MECHANISM OF ENSURING FINANCIAL SUSTAINABILITY OF AGRICULTURAL ENTERPRISES

Nadiia Davydenko*, Natalia Wasilewska**, Yuliia Nehoda*, Iryna Tytarchuk*

*Department of Finance, The National University of Life and Environmental Sciences of Ukraine **Department of Economy and Management, The Jan Kochanowski University

Keywords: financial sustainability, agricultural enterprises, financial security, agricultural-industrial sector, stable development of enterprises, profitability *Slowa kluczowe: stabilność finansowa, przedsiębiorstwa rolnicze, bezpieczeństwo finansowe, sektor rolno-przemyslowy, stabilny rozwój przedsiębiorstw, rentowność*

JEL Classification: G390

A b s t r a c t. The aim of the research is summing up and improving theoretical and methodical approaches to determination of financial sustainability of agricultural enterprises. World and national experience of financial sustainability determination of entrepreneurial activities subjects were analyzed and summarized as well as system impact factors on formation of financial sustainability on the regional level and the group of agricultural enterprises level were examined. There are considerable formation specifics of the financial sustainability mechanism of agricultural enterprises. It means that main target of mechanism to ensure financial sustainability is to achieve financial security, their work stability and development today and in future. The method offers using complex of indicators that are closely connected with each other and define economic status and financial ability to continue enterprise activities and examine financial sustainability of an enterprise. The implementation of this approach to determine financial sustainability will increase the information background for further analyzation of financial opportunities.

INTRODUCTION

The development of the agricultural-industrial sector, as one of the most important sectors of Ukrainian economy, is a source to increase economic potential and competitiveness of the state. However, current condition of Ukrainian economy is unsatisfied and is characterized by rather difficult economic conditions. Agrarian enterprises' activities are carried out in the conditions of uncertainty, instability in the politic situation, military conflict on the Southern part of Ukraine, market competitiveness increase, globalization process strengthening and information lack. In these conditions modern entrepreneurship needs to improve production efficiency, competitiveness of product and services, to have timely monitoring of economic indicators. Variability of the external environment causes big influence on economic status and stable development of enterprises. Therefore, the problem of ensuring their financial sustainability is significant in modern conditions, as basis of stability and one of the main standards of successful activities of enterprises.

The purpose of the study is summing up and improving theoretical and methodical approaches to determine financial sustainability of enterprises that include a set of modern factors of influence on result of enterprises activities and life cycle of enterprise development.

Subject of the research is a process that ensures financial sustainability of agricultural enterprises. Subject of the research is theoretical and methodical approaches to determine financial sustainability of agricultural enterprises.

An appropriate methodology has been worked out that is based on the works of leading global economists and Ukraine. Methodological basis of the research is a systemic approach, system-structural analysis, comparative analysis and synthesis. Financial sustainability of enterprises is determined by dialectical approach and logical generalization. Steps of the research are designed in logical order, that includes statistical data research, calculation and analysis of these data, as well as working out of appropriate recommendations for entrepreneurs.

REVIEW OF THE THEORY AND LITERATURE

Taking into account the problematics, only for the last centuries there was a great number of researches published with reference to the relevant research line.

In economic theory, the meaning of an enterprise "sustainability" appeared in the second half of XIX – first quarter of XX century in Western Europe, when capitalist relations in the agricultural sector began to develop rapidly. The meaning of the theory of the «sustainability of small-scale peasant farming» was to prove that capitalism ensured the progress of small-scale peasant farming, having a benefit over large-scale one, and was the most «sustainable form of entrepreneurship». The founders of this theory were the following economists: Klavki K., Geht M. Puzor G, L. Brentano [Brentano at al. 2012].

Other economists such as A. Smith, A. Marshall and D. Keynes reviewed the concept of "sustainability" from the position of the theory of profits maximization, where enterprise is sustainable when it can maintain profit on proper level [Smith 2008, Keynes 1936].

The most common definition of sustainability is that was defined by the World Commission on Environment and Development that was published in the Brundtland Report [Brundtland Report 1987].

Several other definitions emphasize different aspects of "sustainability", but it is possible to summarize roughly the main features as follows:

- 1. The urgency to solve the problem of poverty.
- 2. The necessity to preserve natural resources and the awareness that man has gone too far in the exploitation of nature.
- 3. The awareness that most modern cities have become uninhabitable and there is a need to change them into something more "liveable" for human beings.
- 4. The understanding that, in order to become sustainable, development has to affect not only economic and political aspects, but also institutional and cultural aspects of human life.
- 5. The idea that human well-being cannot be evaluated simply in "quantity of goods" but has to be considered in terms of quality of life [Caldari 2004].

In turn, Quesnay, Walras, Marx and Neumann identified the concept of sustainability with the concept of economic equilibrium [François at al. 2004, Neumann, Morgenstern 1944].

So, above said scientists laid groundwork for the foundations of the theory of economic growth and substantiated the appropriate mechanisms for ensuring sustainability and development stability.

Taking into account new features of development in the XXI century, works of scientists have been published where national specifics and foreign realities have been highlighted. Therefore, a wide range of issues about providing financial sustainability of agrarian enterprises and creating approaches for assessment of financial security have been highlighted in works of national and foreign scientists.

