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The Role of Information Technologies in Determining the Financial Potential of Agricultural Enterprises of Ukraine

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Abstract

The financial potential of agricultural enterprises has important for the development of the domestic economy. Violation of positive dynamics of the development of the country's economic system highlighted the urgent problems and existing prospects for the development of the domestic economy. A special role in this process belongs to the agrarian sector, therefore it is advisable to analyze the state of the financial potential of the agrarian sector enterprises in the context of modern development of the domestic economic system. In the article we have analyzed indicators that characterize the level of enterprises development in the agricultural sector of Ukraine. The article defines the main strategic orientations

Increasing the financial potential of an agricultural enterprise should be the effective implementation and use of information technologies, ensuring financial security, financial independence and financial stability. The main sources of financial potential of agricultural enterprises are determined. It has been proven that the use of information technologies allows to speed up and simplify the process of providing financial services to agricultural enterprises, optimize the cost structure and improve their management. It has been proved that such

changes are a confirmation of the need to strengthen the financial potential of agricultural enterprises by increasing the shares of additional and reserve capital. It was established that the financial potential of agricultural enterprises is high, but it is characterized with descending dynamics. The financial stability of the enterprise is determined relatively its functioning and possible development prospects. It is considered as the system's ability to maintain planned development despite changes in internal and external factors of influence and their forms of manifestation. Ignoring obstacles and the possibility of overcoming them along with the preservation of internal ones of characteristics is an important property of countering obstacles. A certain set of obstacles and prerequisites for the development of the financial potential of agricultural enterprises allowed to identify the most urgent problem areas, to update and focus attention on the main problems of the potential of enterprises. Definitely problematic the range of questions made it possible to identify the main areas of solution problems of formation and development of the financial potential of enterprises, the formation of a system of its tools, to justify the need to create a concept of support and development of the financial potential of agrarian enterprises.

Keywords: Financial Potential, Information Technology, Agricultural Enterprises, Risk, Financial Resources, Indicator.

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Introduction

The importance of forming the financial potential of agricultural entities is due to reduce the resonance effect between internal crisis processes and the consequences of financial globalization. At the same time, the dynamics of the financial environment always determines the change in the priority activities of agricultural entities and their adaptation to the realities of economic life. The complication of financing investment projects of agricultural entities, increasing the cost of credit resources, reducing preferential lending and state financial support programs, reducing the intensity of the use of financial resources, increasing the risk of financing economic activity and weakening positions in the financial market, cause the need to increase attention to the formation and strengthening of the financial potential of agricultural enterprises as a powerful means of solving the problem of their vital activity and ensuring the profitability of production.

The purpose of the article is to analyze the current state of financial potential of agricultural business entities operating under the conditions of restrictions on financial activity.

Literature Review

Financial potential characterizes the possibility of attracting resources to finance future activities and identify strategic directions for the development of business entities. In this case, the decrease in the level of financial potential characterizes its limitations on the possibility of attracting resources.

S.S. Shumska (2007) financial potential defines as "the ability to optimize the financial system of the entity to attract and use financial resources". P.A. Stetsyuk (2009) defines financial potential as "the ability of the enterprise to generate positive net cash flows in volumes adequate to its financial condition".

We believe that financial potential should be based on the analysis and forecasting of the need for financial resources and sources of their formation, financial capacity and competitive advantages of agricultural entities. The priority of choosing elements of financial potential is reduced to: qualitative characteristics of financial resources (system output) in accordance with the needs of consumers; accumulation of own financial resources by reducing the amount of resources involved and, as a result, reducing the cost of covering financial liabilities, increasing liquidity (Svirsky V., 2007; Mavlutova et al., 2021). That is, the main elements that ensure the formation of financial potential are the result of joint efforts to realize financial opportunities, which, when interacting, can be expressed by a financial result that remains at the disposal of agricultural entities.

At the same time, the main feature of the financial potential that contains the formation, attraction, distribution and use of financial resources is that they have a better capacity than other types of resources to save their value (Pasko et al., 2021; 2022). During the functioning of agricultural entities and their stable development, the amount of financial resources increases. The degree of liquidity of each of them depends on many factors. Therefore, financial potential in different time intervals can have different quantitative parameters (indicators) of financial resources and sources of their formation.

