

# Decision making in agricultural organizations: integral assessment methodology

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**Abstract.** The article reveals the specific features of the activities of agricultural enterprises, the principles of the functioning of agriculture, the specific features of the agricultural sector, the essence of the financial stability of the organization. A classification of threats to financial security is given. The authors proposed criteria for determining the financial security of agricultural enterprises, and provided a methodology for the integral assessment of financial security when making decisions in agricultural organizations.

## 1 Introduction

If management does not pay due attention to financial threats, then the level and scale of the enterprise's activities do not play any role - sooner or later this will lead to colossal problems, resulting in large financial losses, the enterprise will experience difficulties and either it will be destroyed by competitors, or by itself can no longer exist. Based on this, it should be noted that ensuring financial security is the primary condition for protecting the activities of any organization, and in the conditions of the Far East, the development of agricultural enterprises is fundamental in ensuring the socio-economic sustainability of the region, when making effective management decisions of agricultural organizations in the Far East.

## 2 Methods

The deduction method was used to study the theoretical foundations of the financial security of an enterprise, determine the specific features of the functioning of agricultural enterprises and criteria for assessing the level of financial security of an agricultural enterprise. The

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analysis method was used to reveal the essence of the financial security of an enterprise, to assess the level of financial security of the enterprise and its components.

### **3 Results**

It is impossible to imagine a modern market economy without enterprises. It is enterprises that fulfill the key task of market relations – meeting the needs of humanity.

According to Tsurkan N.N. An enterprise is “an independent economic entity that produces products, performs work and provides services in order to meet public needs and make a profit. This is an economic unit that processes economic resources into marketable goods and services in order to generate income” [1, p. 6].

It is necessary to highlight the fact that it is enterprises that produce the goods that people need, provide various types of services, provide new jobs, and are active participants in the tax system. Any activity of an organization is directly related to finance. The purchase of raw materials and materials, the production and further sale of products, the fulfillment of obligations to credit institutions, counterparties and the state – all this is possible if the enterprise is in good financial condition, with a sufficient level of its liquidity and solvency. All this suggests that enterprises are an important link in economic development. In order for the economy to develop systematically and uninterruptedly, it is necessary to ensure the same development for enterprises. For these purposes, there is an assessment of their financial security.

The term “security” is present in all areas of human life. It applies both to the person himself and to everything that he creates. Security for a person means a state in which a person feels protected from the influence of external negative factors at the level of his individual needs, health, life, his rights, views and beliefs, choice, etc. [2, p. 9].

Security within an enterprise has a slightly different interpretation, but, in general, these concepts are similar. Thus, the security of an enterprise also represents the state of its protection from external and internal threats (for example, the security of personnel, equipment, economic interests). Next, it is necessary to consider in more detail the very concept of financial security.

According to I.A. Blanka, the essence of the financial security of an enterprise lies in its ability to develop and independently implement a financial strategy that corresponds to the overall corporate strategy of the organization [3].

Vagina N.D. in his work describes the financial security of an enterprise as “a certain financial state of the enterprise, characterized by its ability to withstand existing and emerging threats, which is ensured by constant monitoring and diagnostics of its level, as well as the formation of a set of preventive and control measures” [4, p. 125].

Sergeev A.Yu. financial security means “an important component of the financial security of an enterprise, which is based on ensuring independence and productivity, a system of indicators and the state of criteria, characterized by such aspects as sufficient liquidity of capital, balance of finances, availability of required cash reserves” [5, p. 152].

According to Kondrashova E.A. The financial security of an enterprise is understood as “the state of financial security and security of business processes, which helps to avoid or prevent financial threats, and allows for stable operation and expanded reproduction with minimal financial losses” [6, p. 7].

Sausheva E.S. also spoke about financial security. and others. In their understanding, the financial security of an enterprise is the financial component of economic security and “characterizes the state of economic relations with counterparties and the control of financial parameters (indicators) of the enterprise’s activities, that is, its financial condition. Financial security is a quantitatively and qualitatively determined level of financial condition that provides stable protection from real and potential threats of an external and internal nature.

Financial security should be understood as a financial condition in which the organization is developing steadily, maintaining the parameters of its activities at an acceptable level in conditions of additional risk" [7, p. 169-170].

Based on the definitions discussed above, the main idea should be highlighted - the financial security of an enterprise is the state of financial security of the organization, its ability to develop, as well as the ability to independently overcome internal and external negative factors without incurring significant losses. It is important that, basically, financial security is considered at the level of the state and region, and at the level of economic entities, financial security is included in economic security.

The economic security of an enterprise implies, in general, the state of the organization's protection from negative factors, the achievement of all commercial interests and goals of statutory activities [8, p. 15]. That is, unlike financial security, economic security involves the effective use of not only the organization's financial resources, but also human, material, intangible, technological, etc.

The main goal of the financial security of an organization is to develop a system of necessary financial conditions, thanks to which constant growth and sustainable development will be achieved in the present period of time and in the future [9, p. 421]. In the short-term period, the goal of financial security is to stabilize the financial condition of the enterprise to ensure the possibility of its further development, and within the long-term period, it is to maintain a level of financial performance ratio at which its market value will constantly increase.

Karanina E.V. in her work "Financial security at the level of the state, region, organization, individual" she paid special attention to functional goals arising from the main goal of the financial security of the enterprise. So, for example, she says that it is important:

- «ensuring high financial efficiency, sustainability and independence of the enterprise;
- ensuring technological independence and achieving high competitiveness of its technical potential;
- high efficiency of management, optimality and efficiency of its organizational structure;
- high level of personnel qualifications and intellectual potential, efficiency of corporate R&D;
- minimizing the destructive impact of production activities on the environment;
- high-quality legal protection of all aspects of the enterprise's activities;
- ensuring the protection of the information field, trade secrets and achieving the required level of information support for the work of all subsections;
- ensuring the safety of the enterprise's personnel, its capital and property, commercial interests» [10, p. 102-103].

In order for the main goal to be achieved, it is necessary to complete a certain number of tasks:

- 1) the management of the organization must set guidelines to achieve which their activities will be directed, and which will contribute to the development of this organization;
- 2) it is necessary to identify potential threats and risks that can significantly prevent the organization from achieving its intended targets;
- 3) it is required to develop a concept of actions aimed at eliminating previously identified threats and risks. As part of this, the following must be ensured:
  - a) sustainable settlements at the enterprise and alignment of all important financial and economic indicators;
  - b) elaboration of all negative factors and action scenarios for each of them;
  - c) all schemes for distributing cash flows of the enterprise must be clearly established;
  - d) all possible options for sources of financing that are the most profitable and sustainable are presented.

4) the final stage is the application of the developed concept, overcoming the existing threats and risks of the enterprise, as well as preventing the occurrence of possible ones and achieving a high level of financial security.

Thus, it becomes clear that assessing financial security is very important for every enterprise. The higher the level of financial security of a business entity, the more reliable it is, which means it can guarantee the protection of its financial interests, shareholders and founders. Also, financial security will allow the enterprise to cope with all sorts of negative factors, dangers and threats that arise during its operation. It will ensure stable, stable cooperation with its partners and counterparties, banking and government agencies and help cope with economic, political and other fluctuations [11].

In order for an enterprise to function sustainably, be competitive and bring profit to its management, it is necessary to identify all kinds of threats. An untimely response to existing or potential threats, or ignoring them, can provoke serious financial problems and, as a result, the liquidation of the organization.

For a more detailed assessment of the financial security of an enterprise and to simplify it, a classification of threats was developed. The main types of financial threats identified by experts are presented in Table 1.

**Table 1.** Classification of threats to financial security

<b>Classification feature</b>	<b>Types of threats</b>
By direction of influence	- direct; - indirect
According to the degree of formation	- potential; - real
By source of occurrence	- external; - internal
If possible, identify	- obvious; - implicit
By duration	- temporary; - permanent
By threat actors	- competitors; - employees; - counterparties
By threat objects	- on financial transactions; - according to information; - by technology; - for personnel
<b>Classification feature</b>	<b>Types of threats</b>
If possible, foreseeable	- predicted; - unpredictable
By objectivity and subjectivity definitions	- purposefully created; - spontaneous
By production stage	- at the preparatory stage; - at the production stage; - at the final stage
According to the type of interests of the organization	- current interests; - long-term interests
According to the degree of subjective perception	- unconscious; - imaginary; - adequate
According to the nature of the subjects' responsibility	- civil; - criminal; - administrative and legal
By impact on type of activity	- operating room;

	- investment; - financial
By type of loss	- direct damage; - lost profit

Source: Compiled based on [12, p. 2]

Let's take a closer look at external and internal threat groups and determine what can be classified as them. An enterprise is a kind of organism in which many internal processes occur that allow it to function successfully. The internal environment of an enterprise consists of inventories, personnel, financial, information, technical inventories, etc. [13, p. 18]. Thus, internal factors that can develop into a threat to the enterprise include:

level of qualifications of accounting personnel and personnel of the financial and economic department;

professionalism and skills of the management team;

level of legal protection of the enterprise;

competence of the internal control service and security service;

tax, payment, cash discipline;

effectiveness of the marketing strategy and implementation system, etc.

Directly internal threats that can lead to financial insecurity of an enterprise are management errors in choosing an enterprise development strategy, in managing liabilities and assets, accounts receivable and payable, incorrect choice of investment projects, sources of financing, weak organization and irresponsibility in checking the safety of employees, incorrect drawing up contracts, errors in accounting, etc. [14, p. 19-20].

Since an enterprise is an open system, it depends not only on internal factors, but also on external ones. External factors have a great influence on the activities of the organization, and the latter, in turn, cannot influence them. It is within the power of the enterprise to competently adapt to the changing conditions of the external environment. External factors that can trigger threats include:

legislation, regulatory framework;

debtors' solvency;

activities of state authorities and local governments;

claims for accounts payable;

the ability to attract borrowed resources at the most acceptable (low) cost;

confidence in counterparties, etc. [15, p. 42].

Direct external threats that can lead to financial insecurity of an enterprise are large volumes of financial obligations both from the enterprise and in relation to it (accounts receivable), low level of development of capital markets, economic crises, political fluctuations, etc.

It should also be noted that the concepts of “financial security” and “financial stability” are not interchangeable. A financially stable organization is not always financially secure. «In order to ensure financial security at the enterprise, management achieves its financial stability, and also creates all possible conditions for the implementation of a financial mechanism that is able to adapt to changes in internal and external conditions. It follows from this that the level of financial security is based on the ability of the organization’s leaders to overcome existing and emerging threats» [15, p. 42].

