.

From table 2 it can be seen that the minimum liquidity value is 25 points and maximum is 100 points. It is worth noting that liquidity is almost the same - 74 and 74 points respectively in different sectors, namely crops and livestock.

The calculations showed that seven of the 21 farms have 40 weeks of liquidity reserve, eight farms have 30 weeks, and six - only 20 weeks of reserve liquidity. Farm "U", has 10 weeks of reserve liquidity. This is a cash reserve, ie a reserved portion of capital used for unexpected highly profitable investments, a liquidity reserve.

21 farms are able to pay wages to employees, pay suppliers, comply with financial obligations and pay interest on loans.

The main indicator of the effectiveness of any financial transaction is its profitability². Let us analyze the profitability indicator of Ukrainian farms as a result of a questionnaire in June 2017.

This indicator is estimated by the ratio of operating cash flow to sales. The ratio of cash flow to sales by RISE method is estimated as follows: 20% = 100 points; 0% = 0 points³.

Considering profitability we can say that the values of the minimum and maximum correspond to liquidity values, as well as 25 and 100 and looking at two sectors, we can say that the profitability of livestock is higher by 13 points compared to crops and it is 82 points.

The analysis of data in Table 2 showed that 6 farms out of 21 have a profitability of 20%, 7 farms have 12% profitability, and others equal or less than 10%.

We can conclude, that activities of the investigated farms are financially advantageous both in the short-term and in the long-term period. This suggests that the results of their activities allow them to fulfill their financial obligations, to invest and to receive profits that adequately compensates their equity invested in business.

Stability, indebtedness, livelihood security

In cases where farms have lost their ability to maintain optimal proportion in the development of their production, to adapt to changing environmental conditions, the introduction of an appropriate system to increase their financial and economic stability as an essential component of competitiveness in the process of realization of strategic development goals appears urgent. Among the problems that require urgent solutions, an analysis of financial stability becomes important. Practice has shown that the financial stability of farms depends to a large extent on the type of economic activity and the rational allocation of resources in fixed assets and working capital⁴.

The financial stability of the farm depends on the availability of financial resources. It reflects the balance of resources and sources of formation, income and expenditure, cash and commodity flows, is estimated on the basis of the ratio of own and attracted capital of the enterprise, the rate of accumulation of own funds as a result of economic activity, the ratio of long-term and current liabilities, the provision of material working capital by its own sources. Great importance for the stable financial provision of the farm have their own financial resources. The greater the share of own financial resources and the smaller the loans, the lower the financial risk⁵.

The farm is financially stable if it is able to function with profit, and that long-term production on farms is also ensured in the future.

¹ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

² Gangal, L. (2014): Analysis of the financial situation of agrarian enterprises of different organizational forms and ways of its improvement, Innovative economy, Issue 2, pp. 58-70.

³ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

⁴ [online] [access: date] http://eprints.kname.edu.ua/22509/1/248-252_%D0%92%D0%BE%D0%BB%D0%BA%D0%BE%D0%B2%D0%B0_%D0%9D%D0%90.pdf

⁵ [online] [access: date] http://eprints.kname.edu.ua/22509/1/248-252_%D0%92%D0%BE%D0%BB%D0%BA%D0%BE%D0%B2%D0%B0_%D0%9D%D0%90.pdf

The financial condition of farms, the analysis of indicators of stability, indebtedness and the livelihood security were analyzed (Table 3).

Tab. 3. Indicators of financial condition of farms as a result of a questionnaire in June 2017

Indicators	Total AV	min	max	Crop (AV)	Livestock (AV)
Stability	68	44	94	67	75
Indebtedness	66	0	100	64	83
Livelihood security	45	0	100	42	69

Source: Own research

The stability of the farm is estimated at 100 points, if it has the necessary infrastructure, sales markets in all key areas of its activities. In addition, the main source of income accounts for less than 20% of the total business income (no risk concentration): long-term access to land resources is guaranteed, and also have a high own-funds ratio¹.