The specificity of financial potential is that the formation, attraction, distribution and use of financial resources are closely related to risks that are an objective attribute of agricultural business entities in the process of its financial activities.

Methodology

The methodological basis of the article consists of general scientific, special methods and approaches of research, in particular: systematic approach – to identify the peculiarities of formation of financial potential of the enterprises; method of scientific abstraction, induction and deduction - in assessing the volume of financial potential and its effectiveness; statistical analysis and grouping – to substantiate strategic directions of formation of financial potential of the enterprises.

Results

Thus, the presence of debt financial obligations provides for determining the period of their coverage by an agricultural entity. The absence of the possibility of reducing the amount of debt leads to the restructuring of the enterprise, the redevelopment of production, the closure of unprofitable production facilities, the sale of the entity's property as an integral property complex (for non-state enterprises), the elimination of receivables, the restructuring of accounts payable, by transferring the debt to the investor for urgent repayment. But the largest number of cases of satisfaction of creditors' claims regarding the obligations of the entity are carried out on an equivalent and non-equivalent basis.

Analysis of indicators of development of agricultural business entities in Ukraine for 2013-2019 indicates an increase in the number of enterprises operating in the agricultural sector (from 45,378 units in 2015 to 48,504 units in 2019) by 3,126 units; productivity growth by 1.5 times in agricultural production by 4.16 times, such trends are an indicator of the interests of farmers. At the same time, we see a slight decrease in the number of employees in agricultural business entities (from 500.8 thousand in 2015 to 463.2 thousand in 2019) (Table 1).

Table 1. Dynamics of indicators of agrarian economic entities development in Ukraine

Indicators	Year					Deviation (+, -) 2019 from 2015.
	2015	2016	2017	2018	2019	
Number of enterprises that carried out agrarian activities, units	45378	47696	45557	49208	48504	3126
Number of employees, thous.	500,87	513,24	489,22	474,61	463,20	-37,67
Labor productivity per 1 employed in agricultural production (in constant prices in 2010), thousand UAH.	223,30	275,31	271,51	313,60	928,60*	705,3
Average monthly nominal salary of full-time workers in agriculture, UAH	3140	3917	5762	7166	8739	5599
Catching agricultural products – total, mln UAH	131918,6	145119,0	140535,2	158306,5	842767*	710848,4

Crop	99584,7	113392,6	108601,1	124719,0	648930,6	549345,9
Livestock	32333,9	31726,4	31934,1	33587,5	193836,4	161502,5
Net profit (loss), mln.UAH.	101912,2	89816,3	68276,8	70461,9	90167,0	-11745,2
Enterprises that received net profit, % to the total number of	88,9	88,4	86,7	86,7	83,4	-5,5
Financial result, mln. UAH	127525,5	102496,1	88676,3	93135,1	114666,4	-12859,1
Enterprises that received net loss %, to the total number	11,1	11,6	13,3	13,3	16,6	5,5
Financial result, mln. UAH	25613,3	12679,8	20399,5	26257	24499,4	-1113,9
Level of profitability of all activities, %	30,4	25,6	16,5	13,5	16,1	-14,3
Level of return on operations, %	43,0	33,6	23,5	18,9	19,3	-23,7

Source: *In constant prices 2016** in actual prices

A positive trend in the development of the agricultural sector is changes in the amount of the average monthly nominal salary of full-time workers in agriculture of Ukraine in the direction of growth of 2.9 times (from 3140 UAH. in 2015 to UAH 8,738 in 2019). The volume of net profit received, as the basis for increasing the financial potential of agricultural entities, tends to decrease from UAH 101,912.2 million in 2015 to UAH 90,167.0 million in 2019 or uah 1.1 million in 2019. Enterprises that received a net profit in 2019 are 83.4% of the total, while enterprises with a loss for the same period – 16.6%. Also, during this period, the efficiency of agro-industrial production has decreased, as indicated by a decrease in the level of profitability of all activities – from 30.4% to 16.1% and profitability of operating activities – from 43% to 19.3%, which is a deterrent to improving the financial support of agricultural business entities at the expense of their own financial resources and is an obstacle to increasing the financial capacity

We believe that in the current challenges, liquidity and solvency are among the most important indicators that characterize the level of financial potential of agricultural business entities. in agricultural business entities of Ukraine there was a slight increase in the coefficient of absolute liquidity (from 0.053 to 0.061), but this coefficient still does not meet the normative value (≥ 0.2 or more than 20%), so agricultural business entities of Ukraine for the study period had insufficient monetary solvency in 2015. – 4.9%, and in 2019 – 5.5% respectively (Table 2).