A secure financial system of a business entity reduces the burden on its management, as a result of which more informed and rational decisions are made regarding sources of financing activities, which, in turn, increases the efficiency of using equity capital and borrowed funds. From here it becomes possible to freely manage the resources available to the enterprise, which ensures development and growth, carry out investment activities, implement and engage in innovative activities. At the same time, management will not worry

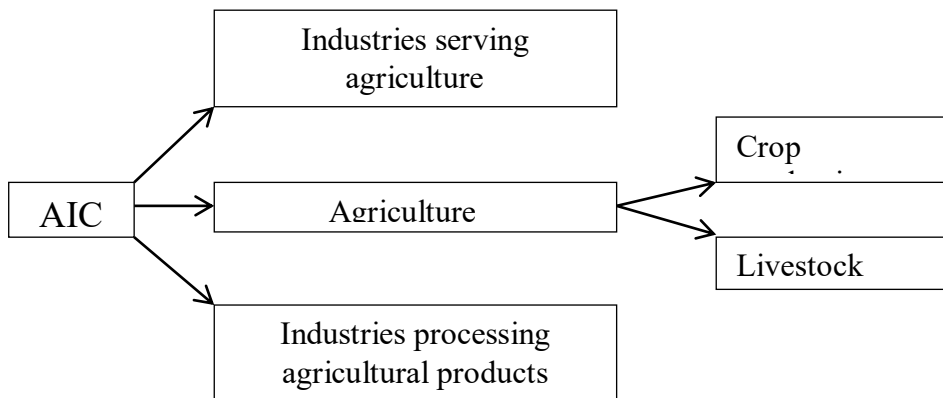
that the organization will suddenly be hit by a financial or economic crisis, which could result in many problems.

In the modern economy, the role of the state financial system and finance of individual enterprises, that is, finance at the micro level, is increasing every day. This is influenced by the constant development and spread of worldwide integration. Therefore, finance has been transformed from a simple means of servicing financial relations into the most important resource, thanks to which the growth and development of all economic entities, as well as the economy as a whole, occurs. At the moment they act as an independent part of it.

Based on the foregoing, it should be concluded that financial security is of great importance in all areas of human activity. The world does not stand still, discoveries and changes are constantly taking place, great opportunities appear, so the issue of the financial security of an enterprise requires continuous study. It is necessary to constantly improve and adapt to the surrounding changes the mechanism for managing and ensuring financial security.

#### 4 Specific features of the activities of agricultural enterprises.

The agro-industrial complex (AIC) is an integral part of the economy of the Russian Federation. It represents a complex of all sectors of the country's national economy, interconnected and united by economic relations regarding the production, processing, distribution, exchange and consumption of produced goods. The Russian agro-industrial complex consists of three parts (Fig. 1).



**Fig. 1.** Structure of the agro-industrial complex of the Russian Federation Source: compiled based on [16]

The first link of the agro-industrial complex includes industries producing means of production for agriculture, as well as enterprises involved in processing agricultural products. This link includes science, chemistry, mechanical engineering, microbiology, feed industry and land reclamation.

The second link is agriculture itself, which is divided into the crop production sector and the livestock sector. Agriculture is the basis of the agro-industrial complex and is the main supplier of food and raw materials. All changes occurring in the agricultural sector affect the functioning of other parts of the agro-industrial complex. In addition to being the main supplier, agriculture is also the main consumer of inputs.

The third link of the agro-industrial complex includes industries that process, store, transport agricultural products and sell them. This should include the dairy, meat, fishing industries, as well as the flour, cereal, feed and light industries.

The agricultural sector is an important component of the economy. Today the state allocates a large amount of funds for its development. The priority is to increase its efficiency and competitiveness in order to achieve a sufficient level of agricultural production and improve its quality. The state is actively developing and supporting entrepreneurship in this area in order to enable rural residents and farmers to demonstrate their potential.

Agriculture is the most labor-intensive and difficult area of the agro-industrial complex. To a greater extent, it depends on natural and climatic conditions, which in the Russian Federation are quite harsh and not always acceptable. This problem finds its solution in the development of science, technology and biology. For example, it is possible to adapt to unsuitable climatic conditions by developing new crops resistant to harsh climates, highly productive animal breeds, producing new high-tech equipment, modernizing production technologies, rationalizing forms of organization of ore and much more.

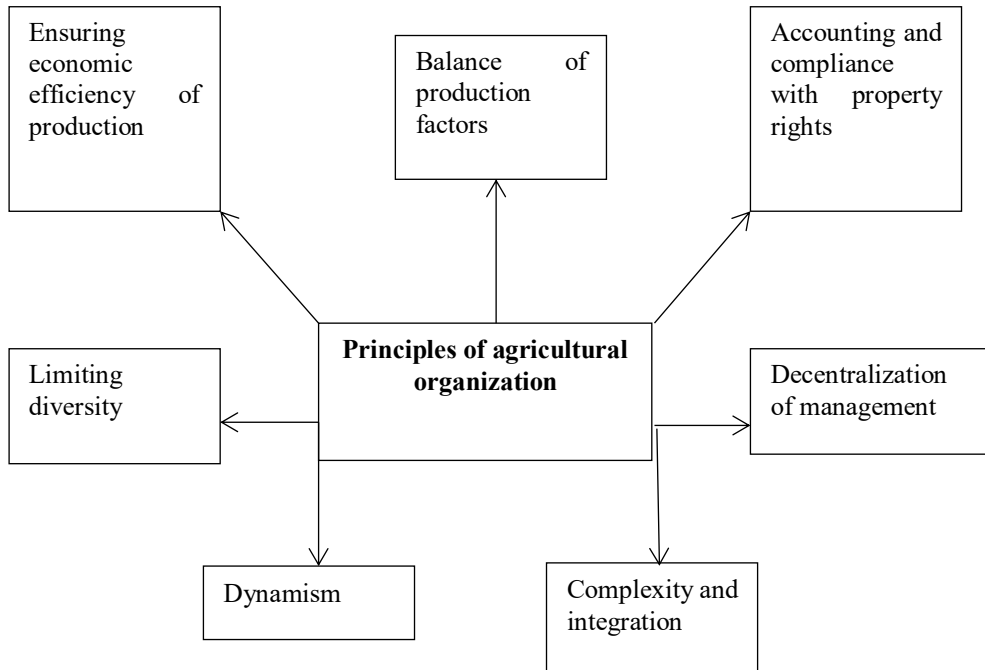
In the Russian Federation, due to the unique natural and climatic conditions, agriculture requires high costs. Compared to countries where mild climatic conditions prevail, in our country the volume of necessary technological, human and other resources used in crop and livestock production increases several times. However, Russia also has enormous potential for agriculture - it has large land areas. Different types of plants and animals require different conditions, and the country is characterized by arctic, subarctic, temperate and subtropical climates. Due to the competent distribution of agricultural sectors throughout the country, it is possible to neutralize many, as it seems at first glance, negative qualities of the climate of the Russian Federation.

Natural and climatic conditions influence not only the possibilities of farming, but also its specialization. Specialization of production, according to V.S. Dolgov, is “a form of social division of labor, which is expressed in the preferential production of certain types of products, and sometimes in the implementation of a separate stage of production of the finished product” [17, p. 111].

Different branches of agriculture predominate in different regions. In some places the conditions are more favorable for growing grain, medicinal or industrial plants, and in others for raising livestock. Specialization of production allows for a more rational approach to farming, makes it possible to develop production technologies and apply them to each individual industry.

The agricultural industry operates on the basis of certain principles, which are presented in Figure 2.

Based on the principles presented in Figure 2, some conclusions should be drawn. Thus, farming must ensure economic efficiency of production. The essence of this efficiency lies in the relationship between the results of the enterprise’s activities (gross income, profit, etc.) to total costs (production costs, cost of production, etc.) and the volume of resources involved in production (land area, fixed and circulating facilities, personnel, etc.).



**Fig. 2.** Principles of functioning of agriculture Source: compiled on the basis of [18, p. 7]

An important principle of organizing agriculture is decentralized management. It represents the delegation of certain powers or functions of an enterprise to its divisions, giving them the opportunity to function independently and ensure effective operation.

An equally important principle is the accounting and observance of property rights. Following the interests of the founders, as well as expanding the forms of ownership are significant conditions for organizing the effective activities of business entities in the field of the agro-industrial complex. The founders provide the company with all the necessary resources for production, which are subsequently replenished from the profits received. Such resources should include land, raw materials, materials, machinery and equipment, buildings, financial resources, etc.

The essential principles are the principles of complexity and integration. An integrated approach to organizing production means that the enterprise must carry out an integrated assessment and take into account all factors that influence the production process, such as natural, climatic and geographical conditions, soil quality, level of technology development, social, economic and environmental factors. This need is determined by the close relationship and interdependence of these factors. Integration, in turn, involves the implementation of a set of measures aimed at regulating the connections formed within the enterprise and subordinating all its links to the main goal of production – optimization and improvement of the enterprise’s activities.

The principle of dynamism is a constant, continuous increase in production volumes, accelerating its pace. This is a set of consistent actions aimed at the sustainable development of the enterprise and the growth of the scale of its activities.

Unacceptable for many other industries and inevitable for agriculture is the principle of limiting diversity. The agricultural sector is inextricably linked with nature, which imposes many restrictions on this area. As a result, enterprises are faced with the fact that they cannot produce differentiated products, since many limiting factors come into force - too cold or hot climate, dry or oversaturated lands, etc. It is not always possible to overcome these limitations