Patricia León explored the basic principles of financial sustainability. It is indicated in her work "Four Pillars of Financial Sustainability" that there are the following fundamental pillars for the financial sustainability and organization including:

- Strategic and financial planning.
- Income diversification.
- Reliable management and finance.
- Own income generation.

While analysing works related to financial sustainability it was noted that financial models are a central element of understanding the fulfilment of an individual business on the market in terms of its financial sustainability and long-term success. Such models exist to obtain and carry the key drivers of financial success [León 2001]. It is necessary for a model to be effective in estimating and even foreseeing financial sustainability, it must include the following indicators that could:

- Be correlated to operational results and capital generation.
- Be relatively easy to estimate.
- Be influenced by choices and decisions of management and board.
- Be possible for comparing.

For more than a decade, financial management has been discussing a stronger connection between real business and business sustainability, a qualitative improvement has been made in implementing the sustainability of financial activities, including promoting social and environmental responsibility [Singh at al. 2017, Sun at al. 2011].

From the point of view of financial managers as key players in financial sustainability issues, specific investment barriers to Sustainable Entrepreneurship initiatives can be defined (Table 1.).

O. Zhuravleva, investigating problematic aspects of financial stability noted that «...one of the most important economic issues is determination the limits of financial sustainability». [Zhuravleva 2009]. A. Scheuerlein regarded stability as viability of a farm or ability to retain profitability and liquidity [Scheuerlein 1997]. V. Zakharchenko, M. Merkulov, O. Balakhonov call financial sustainability the main component of overall sustainability of the enterprise, which is crucial for the economic situation of the enterprise as a whole [Zakharchenko at al. 2012]. The analysis of the works of these authors showed that along with a sufficient depth of research there are discussions as well as contradiction of approaches.

From the practical point of view, the stability of the agrarian enterprise can be considered, first of all, as the ability of agriculture to withstand the negative impact of adverse weather conditions.

Regarding the agrarian sector, financial sustainability is understood as a combination of characteristics of the system that ensures its strong position, it is not a subject of significant deviations and risks, that does not reduce the fluctuations in its financial results.

| Barrier | Share [%] |
|--|-----------|
| Lack of information about how to implement it | 50.0 |
| Implementing initiatives is too expensive | 50.0 |
| Initiatives have interfered in other business processes | 35.1 |
| Implementing initiatives is too complex | 32.4 |
| Employee apathy | 31.1 |
| Initial lack of commitment and lack of business leadership | 18.9 |
| Local regulatory policy | 17.6 |
| State regulatory policy | 14.9 |
| Suppliers are unable to meet the requirements | 14.9 |
| Federal regulatory policy | 10.8 |
| Suppliers are not willing to meet the requirements | 10.8 |

Table 1. Barriers in the process of implementing Sustainable Entrepreneurship initiatives

Source: [Young 2018, Zhao at al. 2018, Riikkinen at al. 2017].

The environmental aspect is very close to sustainability, but, as theory and practice show, it is not the only pillar of sustainable entrepreneurship. The one of the motives that Singh P. and others follow, is environmental context, supplemented with economic terms of sustainable and financial existence of the enterprise, in reliable, implacable and possible environment [Singh at al. 2017].

ANALYSIS OF THE MAIN INDICATORS OF FINANCIAL SUSTAINABILITY OF AGRARIAN ENTERPRISES

The basis of economic stability should be the ability of enterprises to resist influence of external factors on the basis of effective decision making in the field of production, financial and marketing management, the use of which allows you to profit and fulfill your obligations to shareholders.

Financial sustainability of an enterprise is a stable availability of financial resources that are sufficient to fulfill financial obligations; the ability of an enterprise to finance its own economic and production activities; the presence of a positive balance between positive and negative cash flows; acceptable level of solvency, liquidity, profitability, creditworthiness and other indicators as well as the supposition for the long-term financial equilibrium achievement [Davydenko 2009].

A brief analysis of the state of agriculture in Ukraine provides grounds for arguing that the state has potential to transform the agricultural-industrial sector into a leading one, but this process requires time and efforts for modernization required for full adaptation to global market conditions. Detailed analysis of the financial situation of agricultural enterprises will reflect the level of their financial sustainability fully.

The main method used for estimating financial sustainability is the method of comparative indicators. Various coefficients of financial stability are estimated on the basis of financial reporting data, in particular, on the basis of financial statements forms.

10

Comparison of the actual level of indicators with their normative values is important in measurement of the financial state of an enterprise. The need to set normative values of indicators is determined by the tasks of analyzing the financial state of an enterprise. According to the results of scientific and methodological sources study, for today there is no single approach to estimation of the financial sustainability of an enterprise. The basis of the calculations was annual financial statements of agricultural enterprises.

There is another sustainability estimation approach that is a method of an aggregate performance indicator that should approximate to the economic sustainability [Zorn at al. 2018]. General performance indicator allows to compare different farms directly, since information is reduced and, hence, can be communicated succinctly and efficiently [Jollands at al. 2003]. Using an aggregate indicator allows to review different ratios additionally, such as return on assets and return on labor that reflect different farm structures. The widespread summation of equally weighted and normalized ratios was applied for this exploratory analysis [Nardo Michela at al. 2008].