Table 2. Dynamics of liquidity and solvency indicators of agricultural business entities of Ukraine, 2015 – 2019*

Indicators	Year					Deviation (+, -) 2019 from 2015.
	2015	2016	2017	2018	2019	
Cash ratio	0,053	0,019	0,053	0,057	0,61	0,008
Quick ratio	1,125	1,032	1,002	0,896	0,831	-0,294
Current ratio	1,503	1,191	1,537	1,563	1,547	0,044
Inventory coverage ratio	3,580	7,421	2,867	2,325	2,155	-1,425
Solvency ratio	0,049	0,018	0,049	0,053	0,057	0,008

*calculated by authors according to data

The coefficient of current ratio of agricultural business entities for 2015 -2019 increased (from 1,503 to 1,547), this indicates that the studied enterprises are provided with their own working capital and can timely pay off obligations to creditors.

The value of the quick ratio for the period under study had a negative tendency to decrease by 0.294 (from 1.125 to 0.831), but this coefficient retains the normative value (≥ 0.7), so agricultural business entities have a high level of estimated solvency. During the study period, the solvency ratio increased (from 0.049 to 0.057), but the value of this coefficient is less than the normative value (≥ 0.1). Eventually, this indicates a lack of provision of funds to agricultural business entities.

During the 2015-2019 was a significant decrease in the level of solvency of agricultural business entities in terms of fulfilling their current obligations. The state should direct efforts to recreate and modernize the production and resource potential of agricultural production and resource potential of agricultural production, promote the intensification of foreign economic activity of the agricultural sector, and ensure solvent demand for agricultural products.

The financial stability of agricultural business entities reflects the effectiveness of the use of equity and the possibility of attracting external sources of financing and the ability to pay on their obligations in a timely manner.

The analysis of the structure and cost of capital sources of agricultural business entities indicates a significant financial dependence on creditors (Table 3).

Thus, the value of the Equity concentration ratio indicates that at the end of 2019, the share of equity in the balance sheet currency was 51%. The debt ratio for the study period decreased from 2.49 in 2015 to 1.97 in 2019, this indicates a decrease in the share of borrowed funds in financing agricultural business entities and increasing their financial independence. The ratio of borrowed capital concentration decreased from 0.60 in 2015 to 0.49 in 2019, that is, by 0.11 percentage points, but despite on this, agricultural business entities still have a high level of financial dependence on creditors.

Table 3. Dynamics of financial stability indicators of agricultural enterprises of Ukraine, 2015 – 2019.

Indicators	Years					Deviation (+, -) 2019 y. from 2015 y.
	2015	2016	2017	2018	2019	
Equity concentration ratio	0,40	0,24	0,48	0,49	0,51	0,11
Debt ratio	2,49	4,16	2,09	2,04	1,97	-0,52
Financial stability ratio	0,50	0,28	0,54	0,58	0,60	0,10
Ratio of borrowed capital concentration	0,60	0,76	0,52	0,51	0,49	-0,11
Debt-to-equity ratio	1,49	3,16	1,10	1,04	0,97	-0,52
Debt coverage ratio with equity	0,67	0,32	0,92	0,97	1,03	0,36
Long-term borrowing ratio	0,20	0,14	0,12	0,15	0,15	-0,05
Coefficient of financial independence of capitalized sources	0,80	0,86	0,88	0,85	0,85	0,05
Ratio of long-term liabilities and collaterals	0,17	0,05	0,12	0,16	0,18	0,01
Ratio of current liabilities and collateral	0,83	0,95	0,88	0,84	0,82	-0,01
Current debt ratio	0,50	0,72	0,46	0,43	0,40	-0,10