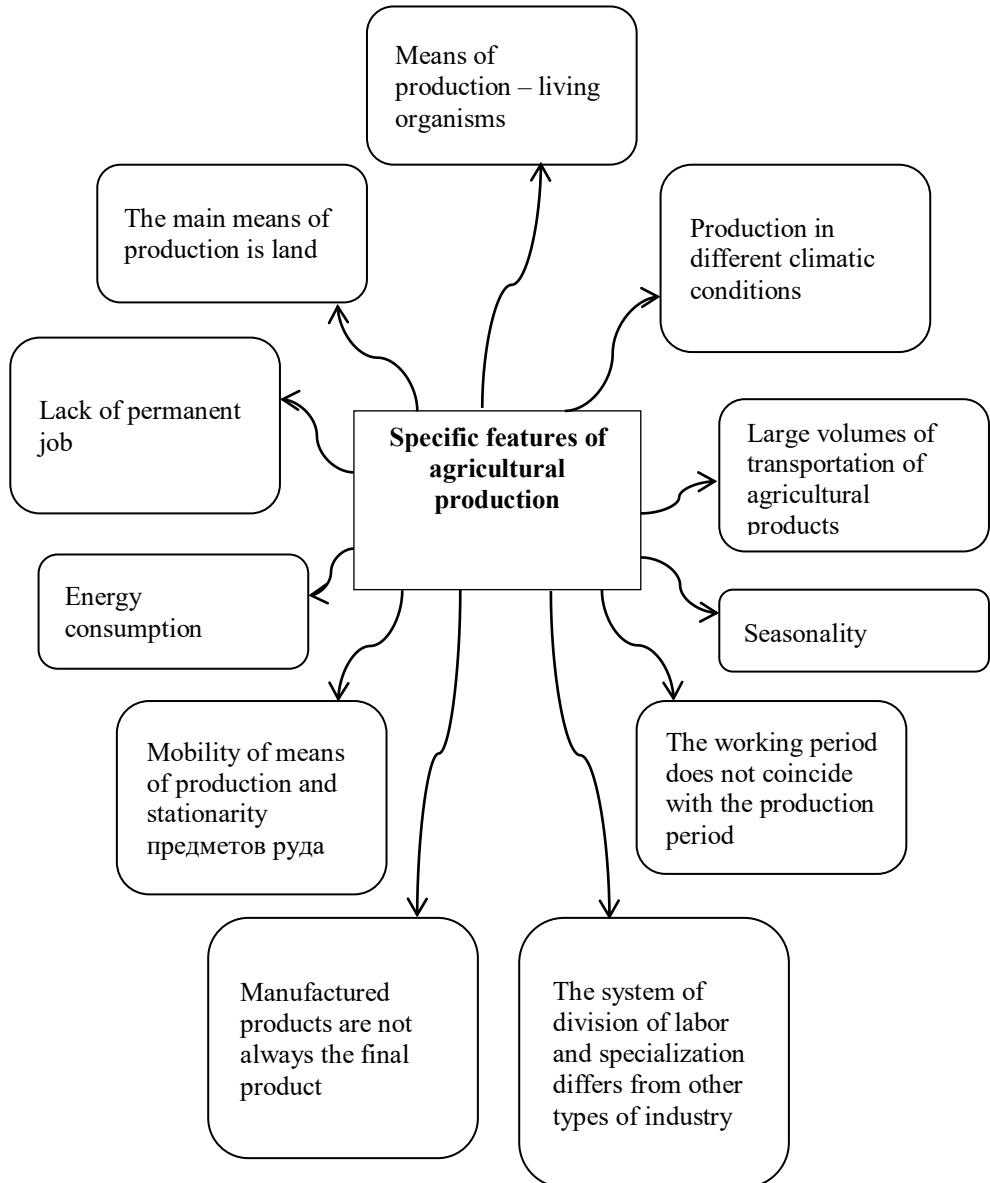
with the help of scientific developments and modern technologies, which are costly, so enterprises have to specialize in the production of one thing.

Another fundamental principle of organizing agricultural production is the balance of production factors. It implies that all production factors – machines, equipment - must be used as efficiently as possible, and the labor productivity of workers who are employed on these factors must correspond to the production capacity of the equipment.

In fact, the possibility of implementing these principles depends on many aspects of organizing the activities of a business entity. These aspects are usually divided into internal and external. They are interdependent and the more effectively internal conditions are used, the pressure of external conditions on the production process is reduced and vice versa, the more efficiently external conditions are exploited, the more effectively the enterprise uses internal ones. Therefore, when assessing the financial security of agricultural enterprises, it is important to take into account the relationship between internal and external factors, the principles of organizing production in agriculture and the specific features of this industry.

Each sphere of human activity has a number of differences that are unique to it. They influence not only the process of organizing the activities of enterprises, but also the values of indicators, conditions and criteria for assessing the activities of an enterprise.

It is necessary to highlight the specific features of agriculture, which are important to take into account when assessing the financial security of an organization (Fig. 3).



**Fig. 3.** Specific features of the agricultural sector Source: compiled based on [19]

The main means of production in agriculture is land. They act as the foundation of the agricultural industry. This is a non-wearable resource, and if used rationally and correctly, it becomes possible to improve its quality characteristics. The productive properties of the land cannot be accurately measured, because they change under the influence of various factors. Land is a universal means of production. Without changing the location, it is possible to produce various types of products, while in other industries, only one type of product is produced at a specific plant. The earth has the following properties:

- versatility of production;
- low concentration;
- diversified nature;
- reduced level of labor productivity.

Also, living organisms such as plants and animals are the means of production in the agricultural sector. They depend not only on the format of human impact on them, but also on climatic factors. Therefore, a person is required to create the most comfortable conditions to increase the efficiency of using these means of production.

Agricultural production is located on large land areas in different climatic zones. And, as mentioned earlier, it is closely dependent on natural, geographical and climatic factors. Droughts, floods, frosts, heat and many other unfavorable natural phenomena significantly complicate farming. They affect the volume of products produced, labor productivity and other indicators important for the enterprise. Therefore, when analyzing the activities of an enterprise, it is very important to take into account all the conditions in which it operates and under which products are produced. Thus, when assessing the obtained indicator values, one should focus not on the values of previous periods, but on the average values.

Since the production of agricultural products is distributed over large territories, large-scale volumes of transportation are required to deliver them to the final consumer or for further processing. Machines, equipment and machinery involved in this sector of production also need transportation.

Seasonality is a characteristic feature of agriculture. Due to it, there is no possibility of rhythmic use of all factors of production throughout the year, as is done in other industries. The volume of products produced and its variety fluctuate, therefore, sales and revenue receipts are also uneven. This feature also affects the values of the obtained indicators when assessing the activities of an agricultural enterprise.

Agricultural production has a very long production cycle. Its duration can be several times longer than the working period. Most indicators are calculated only at the end of the year; it is not possible to calculate their intermediate results.

The process of division of labor and specialization of production in agriculture differs significantly from these processes in other industries. Here it is important to achieve such a ratio in the volumes of crop production, livestock production, agricultural service industries and processing of agricultural products in order to ensure rational use of resources.

Products produced in the agricultural sector do not always immediately become the final product. It often acts as a raw material for processing industries and for agricultural enterprises themselves. Seeds, animals, feed, etc. are subject to this use. This explains the fact that the volume of agricultural products produced exceeds sales volumes.

Also, agriculture is characterized by constant mobility of tools, such as machines, equipment, various equipment, and objects of labor (plants) are often located in one place. In other sectors of the national economy, the opposite situation is usually observed. The following follows from this specific feature: energy consumption. The continuous movement of production tools requires large energy and resource costs.

Due to the fact that agricultural production is located over large territories, workers in this field are not assigned a workplace, since it is mobile.

Agricultural production is characterized by an exceptional structure of production costs - most of them are occupied by material costs spent on the acquisition and maintenance of biological assets. The industry is capital intensive. This feature is due to the fact that agriculture is dependent on machines, equipment and machinery of various types and capacities, with the help of which products are processed, assembled and produced.

All of the above specific features of the agricultural industry have a great impact on the performance of enterprises and must be taken into account when assessing financial security.

## **5 Criteria for determining the financial security of an enterprise.**

Conducting an assessment of the financial security of an enterprise is one of the main stages of its provision and management. Based on the results obtained in the process of carrying out

such an assessment, the management of the enterprise has the opportunity to improve the decision-making process in the field of enterprise development, i.e. do this more rationally, taking into account the specific characteristics of the organization. This approach will prevent and eliminate existing threats to its functioning, as well as increase the efficiency of its activities.

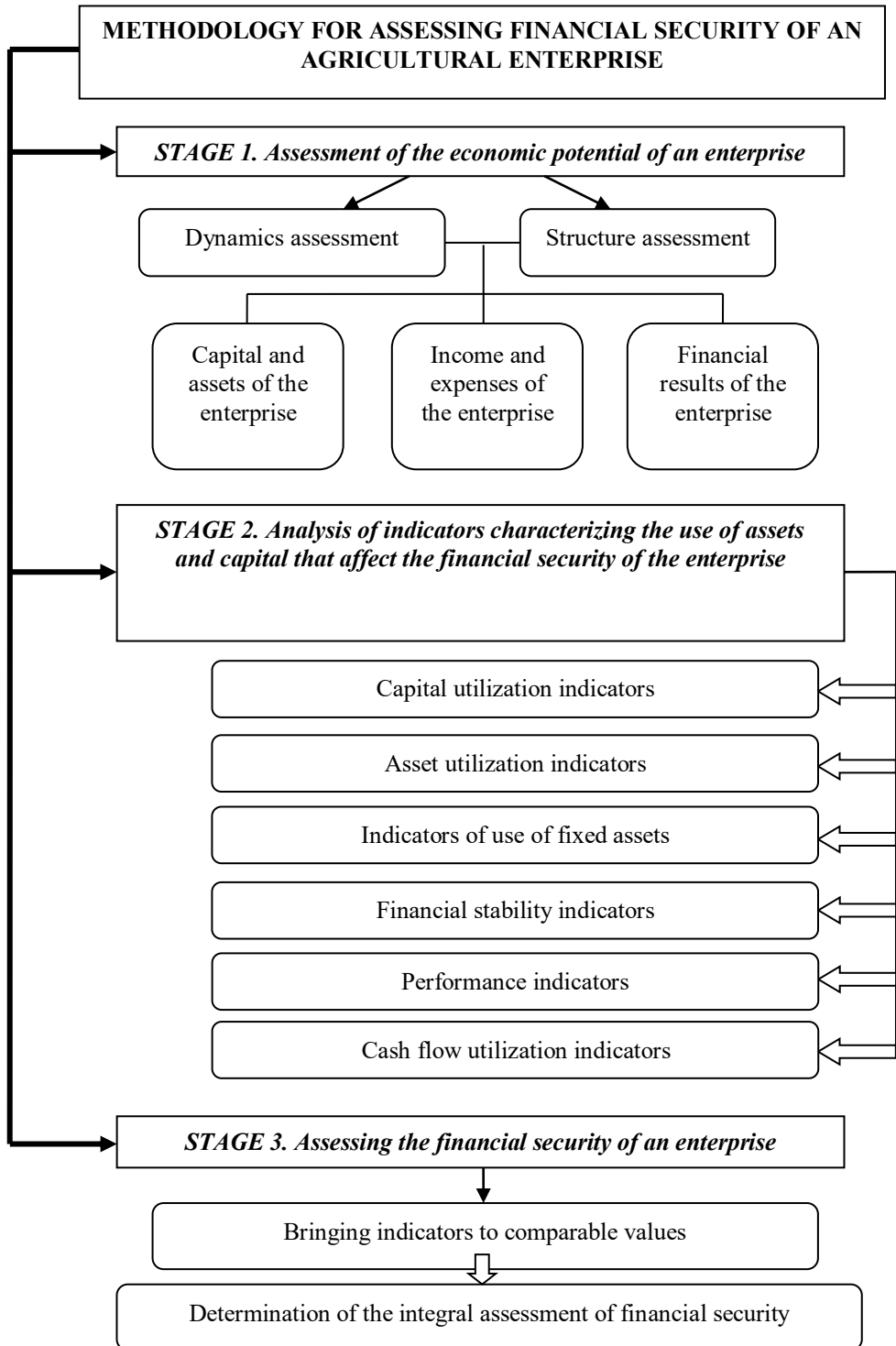
There are many methods and methods for assessing financial security at the enterprise level, and this directly indicates that in the economy there is no unified method for assessing the financial condition of an organization. Most often you can find descriptions of methods such as:

- method based on cash flow analysis;
- scoring method;
- graphic method;
- method based on financial stability analysis;
- resource-functional method;
- method based on financial security analysis systems;
- bankruptcy forecasting methods;
- indicator method, etc. [20, 21].