Because there is no compelling argument in favor of only one aggregate indicator, there were two types of indicators estimated. This approach draws upon the opportunity to simplify the sustainability assessment by using a reduced number of financial ratios. Such a reduced aggregate indicator could imply less complexity, fewer data requirements and higher practicability. The first one, Y (an aggregate indicator), incorporates the information of all ratios presented. The financial ratios are aggregate on level of the indicators profitability (P), liquidity (L), financial efficiency (FE) as well as the compound indicator stability/solvency/repayment capacity (S/RC; meaning S and/or RC). Hence, the aggregate indicator Y is created by four indicators, each one composed by at least four financial ratios [Zorn at al. 2018].

The second type represents two selections, each reviews just one ratio to represent an indicator. Different accounting approaches across the North Atlantic are considered by constructing an indicator ZE based on financial ratios used in Europe and an indicator ZA composed of financial ratios applied in North America. All possible compositions of ZE $(4P \times 3L \times 3S)$ as well as ZA $(3P \times 3L \times 4FE \times 2S/RC)$ were calculated across the sample and correlated with Y. To identify the combination of ratios that covers all areas (P-L-S for Europe, P-L-FE-S/RC for North America) the best and which is closely related to the overall score Y, the ratio with highest correlation with Y from each indicator was taken. For all types, Y, ZE, ZA, all indicators have the same influence, that corresponds to typical sustainability assessments [Breitschuh at al. 2018, Grenz 2017].

Aggregate performance indicators are calculated for each farm and annually separately. In a subsequent step, the mean value over all years of a farm was calculated. Farms were sorted ascendingly according to Y and Z, respectively. Then, four performance groups were distinguished, each consisting of 25% or a quarter of the total sample. The first quarter represents the group of low performing farms and the fourth quarter represents the group of well performing farms according to Y, ZE and ZA. For all four performance groups, the mean scores for each ratio are given. Finally, the aggregate indicators were compared by means of the non-parametric Spearman rank correlation [Zorn at al. 2018].

To determine the level of financial sustainability, it can be suggested using a methodology that includes a set of indicators that are closely interrelated and characterize the economic status and financial ability to continue the activity (Table 2.).

| Indicators | | Type of fin | ancial sustainabilit | у |
|---|-------------|-------------|----------------------|--------------|
| Indicators | absolute | normal | pre-crisis phase | crisis phase |
| excess (+) or deficit (-) of own funds (OF) | OF≥0 | OF<0 | OF<0 | OF<0 |
| excess (+) or deficit (-) of own funds and Long term liabilities (OFxLL) | OFγL L≥0 | OFγLL≥0 | OFsLL<0 | OFsLL<0 |
| excess (+) or deficit (-) of total funds (TF) | TF≥0 | TF≥0 | TF≥0 | TF<0 |

Table 2. Indicators by type of financial sustainability

* where OF is excess (+) or deficit (-) of own funds = Own funds – Inventories, where Own funds = Equity – Noncurrent assets

** where OFxLL is excess (+) or deficit (-) of Own funds and Long term liabilities = Working Capital – Inventories, where Working Capital = Own funds + Long term liabilities

*** where TF is excess (+) or deficit (-) of Total funds = Inventory Coverage Ratio – Inventories, where Inventory Coverage Ratio = Working Capital + Short term liabilities

Source: [Belyalov, Oliynyk 2016].

Using this approach to determine financial sustainability will strengthen the information base to analyze the financial capacity of enterprises.

RESULTS AND PROSPECTS OF FURTHER RESEARCH

A general assessment of the indicators of profitability and financial sustainability shows that enterprises operate in an unstable state, which is characterized by a decrease of these indicators of production efficiency, and the trend is stable during 2011-2016 (Table 3.).

| | | Profit | ability | | | | | |
|------|-------------|--------|---------|---------|---|---|--|-------------------------------------|
| Year | enterprises | assets | equity | product | Coefficient of autonomy, ≤ 1 | Coefficient of financial risk, ≤ 1 | Coefficient of turnover of own funds | Maneuverability of equity, >0 |
| 2011 | 13,4 | 13,2 | 20,8 | 39,2 | 0,64 | 0,55 | 1,28 | 0,24 |
| 2012 | 10,6 | 10,6 | 17,5 | 37,4 | 0,58 | 0,72 | 1,44 | 0,25 |
| 2013 | 11,0 | 11,6 | 21,5 | 33,8 | 0,51 | 0,93 | 1,27 | 0,19 |
| 2014 | 7,4 | 7,5 | 14,0 | 31,0 | 0,5 | 0,96 | 1,11 | 0,31 |
| 2015 | 9,7 | 9,8 | 20,0 | 24,0 | 0,47 | 1,15 | 0,78 | 0,21 |
| 2016 | 8,4 | 6,6 | 13,8 | 14,6 | 0,46 | 1,19 | 0,63 | 0,28 |

Table 3. Dynamic of the indicators of financial stability of the agricultural enterprisesof Kyiv region, 2011-2016

Source: it was calculated according to the data of the statistical report.