*calculated by the authors according to 2, 6

The increase in the level of financial stability of agricultural business entities is evidenced by the value of the coefficient of financial stability. This ratio increased from 0.50 in 2015 to 0.60 in 2019, according to the debt-to-equity ratio in 2015, on 1 UAH of equity means 1.49 UAH of borrowed capital, and in 2019 – 0.97 UAH. Accordingly, the value of the debt coverage ratio by equity shows that in 2015 equity exceeded the borrowed capital by 0.67 times, and in 2019 – by 1.03 times. For 2015 - 2019. the long-term borrowing ratio decreased from 0.20 in 2015 to 0.15 in 2019, this indicates a decrease in the dependence of agricultural business entities on long-term external sources of financing. It should also be noted that the positive impact on the financial stability of agricultural business entities is reduced by the current debt ratio from 0.50 in 2015 to 0.40 in 2019. This coefficient characterizes the share of short-term debt of agricultural business entities.

Analysis of the state of assets of agricultural entities indicates an increase in property value and a sufficient level of financial stability.

Table 4. Dynamics of capital indicators status of agricultural business entities for 2015 – 2019.

Indicators	Years					Deviation (+, -) 2019 from 2015.
	2015	2016	2017	2018	2019	
The ratio of the real value of fixed assets in the property	0,16	0,10	0,20	0,24	0,28	0,12
Equity maneuverability ratio	1,61	1,69	1,60	1,47	1,34	-0,27
The coefficient of provision of current assets with its own working capital	0,20	0,11	0,26	0,24	0,21	0,01
The coefficient of inventories provision with their own working capital	0,81	0,85	0,74	0,55	0,45	-0,36
Ratio of stocks to own working capital	1,24	1,18	1,35	1,82	2,22	0,98
Coefficient of maneuverability of own working capital	0,16	0,13	0,12	0,14	0,18	0,02
The coefficient of the coverage structure of long-term investments	0,40	0,28	0,22	0,25	0,24	-0,16

*calculated by authors according to data 2

Thus, from 2015 - 2019 there was an increase in the coefficient of real value of fixed assets in the property from 0.16 in 2015 to 0.28 in 2019. This indicates an increase in the value of property of agricultural business entities for industrial purposes. The coefficient of maneuverability of equity increased from 1.61 in 2015 to 1.34 in 2019 At the end of 2019, 134% of equity was invested in working capital.

Thus, during the analyzed period, there was a decrease in the degree of mobility of equity by 0.27, but despite this, agricultural business entities have opportunities to finance production and other activities. In the structure of current assets, own financial resources increased in 2015 - 2019. and at the end of 2019 amounted to 21%, and by 1 UAH of stocks at the end of 2019 accounted for about UAH 0.45. own working capital. This indicates a high level of provision of agricultural entities with their own working capital. For 2015 - 2019. there was an increase in the coefficient of maneuverability of own working capital by 0.02

percentage points, this indicates that among its own working assets, cash in 2015 amounted to 16%, and in 2019 this figure increased to 18%.

Consequently, agricultural business entities have a sufficient level of financial stability in relation to the provision of highly liquid current assets. The decrease in the ratio of the structure of covering long-term investments from 0.4 in 2015 to 0.24 in 2019 indicates a decrease in financing by external investors of part of fixed assets and other non-current assets of agricultural business entities.

The results of the conducted analysis of business activity indicators (Table 5) indicate that for 2015 - 2019. in agricultural business entities there was a decrease in the duration of one turnover of current receivables by 146 days (-43%), the duration of one turnover of current assets by 93 days (-19%) and the duration of one asset turnover by 12 days (-2%).

Table 5. Dynamics of business activity indicators for agricultural enterprises of Ukraine, 2015 – 2019.

