Accounting and analytical system of capital formation for agricultural enterprises in the context of anti-crisis management

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Abstract. The article studies the accounting and analytical capital system, since any economic entity must have a certain capital and clearly understand for what purposes it should be directed. However, a single conceptual framework for the definition of «capital» and its components does not exist today. During the study there have been used such methods as: analysis, synthesis, concretization and abstraction, classification, grouping and others. As a result of the study, there has been clarified the notion of «an accounting and analytical system», studied theoretical approaches to the formation and functioning of the accounting and analytical capital system for agricultural enterprises; there has been determined the concept of the accounting and analytical capital system; there have been studied the main factors of agricultural production that influence the formation of the accounting and analytical capital system; there have been determined the main elements (subsystems) of the accounting and analytical capital system and the relationship of the accounting and analytical system of capital formation with the development of an anti-crisis program for agricultural enterprises, there have been clarified the stages in the implementation of an anti-crisis program and the scheme of the accounting and analytical capital system for agricultural enterprises.

1 Introduction

Modern world conditions of economic management are characterized by the development of crisis phenomena not only in the economic, but also in the political spheres. This creates a need for business entities to develop promising anti-crisis programs that are considered to be unthinkable without a well-formed accounting system and a retrospective analysis of their activities, that is, without a functioning accounting and analytical system of economic entities.

Agriculture is a strategically important economic sector and a type of economic activity for every country. The level of its development determines food security and country independence, population well-being and health, demographic and economic development [1].

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Despite the existing restrictions on the imported products, as well as on the implemented state programs to support and develop agricultural production, the economic condition of Russian agricultural enterprises remains extremely unstable.

As a result of the ongoing reforms, Russian enterprises operating in the agro-industrial complex are in a protracted economic crisis: the disparity in prices between industrial and agricultural products continues to increase, the livestock sector has been practically eliminated everywhere as unprofitable, enterprises do not have financial resources to timely carry out the reproduction process. All this led to a decrease in the financial stability of agricultural enterprises and consequently to their loss of investment attractiveness.

The ongoing optimization processes in all branches of the national economy have sharply reduced the ability of agricultural enterprises to attract young specialists to the village, as in many rural settlements of the country kindergartens, schools, rural health posts were closed due to their low profitability. Cases of forcible takeovers of farmland in order to transfer it for other than agricultural purposes, which is contrary to the law, have become more frequent.

Urbanization processes lead to a shortage of high-quality food, which leads to an increase in the replacement of foodstuffs with their imported counterparts of low quality: instead of proteins and fats of animal origin, vegetable components being used to produce foodstuffs have a negative impact on the health of the country’s population [2,3].

When having sufficiently low prices for agricultural products the inflation component causes a decrease in the profits of agricultural enterprises, which has a negative impact on the ability of the latter to cultivate their lands with high quality [4]. Agricultural enterprises’ machinery, vehicles and property, plant and equipment have significantly depreciated, which also has a negative impact on the quality of soil tillage, and therefore on the crop yield. Also, outdated enterprise’s equipment and worn-out agricultural machinery lead to losses of grain products during harvesting, as a result of which the financial stability of agricultural enterprises decreases.

In such conditions, most agricultural enterprises are forced to solve current problems in order to survive, not those ones of growth and development. Therefore, the enterprises’ management should pay special attention to activating the internal reserves of agricultural enterprises to improve the efficiency of their activities in order to neutralize negative factors that affect their financial stability and solvency [5].

The quality of financial resource management determines the effectiveness of the life activity of an agricultural enterprise, and is based on the systematic solution of economic problems of various levels of complexity, including optimization of the enterprise’s capital structure, since the latter has a direct impact on the financial stability and solvency of an agricultural enterprise. Thus, all key performance indicators are dependent on the capital structure. The main tool for improving the quality of management decisions aimed at improving the efficiency of an agricultural enterprise is an accounting and analytical system of capital formation.

