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The Variability of Risk Factors of Slowing the Financing of Agricultural Enterprises in Ukraine

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The Variability of Risk Factors of Slowing the Financing of Agricultural Enterprises in Ukraine

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У статті розглянуто теоретичні аспекти розподілу джерел формування вартісної складової майнових активів сільськогосподарських підприємств, враховуючи реальні можливості, часові обмеження, форми і методи використання фінансових ресурсів. Визначено варіацію чинників, які охоплюють всі можливі ризики фінансування господарської діяльності. Запропоновано системний підхід до оцінювання динамічного тренду, що уповільнює ризик фінансування з урахуванням індикаторів стійкого фінансового стану сільськогосподарських підприємств.

Ключові слова: варіабельність факторів ризику, фінансові ресурси, джерела формування майнових активів, сільськогосподарські підприємства.

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В статье рассмотрены теоретические аспекты распределения источников формирования стоимостной составляющей имущественных активов сельскохозяй ственных предприятий, учитывая реальные возможности, временные ограничения, формы и методы использования финансовых ресурсов. Определена вариация факторов, которые охватывают все возможные риски финан сирования хозяйственной деятельности. Предложен системный подход к оценке динамического тренда, что замедляет риск финансирования с учетом индикаторов устойчивого финансового состояния сельскохозяйс твенных предприятий.

Ключевые слова: вариабельность факторов риска, финансовые ресурсы, источники формирования имущественных активов, сельскохозяйственные предприятия.

I. Introduction

High dynamic of market economy, constant generating new information in this process makes diversity and random nature of the risk. It is natural that in the formation of a new model of financing most of the farms revealed the inability of their financial capacity to systematic changes of future events regarding its activities.

Financing as a purposeful movement of financial resources, is focused on ensuring the economic activity and development of the entity with a time and resource constraints in the directions, forms, methods that harmonize their use.

Thus one of the basic laws of financing risk and features of its origin in agricultural enterprises is developing the funding sources for getting financial results in the process of activity, which covers the involvement of equity and debt capital of formation of dividend and depreciation policy, communicative structure management of financial flows, financial reserves, receivables and payables, income distribution and so on.

a) *Our findings contribute to extant literature in several ways*

The problem of risk of financing the company took the opinion of many researchers of various fields and scientific disciplines. At different times foreign authors devoted works to problem risk management in the agricultural sector (Bangake, 2012) [3], risk in decision-making (Harrison, 1999) [9], financial risk management (Bancel et al, 2011) [2], risk strategic decisions (Digman, 1999) [5], risk management

(Drucker, 1997) [6], risk measurement methods (Robinson et al, 1984) [13]. As to the domestic scientists, we works to problem of risk management (Balabanov, 1996) [1], stability problems and risks in agriculture (Zagaytov, 2008) [17], business risk (Rayzberg,1992) [12], the study of risks, economic and mathematical methods and models of risk predicting (Vitlinskyi, 2004) [15], financial risk modeling (Verbytska, 2004; Granaturov, 2002; Yastremskyi, 1992)[14; 8; 16]. However, in our view, efforts to expand the problem and fill the essence of the concept of «risk of financing the agricultural enterprises» with universal characteristics within alternative, legitimacy and at the same time its justification in the particular scientific problem has to be combined with the need for financial resources.

The objective of the analysis is evaluating the dynamic trend, which slows the financing risk, taking into account indicators of sustainable financial condition of agricultural enterprises.

II. Key Research Findings

The need for financial resources of agricultural enterprises is carried out according to objective economic laws that cannot be balanced in agriculture without adjust methodological support. This variation of risk in financial transactions covers all the possible changes in the structure of financing. Firstly, each financial operation causes a risk of financial flow cycle, during which there is a change in the composition of financial resources and sources of funding. Secondly, the total amount of financing changes when transactions provide regrouping the structure of property assets (Orekhov, 2010) [10]. That is, the variability of operations is specified as financing risk of variable and fixed costs of economic activities related to the replacement of inventories, machinery and equipment (Lagerkvist, 2005) [11]. Thirdly, the balance between financial resources and their sources should be retained after any transaction. This equality occurs during residues redistribution of financial resources, that is, increase or decrease in the volume of financial flows (Chesbrough, 2010) [4].