In this paper, we will consider the indicator method, since it is comprehensive and suitable for assessing the financial security of an enterprise. The essence of the indicator method is that at the very beginning there is a selection of indicators, called indicators, which, according to the author, are exponential when assessing financial security. Next, standard values are established for each of the selected indicators. This is necessary in order to determine from the results obtained whether exceeding or, conversely, not achieving the established value (depending on the required dynamics of a particular indicator) indicates that the enterprise has threats to financial security. Then the obtained values are compared with established standards and a conclusion is drawn about the level of financial security of the research object.

The methodology for assessing the financial security of an agricultural enterprise is presented in Figure 4. This methodology includes four stages, each of which is further subdivided into points.

The first stage in assessing the financial security of an enterprise is the selection of indicators and the establishment of their threshold values.



**Fig. 4.** Methodology for assessing the financial security of a trading enterprise Source: compiled based on [22,23]

In this work, the following groups of indicators will be analyzed:

- assessment of the use of enterprise capital;
- assessment of the use of enterprise assets;
- assessment of the relationship between capital and property of an enterprise;
- assessment of the efficiency of the enterprise;
- assessment of cash flow at the enterprise.

Assessing the use of capital makes it possible to analyze the efficiency of the formation and use of capital in an enterprise specializing in the agricultural industry. Table 2 presents the indicators used to assess the use of capital.

**Table 2.** Indicators used to assess the use of capital

Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
1. Growth rate of total capital	$\frac{(\text{Total capital}_{\text{current year}} - \text{Total capital}_{\text{previous year}}) \div \text{Total capital}_{\text{previous year}}}{\text{year}}$	average	increase
2. Rate of growth of equity capital	$\frac{(\text{Equity capital}_{\text{current year}} - \text{Own capital}_{\text{previous year}}) \div \text{Own capital}_{\text{previous year}}}{\text{year}}$	average	increase
3. Absolute change in equity	$\text{Own capital}_{\text{current year}} - \text{Own capital}_{\text{prev. year}}$	average	increase
4. Coefficient of concentration of equity capital (Coefficient of autonomy)	$\frac{\text{Own capital}}{\text{Total capital}}$	40%	optimum
5. Total capital turnover	$\frac{\text{Sales revenue}}{\text{Total capital}}$	1	increase
6. Equity turnover	$\frac{\text{Sales revenue}}{\text{Own capital}}$	2.5	increase
7. Return on total capital	$\frac{\text{Profit (loss) before tax}}{\text{Total capital}}$	5%	increase
8. Return on equity	$\frac{\text{Net profit}}{\text{Equity}}$	10%	increase

Source: compiled on the basis of [24, p. 2169]

The next group of indicators are indicators used to assess the use of enterprise assets. Standard values for the indicators of this group are established taking into account the specifics of the organization's activities, namely, those determined for agricultural enterprises. Table 3 presents the assessment methodology, as well as features of the assessment of indicators that are used to assess the use of assets.

**Table 3.** Indicators used to assess the use of assets

Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
1. The rate of increase in the value of the enterprise's property	$\frac{(\text{Total assets}_{\text{current year}} - \text{Total assets}_{\text{prev. year}}) \div \text{Total assets}_{\text{prev. year}}}{\text{year}}$	average	increase
2. Growth rate of current assets	$\frac{(\text{Current assets}_{\text{current year}} - \text{Current assets}_{\text{previous year}}) \div \text{Current assets}_{\text{previous year}}}{\text{year}}$	average	increase
3. Share of current assets in property	$\frac{\text{Current assets}}{\text{Total assets}}$	average	increase

4. Real property value coefficient	$(\text{Total Assets} - \text{Accounts Receivable}) \div \text{Total Assets}$	average	increase
5. Asset turnover	$\text{Sales revenue} \div \text{Total assets}$	1	increase
6. Turnover of current assets	$\text{Sales revenue} \div \text{Current assets}$	2	increase
7. Operating cycle	Duration of turnover of accounts receivable + Duration of turnover of inventories intended for production + Duration of turnover of inventories intended for sale	75 days	decrease
8. Return on assets	$\text{Net income} \div \text{Total assets}$	5%	increase
9. Return on current assets	$\text{Net profit} \div \text{Current assets}$	2%	increase

Source: compiled based on [25]

The next group of indicators are indicators that are used to assess the relationship between capital and property of an enterprise. The indicators, their calculation formulas and standard values are presented in Table 4. It should be noted that for agricultural enterprises this group of indicators is very important, since enterprises in this industry must be able to maintain a high level of solvency with their counterparties in order for them to be able to provide themselves with supplies, intended for implementation.

Table 4. Indicators used to assess the relationship between capital and property

Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
1. Current ratio	$\text{Current assets} \div \text{Short-term liabilities}$	1–2	optimum
2. Absolute liquidity ratio	$(\text{Cash} + \text{Short-term financial}) \div \text{Current liabilities}$	0.2-0.3	optimum
3. Growth rate of operating capital	$\frac{\text{Operating capital}_{\text{current year}} - \text{Operating capital}_{\text{previous year}}}{\text{Operating capital}_{\text{prev. year}}}$	average	increase
4. Absolute change in own working capital	$\text{Operating capital}_{\text{current. year}} - \text{Operating capital}_{\text{prev. year}}$	average	increase
5. Ratio of provision of current assets with operating capital	$\text{Functioning capital} \div \text{Current assets}$	0.6	increase
6. Ratio of inventories and operating capital	$\text{Inventory} \div \text{Operating capital}$	0.3	decrease
7. Maneuverability of functioning capital	$\text{Operating capital} \div (\text{Equity} + \text{Long-term liabilities})$	0.4	increase

Source: compiled based on [25, 40]

Also in this group of indicators, a special place is occupied by the assessment of financial stability, because it allows you to determine the degree of adequacy of equity capital as part of the sources of financing and makes it possible to understand whether the enterprise has the ability to ensure timely return of borrowed and attracted sources of financing at the expense of liquid assets.

Next are the indicators that allow you to assess the efficiency of the enterprise. This group shows how much the main activity of the enterprise brings profit and what final financial results are obtained. This group of indicators plays a significant role in the process of determining the level of financial security. Table 5 presents the indicators used to assess the efficiency of the enterprise.

**Table 5.** Indicators used to assess performance efficiency

Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
1. Growth rate of sales revenue	$\frac{\text{Revenue from sales}_{\text{current year}} - \text{Revenue from sales}_{\text{previous year}}}{\text{Revenue from sales}_{\text{previous year}}} \div$	average	increase
2. Ratio of total income and total expenses	$\frac{\text{Total income}}{\text{Total expenses}} \div$	1	increase
3. Absolute change in sales profit	$\text{Profit from sales}_{\text{current year}} - \text{Profit from sales}_{\text{before year}}$	average	increase
4. Absolute change in net profit	$\text{profit}_{\text{current year}} - \text{Net profit}_{\text{prev. year}}$	average	increase
5. Gross profitability (loss ratio) of products sold	$\text{Gross profit} \div \text{Sales revenue}$	20%	increase
6. Net return on total income	$\text{Net income} \div \text{Total income}$	5%	increase
7. Profitability (unprofitability) of operating activities	$\text{Profit (loss) from sales} \div \text{Operating expenses}$	10%	increase
8. Net profitability of activities	$\text{Net profit} \div (\text{Operating expenses} + \text{Interest payable} + \text{other expenses})$	7%	increase

Source: compiled based on [26]

The last group of indicators that affect financial security are indicators for assessing cash flow in the enterprise. “Analysis of cash flows, which reflect the receipts and payments of an enterprise, is an important aspect for assessing financial security. The study of cash flows makes it possible to analyze in what volume and from what sources the funds received by the enterprise were received, whether the enterprise is able to meet its current obligations, whether the enterprise effectively uses its funds invested in operating activities” [27]. Table 6 presents the indicators that are used when assessing cash flows in an enterprise.

Thus, after selecting the necessary indicators, establishing their threshold values and assessing their dynamics, the second stage of assessing the financial security of the organization begins, which consists of assessing the economic development of the organization. At this stage, the dynamics and structure of the main performance indicators of the enterprise are assessed, namely capital, assets, income, expenses and cash flows. For this purpose, horizontal and vertical analyzes are used.

**Table 6.** Indicators used to assess cash flow

Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
1. Growth rate of total revenues	$\frac{(\text{Cumulative receipts}_{\text{for the current year}} - \text{Cumulative receipts}_{\text{for the previous year}}) \div}{\text{Total receipts}_{\text{prev. year}}}$	average	increase
2. Growth rate of operating revenues	$(\text{Receipts from operating activities}_{\text{current year}} - \text{Receipts from operating})$	average	increase



	$\frac{\text{activities}_{\text{previous year}} \div \text{Receipts from operating activities}_{\text{previous year}}}{\text{year}}$		
3. Growth rate of total payments	$\frac{(\text{Cumulative payments}_{\text{for the current year}} - \text{Cumulative payments}_{\text{for the previous year}}) \div \text{Cumulative payments}_{\text{prev. year}}}{\text{year}}$	average	decrease
4. Growth rate of payments for operating activities	$\frac{(\text{Payments for operating activities}_{\text{current year}} - \text{Payments for operating activities}_{\text{previous year}}) \div \text{Payments for operating activities}_{\text{previous year}}}{\text{year}}$	average	decrease
5. Ratio of total receipts and total payments	$\frac{\text{Total receipts} \div \text{Total payments}}{\text{year}}$	1	increase
Index	Calculation formula	Indicator evaluation	
		Standard	Dynamics
6. Ratio of receipts and payments for operating activities	$\frac{\text{Receipts from operating activities} \div \text{Payments from operating activities}}{\text{year}}$	1.4	increase
7. Net profitability of cash payments from operating activities	$\frac{\text{Net profit} \div \text{Payments from operating activities}}{\text{year}}$	6.4%	increase
8. Operating profitability (loss ratio) of cash payments for operating activities	$\frac{\text{Sales profit} \div \text{Payments from operating activities}}{\text{year}}$	average	increase
9. Net return on total cash payments	$\frac{\text{Net profit} \div \text{Total payments}}{\text{year}}$	average	increase

Source: compiled by the authors

“Horizontal analysis is a comparative analysis of financial data over a number of periods. It is carried out as follows: to calculate changes in absolute indicators, the difference between the value of an item for the reporting period (or the end of the year) and the value of a similar item for the previous period (or the beginning of the year) is found. In addition, by dividing the resulting difference by the value of the previous period, the growth rate is calculated, which is expressed as a percentage” [28, p. 7].

Vertical analysis is a structural analysis, thanks to which it becomes possible to identify what share each of its components occupies in a certain financial indicator. Conducting a vertical analysis is accompanied by “identifying the impact of each reporting position on the result as a whole” [29]. “The analysis method is as follows: the total value (when analyzing the balance sheet, the balance sheet currency is considered the final value) is taken as 100%. Next, each item is divided by the total value and expressed as a percentage” [28, p. 7].

