KAPITEL 5 / *CHAPTER 5* [36]
INNOVATIVE METHODOLOGICAL TOOLS OF ACTUARIAL ACCOUNTING

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Introduction

The traditional accounting system is based on the double entry method does not give a complete picture of the spatial functioning of the entity. It is based only on the statement of actually performed business operations according to the documentary confirmed facts of past events (leaving the promising potential of business development, as well as the increase in its economic value).

There is an urgent need for a complete reorientation of accounting to changes in the potential attractiveness of the entity in the future, as the dynamic development of human society. The traditional accounting paradigm based on the double record method. But the dynamic concept of actuarial accounting, the basis of which is the triple accounting system of accounting, comes to the fore in such circumstances, and in the conditions of sale of business, as a holistic property complex.

The transition to the active capital market has contributed to the opening of a variety of opportunities for Ukraine for the desired effective attraction of funds in a particular business development project. Information about the objective assessment of future cash flows for the financial perspective has begun to acquire importance – which is not able to provide the traditional accounting system in full for control participants, investors of associated enterprises.

The systematic approach to the modern accounting concept is based on the application of actuarial calculations, which serve as the basis for the introduction in domestic accounting practice of actuarial accounting and reporting on the basis of positive foreign implementation experience.

5.1. Methodological tools of actuarial accounting

Actuarial accounting has its own method. The term «method» is a way of studying phenomena, approach to studying them, the systematic path of establishing truth, or – technique and method of action. The method is a tool for solving the main task of science – to know the objective laws of reality in order to use them in the practical activity of enterprises.

Accordingly, the methodology is a set of research techniques used in science. The basis of the methodology is thinking and outlook, as an operating environment of self-discipline and work with information, models, and algorithms.

The method of actuarial accounting is a set of special techniques by which the subject is studied.

The method of actuarial accounting includes all elements of the accounting

[36] *Authors: Manachynska Yuliya*

method (documentation and inventory, evaluation and calculation, accounts and double entry, balance generalization and reporting) as one of the types of accounting. But in connection with the specificity of the subject being studied, their content it expands, which prompts the emergence of a number of features of the elements of the method of actuarial accounting.

Documentation is the primary registration of business transactions with the help of documents at the time and in places of their implementation.

Documentation allows for continuous observation of economic processes. The document must be completed in compliance with certain requirements that give it legal force and meet the forms of unified primary documents. This is the beginning and basis of accounting process without which accounting is impossible [3].

The actuarial accounting requires the need for individual primary documents on the initial data and assumptions of actuarial calculations. In addition, special consolidated documents and accounting registers will be required, which will show the content and results of actuarial and related calculations, as well as planned, forecast for other special data. The set of primary and consolidated actuarial accounting documents must create the basis for the preparation of actuarial financial statements [5, c.59].

Pursuant to Article 10 of the Law of Ukraine «On Accounting and Financial Reporting in Ukraine» [1] to ensure the accuracy of accounting data and financial statements, the enterprise is obliged to inventory assets and liabilities, during which their presence, condition and assessment are checked and documented.

The objects and frequency of the inventory are determined by the owner (manager) of the enterprise, except when its conduct is binding under the law.

Inventory is a check of the actual availability of enterprise property and comparing inventory data with accounting. The actuarial accounting stores the former goals of the inventory in connection with the need to ensure the accuracy of the source data and new goals are added to check the completeness of reflection in the accounting of the assumptions of actuarial calculations and the completeness of the use [5, p.60].

The estimate is a reflection of accounting objects in a single monetary measure in order to summarize them as a whole by the enterprise. That is, estimation is a way of costly measuring accounting objects. International accounting standards interpret valuation as a process of determining money, which should recognize and reflect the elements of financial statements in the balance sheet and income report. Therefore, accounting should provide a real, actual picture of the availability of economic means and the state of economic processes, mandatory reflection of assets, equity, liabilities, expenses and income of the enterprise in monetary terms is characteristic of accounting.

The use of a single monetary meter (national currency of Ukraine) is one of the eight basic principles of accounting established by NP (C) BO and Article 4, the Law of Ukraine «On Accounting and Financial Reporting in Ukraine» [1; 5].