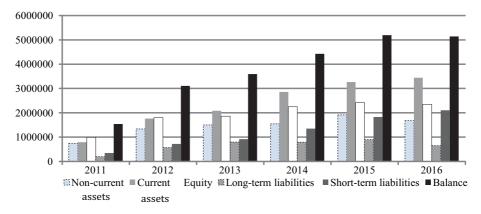
The coefficient of financial autonomy remains within the limits of the norm and characterizes the financial state as stable. However, it can be clearly seen the tendency for reduction of this coefficient, which characterizes the dependence of enterprises on exterior loans. So if the indicator continues declining, there is a risk of insolvency. The coefficient of financial risk has a negative tendency to increase, but it doesn't reach the critical value -1. The growth of the indicator in the dynamics indicates an increase of a company's dependence on foreign investors and lenders, which indicates a decrease of financial stability. This coefficient completely characterizes financial state, and its increase is extremely dangerous

Optimal values of the coefficient of turnover of own funds for enterprises in various branches of industry are different. In particular, it should be noted that agricultural production is characterized by seasonality, so the funds that are in circulation during the year have a different "speed" of turnover.

There is a sinusoid fluctuation of this indicator in the direction of decline on the agricultural enterprises of Kyiv region during 2011-2016 according to the results of the analysis. As it can be understood, turnover has declined, that indicates that enterprises have problems in the production and sales of products.

So the financial indicators of the regional agricultural enterprises' sustainability, such as the coefficient of autonomy, the coefficient of financial risk, the coefficient of turnover of own funds and the coefficient of maneuverability of equity, have a steady tendency to decrease, what in general indicates a decrease in the financial sustainability of economic entities in Kyiv region during the analyzed period.

After analyzing the changes in the balance of agricultural enterprises of Kyiv region during 2011 - 2016 years., there can be seen a tendency to increase the balance of currency. In particular, changes took place under the articles "Current assets" and "Short-term liabilities" (Pic. 1).



Picture 1. Changes in balance of agrarian enterprises in Kyiv region during 2011-2016 years Source: it was done on the basis of the statistical reports.

In comparison with 2014-2015, in 2016, the amount of non-current assets, equity and long-term liabilities decreased. The high dependence of agricultural enterprises on external sources of financing is especially threatening because of conditions of equity reduction. Taking into account the situation that happened, management of enterprises ought to take measures to reserve positions and prevent their further reduction. While studying the approaches that determine level of enterprise sustainability, it is worth highlighting the approach that determine the type of financial sustainability with absolute indicators.

Dynamics of the types of sustainability of agrarian enterprises during 2011-2016 years shows a stable unsustainable state.

| Year | Indicators and its value, thousands of UAH | Type of sustainability |
|------|--|------------------------|
| 2011 | OF = -26 940, OFxLL = -25 985, TF = 255 005 | unsustainable state |
| 2012 | OF = - 159 670, OFxLL = - 156 889, TF = 610 466 | unsustainable state |
| 2013 | OF = - 353 374, OFxLL = - 349 668, TF = 645 063 | unsustainable state |
| 2014 | OF = - 145 061, OFxLL = - 143 458, TF = 870 344 | unsustainable state |
| 2015 | OF = - 643 328, OF xLL = - 6 405 036, TF = 649 312 | unsustainable state |
| 2016 | OF = - 607 271, OFxLL = - 606 365, TF = 403 529 | unsustainable state |

 Table 4. Dynamics of the types of sustainability of agrarian enterprises in Kyiv region,

 2011-2016 years

Source: it was calculated on the basis of annual reports

Summarizing the analysis of the calculations performed for the determination of sustainability, it should be noted that their methodological basis is the balance sheet, such as non-current assets, current assets, equity, provision of costs and payments, long-term liabilities, short-term loans and future revenues, but disclosure of information in different ways is different. If only the data obtained from the calculation of absolute indicators are used, then their informativeness is somewhat limited, since a certain level of financial sustainability doesn't reveal the potential of the enterprise, information about threats or positive trends isn't available to those who estimate OF, OFvLL, TF (surplus / deficit of own funds, own fund and long-term liabilities, total funds).

Thus, the most common approach to determine the level of enterprise sustainability is calculation of comparative indicators (coefficient of autonomy, coefficient of financial risk, coefficient of turnover of own funds and maneuverability of equity capital). The analysis of factors in dynamic indicates the general tendencies of financial sustainability, as well as positive / negative changes in the structure of the capital.

ESTIMATION OF FINANCIAL STABILITY FROM THE STANDPOINT OF THE LIFE CYCLE OF AGRICULTURAL ENTERPRISE DEVELOPMENT

The analysis of the activities of specific agricultural enterprises that were chosen from the Myronivsky district of Kyiv region as one of the "active" one is an important step in establishing causal relationships as for the formation and sustainability.

A brief analysis of the economic situation in the Mironovsky district shows that the main commodity producer of agricultural products is rural population (59.8% of the total population of the district), and the system of management and technical equipment of agricultural enterprises is rather weak and ineffective.

There were 184 active agricultural enterprises, 61% of them were profitable and 39% were of unprofitable ones in 2016.