The indicator values obtained as a result of calculations must be entered into analytical tables. This allows them to be seen clearly. Then the available data is analyzed, evaluated and conclusions are drawn regarding the established standards. In the process, the dynamics and share of indicators in the enterprise’s balance sheet are studied. Thus, assessing the economic development of an organization allows the management of the enterprise to examine in detail, and most importantly, qualitatively, the level of financial security of the enterprise and draw the necessary conclusions based on this.

At the third stage, a direct assessment of the financial security of the enterprise is carried out. Data is taken from annual financial statements such as Balance Sheet, Income Statement, Cash Flow Statement. «At this stage, the values of indicators necessary for analysis are also entered into analytical tables, and they are compared with standard (threshold) values, on the basis of which intermediate conclusions are made about the threats to its financial security existing in the enterprise. Next, the actual values of the indicators under consideration are

converted into comparable values. To do this, the first step is to calculate how much the resulting value does not correspond to the threshold set for it» [30]:

- a) The dynamics of the indicator is positive - the actual value is divided by the threshold;
- b) The dynamics of the indicator is negative - the threshold value is divided by the normative value.

Next, the summary integral indicators are calculated. Summary integral indicators are obtained by summing the comparable indicators for the period under consideration and dividing this sum by the number of indicators included in the analyzed group. For example, the summary integral indicator of the use of capital of an enterprise will be calculated as the sum of the indicators used to assess the use of capital, divided by 8, since this group includes 8 indicators of the use of capital. Indicators for other groups will be calculated using the same principle. The obtained values of the summary integral indicators are also entered into a combined analytical table, the total number of points in the period under review is calculated, which is divided by the number of groups of indicators (5 groups are presented in this work). This is the integral assessment of the financial security of an enterprise.

In accordance with the normative value of the integral assessment, conclusions are drawn about the level of financial security of the organization. The threshold value is 1. If the resulting summary integral assessment is below this value, then it should be said that the enterprise has threats to its financial security. If, on the contrary, the obtained value is higher than the established standard, then we are talking about an increase in financial security.

Also, assessing the financial security of an enterprise involves presenting the research results obtained graphically, which helps to identify the level of financial security of the object under study for the analyzed time period and visually display its best level. For this purpose, a financial security polygon is constructed [31-70].

In conclusion, the results obtained from the summary integral assessment and the graphical method are compared, the dynamics of all indicators are analyzed and a final conclusion is made about the level of financial security of the enterprise.

## **6 Assessment of financial security using the example of public joint stock company (PJSC) “Pobeda”.**

Public Joint Stock Company "Pobeda" (PJSC Pobeda) is a major supplier of agricultural products. The company was registered on July 18, 2014 and is located in the village of Zhemchuzhina, Nizhnegorsky district of the Republic of Crimea.

The list of products produced by Pobeda PJSC includes the cultivation of apples - as the main crop, as well as quite large volumes of cherries and peaches; large areas are allocated for the cultivation of wheat and other grain crops [31].

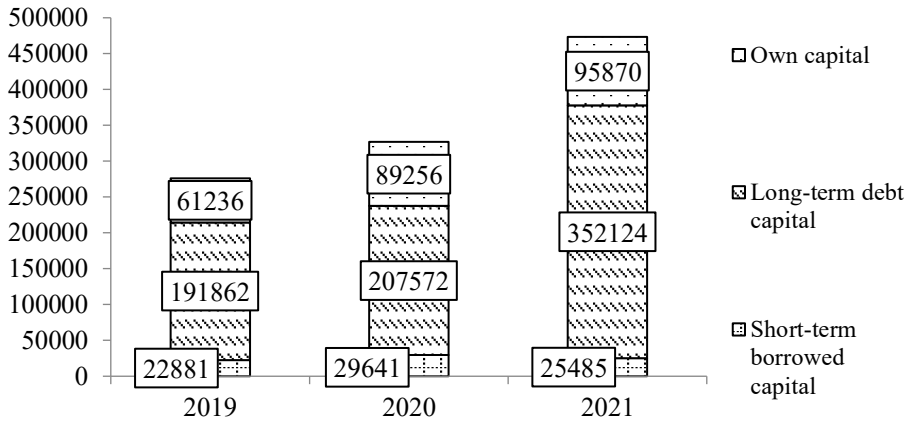
The company uses modern methods of harvest storage, which fully ensure its consistent quality from harvest to delivery to the consumer. For these purposes, specialized storage facilities are used - refrigerators with a controlled atmosphere. Fruits can be stored in them throughout the year without loss of quality and nutritional properties.

### **6.1 Assessment of the economic potential of PJSC Pobeda for 2019-2021.**

An assessment of the economic potential of an enterprise should begin with a study of the dynamics and structure of the sources of formation and directions of use of its financial resources.

Figure 5 shows the dynamics of the sources of financial resources in PJSC Pobeda for 2019-2021.

During the period under review, the total capital of PJSC Pobeda showed a growth trend. Its total increase amounted to 197,500 thousand rubles. (or 71.563%) and at the end of 2021 it was equal to 473,479 thousand rubles. The largest increase in total capital was observed in 2021 compared to 2020 by 147,010 thousand rubles. (or by 45.030%).



**Fig. 5.** Dynamics of sources of financial resources and its components in PJSC Pobeda for 2019-2021, thousand rubles. Source: compiled from [32]

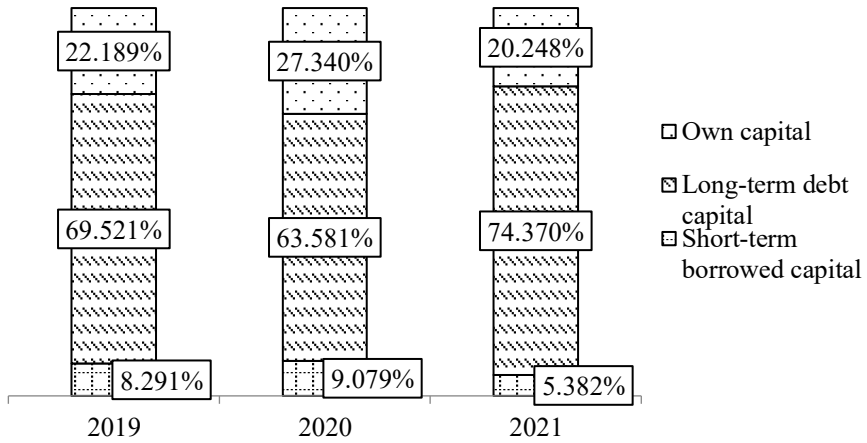
The components of total capital had a positive trend: equity and borrowed capital were constantly increasing.

The growth of equity capital for 2019-2021 amounted to 34,634 thousand rubles. (or 56.558%), at the end of the reporting period its size amounted to 95,870 thousand rubles. Equity increased the most in 2020 compared to 2019, accounting for 80.903% of the total increase in equity during the analyzed period. It should be noted that equity includes only three items: authorized capital, revaluation of non-current assets and accumulated retained earnings (uncovered loss). At the same time, the first item in value terms remained unchanged during 2019-2020, and increased in 2021 compared to 2020, the second item remained unchanged throughout the entire study period, and the third item in 2019 represented a loss not covered by the enterprise, and in 2020 and 2021 – retained earnings. From this we can conclude that the equity capital of the enterprise increased as a result of the fact that PJSC Pobeda increased its authorized capital and worked efficiently, due to which it made a profit.

Borrowed capital, in turn, over the entire period under review increased by 162,866 thousand rubles. (or by 75.842%) and amounted to 377,609 thousand rubles at the end of the reporting period. It should be noted that the borrowed capital at the enterprise in question mainly consists of long-term borrowed capital. Long-term borrowed capital includes borrowed funds during 2019-2021, and in 2021 other liabilities were added to them. It should also be noted that while long-term capital had positive dynamics, short-term capital had different dynamics. In 2020, compared to 2019, it increased by 6,760 thousand rubles, and in 2021, compared to 2020, it decreased by 4,156 thousand rubles. and amounted to 25,485 thousand rubles at the end of 2021.

The capital structure is shown in Figure 6.

Throughout the entire period under study, the capital structure of PJSC Pobeda is dominated by long-term borrowed funds, the share of which during 2019-2021 constantly exceeded 60% (1st place). In second place is equity, which in 2019, 2020 and 2021 amounted to 22.189%, 27.340% and 20.248% of total capital, respectively. In third place are short-term borrowed funds and their share during the years under review was less than 10%.

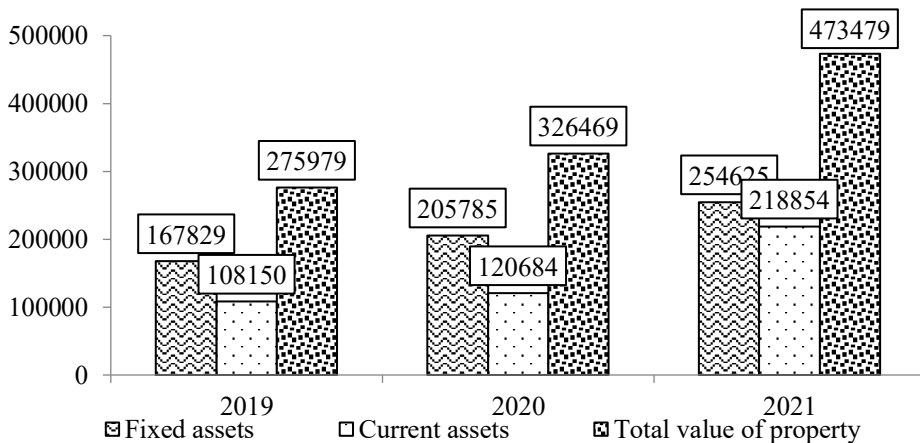


**Fig. 6.** Structure of sources of financial resources in PJSC Pobeda for 2019-2021, % Source: compiled from [32]

It should be noted that PJSC Pobeda became more financially dependent on external sources of financing during the analyzed period. At the end of 2021, in 1 ruble of total capital, 20.2 kopecks belong to equity. At the same time, it is worth paying attention to the fact that the equity capital of the enterprise in question increases as a result of the fact that the enterprise operates efficiently and increases its authorized capital.

The total value of property had the same dynamics as the total capital. In 2020, compared to 2019, the total cost increased by 50,490 thousand rubles. (or by 18.295%), and in 2021 compared to 2020 by another 147,010 thousand rubles. (or by 45.030%) and amounted to 473,479 thousand rubles at the end of the reporting period.

As part of the property of PJSC Pobeda, there was an increase in the value of both non-current and current assets (Fig. 7).