The minimum value of the stability from this study is 44 points and the maximum is 94 points. Crops sector by this indicator is 67 points, which is on 8 points less than the livestock sector. The average value of the indebtedness is 66 points, the minimum is 0 points, and the maximum - 100 points. Crops sector by this indicator is 64 points, and the livestock sector - 83 points. The minimum and maximum value of livelihood security corresponds to the indicators of indebtedness – 0 points and 100 points. The value of this indicator in the sector of crops is 42 points, and livestock sector - 69 points.

The analysis showed that the average stability value of the 21 investigated farms is 68 points, that is, the main source of income accounts for 13.6% of total business income. These farms have several alternative sources of income (or spare assets): support modern infrastructure, therefore, are completely independent of market price trends or individual customers. This indicator is quite positive for farms in the North-East region of Ukraine, and it speaks about the stability of their management.

Under the RISE program, farm debt is calculated as the ratio of borrowed funds and equity. This allows to calculate the number of potentially needed years, for the full repayment of the debts of the farm with its current cash flow. Also, this program calculates the relation between net income and service of short-term debt, that is, the ratio between the obligatory debt service (interest and compulsory depreciation) and cash flow. This ratio shows the percentage of cash flow that is currently used to repay debts and whether it is possible to take short-term loans for the period of unfavorable conditions on the market or for the purpose of investment.

According to this program, the data of two section is calculated as the average of two components at the same time, 100 points mean that the farm will need 5 years to repay its debts from the operational cash flow.

The relation between net income and debt servicing shows that 0% of the cash flow used to service the debt is equal to 100 points, with 50% is equal to 67 points and 100% is equal to 0 points².

Based on the above, we can assert that about 50% of net income goes to debt servicing, since the average for the region under study in as a result of a questionnaire in June 2017, this indicator is 66 points. In general, the level of indebtedness of investigated farms is not problematic and is consistent with their financial resources.

The safety of the source of income is calculated as the relation between the private expense and the adjusted subsistence minimum. The subsistence minimum is adjusted according to the size

¹ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

² [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

of the farmer's family. Private expenses for family members who do not receive a salary (farmer's family) must clearly exceed the subsistence minimum. At the same time, the income of the farm is at least twice the poverty line and this mean 100 points¹.

Since the average value of this indicator is 45 points, it can be concluded that farms are almost on the brink of poverty. Consequently, the income of these farms is insufficient to ensure their economic well-being.

Farm management research involves regulating the component of sustainable development in accordance with the main guidelines of the SAFA (Sustainability Assessment of Food and Agriculture Systems) . This is less formalized than for other RISE groups. The aim is to identify ways to improve the management of a particular farms.

The foreign economic sphere is the same in a given country, and the economic stability and efficiency of any agribusiness economy depends on the professionalism of their manager or managers².

It is possible to start agricultural activity using traditional methods, even in the long term. However, changes are necessary if, against the backdrop of insufficient quality of the management process, there are obvious issues of unresolved issues. Wherever this occurs, it is necessary to change the management strategy of the economy by implementing measures that will contribute to the stability of management systems, processes and culture.

Balanced farm management pursues goals and strategies that are consistent with the personal values of the parties concerned and take into account:

- natural limitation animals, the environment, finance and society;
- access to the knowledge necessary for making informed decisions;
- internal and external risks, which will allow timely preventive measures, as well as productive, safe and profitable use of available resources;
- a stable relationship, guaranteeing respect and equity in cooperation with both employees of the economy, and with its partners or shareholders.

By exploring the state of farm management as a result of a questionnaire in June 2017 (Table 4): we analyzed their business goals.