Regional enterprises are classified according to the term of their being on the market in order to choose and make analysis on specific enterprises. The period of enterprises presence on the market is different. According to information provided in table 3 it can be seen that the oldest enterprise has been created 15 years ago, the youngest one has been founded 2 years ago.

| | 101 2010 year | |
|---|--------------------------------|-----------------------------------|
| Enterprise | Duration of stay in the market | Profitable (+) / Unprofitable (-) |
| | | |
| LLC «Nataly» | 5 | _ |
| JV "Druzhba" | 4 | + |
| LLC. Agrovip | 4 | _ |
| LLC. Becon | 2 | + |
| LLC. Agroniva | 2 | + |
| | Over 5 years | |
| PE "Mriya-P" | 20 | - |
| CJSC "Karapishi" | 15 | + |
| LLC. Vidrodzhenia-Agro | 14 | _ |
| LLC. Emchicha | 12 | + |
| LLC «Szandra» | 12 | + |
| LLC «Oleksandrivka» | 12 | + |
| LLC «Anastasja» | 12 | _ |
| JV «Druzhba» | 10 | _ |
| LLC. O.G.Buzinsky | 8 | _ |
| Mironivske Open Joined-Stock Company | 8 | + |
| LLC. Agromir Plus | 6 | |

Table 5. Group of agricultural enterprises of Myronivsky district of Kyiv region with regard to their presence on the market and the efficiency of economic activities, data provided for 2016 year

Source: the data were estimated on the basis of annual reports.

It has been established that the period of five years since the company's establishment was sufficient for its entry into the market and the development of its own niche. In the group of companies with a term less than five years on the market, profits accounted for 60% of business entities (average life of 3.4 years, the company is on the stage of growth). In the group of companies with a term over five years on the market, profits accounted for 45% of business entities (average life of 11.7 years, the company is on the stage of maturity). It is proposed to choose one profitable and unprofitable company with the same term of presence on the market from groups of less than 5 and over 5 years for further research and establishing the relationship between financial sustainability indicators. So there were LLC "O.G. Buzinsky" and OJSC "Myronivskiyi" from the group of over 5 years that had been founded 9 years ago, in 2007. JV "Druzhba" and LLC "Agrovip" are "young" enterprises of 4 years presence on the market, that have been founded in 2012. Besides, OJSC "Myronivskyi" and JV "Druzhba" are profitable, LLC "O.G. Buzinsky" and LLC "Agrovip" are unprofitable.

Brief analysis of the Table 6. and chosen enterprises show that the term of company's presence on the market isn't a sufficient condition for ensuring high economic and financial performance.

| | | | Profitab | ility [%] | |
|------------------------------------|-------------------|--------------|----------|-----------|---------|
| Enterprise | Year | enterprise | assets | equity | product |
| Less than 5 yea | rs in the market | (stage of gr | owth) | | |
| | 2011 | 13.5 | 13.5 | 94.0 | 19.5 |
| JV "Druzhba" (profitable) | 2012 | 2.6 | 2.6 | 17.0 | 13.6 |
| | 2013 | 0.66 | 0.66 | 5.7 | 33.8 |
| | 2014 | | | | |
| LLC "Agrovip" (unprofitable) | 2015 | 1.8 | 1.8 | 5.22 | |
| | 2016 | | | | |
| Over 5 years of | n the market (sta | age of matur | mity) | | |
| | 2011 | 32.8 | 32.8 | 39.1 | 17.3 |
| OJSC "Myronivskyi" (profitable) | 2012 | 4.8 | 4.8 | 5.2 | 9.0 |
| | 2013 | 4.8 | 4.8 | 5.4 | 9.0 |
| | 2014 | 0.78 | 0.78 | 8.1 | 3.2 |
| LLC "O.G. Buzinsky" (unprofitable) | 2015 | | | | |
| | 2016 | | | | 19.2 |

| Table 6. Dynamics of agricultural enterprises' profitability |
|--|
| in Obukhiv district of Kyiv region, 2011-2016 |

D.... f: 4 - 1 - : 1: 4 - . [0/]

Source: the data are given on the basis of annual reports.

On the first stage of the research of indicators of economic efficiency, it has been established that the indicators of enterprise profitability, profitability of assets and profitability of equity on the level above zero are only in two enterprises – profitable.

According to Table 7. financially sustainable one can be called only two profitable enterprises - OJSC "Myronivskyi" and JV "Druzhba". Moreover, in OJSC "Myronivskyi" and in JV "Druzhba", its tendency to decrease in stability persists. JV "Druzhba" works mainly on the basis of short and long-term loans. In addition, it receives support from the state at the expense of budget subsidies in crop production. LLC "Agrovip" and LLC "O.G. Buzinsky" are in critical condition. They can't be called financial sustainable according to the research.

A comparative analysis of the general characteristics of the chosen enterprises makes the situation with their financial situation on the market clearer (Table 8.).

For example, PJSC "Myronivskyi" carries out activities on an area of agricultural land of 9 hectares and deals with the cultivation of winter wheat and fattening pigs. JV "Druzhba" leases 12623 hectares of agricultural land and grows winter wheat, spring wheat, buckwheat, corn, winter barley and spring barley. LLC "O.G. Buzinsky" grows only corn for grain on 362 hectares. LLC Agrovip has 4.5 hectares of agricultural land, including 2 hectares of arable land, and is engaged in the fattening of pigs and the cultivation of non-profit wheat.