That is, the principle of a single monetary meter – involves the measurement and generalization of all business operations of the enterprise in its financial statements are carried out in a single currency.

Financial accounting uses the following types of estimates: in original guard; at residual value; at fair value; it present (discounted) cost and other valuation methods.

Actuarial accounting can also apply all of the above methods, but priority is provided by the methods of valuation at fair and discounted cost. At the same time, the assessment of the fair value of financial assets and liabilities is of particular importance, which is, first, easier to assess the fair value of operating assets and liabilities, and secondly, can significantly simplify the calculations of the economic value of the net financial liabilities' The organization and equity of an organization [5, p.60].

Calculation (from lat. *Calculatio* – calculation) is a calculation in the monetary measurement of the result of any economic process.

Calculation makes it possible to determine the actual or planned cost of the object and is the basis for its evaluation. At various enterprises, estimation and calculations are used for accounting objects in monetary terms. Calculation is the basis for determining the average cost of production and setting the cost of production. It can be predictive, planned and reporting. That is, it is the calculation of the cost of a unit of production, works and services, as well as the procurement cost of tangible assets and means of production by cost elements.

The actuarial accounting contains traditional procedures, methods and methods of calculation, while a new procedure of actuarial calculation (or evaluation) is added.

Actuarial calculation is the calculation of the economic value of equity by subtracting the economic value of loans and loans from the economic value of the assets of the enterprise [5, p.60].

In joint-stock companies, the end result of the actuarial calculation is the valuation of the fair value of the stock, which is by dividing the economic value of equity into the number of shares issued. In the actuarial calculation, the following stages are distinguished:

1) Collecting initial data on the enterprise;

2) Choice of value estimation;

3) Determination of actuarial assumptions on discount rate, growth rate of sales volumes, expected dynamics of drivers of the value of the enterprise, etc.;

4) Preparation of the actuarial basis (forecast of actuarial financial statements and free cash flows);

5) Calculation of the economic value of the equity of the enterprise and the fair value of the shares;

6) Analysis of the results and preparation of the report [5, p.60].

Value Drivers are the factors (indicators) used to predict future cash flows. The value driver is any variable that has an impact on the value of the enterprise (for example: increase in sales of goods, works, services; or marginal (marginal) income) or key variables for a separate structural unit of the enterprise (eg: reduction of transport and procurement in the calculation for one consumer – for the unit responsible for the supply of goods).

Value drivers are classified by their belonging to the operating (main activity of the enterprise), investment and financial activities:

- Operating drivers of value (increase of net income from sales of products (goods, works, services); gross profit; financial result from operating activities);

- Investment drivers of value (investments in working capital; investments in fixed capital);

- Financial drivers of value (interest rate, etc.) [6].

The accounting method of accounting corresponds to accounting accounts and double entry.

In the accounting system, accounts are a way of economic grouping, current reflection and control over the economic means of the enterprise, sources of their formation and economic processes. A double entry is called a reflection of each business transaction twice, on a debit of one and a loan of the second accounts in the same amount.

Accordingly, the actuarial accounting is a system that uses the simple, double, descriptive and 3D-recording method (triple recording) and displays information about the prospects of changing the economic value of the entity and its cash flows in 4D space (3D + time) Use of 3D force accounts with subsequent generalization in 5D-acting financial statements.

The actuarial accounting consists of a 5D-acting financial statement, which provides information on the types of operational and financial activities information about economic resources and requirements for them, the total financial results and cash flows of the enterprise. An important additional feature of actuarial financial statements is that, according to the goals and subject of actuarial accounting, it should represent not only data of past periods, but also forecast data for the perspective [5].

The final comprehensive generalization of accounting information is carried out during the preparation of the balance sheet (report on financial condition), form # 1, i.e. implementation of balance generalization and preparation of other forms of actuarial financial statements.

5.2. Actuarial Balance (Actual Report on Financial Position) as an innovative element of the method.

5D-acting financial statements serves primarily the purpose of assessing the investment attractiveness of the enterprise, and reflects only the results and conditions of the past activity, as is accepted in the traditional system of financial reporting, and the forecast results of activity, which require some investments [5; 7].

Therefore, in the actuarial financial reporting system, accounting information is summarized in two periods of time:

1) For the period preceding the reporting;

2) For the future (future period), including the forecast and post -forecast periods.