**Fig. 7.** Dynamics of the total value of property and its components in PJSC Pobeda for 2019-2021, thousand rubles. Source: compiled from [32]

The value of non-current assets in 2020 compared to 2019 increased by 37,956 thousand rubles. (or by 22.616%), and in 2021 compared to 2020 by 48,840 thousand rubles. (or by 23.734%) and amounted to 25,425 thousand rubles at the end of 2021. It should be noted that the increase in the value of non-current assets throughout the analyzed period is explained by the increase in the value of fixed assets.

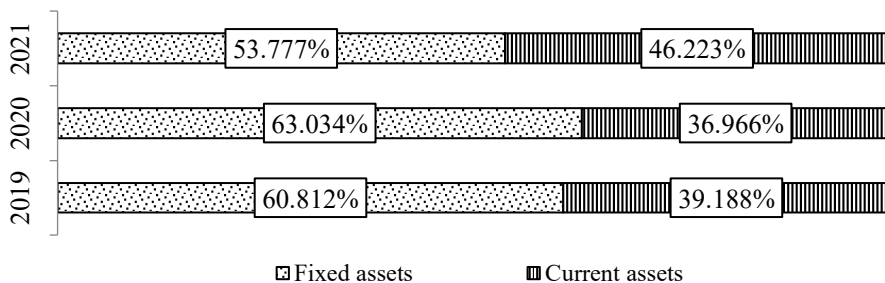
The value of current assets for 2019-2021 increased by 110,704 thousand rubles. (or by 102.362%). At the same time, its greatest increase was observed in 2021 compared to 2020 by 98,170 thousand rubles, which is 88.678% of the total increase in the value of current assets. In 2020, compared to 2019, there was a negative trend for such items included in current assets as inventories intended for production and in the process of production, advances issued and other debtors. The main influence on the increase in the value of current assets in 2021 compared to 2020 was the increase in inventories intended for production and those in the process of production, as well as due to an increase in accounts payable with buyers and customers.

Summarizing the analysis of the dynamics of the value of the enterprise's property, it should be noted that the increase in its value occurred both due to the increase in the value of current assets and non-current assets. At the same time, in 2020, compared to 2019, the value of non-current assets increased to a greater extent than the value of current assets, and in 2021, compared to 2020, the situation changed.

The property structure of Pobeda PJSC for 2019-2021 is presented in Figure 8.

Non-current assets predominate in the property structure throughout the analyzed period. Despite the fact that their dynamics in absolute terms was positive, the share of non-current assets had different dynamics. Thus, in 2020, compared to 2019, it increased by 2.221%, and in 2021, compared to 2020, it decreased by 9.256% and amounted to 53.777% at the end of the analyzed period. The decrease in the share of non-current assets in 2021 compared to 2020 is explained by the fact that in this period, current assets at PJSC Pobeda increased to a greater extent than non-current assets.

As a result of the analysis, it should be noted that the company has a light asset structure, since the share of non-current assets in the property does not exceed 65%.



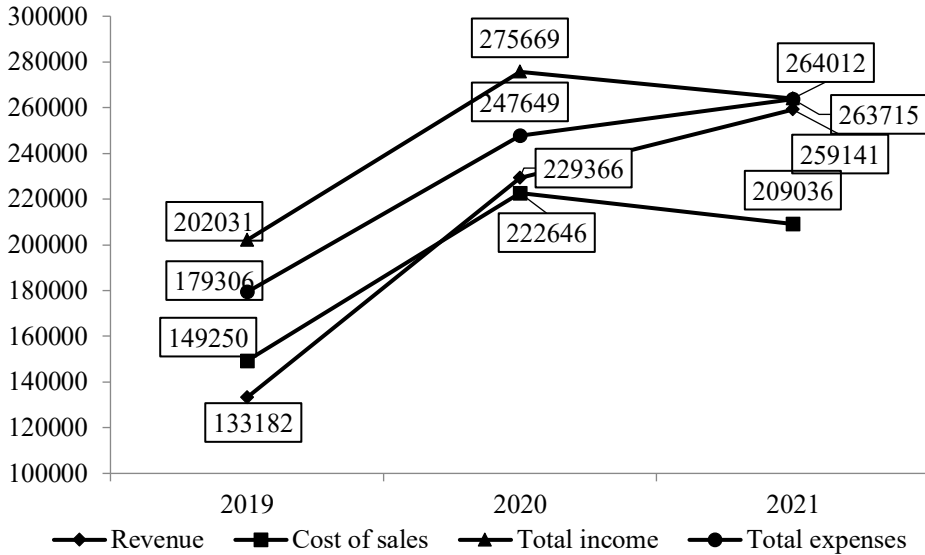
**Fig. 8.** Property structure in PJSC Pobeda for 2019-2021, % Source: compiled from [26]

You should also pay attention to the constant increase in the total value of property during the analyzed period. This dynamics indicates that PJSC Pobeda's financial condition is improving during the analyzed period.

Let's consider the dynamics of income and expenses at PJSC Pobeda (Fig. 9).

Total income during the analyzed period had different dynamics. In 2020, compared to 2019, they increased by 73,638 thousand rubles. (or by 36.449%), and in 2021 compared to 2020 they decreased by 11,657 thousand rubles. (or by 4.229%) and amounted to 264,012 thousand rubles at the end of 2021.

Total expenses, in turn, had a positive trend. Their total increase amounted to 84,409 thousand rubles. (or by 47.075%) and at the end of the reporting period they were equal to 263,715 thousand rubles.



**Fig. 9.** Dynamics of income and expenses at PJSC Pobeda for 2019-2021, thousand rubles. Source: compiled from [32]

The total income of PJSC Pobeda consists of revenue and other income. It should be noted that revenue is the main element of total income, and its share in them during 2019-2021 increased from 65.922% to 98.155%.

Revenue dynamics in the analyzed period were positive. In 2020, compared to 2019, it increased by 96,184 thousand rubles. (or by 72.220%), and in 2021 compared to 2020 by another 29,775 thousand rubles. (or by 12.981%). Thus, at the end of 2021, revenue amounted to 259,141 thousand rubles.

Total expenses had a positive trend in contrast to total income. For 2019-2021, they increased by 84,409 thousand rubles. (or by 47.075%) and amounted to 263,715 thousand rubles at the end of the reporting period. At the same time, the main part of total expenses is the cost of sales, the share of which exceeds 75%.

The cost of sales had different dynamics: in 2020, compared to 2019, it increased by 73,396 thousand rubles. (or by 49.177%), and in 2021 compared to 2020 it decreased by 13,610 thousand rubles. (or by 6, 113%). In 2021, the cost of sales was equal to 209,036 thousand rubles.

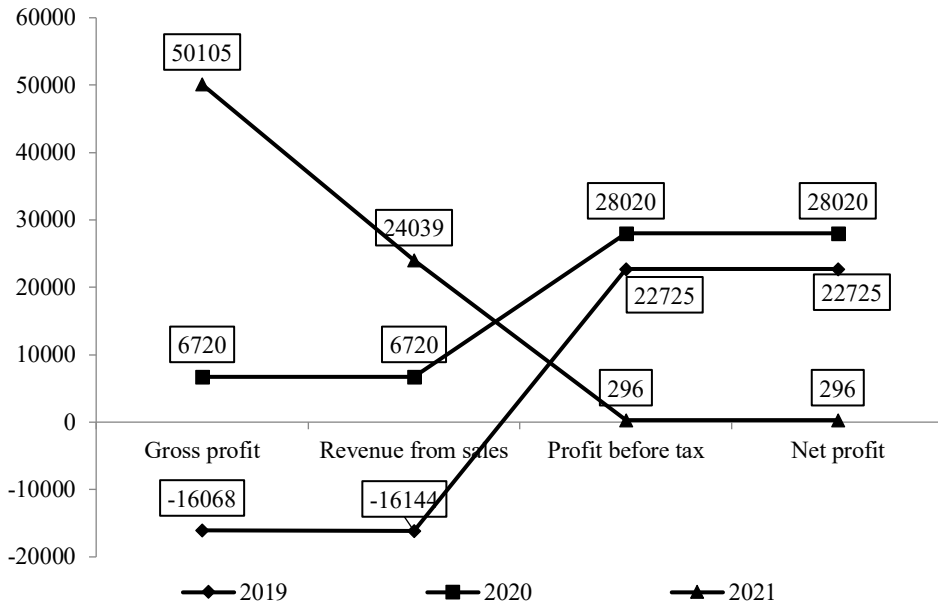
Figure 10 shows the dynamics of financial results at PJSC Pobeda.

The financial results at the enterprise in question had different dynamics: gross profit and sales profit were constantly increasing, and profit before tax and net profit increased in 2020 compared to 2019, and decreased significantly in 2021 compared to 2020.

Gross profit during the analyzed period had a positive trend. It should be noted that in 2019 the company suffered a gross loss, but by 2020 it managed to make a gross profit. In 2020-2021, gross profit increased by 43,385 thousand rubles. and amounted to 50,105 thousand rubles in 2021. Gross profit grew the most in 2021 compared to 2020, accounting for 65.563% of the total gross profit growth during the period analyzed. The growth of gross profit occurred with a constant increase in revenue and different dynamics of the cost of sales, and is explained by the fact that the growth rate of revenue at the enterprise in question exceeded the growth rate of the cost of sales.

Profit from sales during the analyzed period had a positive trend. As with gross profit, the company suffered a loss on sales in 2019, but has already made a profit on sales in 2020.

During 2020-2021, it increased by. In 2020, compared to 2019, there was an increase in sales profit by 17,319 thousand rubles. (or by 257.723%). At the end of the reporting period, sales profit was 24,039 thousand rubles. The positive dynamics are due to the fact that the growth rate of revenue at the enterprise in question exceeded the growth rate of operating expenses.

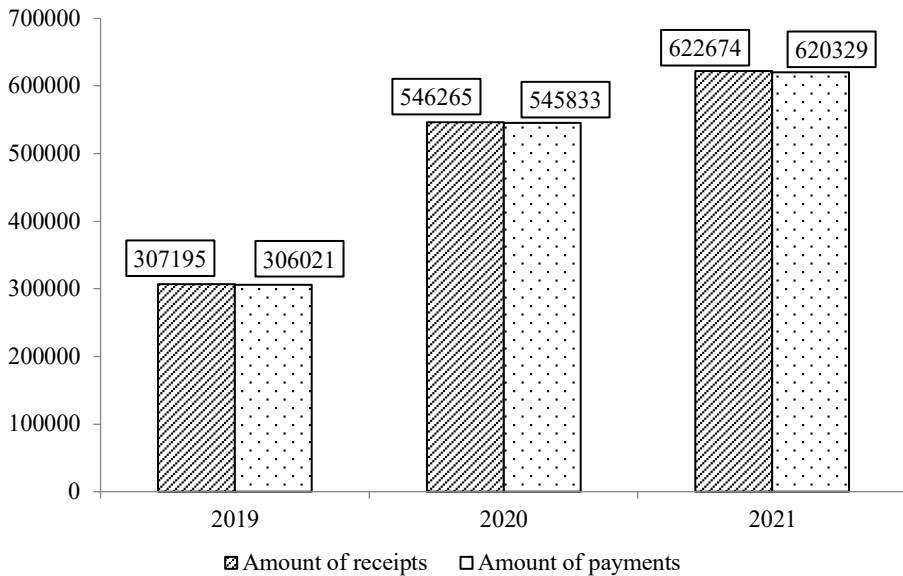


**Fig. 10.** Dynamics of financial results at PJSC Pobeda for 2019-2021, thousand rubles. Source: compiled from [32]

Profit before tax and net profit during the analyzed period had the same dynamics. In 2020, compared to 2019, there was an increase of 5,295 thousand rubles. (or by 23.300%), and in 2021 compared to 2020 - a decrease of 27,724 thousand rubles. (or by 98.944%) and at the end of the analyzed period, profit before tax and net profit amounted to 296 thousand rubles. Pobeda PJSC received the greatest profit in 2020. The increase in profit before tax in 2020 compared to 2019 is due to the fact that total income at the enterprise increased to a greater extent than expenses for ordinary activities. In 2021, compared to 2020, expenses from ordinary activities increased and total revenues decreased, resulting in a decrease in profit before taxes. The increase in net profit in 2020 compared to 2019 is explained by the fact that total revenues at the enterprise increased to a greater extent than total expenses. In 2021, compared to 2020, total expenses increased and total revenues decreased, which led to a decrease in net profit.