You should understand and consider these features; it is necessary for management decisions that will synchronize incoming and outgoing cash flows, accelerating the process of financial resources and temporarily capitalize free residues, making real investments, taking into account the possible terms of return and risk. This term of investment opportunities during which a certain amount of residual funds may not be in cash, should be aimed at the implementation of short-term financial investments. Return on investment should cover inflationary costs of depreciation and secure investment income, according to the target or actual profitability of property assets (Gaspar et al, 2014) [7].

As part of the risks inherent in short-term financial investment, the liquidity risk has the biggest impact, i.e. the probability of absenteeism from financial operations planning period (not the return of property assets in cash). The tools are the short-term financial investment of deposit operations and the acquisition of liquid securities. You should understand and consider these features; it is necessary for management decisions that will synchronize incoming and outgoing cash flows, accelerating the process of financial resources and temporarily capitalize free residues, making real investments, taking into account the possible terms of return and risk. This term of investment opportunities during which a certain amount of residual funds may not be in cash, should be aimed at the implementation of short-term financial investments. Return on investment should cover inflationary costs of depreciation and secure investment income, according to the target or actual profitability of property assets.

Grouping of farms in terms of net income and a cost component of property assets is a classic example of determining the surplus or deficit of financial resources, which ultimately determines the conditions of proportionality and balance of financing entities. In this case, we proposed a systematic approach to the evaluation of the dynamic trend, slowing financing risk, taking into account indicators of sustainable financial condition of agricultural enterprises. Distribution of total sources of funding should be carried out based on the real possibilities of development in financial component of property assets, and reasonable criteria of slowdown of financing risk to meet the needs for financial resources to identify indicators of liquidity, financial stability and profitability. Accordingly, we have selected 20 holdings, 229 large, 5350 medium agricultural enterprises in Ukraine to study their stable financial condition for the period of 2008-2015. Enterprises are grouped by the following parameters: agricultural holdings, net income≥ 100 bln. UAH, property assets ≥ 200 bln. UAH; large enterprises, net income ≥ 10 bln. UAH, property assets≥ 20 bln. UAH; medium -sized enterprises, net income≥ 1 bln. UAH, property assets ≥ 2 bln. UAH.

Note that the companies have studied the average ability of financial resources to fulfill their obligations, providing the normative values of liquidity and solvency of more than 1.0 and critical liquidity - more than 0.7-0.9. For example, large enterprises covered the total financial commitments till of 2012 within 1.8-2.0 (Table 2). Since 2013 medium enterprises had the best performance in terms of liquidity where the volume of current assets cover of the debt was more than 2 times (Table 3). Thus, during of 2008-2015 values of critical liquidity in the medium-sized enterprises were higher (83%) (Table 3), than in large enterprises and

agro holdings (only 24.0% (Table 2) and -1.6 % of growth (Table. 1)).

Calculations of partial indicators of financial stability of agricultural enterprises in Ukraine suggest that because of the rise in external borrowing during 2008-2015 years and increase of their funding sources in the structure of property assets, the increase of financial dependence factor in all study groups was noticed. Limited access to cheaper sources of financing during the period of 2008-2012 led to a decline in the financial independence of medium enterprises by 18%, and of agricultural holdings and large agricultural enterprises - by 12-15%. These trends indicate that the stagnation in the financial and credit system of medium-sized companies are more sensitive to the duration of the financial cycle, causing them to capitalize on their own financial resources and move towards self-financing. Therefore, the equity of the group companies for the last of 2013-2015 increased by 50%. However, extremely negative phenomenon is that it is only used to finance fixed assets, while providing financial resources needs in the current economic turnover of enterprises. According to research, companies have had deficient management of net working capital in the amount of 748 bln. UAH by the end of 2015. These changes led to the need to attract short-term loans and payables of trade character.