Indicators	Year					Deviation (+, -) 2019 from 2015.
	2015	2016	2017	2018	2019	
Inventory Turnover	1,80	1,57	1,48	1,43	1,54	-0,26
Turnover ratio of current receivables	1,07	0,37	1,24	1,62	1,88	0,81
Turnover ratio of current accounts payable	4,350	4,61	4,57	4,22	4,46	0,11
Turnover ratio of current assets	0,71	0,31	0,71	0,81	0,88	0,17
Asset turnover ratio	0,54	0,26	0,50	0,55	0,01	-0,53
Equity turnover ratio	1,33	1,01	1,04	1,10	1,07	-0,26
Duration of the operating cycle, days	538	1206	534	4,73	425	-113
Duration of the financial cycle, days	457	1128	453	388	344	-113
Duration of one turnover of stocks, days	200	229	243	251	234	34
Duration of one turnover of current receivables, days	337	977	291	221	191	-146
Duration of one turnover of current accounts payable, days	80	79	79	84	81	1
Duration of one turnover of current assets, days	505	1179	507	445	412	-93
Duration of one turnover of assets, days	673	1375	725	670	661	-12
Duration of one turnover of equity, days	271	331	348	329	336	65

*calculated by authors according to data 2, 6

Also, during the study period, there was an increase in the duration of one equity turnover of 65 days (24%). This was due to an increase in net income from the sale of products (goods, works, services) as opposed to the average annual value of the relevant assets. For 2015 - 2019. there was an increase in the duration of one turnover of inventories for 34 days (16%), the duration of one turnover of current accounts payable for 1 day (1%), this was due to an increase in the cost of products sold (goods, works, services) as opposed to the average annual value of relevant assets and liabilities.

In the current challenges, increasing or reducing receivables of agricultural business entities has a significant impact on the turnover of capital invested in their current assets and

their financial potential. Receivables are economic benefits in the future period, which directly or indirectly creates an additional receipt of funds (Lesyuk A., 2020). Receivables are one of the types of the least liquid part of the assets of agricultural business entities, which requires additional costs. The longer the period of repayment of receivables, the lower the income from the invested funds. In addition, in terms of inflation, funds depreciate (Lesyuk A., 2020). The financial potential of agricultural business entities is characterized by a decrease in receivables in the structure of their current assets, which leads to an acceleration of payment turnover of agricultural business entities (Table 6).

Table 6. Dynamics of receivables of agricultural business entities for 2015 -2019.

Indicators	Year					Deviation (+, -) 2019 y. from 2015 y.
	2015	2016	2017	2018	2019	
Receivables turnover ratio	1,07	0,37	1,25	1,62	1,89	0,82
Duration of one turnover of receivables, days	336	977	291	222	191	-145
Share of receivables in the property, %	50,0	71,0	40,1	33,1	28,9	-21,1
Share of receivables in current assets, %	66,6	82,9	57,3	49,9	46,5	-20,1
Ratio of receivables and accounts payable	6,66	18,10	5,10	3,44	2,92	-3,74
Ratio of receivables to net income from sales of products (goods, works, services), %	93,4	271,3	80,8	61,6	53,2	-40,2

*calculated by the authors according to data 2, 6

For 2015 - 2019 the receivables turnover ratio of agricultural business entities increased by 0.82. In 2015, accounts receivable amounted to 66.6% of the total working assets, and in 2019 – 46.5%, respectively. Reducing receivables in the structure of current assets of agricultural business entities contributes to the improvement of their financial potential. During the study period, there was also a 40% decrease in receivables to net income from the sale of products (goods, works, services), which indicates an improvement in the state of settlements of agricultural business entities with receivables.

Accounts payable have a significant impact on the level of financial potential of agricultural business entities, so it is necessary to conduct a comprehensive assessment of its composition, structure, dynamics and its ratio with receivables. In the conditions of modern challenges, an important element of a comprehensive assessment of the financial potential of agricultural business entities is the assessment of accounts payable, namely: its composition, structures, dynamics and its ratio with receivables. Accounts payable is a source of coverage of current assets. Efficient use of borrowed funds provides additional economic benefits (Lesyuk A., 2020). Accounts payable directly depends on the financial and economic activities of agricultural business entities, and directly, on the production and sale of products. The increase in accounts payable indicates a lack of own working capital. For 2015 - 2019. indicators of accounts payable of agricultural business entities have mainly negative dynamics (Table 7).