As a result of the analysis of financial results, it should be noted that from the perspective of operating activities, the company worked effectively in 2020-2021, since in 2019 it suffered a gross loss and a loss on sales, and in the remaining two years under review it received a gross profit and a profit on sales. At the same time, 2021 can be considered the most effective, since it was during this period that the largest gross profit and profit from sales were received. Pobeda PJSC received the largest profit before tax and net profit in 2020.

Let's consider the dynamics of cash flows of PJSC Pobeda (Fig. 11).



**Fig. 11.** Dynamics of receipts and payments to PJSC Pobeda for 2019-2021, thousand rubles. Source: compiled from [32]

Receipts and payments at the enterprise under consideration during the analyzed period had the same dynamics.

Total revenues for 2019-2021 increased by 315,479 thousand rubles. (or by 102.697%) and amounted to 62,274 thousand rubles in 2021. Total revenues increased the most in 2020 compared to 2019, accounting for 75.780% of total revenue growth during 2019-2021.

Total payments for 2019-2021 increased by 314,308 thousand rubles. (or by 102.708%) and amounted to 620,329 thousand rubles in 2021. Total payments grew the most in 2020 compared to 2019, accounting for 76.298% of the total growth in total payments during 2019-2021.

It should be noted that at the enterprise under consideration in 2019 and 2021, income from financial activities predominates, and in 2020, income from operating activities prevails. Also, during 2019-2021, payments for operating activities predominate. Changes in these receipts and payments affect the dynamics of total receipts and payments at PJSC Pobeda during the analyzed period.

An analysis of the economic potential showed that the enterprise in question is constantly developing during 2019-2021. This is evidenced, first of all, by the increase in the sources of financial resources at the enterprise.

Also, PJSC Pobeda experienced a constant increase in revenue, as well as cash receipts and payments. You should also pay attention to the fact that in 2020 and 2021 the company operated efficiently, as it made a profit in all types of financial results.

## **6.2 Analysis of the use of capital and assets in the financial security assessment system of PJSC Pobeda for 2019-2021.**

The analysis should begin with an assessment of the use of capital of the enterprise in order to understand how effectively it manages its capital, and what problems arise. The required indicators are presented in Table 7:



**Table 7.** Indicators for assessing the use of capital of PJSC Pobeda for 2019-2021

Indicator name	2019	2020	2021	Absolute deviation		Growth rate, %	
				2020-2019	2021-2020	(2020-2019)/2019	(2021-2020)/2020
Total capital growth rate	26.782 %	18.295 %	41.332 %	-8.487%	23.037%		
Equity growth rate	59.009 %	45.757 %	7.410%	-13.252%	38.347%		
Absolute change in equity	22725	28020	6614				
Equity concentration ratio	0.2219	0.2734	0.2025	0.0515	-0.0709	23.215	-25.940
Total capital turnover	0.4826	0.7026	0.5473	0.2200	-0.1553	45,585	-22,098
Equity turnover	2.1749	2.5698	2.7030	0.3949	0.1333	18,155	5,187
Return on total capital	8.234%	8.583%	0.063%	0.348%	-8.520%		
Return on equity	37.111 %	31.393 %	0.309%	-5.718%	-31.084%		

Source: compiled from [32]

The growth rate of total capital during the analyzed period had different dynamics. In 2020, compared to 2019, it decreased by 8.487%, and in 2021, compared to 2020, on the contrary, it increased by 23.037% and amounted to 41.332% at the end of the reporting period. On average, the growth rate for this indicator is 29%.

The rate of increase in equity capital during 2019-2021 had a negative trend, so the total decrease was 51.599% and at the end of the reporting period the rate of increase in equity capital was 7.410%. At the same time, the normative value of the growth rate on average for the indicator is 37%. The negative point is that in 2021 the company experienced the lowest rate of increase in equity capital, which means that the intensity of the company's development has decreased.

The absolute change in equity capital was positive and in 2019 compared to 2018 amounted to 22,725 thousand rubles, in 2020 compared to 2019 - 28,020 thousand rubles, and in 2021 compared to 2020 the absolute increase was equal to 6614 thousand rubles. the greatest growth was recorded in 2020.

The concentration ratio of equity capital (autonomy ratio) had different dynamics. In 2020, compared to 2019, it increased by 0.0515 (or 23.215%), and in 2021, compared to 2020, it decreased by 0.0709 (or 25.940%) and amounted to 0.2025 at the end of 2021. That is, at the end of 2021, equity capital occupies 20.25% in the structure of total capital. The resulting value is low and almost 2 times less than the standard value.

The turnover ratio of total capital at the enterprise in question also has different dynamics. In 2020, compared to 2019, it increased by 0.2200 (or 45.585%), and in 2021, compared to 2020, it decreased by 0.1553 (or 22.098%).

The equity turnover ratio at PJSC Pobeda has a positive trend. During 2021-2019, this coefficient increased by 0.5281 turnover (or 24.284%) and amounted to 2.7030 in 2021. The equity turnover ratio increased to the greatest extent in 2020 compared to 2019; this increase was almost 3 times higher than the similar change in this indicator that occurred in 2021 compared to 2020.

Return on total capital had different dynamics. In 2020, compared to 2019, its value increased by 0.348%, and in 2021, compared to 2020, it decreased by 8.520% and amounted to 0.063% in 2021. The obtained value of the indicator in 2020 indicates that in 2021, each ruble of total capital brings Pobeda PJSC 0.06 kopecks of profit before tax.

Return on equity had negative dynamics. During 2019-2021, it decreased by 36.802% and amounted to 0.309% in 2021. The obtained value of the indicator in 2021 indicates that each ruble of equity capital brought Pobeda PJSC 0.31 kopecks of net profit.

Next, let's move on to assessing the use of enterprise assets. This assessment is carried out in order to determine how effectively PJSC Pobeda can manage its property, as well as to identify possible reserves for growth and use of assets. The indicators are presented in table 8.

**Table 8.** Indicators for assessing the use of assets of PJSC Pobeda for 2019-2021

Indicator name	2019	2020	2021	Absolute deviation		Growth rate, %	
				2020-2019	2021-2020	(2020-2019)/2019	(2021-2020)/2020
Growth rate of enterprise property value	26.782 %	18.295 %	45.030 %	-8.487%	26.735%		
Rate of change in current assets	-1.723%	11.589 %	81.345 %	13.312 %	69.755%		
Share of current assets in property	39.188 %	36.966 %	46.223 %	-2.221%	9.256%		
Real property value coefficient	0.9172	0.9154	0.8709	-0.0018	-0.0445	-0.198	-4.857
Asset turnover	0.4826	0.7026	0.5473	0.2200	-0.1553	45,585	-22,098
Turnover of current assets	1.2315	1.9006	1.1841	0.6691	-0.7165	54,334	-37,698
Operating cycle	259.5	184.8	275.9	-74.7	91.1	-28.789	49,277
Return on assets	8.234%	8.583%	0.063%	0.348%	-8.520%		
Return on current assets	21.012 %	23.218 %	0.135%	2.205%	-23.082%		

Source: compiled from [32]

The rate of increase in the value of the enterprise's property during the period under review had different dynamics. On average, the standard value for the indicator is at the level of 30%. The lowest rate of increase in the value of property of PJSC Pobeda was recorded in 2020 (18.295%), and the highest in 2021.

In 2019, compared to 2018, the company observed a decrease in current assets, which amounted to 1.723%. Then, during 2019-2020, a positive dynamics of the growth rate was observed and during this period the increase amounted to 83.067%.

The share of current assets in the property of PJSC Pobeda in 2019 was 39.188%. In 2020, compared to 2019, their share decreased by 2.221%, and in 2021, compared to 2020, it increased by 9.256% and amounted to 46.223% of property in the reporting period.

The coefficient of the real value of property during the period under review had a negative trend: the total decrease was 0.0463 (or 5.045%) and at the end of 2021 the value of the coefficient was 0.8709. The obtained value indicates that the share of the real value of industrial property in the property of PJSC Pobeda is 87.093%.

Asset turnover during 2019-2021 had different dynamics. In 2020, compared to 2019, it increased by 0.2200 (or 45.585%), and in 2021, compared to 2020, it decreased by 0.1553

(or 22.098%) and amounted to 0.5473 at the end of the reporting period. The standard for the indicator is 1, however, at PJSC Pobeda, asset turnover has always been lower.

The turnover of current assets, as well as the turnover of assets, had different dynamics. In 2020, compared to 2019, it increased by 0.6691 (or 54.334%), and in 2021, compared to 2020, it decreased by 0.7165 (or 37.698%). At the end of 2021, the turnover of current assets was 1.1841. It should be noted that the turnover values in none of the periods did not reach the standard value of 2.

The duration of the operating cycle has different dynamics at the enterprise: in 2020, compared to 2019, it decreased by 74.7 days (or by 28.789%), and in 2021, compared to 2020, it increased by 91.1 days and amounted to reporting period 275.9 days. The obtained value exceeds the maximum allowable (75 days) by 3.7 times and indicates the ineffective use of current assets at the enterprise in question, which is also confirmed by the positive dynamics of the indicator recorded in 2021.

In 2020, compared to 2019, return on assets increased by 0.348%, and in 2021, compared to 2020, decreased by 8.520%, amounting to 0.063% at the end of 2021. The obtained value suggests that in 2021, every ruble invested in the property of the enterprise brings 6.3 kopecks of net profit.

The profitability of current assets had different dynamics. In 2020, compared to 2019, it increased by 2.205%, and in 2021, compared to 2020, it decreased by 23.082% and amounted to 0.135% in 2021. The obtained value of the indicator in the reporting period indicates that each ruble invested in current assets brings Pobeda PJSC 0.14 kopecks of net profit.