Table 1: Indicators of sustainable financial condition of agricultural holdings of Ukraine

Indicator	Group of companies by net income ≥ 100 bln. UAH and property assets ≥ 200 bln. UAH in period							
	2008	2009	2010	2011	2012	2013	2014	2015
Liquid solvency ratio	2.01	1.62	1.88	1.52	1.68	1.81	1.78	1.70
Critical liquidity ratio	1.26	0.98	1.22	1.08	1.15	1.25	1.21	1.24
Financial independence ratio	0.596	0.503	0.483	0.438	0.423	0.448	0.447	0.440
Concentration ratio of debt funding sources	0.404	0.497	0.517	0.562	0.577	0.552	0.553	0,560
Financial dependence ratio	1.99	1.99	2.07	2.28	2.36	2.23	2.24	2.27
The effect of financial leverage,%	17.44	9.94	4.60	2.55	4.38	6.37	7.42	7.84
The duration of the financial cycle, days	157	324	186	127	134	127	185	164
Return on equity,%	16.36	8.52	4.24	4.72	7.81	9.98	10.31	10.27
Return on property assets,%	21.06	14.48	7.49	6.20	9.14	12.04	14.19	14.98

Source: author's own calculations

The nature of the dynamic trend of the effect of financial leverage, which shows the limit of financing risk based on attracting the long-term financial resources, along with their own sources, is adjusted according to functional relationship between return on equity and its structure, which to some extent allows you to find guideline for the optimal funding structure (the use of borrowed funds). Accordingly, the best structure will be the financing structure of the enterprise in which a rational relationship between the risk of financing and return on equity is reached, resulting in increase in corporate rights of the enterprise and its market value (i.e., the optimal financing structure should be at a point where the value of weighted average of the cost of attracted funds will be minimal).

Table 2: Indicators of sustainable financial condition of major agricultural enterprises in Ukraine

Indicator	Group of companies by net income ≥ 10 bln. UAH and property assets ≥ 20 bln. UAH in period							
	2008	2009	2010	2011	2012	2013	2014	2015
Liquid solvency ratio	1.98	1.84	1.98	1.79	1.75	1.84	1.87	1.69
Critical liquidity ratio	0.86	0.89	1.01	1.01	1.08	1.15	1.14	1.07
Financial independence ratio	0.635	0.582	0.584	0.496	0.494	0.527	0.508	0.485
Concentration ratio of debt funding sources	0.365	0.418	0.416	0.504	0.506	0.473	0.492	0.515

Financial dependence ratio	1.57	1.72	1.72	2.02	2.02	1.90	1.97	1.94
The effect of financial leverage,%	21.31	16.19	17.83	8.13	9.01	12.67	11.73	8.65
The duration of the financial cycle, days	172	168	169	159	149	156	168	160
Return on equity,%	11.38	9.33	11.42	7.34	7.96	9.84	10.04	7.79
Return on property assets,%	18.01	15.83	18.46	11.97	12.55	15.13	15.44	12.30

Source: author's own calculations

As the research shows, in the group of average agricultural enterprises the growth in financial leverage effect was observed only of 2013-2015 (Table 3), in the group of large farms and agricultural holdings the trend is similar, but with a lower amplitude (Table 1,2) wherein the said indicator declined for eight (of 2008-2015) by 2.2 and 2.5 respectively. This demonstrates the ability of the latter to manage financial resources with minimal risk of financing by attracting long-term borrowings in the financial market.

For in-depth study of return on equity and effective use of financial resources in property assets, results of economic activity of agricultural enterprises are adjusted for the duration of the financial cycle. The duration of the financial cycle depends on the growth rate of net profit, which according to the «rules of financing» exceeds the growth rate of net income, which in turn, have accelerated the growth rate of property assets. However, it should be noted that a faster growth of the results of performance in comparison with property assets may not be permanent, according to the law of marginal utility.

If you draw the line regarding the study of the dynamics of effective use of financial resources during of 2008-2015, they are the most stable and uniformly distributed in the group of large farms. Agricultural holdings demonstrated high efficiency of the distribution of total financing in property assets. However, the duration of the financial cycle formed with regard to equity and long-term borrowed funds is much lower, compared with other groups of companies. In 2011-2012, the value was almost 1.5 times less than in the period of 2013-2015 (Table 1). Funding stocks in agricultural holdings had a steady upward trend and equal to the level in 2008 – 3.78, for the period of 2010-2013. Efficient use of financial resources accelerated by 1.7 times. In the group of large farms the growth during the research period was 22% (Table 2), average - 28% (Table 3).