Traditional accounting information systems meet financial reporting needs by collecting data from central databases and consolidating them so that information can be easily used by decision-makers, they were not created with the idea of business-oriented accounting [6], therefore the efficiency of capital management depends on the level of organization of the accounting and analytical system and the quality of its functioning. A well-formed accounting and analytical system makes it possible to use its information base for making management decisions aimed at increasing the efficiency of using the capital of an agricultural enterprise [7].

The first studies of the accounting and analytical system in the economic scientific community appeared in the 90s of the last century and since then the study of this area has continued. To date, the economic literature has extensively studied the accounting and
analytical system of enterprises as a whole, but developments in the field of its formation in individual areas of the accounting and analytical work are clearly not enough. Despite many developments in this area, the issues of the optimal accounting and analytical system to form the capital of economic entities in crisis conditions of economic management have not lost their relevance and are only becoming more acute. Therefore, the purpose of this research is to study theoretical approaches to the capital formation and functioning of the accounting and analytical system for agricultural enterprises by highlighting its elements and management functions, taking into account the identified sectoral specificities of agricultural production, as well as to determine the relationship of the accounting and analytical system of capital formation with the development of an anti-crisis program for an agricultural enterprise.

2 Research methodology (methods)

During the study there have been used such methods as: statistical, dynamic, comparative, logical, functional, inductive and deductive, as well as specific research methods: analysis and synthesis, modeling, concretization and abstraction, classification, grouping, and others.

The conducted research has shown that economic literature lacks a single notion of an accounting and analytical system as such. Different authors differently define it – some of them investigate a data coverage processed by the accounting and analytical system, while others describe the functions, methods and ways of processing the information of the accounting and analytical system, as well as the number of its subsystems. Many researchers believe that the accounting and analytical system depends on the management structure and the specifics of an economic entity’s activity, as well as on the applied principles and methods of its management. At the same time, it is believed that the principles and methods of the accounting and economic system management are universal for all economic entities.

3 Research results

Thus, having analyzed the views of domestic and foreign scientists, taking into account the current level of scientific and technological progress, we propose the author’s definition of an accounting and analytical system. Therefore an accounting and analytical system should be understood as a complex of interconnected functional subsystems (elements) that ensure the continuous collection, systematization, processing and subsequent assessment of information generated by the accounting to analyze the effectiveness of an economic entity for making adequate management decisions. And yet, some of the main issues related to the accounting and analytical system of capital formation can be resolved only after a unified theoretical base is created [8].

For business entities, the solution of issues related to the development and application of measures aimed at creating favorable conditions for accumulation, investment, rational formation and use of the capital at their own enterprises comes to the fore. In this regard, the role of the theoretical substantiation of the very term «capital» within the framework of the enterprise accounting and analytical system has increased. Each milestone in the development of the definition of «capital» was considered by scientists from different positions [9]. However, despite the relevance of the issue we are investigating, at present there is no normatively established formulation of the term «capital», which speaks of the controversy and ambiguity of the notion. The opinions of economists about the essence of the term itself differ. Among the definitions of the «capital» measure existing in modern
economic literature, none is recognized as the most meaningful. Nevertheless, despite the seeming differences in the interpretation of capital, all researchers associate capital with some resources that can generate income [10].

Analyzing the works of prominent economists, it should be noted that there is a certain difference in determining the term of capital as both financial and physical structure, while the correlation of capital with a financial component has not been fully appreciated yet [11]. Although the structure of capital is important for the successful operation of an enterprise, since each component of capital has a specific function in the implementation of the production activity of an economic entity [12].

Studies have shown that capital is an economic resource that has been used for a long time, and is a single system consisting of fixed, circulating, equity, loan, human and information capital. Applied collectively, all the components of capital being available and possessing the ability to make a profit are necessary for the implementation of the economic activity of an economic entity [13].

So, an accounting and analytical capital system for an agricultural enterprise should be understood as one of the constituent parts of its management system. It consists in combining accounting and analytical operations for the formation and use of the capital, as well as in the implementation of a timely and comprehensive analysis of the effectiveness of its use (including factor analysis), based on valid accounting data. At the same time, the main methods of the accounting and analysis are constantly being improved for their reasonable application in a unified accounting and analytical system.