Among the chosen profitable enterprises with different term of presence on the market, JV "Druzhba" has rather low indicators of stability. However, trends in increasing the profitability of products point to positive trend.

| Enterprise | Year | Coefficient of autonomy, ≤1 | Coefficient of financial risk, ≤1 | Coefficient of turnover of own funds | Maneuverability of equity, >0 |
|--|------|-----------------------------------|---|--|-------------------------------------|
| | Les | s than 5 years in th | e market (stage of | growth) | |
| | 2011 | 0.163 | 5.109 | 0.028 | -0.76 |
| JV "Druzhba" (profitable) | 2012 | 0.155 | 5.43 | 0.105 | -0.23 |
| (prontable) | 2013 | 0.106 | 8.35 | 0.243 | -0.35 |
| | 2014 | 0.0063 | 158.72 | -0.084 | -11.4 |
| LLC "Agrovip" (unprofitable) | 2015 | 0.01 | 91.67 | -0.036 | -3.33 |
| (unpromable) | 2016 | 0.014 | 70.62 | 0.014 | 1 |
| Over 5 years in the market(stage of maturnity) | | | | | |
| | 2011 | 0.919 | 0.087 | 9.92 | 0.041 |
| OJSC "Myronivskyi" (profitable) | 2012 | 0.94 | 0.063 | 13.37 | 0.849 |
| (promable) | 2013 | 0.83 | 0.199 | 4.27 | 0.853 |
| | 2014 | 0.163 | 5.12 | -0.11 | -0.59 |
| LLC "O.G. Buzinsky" (unprofitable) | 2015 | 0.191 | 4.22 | -0.14 | -0.58 |
| (unpromable) | 2016 | 0.012 | 79.94 | -0.41 | -33.04 |

| Table 7. Dynamics of indicators of financial and economic sustainability of agricultural |
|--|
| enterprises in Obukhiv district of the Kviv region, 2011-2016 |

Source: the data are given on the basis of annual reports.

| Table 8. Comparative characteristics of profitable and unprofitable agricultural enterprises of |
|---|
| Mironivsky district (according to 2016) |

| Enterprises | Name | Area of the village land, ha | Kinds of products |
|--------------|---------------------|------------------------------------|--|
| Profitable | JV "Druzhba" | 12 623 | Plant growing: winter wheat; spring wheat; buckwheat; corn; spring barley; winter barley; colza. |
| | OJSC "Myronivskyi" | 9 | Plant growing: spring wheat. Stockbreeding: pig breeding. |
| | LLC "O.G. Buzinsky" | 362 | Plant growing: corn for grain. |
| Unprofitable | LLC "Agrovip" | 4,5 | Plant growing: spring wheat; winter wheat. Stockbreeding: pig breeding. |

Source: the data are given on the basis of annual reports.

As it can be seen, in a strategic way, it is strategically important to choose the right type of activity and industry, based on geographical and economic conditions. Foreign experience proves that activities in the field of agricultural industrial complex are better on large areas. The real proof of this is JV "Druzhba", that deals with the cultivation of different cultures. After all, in order to carry out activities in the field of agriculture, it is important to take into account the particulars of the industry – to take into account the properties of soils, their fertility and adaptation of the land to one or another culture.

The provided and made analysis of the activities of agricultural enterprises gives background for the conclusion that district's agriculture requires urgent modernization, in particular by means of introduction of entrepreneurship development support programs [Mateoc-Sîrb, Otiman, Raicov 2010]. Entrepreneurial innovations have a chance to "reanimate" the agriculture of the district, where the entrepreneur-innovator should become the key factor that will ensure the economic development of the industry.

The diagnosis of the state of agricultural enterprises to determine the level of their financial sustainability, that was provided, is supplemented by an analysis of the absolute values of the indicators, which determine the level of financial sustainability.

The dynamics of the types of financial stability of the studied agricultural enterprises of Mironovsky district for 2014-2016 is reflected in Table 9.

| | (2011 2010) | | | | |
|------|---|-------------------------------|--|--|--|
| Year | Type of stability | Characteristics of the status | | | |
| | OJSC "Myronivskyi" | | | | |
| 2014 | OF = -15.2, $OF $ $sLL = -15.2$, $TF = -15.2$ | crisis status | | | |
| 2015 | $OF = -9.8$, $OF_{Y}LL = -9.8$, $TF = -9.8$ | crisis status | | | |
| 2016 | OF = - 32.6, OF xLL = - 32.6, TF = - 32.6 | crisis status | | | |
| | LLC "Agrovip" | | | | |
| 2014 | OF = - 393.4, OF xLL = - 393.4, TF = -393.4 | crisis status | | | |
| 2015 | OF = - 396.1, OF xLL = - 396.1, TF = -396.1 | crisis status | | | |
| 2016 | there is no information available | crisis status | | | |
| | JV "Druzhba" | | | | |
| 2014 | OF = - 275 523, OFxLL = - 275 523, TF = - 126 133 | crisis status | | | |
| 2015 | OF = - 35 817, OF xLL = - 35 817, TF = 7 781 | pre-crisis status | | | |
| 2016 | OF = 66 792, OFxLL = 66 792, TF = -2 803 | unsustainable status | | | |
| | LLC "O.G. Buzinsky" | | | | |
| 2014 | OF = -5 151, OF xLL = -5 151, TF = -485 | crisis status | | | |
| 2015 | OF = - 5 032, OFxLL = - 5 032, TF = - 5 032 | crisis status | | | |
| 2016 | OF = -985, $OFxLL = -985$, $TF = -985$ | crisis status | | | |
| | | | | | |

Table 9. The dynamics of the types of financial stability of the studied agricultural enterprises (2014-2016)

Source: the data are given on the basis of annual reporting.