Covering of the financial costs, taking into account income investments of attracted financial resources shows the limit of coverage of the rate of interest. Value at 5.0 is considered sufficient, while in the most efficient agricultural companies this level is equal to more than 10.

Table 3: Indicators of sustainable financial condition of medium agricultural enterprises in Ukraine

Indicator	Group of companies by net income ≥ 1 bln. UAH and property assets ≥ 2 bln. UAH in period							
	2008	2009	2010	2011	2012	2013	2014	2015
Liquid solvency ratio	1.98	1.84	1.98	1.79	1.75	1.84	1.87	1.69
Critical liquidity ratio	0.86	0.89	1.01	1.01	1.08	1.15	1.14	1.07
Financial independence ratio	0.611	0.593	0.586	0.477	0.484	0.547	0.535	0.544
Concentration ratio of debt funding sources	0.365	0.418	0.416	0.504	0.506	0.473	0.492	0.515
Financial dependence ratio	1.64	1.69	1.71	2.10	2.07	1.83	1.87	1.84
The effect of financial leverage,%	21.31	16.19	17.83	8.13	9.01	12.67	11.73	8.65
The duration of the financial cycle, days	170	170	159	163	152	150	165	159
Return on equity,%	6.94	6.23	10.67	5.75	5.81	12.60	11.52	11.88
Return on property assets,%	11.56	9.99	15.99	8.81	8.63	17.05	16.15	15.91

Source: author's own calculations

For example, the coverage ratio of financial costs of agricultural holdings for the period of 2008-2012 tended to decline - by 46%, due to more intensive use of borrowed funding sources (Table 1). However,

during of 2013-2015 the dynamic trend of acceleration of this indicator by 58% or to a level of 5.0 was observed. At the same time, agricultural holdings within of 2011-2015 managed payable accounts better than the other group of companies. This is due to more attractive terms for financing activities and high financial capacity to cover commercial credit.

In assessing the profitability of equity and property assets from the perspective of efficient use of financial resources, it should be borne in mind that signs of financial risks can appear even when the company is not loss making and evaluation indicators are quite positive in value. In fact, at the inefficient use of financial resources in agriculture relative to other sectors of the economy, incentives for financing activities of agricultural enterprises is reducing, which makes the outflows of funding sources. Accordingly, the effects of acceleration of financial risks is the loss of financial stability and decrease in solvency.

Thus, during of 2008-2015 most stable indicators of profitability of equity and property assets were observed in the group of large farms (Table 2). The variability of their values is equal to 15-20% efficient cost management. The highest value of fluctuations of return on equity was observed in the group of agricultural holdings and medium-sized farms from 4% to 16% (Table 1) and from 5% to 13% (Table 2), respectively. The largest increase in profit per unit of property assets during of 2009-2010 was observed in the group of large farms - 12-18%, in 2013-2014 in the group of average farms - 17% (Table 3).

Dynamic trend, which slows down the risk of financing the agricultural enterprises in the conditions of high values of individual indicators of efficient use of financial resources, has a certain degree of variability with respect to the return of property assets of nominal level, which actually is outdated. It displays only inflationary distortion, the essence of which is that in inflationary conditions the indicator of the effective use of property assets with a long operating period is highly profitable. In fact, «the effect of inflation» causes impairment of its own working capital and long-term financial cycle leading to accelerated rates of formation costs of debt financing sources, compared with the actual need for financial resources to ensure the real cost of material circulating assets. The higher inflation and longer financial cycle, the tangible is the manifested «effect of inflation», which prevents the use of financial resources in the long-term financing, allowing only short-term financial transactions.

Taking into account the lack of static equilibrium of economy and dynamic cycle of inflation, the agricultural farms that accumulate financial resources in perspective, use them immediately in order to avoid inflationary losses. In our view, this approach is justified for tactical reasons, but cannot be justified in the future, since the implementation of long-term financial cycle is impossible without the accumulation of financial resources, taking into account the development strategy of agricultural enterprises. The way out can be discounted investments that eliminate the influence of inflationary factors, but in terms of excess of deposit rate over inflation index. However, the instability of the financial situation limits the use of these mechanisms to counteract inflation.