The need to study the peculiarities of an accounting and analytical capital formation for agricultural enterprises is due to their direct influence on all current and future management procedures. The ignorance of the specifics of agricultural production entails distortion of data in the financial reports, which in turn negatively affects the investment attractiveness of an enterprise.

For the formation and systematization of necessary information in order to manage capital management, one should create and develop an accounting and analytical system for an agricultural enterprise, as well as to ensure the continuous operation of this system.

The efficiency of making managerial decisions in relation to the capital of an agricultural enterprise in crisis conditions of economic management is directly dependent on the accuracy and timeliness of grouping information in the accounting and analytical system. The totality of functions acting in the management system provides the possibility for the functioning of the accounting and analytical system for ensuring the management of accounting entities, one of which is capital.

Currently, accounting practice lacks a single approach to the formation of accounting and analytical services for capital management, taking into account the peculiarities of agricultural production. Each agricultural enterprise independently determines the structure of the accounting and analytical system of capital management, relying on the principles in the field of accounting and management services, users’ needs, specialization in production, and the efficiency of organizing such a management system.

To optimize the accounting and analytical system of capital formation for agricultural enterprises in crisis management conditions at the first stage it is necessary to develop its basic concept (Fig. 1).
The basis for deciding on the capital management is the data of a legal and regulatory nature, financial (accounting) and analytical sources [14], formed within the framework of accounting and analytical services for capital management.

In our opinion, the accounting and analytical system of capital formation is a collection, generalization and reflection of information about current events aimed at providing relevant information for making management decisions on the rational preservation, increase and effective use of the enterprise capital and control over the actions performed. The effectiveness of its management depends on how timely and qualitatively the information is grouped in the accounting and analytical system and ultimately the financial condition of the enterprise operating in the agricultural sector improves.

The quality of the capital management of an agricultural enterprise, as well as its accounting and analytical system, is directly influenced by the peculiarities determining the specifics of agricultural production (Table 1).

**Table 1.** The most significant factors of agricultural production influencing the formation of accounting and analytical services of capital management in crisis conditions of economic management

| Factor               | Components | Contents                                      | Impact on the capital formation and its accounting and analytical system |
|----------------------|------------|-----------------------------------------------|-------------------------------------------------------------------------|
| Means of production  | Land       | Peculiarities of agrotechnical measures        | A source of capital formation for an agricultural enterprise, requiring an analysis of the efficiency of land use |
| Production facilities | Biological assets (plants, animals) | The ability to obtain several types of products from one crop and one type of animal | A source of capital formation for an agro-industrial complex, the need for separate accounting of products received in accordance with types of plants and animals |
|-----------------------|-----------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Territorial           | Location of agricultural production | Large distance between structural units | A larger amount of capital investment than other branches of industry |
| Climatic              | Seasonality of production          | Receiving products under certain climatic conditions, as well as within the formed production cycles | The need for grouping information, accounting and analysis of capital use within each production cycle |
| Production            | Unfinished production              | For some crops and animals, costs are incurred in the reporting year, but the products are received the following year. | The need to keep accounting and analytical recording on unfinished production |
| Assesement            | Assessment of agricultural products | During the year products are received at the production budget and they are adjusted to the actual cost at the end of the year | The need to have information on methods and methodology for assessing land resources, biological assets and types of finished products |
| Guiding               | Food security                      | Providing the population with food, efficiency of agricultural production, price regulation processes | Formation of accounting and analytical services for anti-crisis capital management aimed at leveling the influence of internal and external factors on the efficiency of capital use |

When implementing an accounting and analytical system of capital formation for agricultural enterprises, research and accounting of sectoral specificities, external, internal and specific factors allow to form a reliable information base for making effective management decisions. Based on the recent research, there has been developed a scheme for the functioning of the accounting and analytical system of capital formation (Fig. 2). One should take into account that all elements of the accounting and analytical system for the formation and use of equity capital have different goals, objectives, objects, methods and are intended for different users of information.