Table 7. Dynamics of accounts payable of agricultural entities for 2015 – 2019.

Indicators	Year					Deviation (+, -) 2019 from 2015
	2015	2016	2017	2018	2019	
Accounts payable turnover ratio	4,50	4,61	4,57	4,22	4,46	-0,04
Duration of one turnover of accounts payable, days	80	79	79	85	81	1
Share of accounts payable in capital, %	7,50	3,91	7,90	9,62	9,90	2,4
Share of accounts payable in liabilities and collateral, %	12,60	5,22	15,13	19,01	20,22	7,62
Share of accounts payable in current liabilities and collateral, %	15,10	5,50	17,30	22,70	24,70	9,6
The ratio of accounts payable to current assets, %	10,00	4,60	11,20	14,50	16,00	6
Accounts payable per 1 UAH of receivables, UAH	0,15	0,06	0,20	0,29	0,35	0,20
The ratio of accounts payable to net income from sales of products (goods, works, services), %	14,0	15,0	19,8	17,9	18,2	4,2
The ratio of the periods of repayment of receivables and payables	4,20	12,51	3,69	2,37	-1,83	-6,03

* calculated by the authors according to data 2, 6

For 2015 - 2019 there was a decrease in the average annual amount of receivables of agricultural business entities by 13% compared to an increase in the average annual amount of accounts payable by 98%. During the study period, there was an increase in accounts payable, which accounts for 1 UAH 128% (from 0.15 to 0.35).

Accounts receivable and accounts payable, its composition and structure, dynamics of changes are an integral part of the financial and economic activities of agricultural business entities. These indicators have a direct impact on the financial potential of agricultural business entities, so it is necessary to control the level of debts and analyze them in a timely manner to reduce the risks of non-repayment of receivables and create accounts payable. The most optimal is to exceed receivables over accounts payable.

The formation of the financial potential of agricultural business entities is largely related to close interaction with the external environment, monitoring of dynamic market needs and is focused on ensuring economic growth and achieving the goals. The following features of financial potential development are characteristic of agricultural business entities: seasonal nature of production; significant dependence on natural conditions, which are quite often unpredictable; shortage of financial resources; time difference between the manufacture of products and the receipt of funds from sales; variety of organizational and legal forms of management; strengthening the process of globalization of production and sales of products; increasing the number of financial relations between business entities; increasing the role of the human factor in the formation and distribution of profits as a key lever of increasing financial potential.

External factors influencing the financial potential of agricultural business entities pose a threat to the following problems in the management of financial potential, namely: reduction of income due to changes in the economic and political situation in the country; reduction of liquidity and solvency under the influence of devaluation of the national currency; inability to pay on their obligations due to changes in the taxation system; lack of sales possibility of previously manufactured products due to significant changes in the market situation under the influence of the emergence of goods receiving state subsidies, etc. Factors of internal influence cause risks of such problems as: inaccuracies in settlements in the field of production, financial and investment activities of the enterprise due to inefficient and incompetent management system of the enterprise (as a result, a short supply of income); production down time due to the unjustified choice of supplier enterprises; unsufficient volume of current assets, which causes failures in the sale of manufactured products; reducing the effect of financial leverage (financial opportunities) of the enterprise due to the irrational structure of the formed capital, excessive and unjustified attraction of borrowed capital, lack of capacity to repay the obligations made in time, etc.

Conclusion

To ensure the effectiveness of agricultural activities, an important role is the rational and justified use of available resources, as well as the timeliness of making competent management decisions about the ability to realize financial potential.

The potential for the development of the agricultural sector is determined by the quantitative characteristics of agricultural enterprises, the sustainable growth of which indicates a favorable external environment for their functioning, which facilitates the management of finances, as well as is determined by the qualitative characteristics, that is, the effectiveness of their activities.

The results of the study indicate a decrease in the level of financial potential of the Ukrainian agricultural sector, namely: a decrease in net profit as a basis for financing the development of enterprises at the expense of their own sources; reducing the level of profitability of all activities and profitability of operating activities; decrease in the growth rate of financial results.

Conflict of interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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