Information filling of actuarial financial statements allows forming an array of data necessary to analyze the ability of the enterprise to generate cash flows and to evaluate the efficiency of management, protection and multiplication of economic resources managers, as well as to prepare the actuarial basis, i.e. the initial data for actuarial calculations. Formation of information about actuarial accounting objects for the future period is necessary for the forecasting of the main indicators of activity of the enterprise, including its future cash flows, evaluation of indicators of economic value through actuarial calculations, analysis of the feasibility of approval and implementation of the developed strategy setting their target values as well as to

achieve the goals of cost-oriented enterprise development management [5].

Economic resources are the material basis of the activity of enterprises, institutions, organizations. The effectiveness of all its structural units depends on the rationality of their use [8, p.31].

The management of enterprises, as well as real and potential investors, needs to have comprehensive, reliable information about operational and financial assets, operational and financial obligations, as well as about equity not only in the past, but also in the light of forecasting. Such information is generalized and grouped in the appropriate manner, can be obtained by means of an actuarial balance (actuarial report on financial condition), (type. Form №1-a).

The actuarial balance (actuarial report on financial condition) is built in the form of a bilateral table. In the left part of the balance, called the asset, show the composition and placement of net operating assets of the enterprise, and in the right, called liability – net financial liabilities and equity.

Conceptual form №1-a actuarial balance (actuarial report on financial condition), takes into account both foreign approaches [5; 6; 7] to its composition and structure, so the requirements of domestic legislation (NSA 1 «General Requirements for Financial Reporting» [2]).

Balance generalization is a way of generalization and grouping of information about the assets of the enterprise by their composition and placement and sources of formation on a certain date [8, p. 30].

The left part of the actuarial balance (actuarial statement on financial condition), that is, the asset, characterizes the operating activity of the enterprise at a certain point in time (i.e. at the date of preparation of actuarial management reporting) and shows the amount of net operating assets (i.e. the net accounting value of economic resources) used in the implementation of economic operations.

The right side of the actuarial balance (actuarial statement on financial condition), called liability, characterizes financial activity and shows sources of operational financing.

In this case, the traditional balance of accounting equation is modified and acquired the form of a static balance equation of actuarial accounting:

$$NOA = NFL + E, \tag{1}$$

NOA – net operating assets; FL – net financial liabilities; E – equity

The content of the aforementioned balance equation and the procedure for its use for calculating the amount of free cash flow and financial analysis accounting reporting according to US GAAP was first considered by S. Penman [10, p.71].

The actuarial balance (the actuarial report on financial condition) is determined by the timing of disclosure of information for investors, lender and other capital suppliers. For example, companies that act as issuers of securities can prepare actuarial financial statements based on the results of individual quarters and all year. For internal users of accounting information (managers) for the purpose of implementing functions of cost-oriented management of enterprise development, such reporting can be

prepared for shorter intervals or as needed (for example, at the time of making important management decisions that affect the prospects of cost and development of the enterprise) [5].

The Actuarial balance (Actuarial report on financial condition), Form №1-a contains generalized accounting information from the actuarial accounting system for two periods:

1) Data for some period that immediately precedes the reporting date;
2) Forecast data covering the investment planning period.

Conclusions

In contrast to the traditional accounting system, the fundamental imperative of the actuator of the management concept is aimed at forming a promising potential of business changes in the framework of a triple accounting system, but in the face of today, the latter is based on the system of force accounts.

The actuarial basis of the triple accounting system is an innovative approach to changing modern accounting concepts, and takes into account the evolution of the simple, double and triple recording methods used.

The use of N-dimensional parameterization of actuarial accounting in the context of a triple accounting system helps to create quality information support for managing the promising potential of business development and the increase in its economic value as a whole. Therefore, it is possible to project the flow of initial information, in the conditions of sale of an entity as a holistic property complex, on the basis of a system of actuarial accounts and approaches to the use of methodological tools of actuarial accounting. Dynamic changes in the world institutional environment, which is formed during the manifestation of European integration trends, determine the need for complete comprehensive reorientation of the traditional accounting system, taking into account positive foreign approaches. It is this information content that will be the driving factor in the growing competitive advantage of our country in the European arena.