The diagram shows that the accounting and analytical system of capital formation for an agricultural enterprise is based on two interrelated and interdependent basic elements (accounting and analysis of management activity). In this case, the main component in the accounting and analytical system of capital formation is the accounting subsystem. Therefore, thanks to accounting information, the effectiveness of the capital formation and its use are analyzed.

The basis of the accounting subsystem makes up primary accounting, which provides information for all types of accounting: financial, managerial, tax. Based on primary documents, synthetic, analytical and summary accounting of the capital at an agricultural enterprise is carried out, which serves as the information basis for the enterprise accounting.
which, on the one hand, is considered as outgoing in the accounting subsystem, and on the other hand, as incoming information in the analytical subsystem of an enterprise.

![Diagram of capital formation system](image)

**Fig. 2.** Elements of the accounting and analytical system of the capital formation for an agricultural enterprise

The analytical subsystem of the accounting and analytical system of capital formation is designed to determine the level of efficiency of its use. Based on the results of the analysis, management decisions are made, and an anti-crisis program is developed, which allows enterprises to avoid negative processes typical for enterprises on the verge of bankruptcy.

When dealing with an anti-crisis program, management personnel should constantly monitor the state of internal and external factors that affect the economic security of the enterprise.

As a result of the high-quality functioning of the accounting and analytical system of capital formation for agricultural enterprises, even the weakest signals are monitored, indicating probable signs of an incipient crisis.

The study showed that a more effective use of the accounting and analytical system of capital formation can be ensured by identifying external and internal factors affecting the activities of an agricultural enterprise [15]. The ability of an anti-crisis program to promptly respond to detected alarms is of great importance in the development of enterprise management. Moreover, it must be remembered that the response time should be minimal, since the degree of influence of the time response directly depends on the response speed. Therefore, it is necessary to fully inform the enterprise management about all alarms, about the resource and means level of the enterprise which is necessary to overcome the emerging threats. One should ensure that a developed anti-crisis program has a minimum number of miscalculations.
The success of the implementation of a developed anti-crisis program is determined by the level of pre-crisis readiness of the agricultural enterprise, the effectiveness of direct resistance to the crisis and the level of early preventive measures.

The structure of the enterprise’s anti-crisis program as a rule provides for four main directions and accordingly four stages in the implementation of this program (Fig. 3):

Using financial and legal means and methods to stabilize the situation

Radical transformation of the management structure, organization of production

Implementation of an effective technology, organization production and sale of products

Maintenance of production stability by all available methods

**Fig. 3. Stages in the implementation of an anti-crisis program for an agricultural enterprise**

The scheme of functioning of the accounting and analytical capital system for agricultural enterprises in the anti-crisis conditions of economic management is shown in Figure 4.
Fig. 4. Scheme for the functioning of an accounting and analytical capital system for agricultural enterprises in crisis conditions of economic management

Through the interaction of management functions, accounting and analytical services for capital management is formed in the accounting and analytical system.

Three types of information are grouped in the accounting and analytical services for capital management: legal and regulatory, accounting and analytical, which are the main sources of data used in making management decisions in relation to the capital of an enterprise.

4 Conclusions

The use of the proposed detailed scheme for the functioning of the accounting and analytical system in the practice of agricultural enterprises will ensure the optimal formation and further capital use, stabilize the production of industry products and improve the financial situation of agricultural enterprises.

The development of science, information technologies and the ongoing integration processes in the accounting and analytical systems for agricultural enterprises do not allow to put an end to the studies of the accounting and analytical system of capital formation. Further developments are carried out in the direction of the methodological foundations of accounting and analysis of capital both in general and all its components, including new
ones for Russian science: social, intellectual, informational and natural capital, as well as in the direction of developing anti-crisis programs that take into account various scenarios of political conditions of management. Further research will allow agricultural enterprises to successfully carry out their activities even in crisis management conditions.

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