The next stage of the analysis is the assessment of the relationship between the capital and property of the enterprise, the data is presented in Table 9.

**Table 9.** Indicators for assessing the relationship between capital and property of PJSC Pobeda for 2019-2021

Indicator name	2019	2020	2021	Absolute deviation		Growth rate, %	
				2020-2019	2021-2020	(2020-2019)/2019	(2021-2020)/2020
Current ratio	4.7266	4.0715	8.5876	-0.6551	4.5160	-13,860	110,918
Absolute liquidity ratio	0.0782	0.0750	0.1792	-0.0033	0.1042	-4.176	139,054
Growth rate of operating capital	19.441 %	6.772%	112.393 %	-12.670 %	105.622 %		
Absolute change in operating capital	13879	5774	102326				
Ratio of provision of current assets with operating capital	0.7884	0.7544	0.8836	-0.0340	0.1292	-4.318	17,121
Maneuverability of operating capital	0.5190	0.2891	0.4131	-0.2299	0.1240	-44.303	42,895
Ratio between operating capital and inventories	1.9267	3.4592	2.4208	1.5325	-1.0384	79,543	-30.019

Source: compiled based on [32]

The current liquidity ratio of PJSC Pobeda had different dynamics. In 2020, compared to 2019, it decreased by 0.6551 (or 13.860%), and in 2021, compared to 2020, it increased by 4.5160 (or 110.918%) and amounted to 8.5876 at the end of the reporting period.

The absolute liquidity ratio of PJSC Pobeda had the same dynamics as the current liquidity ratio.

The growth rate of operating capital had different dynamics. In 2020, compared to 2019, it decreased by 12.670%, and in 2021, compared to 2020, it increased by 105.622% and amounted to 112.393% at the end of the reporting period.

In 2019, compared to 2018, there was an increase in operating capital by 13,879 thousand rubles. In 2020, compared to 2019, there was also an increase in operating capital by RUB 5,774 thousand. In 2021, compared to 2020, the largest increase in operating capital was recorded in the amount of 102,236 thousand rubles.

The ratio of coverage of current assets with operating capital had different dynamics.

The maneuverability of functioning capital also had different dynamics. In 2020, compared to 2019, the indicator decreased by 0.2299 (or 43.303%), and in 2021, compared to 2020, it increased by 0.1240 (or 42.895%) and amounted to 0.4131 at the end of 2021.

The ratio of operating capital to inventories had different dynamics during 2019-2021. In 2020, compared to 2019, it increased by 1.5325 (or 79.543%), and in 2021, compared to 2020, it decreased by 1.0384 (or 30.019%) and amounted to 2.4208 at the end of the reporting period. The obtained value indicates that for every ruble of industrial reserves there are 2.42 kopecks of functioning capital.

So we can summarize:

- the enterprise's capital was used as efficiently as possible in 2020, since it was during this period that most indicators corresponded to the standard value: the rate of growth of equity capital, its absolute change, turnover and profitability, as well as return on total capital. The worst use of capital was recorded in 2021, when only the growth rate of total capital and equity turnover corresponded to the standard value - this is a negative point.
- the property of PJSC Pobeda was used with equal efficiency throughout 2019-2021, it should be noted that throughout the entire period under review the standard value for the coefficient of concentration of equity capital and turnover of total capital was not achieved. Also negative is the reduction in return on total and equity capital in 2021.
- the relationship between the capital and property of the enterprise was most effective in 2021, since it was during this period that only the absolute liquidity ratio did not meet the standard value. The worst relationship was observed in 2020 due to the fact that only the current liquidity ratio and the ratio of working capital coverage of current assets corresponded to the standard value.

### 6.3 Analysis of financial results in the financial security assessment system of PJSC Pobeda for 2019-2021

Also an important stage in analyzing the financial security of an enterprise is assessing the effectiveness of its activities (Table 10).

**Table 10.** Indicators for assessing the performance of Pobeda PJSC for 2019-2021

Indicator name	2019	2020	2021	Absolute deviation		Growth rate, %	
				2020-2019	2021-2020	(2020-2019)/2019	(2021-2020)/2020
Sales revenue growth rate	116.884 %	72.220 %	12.981 %	-44.664 %	-59.239 %		

Ratio of total income and total expenses	1.1267	1.1131	1.1109	-	-	-1.207	-0.199
Absolute change in sales profit	34283	22864	17319				
Gross profitability (loss ratio) of products sold	-0.1206	0.0293	0.1934	0.1499	0.1641		559,940
Profitability (unprofitability) of operating activities	-	3.018	10.225	13.829	7.207		
	10.811	%	%	%	%		
Net profitability of activities	12.674	11.314	0.112	-	-		
	%	%	%	1.359	11.202		
				%	%		

Source: compiled from [32]

The growth rate of sales revenue throughout the study period had a negative trend.

The ratio of total income to total expenses of PJSC Pobeda during 2019-2021 also had a negative trend.

During 2019-2021, the company experienced an increase in sales profits. Its total growth amounted to 74,466 thousand rubles. The largest increase was recorded in 2019 and amounted to 34,283 thousand rubles, and the smallest increase was in 2021 (17,319 thousand rubles). The increase in sales profit in 2021 is due to a decrease in production costs.

The overall efficiency of the enterprise is characterized by the gross profitability (loss ratio) of products sold.

During the analyzed period, the company observed negative dynamics of net profitability of total income.

In 2019, the company experienced an operating loss of 10.811%. In 2021, the highest operating profitability was achieved, which indicates the highest efficiency of the enterprise among 2019-2021. The obtained value of this indicator indicates the high efficiency of the activities of PJSC Pobeda in 2021, since the obtained value does not significantly exceed the established standard for this indicator, equal to 10%.

In 2019-2021, Pobeda PJSC experienced negative dynamics in net profitability.

Next, we proceed to assess the cash flow of PJSC Pobeda during 2019-2021, the data is presented in table 5:

According to Table 11, it can be seen that the growth rate of total revenues during the first years 2019-2021 had different dynamics. In 2020, compared to 2019, it increased by 38.264%, and in 2021, compared to 2020, it decreased by 63.836%. Thus, at the end of the reporting period, the rate of change in total revenues was 13.988%, this year it was the smallest. The highest growth rate of total revenues was recorded in 2020 and amounted to 77.824%. A decrease in the growth rate of total revenues is a negative point for the enterprise.

**Table 11.** Indicators for assessing cash flows in PJSC Pobeda for 2019-2021

Indicator name	2019	2020	2021	Absolute deviation		Growth rate, %	
				2020-2019	2021-2020	(2020-2019)/2019	(2021-2020)/2020
Rate of change in total revenues	10,000	77.824	13.988	67.824%	-		
	%	%	%		63.836%		
Rate of change in operating revenues	31.951	134.233	-	102.283	-		
	%	%	10.329%	%	144.563		
					%		
Rate of change in total payments	35.769	78.365	13.648	42.596%	-		
	%	%	%		64.716%		

Rate of change in payments for operating activities	13.790 %	53.857 %	25.260 %	40.067%	- 28.597%		
Ratio of total receipts and total payments	1.0038	1.0008	1.0038	-0.0030	0.0030	-0.303	0.299
Ratio of receipts and payments for operating activities	0.6263	0.9535	0.6826	0.3272	-0.2709	52,241	- 28.412
Net profitability of cash payments from operating activities	10.683 %	8.561 %	0.072 %	-2.122%	-8.489%		
Net return on total cash payments	7.426 %	5.133 %	0.048 %	-2.293%	-5.086%		

Source: compiled from [32]

The rate of change in revenue from operating activities during the period under review had different dynamics: in 2020 compared to 2019, it increased by 102.283%. The rate of change in total payments had the same dynamics as the rate of change in total receipts: in 2020, compared to 2019, it increased by 42.596%, and in 2021, compared to 2020, it decreased by 64.716% and amounted to 13.648 at the end of the reporting period. %. The rate of change in payments for operating activities also increased by 40.067% in 2020 compared to 2019, and decreased by 28.597% in 2021 compared to 2020. The ratio of total receipts and total payments of PJSC Pobeda during 2019-2021 had different dynamics. The ratio of receipts and payments for the operating activities of PJSC Pobeda during 2019-2021 also had different dynamics. Thus, in 2020, compared to 2019, its value increased by 0.3272 (or by 52.241%), and in 2021, compared to 2020, it decreased by 0.2709 (or by 28.412%). During 2019-2021, the company observed negative dynamics in the net profitability of cash payments for operating activities. The net profitability of total cash payments at PJSC Pobeda had a negative trend. The greatest efficiency of PJSC Pobeda was recorded in 2019, when the company suffered a gross loss on products sold and unprofitable operating activities. In turn, the worst performance efficiency was observed in 2021 - during this period, only the ratio of total income and total expenses corresponded to the standard value. Maximum efficiency of cash flow at the enterprise was ensured in 2020, when only the ratio of receipts and payments for operating activities did not meet the standard value. And the lowest efficiency of cash flow was observed in 2021 - the norm was only the ratio of total receipts and total payments.

## 7 Conclusions

Based on the study, we can conclude that many scientists give different definitions of the financial security of an enterprise [33-45]. However, from all the opinions, the main idea should be highlighted – the financial security of an enterprise is the state of financial security of the organization, its ability to develop, as well as the ability to independently overcome negative internal and external factors without incurring significant losses. The key goal of an organization's financial security is for its management to create certain financial conditions that will ensure the continuous growth of the enterprise and its sustainable development. To achieve this goal, the organization's management must determine priority areas of activity, identify possible factors that pose a threat to the enterprise's activities, develop a concept of measures that will allow timely identification of new threats and eliminate them in the future, and also introduce this concept into the work process.

Also, the study made it possible to highlight the principles and specific features of the functioning of agricultural enterprises, which have a great impact on the results of the

activities of enterprises in the Far East and must be taken into account when assessing financial security. Thus, among the principles it is customary to highlight ensuring the economic efficiency of production, decentralization of management, accounting and respect for property rights, complexity and integration, dynamic production, limiting the variety of products and balancing production factors. In turn, the specific features of agricultural enterprises include the fact that the main means of production are land and living organisms; production is carried out in different climatic zones; production is seasonal; the production cycle is longer than that of other enterprises and others.

There are many methods for assessing the level of financial security of organizations. An indicator method has been proposed. At the first stage, indicators are selected and their threshold values are set. Groups of indicators are selected that characterize the use of capital, assets, the relationship between capital and property, operational efficiency and cash flow in the enterprise. At the second stage, an assessment is made of the dynamics and structure of the main performance indicators of the enterprise. At the third stage, a direct assessment of the financial security of the enterprise is carried out.

## 8 Acknowledgements

The study was carried out at the expense of a grant from the Russian Science Foundation No. 23-28-01316, <https://rscf.en/project/23-28-01316/>

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