It is obvious that agricultural enterprises have a lack of support and encouragement from the state. In addition, it was found out that "young" profitable enterprises have been created on the basis of bankrupt enterprises, carry out activities and occupy a niche on the market due to significant investments.

Ukrainian economy develops cyclically with periodic growth and decrease like the global one. Such fluctuations themselves provide for its life. Enterprise as an element of this economic system also develops cyclically, and its cyclicality is completely dependent on the behavior of the economic system.

The transition of indicators of the enterprise from one status to another constantly occurs during the life cycle. This constant change, the dynamic of states (not their simple

sum) reflects the behavior of the enterprise, which are its functioning in time and the implementation of the main functions provided by the external environment.

Each stage of the company's life cycle reflects its behavior on the market, which is directly dependent on the resource supply and is characterized by appropriate financial and economic indicators.

The assessment of the level of financial sustainability in the temporal aspect indicates a certain connection with the course of the life cycle of enterprises, that doesn't just depend on the types of sustainability and life cycle stages. As it was found out, the very level of financial stability as an integrated criterion of the ability to function provides company improvement - the transition from one stage of life cycle to another.

Analysis of the financial stability indicators of agricultural enterprises of Mironivsky district allows to determine the level of their stability and ability at the current stage of their life cycle to restore and maintain their economic activities.

CONCLUSIONS

The level of financial sustainability can be estimated on the basis of a certain set of indicators because of their comparison with the normative values, which enables the management personnel to justify their actions in order to maintain a stable state of the enterprise and keep its position on the market. The factors influencing the formation of financial stability of agricultural enterprises are determined. It is established that financial stability depends not only on the factors of the macro- and micro-environment, but also on the stage of the life cycle of the enterprise. This relationship can be identified through a classification of stability types that are specific to each stage of the enterprise's development, and characterized by a certain set of values of financial sustainability indicators that are inherent to each particular type. It is background for estimation that in order to assess the level of financial sustainability of enterprises, it is necessary to analyze further information on what stage of the life cycle a particular enterprise is.

REFERENCES

- Belyalov T., Oliynyk A. 2016: Enterprise financial stability and ways of its strengthening. International Scientific Journal "Internet Science", Vol. 12 (22), part 2, p. 22-26.
- Breitschuh G., Eckert H., Matthes I., Strümpfel J., Bachmann G., Breitschuh T. Kriteriensystem Nachhaltige Landwirtschaft (KSNL). Available online: https://www.ktbl.de/fileadmin/produkte/ leseprobe/ 11466excerpt.pdf (accessed on 9 August 2018).
- Brentano L. 2012: Agrarian Reform in Prussia. Publ. Rarebooksclub.com, p.78.
- Caldari K. 2004: Alfred Marszall's idea of progress and sustainable development. The History of Economics Society, Vol. 4, p. 519-536.

Daly H. 1996: Beyond Growth: The Economics of Sustainable Development. Boston, Beacon, p. 264.

- Davydenko N. 2009: Financial sustainability of the corporate enterprise of agrarian sphere. Actual problems of the region's economy development: Scientific collection of the Precarpathian National University named after. Vasyl Stefanyk. Part.2, p.110-116.
- Endrikata Edeltraud, J., Holger Hoppec, G. 2014: Making sense of conflicting empirical findings: A metaanalytic review of the relationship between corporate environmental and financial performance. Eur. Manag. J., 5, p. 735-751.
- Francois Q., Kuczynski M., Meek R. L. 1972: Quesnay's Tableau eiconomique. London, Macmillan; New York, A.M. Kelley for the Royal Economic Society and the American Economic Association.