Tab. 4. Indicators of management of the farms in the Northeast region of Ukraine

Indicators	Total AV	min	max	Crop (AV)	Livestock (AV)
Business goals	73	54	81	72	74
Availability of information	72	40	100	72	67
Risk management	53	28	100	51	79
Resilient relationship	78	50	92	77	92

Source: Own research

This indicator covers both rational (planning and forecasting) and subjective (values) aspects of the process of strategic development carried out by the farmer. 100 points describe the situation when the farmer has well-designed goals and relevant strategies for the development of the economy, and systematically implements them. These aspects are assessed as a farmer (satisfaction with how he / she manages the enterprise) and an agent of the agricultural consulting service (how well the strategy is thoroughly and well thought out and how it is implemented). The strategy is also evaluated from the point of view of how comprehensive it is, i.e. whether social, environmental and economic aspects are taken into account³.

¹ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

² Melnyk, L. (2009): Yield and profitability of farms in Ukraine, Economy of agroindustrial complex, AgroSvit, Issue 9, pp. 2-6.

³ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

The minimum value of the business goals indicator is 54 points and the maximum is 81 points. In the crop sector, this indicator is 72 which is 2 points less than that of indicator of livestock sector. The average indicator of information availability is 72 points, with 40 as minimum and 100 points as maximum. There is a slight difference between the indicators of sectors of crops and livestock - 72 and 67 points, respectively.

The greatest difference in risk management indicators is observed between the sectors of crops and livestock and is 51 and 79 points respectively. The minimum value of the risk management indicator is 28 points. The indicator of resilient relationship in the crops sector is 77 points and in the livestock sector is 92 points.

Our study have shown that on the average, farms in the study region garnered 73 points for the development and maintenance of business goals. This means that farmers devote enough attention to the development of business goals and implement them sufficiently.

By assessing whether farmers have access to all necessary and reliable information and planning tools that are necessary for systematic management, and if they are truly used when necessary, we can say that this indicator is on the average of 72 points in the same region.

It should be noted that 100 points is assessed when a farmer has access to all necessary information and reliable planning tools, uses them if necessary for the purpose of balanced management of the farm¹.

Consequently, we can argue that if necessary, the people responsible for managing the farming sector have access to the necessary and reliable information as well as reliable planning tools for systematic and professional management of the farm.

The indicator of the risk management system characterizes how people responsible for managing the economy overcome the risks that threaten the sources of its profits. An assessment is made of what freedom of action management has within the boundaries of the farms, especially taking into account not only the prevention of risks, but also the minimization of the negative effects of any unwanted phenomena.

100 points - if all the risks that threaten the sources of income of the economy are known and the necessary measures are taken to protect them from them².

The study showed that only three farms are 100% capable of managing risks. The average for the region is 53 points, indicating that those responsible for managing these farms are not well aware of the risks and interrelationships that could threaten to their existence. All necessary and accessible measures should be taken to minimize these risks.

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The analysis and systematization of the obtained results concerning the state of economic expediency and the state of management of farms allow us to clearly consider more the economic condition of the investigated farms in the North-Eastern region of Ukraine.

Indicators with highest amount of points are resilient relationships, liquidity and business goals indicators. On the other hand, livelihood security and risk management got the lowest points but this does not prevent, at the moment, the functioning of farms. The indicators of stability and

¹ [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

² [online] [access: date] <https://www.hafl.bfh.ch/en/research-consulting-services/agricultural-science/sustainability-and-ecosystems/sustainability-assessment/rise.html>

indebtedness are almost same. Over time, these indicators may deteriorate and lead to losses if they fail to make appropriate decisions regarding strategic planning on farmed farms.