The impact of inflation factor also causes impairment of receivable or payable accounts, as the «price» of financial liabilities of farms which they have in the current time period (loans, payable accounts) and financial commitments of partners in their favor (receivables) depends on the pace of future inflation. This causes the separation of real financial resources from nominal values of “net debtor” and “net creditor” in the opposite direction vector. Under these conditions, covering of receivables has negative impact on the operating cycle, since the real purchasing power of the funds received does not match the price of «net debtor» on the date of occurrence. Regarding «net creditor» from the standpoint of the company, it looks like a positive factor but only when sanctions for failure to repay debt are not applied.

III. Conclusion

The evaluation of sustainable financial condition of large and medium agricultural enterprises showed uptrend’s for their improvement, but they are worse compared with corporate enterprises (holdings). Therefore, agricultural micro system has determined signs of financing the agricultural enterprises, which provide modification factors slowing growth risk. Modified risk factors slowing financing of agricultural enterprises must consider internal and external macro- and microenvironment to determine the action of subsystems of financial budgeting and investment of production, planning the sources and market of finance, forecasting management of credit support and funding, as well as their relationship with factors of action of subsystem of the level of stable financial position and break-even production of entities of agricultural sector. Performance indicators of stable financial status in this case provides an effective range of measures for the effective use of financial resources of agricultural enterprises, that is, balances internal factors of microenvironment for management decisions and generates income subject to change parameters of the microenvironment.

References Références Referencias

1. *Balabanov*, I.T. (1996). Risk Management. Moscow: Finansy i statistika (in Russ.).
2. *Bancel, F., Mittoo, U.R.* (2011). Financial flexibility and the impact of the global financial crisis: Evidence from France. International Journal of

Managerial Finance, 7(2): 179–216 = DOI: 10.1108/17439131111122157.
3. *Bangake, C., Eggoh, J.C.* (2012). Pooled Mean Group estimation on international capital mobility in African countries. Research in Economics, 66(1): 7–17.
4. *Chesbrough, H*. (2010). Business Model Innovation: Opportunities and Barriers. Long Range Planning, 43: 354-363 = DOI:10.1016/j.lrp.2009.07.010.
5. *Digman, Lester A*. (1999). Strategic Management: Concepts, Process, Decisions. – 5th ed., Dame Publication INC.
6. *Drucker, P*. (1997). The Effective Decision. Harvard Business Review, Jan-Feb 1997.
7. *Gaspar, J., Vasconcelos, P. B., Afonso, O*. (2014). Economic growth and multiple equilibria: A critical note. Economic Modelling, 36: 157-160 = DOI: 10.1016/j. econmod.2013.09.037
8. *Granaturov, V.M.* (2002). Financial risk: essence, methods of measurement, ways of reducing. Moscow: Delo i servis». (in Russ.).
9. *Harrison, F.* (1999). The Managerial Decision-Making Process. Boston, New York: Houghton Mifflin Company.
10. *Orekhov, S.A.* (2010). Working capital corporate associations: theoretical and practical aspects of statistical analysis. Moscow: BUKVITsA. (in Russ.).
11. *Lagerkvist, Carl J*. (2005, July 24-27). Assessing farmers' risk attitudes based on economic, social, personal, and environmental sources of risk: evidence from Sweden. American Agricultural Economics Association Annual Meeting, Providence Rhode Island = DOI: http:// ageconsearch.umn. edu/bitstream/19361/1/sp05la01.pdf.
12. *Rayzberg, B.A.* (1992). Entrepreneurship and risk. Moscow: Znanie (in Russ.).
13. *Robinson, L.J., Barry, P.J., Klibenstein, J.B.* (1984). Risk attitudes: Concepts and measurement. In P.J. Barry (Ed) Risk management in agriculture. Iowa State University Press. Vol. 1,2:11–30
14. *Verbytska, H.L.* (2004). To the definition of «risk». Ekonomika Ukrainy, Vol. 4:83-87.
15. *Vitlinskyi, V.V.* (2004). Riskology and finances of the enterprise. Kyiv: KNEU. (in Ukr.).
16. *Yastremskyi, O.I.* (1992). Modeling financial risk. Kyiv: Lybid. (in Ukr.).
17. *Zagaytov, I.B.* (2008). Topical issues of the theory of planning. Voronezh: FGOU. (in Russ.)