- Grenz J. 2017: Response-Inducing Sustainability Evaluation (RISE); Bern University of Applied Sciences: Bern, Switzerland, p. 9.
- Jollands N., Lermit J. Patterson M. 2003: The Usefulness of Aggregate Indicators in Policy Making and Evaluation: A Discussion with Application to Eco-Efficiency Indicators in New Zealand. Available online: https://openresearch-repository.anu.edu.au/handle/1885/41033 (accessed on 15 August 2018).
- Keynes J.M. 1936: The General Theory of Employment, Interest and Money. Macmillan Cambridge University Press, p. 263.
- Keynes J.M. 1973: The General Theory and After: Part I. Preparation, in the Collocted Writings of John Maynard Keynes, Vol. XIII, ed D. Moggridge. Macmillan Cambridge University Press, p. 669.
- León Patricia 2001: Four pillars of financial sustainability. The Nature Conservancy, Arlington, Virginia, USA, p.29.
- Marshall Alfred 1890: Principles of Economics (8th ed.). The Online Library of Liberty, p. 627.
- Marx Karl 1967: Capital III International. Publishers: New York, p. 645.
- Mocanu N. 2012: Identification of the main directions of the agrarian sector, In: Management agricol: Simpozionul Științific Internațional. Timișoara, vol. 14 (1), p. 127-132.
- Neumann J., Morgenstern O. 1944: Theory of Games and Economic Behaviour. Princeton University Press, p. 776.
- Mateoc-Sîrb N., Otiman P., Raicov M. 2010: Simpozion Institutul de Economie Agrară, Vol. Economie Agrară și Dezvoltare Rurală, Editura Academiei Române, București, ISSN 1584-5761.
- Nardo Michela and others 2008: Organisation for Economic Co-operation and Development, Joint Research Centre of the European Commission. Handbook on Constructing Composite Indicators: Methodology and User Guide; OECD Publishing: Paris, France.
- Parastoo S., Saudah S., Parvaneh S., Sayyedeh S., Saeidi Seyyed P., Saaeidi A. 2015: How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. J. Bus. Res. 2, p. 341-350.
- Riikkinen R., Kauppi K., Salmi A. 2017: Learning Sustainability? Absorptive capacities as drivers of sustainability in MNCs' purchasing. Int. Bus. Rev., 26, p. 1075-1087.
- Scheuerlein A. 1997: Finanzmanagement für Landwirte: Beispiele, Anwendungen, Beurteilungen; BLV-Verl.-Ges.: München, Germany, p.247.
- Singh P.J., Sethuraman K., Lam J.Y. 2017: Impact of Corporate Social Responsibility Dimensions on Firm Value: Some Evidence from Hong Kong and China. Sustainability 9 (9), 1532 https://doi.org/10.3390/ su9091532.
- Smith A. 2008: Inquiry into the Nature and Causes of the Wealth of Nations, Volume II. Publ. BiblioLife, p. 496.
- Sun W., Louche C., Pérez R. 2011: Finance and Sustainability: Towards a New Paradigm? A Post-Crisis Agenda; Emerald Group Publishing: Bingley, UK, pp. 4-6, ISBN 978-1-78052-092-6.
- Walras L. 1984: Elements of Pure Economics, or The Theory of Social Wealth. Orion Editions, p. 620.
- Wasilewska Natalia, Kruchok N. 2010: Estimation of the Financial State of Agrarian Enterprises in Ukraine. "Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie. Ekonomika i Organizacja Gospodarki Żywnościowej, Vol 81, p. 41-53.
- Young M.L. 2018: State of Sustainable Business Practices for Small and Midsized Businesses: Why Some SMEs Implement Sustainable Business Practices and Some Do Not. Available online: http://www. manifestmind.com/wp-content/uploads/State-of-Sustainable-Business-Practices-for-SMEs.pdf (accessed on 12 January 2018).
- Zakharchenko V. 2012: Models and methods of decision making in analysis and audit: [curriculum. manual]. Lviv: Magnolia-2006, p. 325.
- Zhao H., Zhang F., Kwon J. 2018: Corporate social responsibility research in international business journals: An author co-citation analysis. Int. Bus. Rev. 27, p. 389-400.
- Zhuravleva O. 2009: Financial stability of the enterprise: theory and practice. Formation of a market economy. Collection of scientific works. Vol. 22, p. 523-536.
- Zorn A., Esteves M., Baur I., Lips M. 2018: Financial Ratios as Indicators of Economic Sustainability: A Quantitative Analysis for Swiss Dairy Farms. Sustainability, 10(8), 2942; doi:10.3390/su10082942.
- https://www.clubbenchmarking.com/blog/measuring-financial-sustainability.

Nadiia Davydenko, Natalia Wasilewska, Yuliia Nehoda, Iryna Tytarchuk MECHANIZM ZAPEWNIENIA ZRÓWNOWAŻONEGO FINANSOWANIA PRZEDSIĘBIORSTW ROLNYCH

Streszczenie

Celem badań jest wskazanie teoretycznych i metodycznych podejść do określania stabilności finansowej przedsiębiorstw rolnych. Przeanalizowano światowe i krajowe doświadczenia w określaniu stabilności finansowej podmiotów prowadzących działalność rolniczo-przemysłową, a także czynniki wpływające na kształtowanie stabilności finansowej na poziomie regionalnym oraz w grupach przedsiębiorstw rolnych. Istnieje specyfika mechanizmu stabilności finansowej przedsiębiorstw rolnych. Głównym celem mechanizmu zapewniającego stabilność finansową jest osiągnięcie bezpieczeństwa finansowego, stabilności funkcjonowania i rozwoju. Metoda oferuje wykorzystanie kompleksu wskaźników, które są ściśle powiązane i określają status ekonomiczny oraz zdolność finansową do kontynuowania działalności przedsiębiorstwa i badania stabilności finansowej przedsiębiorstwa.

> Correspondence adres: Dr hab. Davydenko Nadiia Dr Nehoda Yuliia Dr Tytarchuk Iryna Department of Finance, The National University of Life and Environmental Sciences of Ukraine Heroyiv Oborony st., 15, Kyiv - 03041, Ukraine Dr hab. Wasilewska Natalia (orcid:0000-0001-8638-4735) Jan Kochanowski University in Kielce, Faculty of Social Sciences, Department Economics and Management Słowackiego 114/118, 97-300 Piotrków Trybunalski e-mail: nwasilewska@ujk.edu.pl