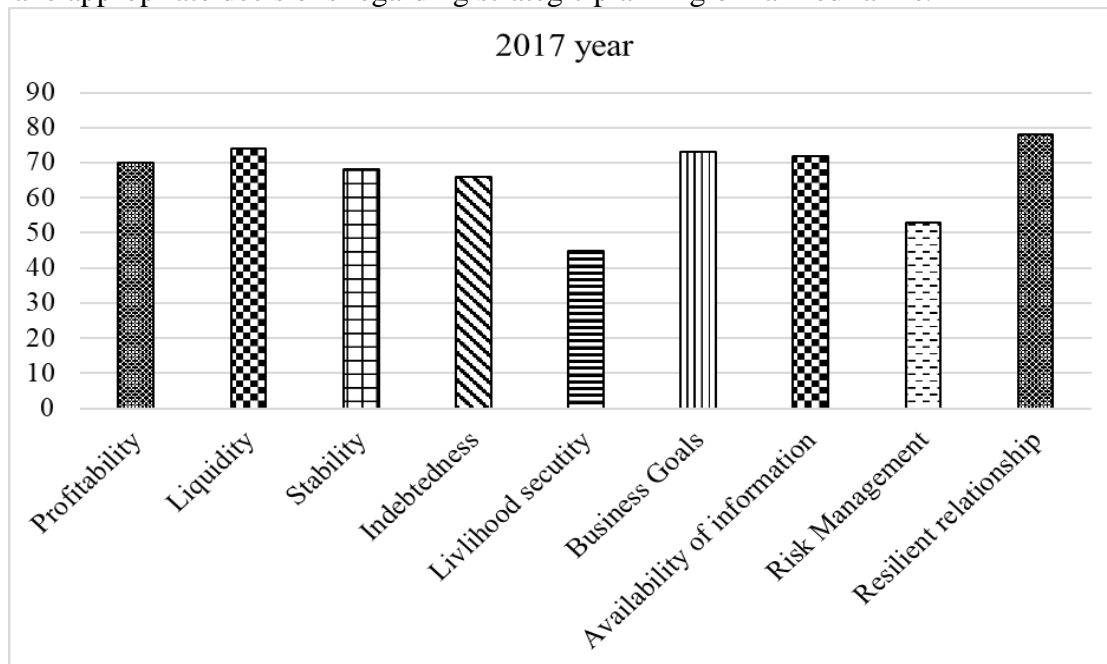


Fig. 1. The state of economic viability and management of farms by the region average in 2017, points

Source: Own research

Functional characteristics, in particular, the level of technical security, the application of technology, and the regularity of processing agricultural products are on low level.

In our opinion, the growth (development) strategy of the farms would be most effective, reflecting intention to increase sales, profits, investments, diversify production, conduct and implement the results of research activities, implement investment projects; Improve the qualitative composition of employees, promote qualifications, material incentives.

As a result of the assessment, 21 farms were identified, the problem sectors of the farms were identified and a short plan of action was developed to improve them. There are no problems with the payment of salaries or the fulfillment of financial obligations. 21 It can be concluded that the activities of the studied farms are financially beneficial both in the short and long term. This suggests that the results of their activities allow them to fulfill their financial obligations, to invest and make profits, which adequately compensate for their capital invested in the business. The study showed that only three farms are 100% capable of managing risks. The regional average is 53 points, which indicates that those responsible for managing these farms are poorly aware of the risks and interrelations that may threaten their existence. All necessary and accessible measures should be taken to minimize these risks.

We propose to use growth (development) strategy for farming, since it is this strategy that will be most effective, reflecting the intention to increase sales, profits, investments, diversify production, conduct and implement research results, implement investment projects, and also improve the quality of staff, increase their qualification.

In our study, the problem sectors of the farms were identified and suggested the most effective ways of overcoming them. The estimation of the 21 farms in Ukraine was evaluated using RISE 3.0. The study found that the level of safety of the source of income and the risk management system are low. Over time, these indicators may even deteriorate and lead to loss-making farms if not properly addressed and take appropriate decisions. It was also found out that the level of technical security, the application of technology and the regularity of processing agricultural products are on low level.

The problem of updating and developing the material and technical base of agricultural production are multi-vector. Its solution is possible only on the integrated basis of coordinated actions of the agrarian and industrial sectors of the national economy.

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