

INTERNAL CONTROL OF "BLIND SPOTS" OF ACCOUNTING AT INDUSTRIAL ENTERPRISE AS A FACTOR OF INCREASING THE STABILITY OF THE NATIONAL ECONOMY

Ruslan Dutchak

PhD, accountant-expert LLC "Audit Firm "INDUSTRIAL AUDITING COURSE",
e-mail: dutchakrr@ukr.net, orcid.org/0000-0002-4837-068X, Ukraine

Mansur Mamanazarov

Post-graduate, National university of Uzbekistan,
e-mail: m.mamanazarov@mail.ru, orcid.org/0000-0003-3936-0954, Uzbekistan

Abstract. The essence of the problem of "blind spots" of accounting at industrial enterprises is investigated. The practical reasons for the appearance of "blind spots" of material resources accounting are revealed. The materiality threshold of such zones at industrial enterprises is established. The danger of the existence of "blind spots" in accounting and the need of internal control to combat them is explained. The methodology of internal control in the part of estimating and controlling the risk of false initial observation of economic operations with material resources has been improved. The process of internal control is supplemented by the procedure of elaboration of managerial decisions alternatives on such measures as saving surplus of material resources, expansion of primary accounting supervision, improvement of documentary processing of facts of economic operations with material resources, and compensation of deficit of material resources.

Keywords: internal control, risk of false initial observation, blind spot, surplus and deficit of material resources.

DOI: <http://dx.doi.org/10.23856/2909>

Introduction

Effectiveness of managing assets of an industrial enterprise in the modern economy requires perfect adjustment of subsystems of accounting and internal control. The main object of accounting at the enterprise is material resources. Specific character of such an object is that its state and behavior are determined by physical and chemical processes of substance of the resource in manufacturing process. Detection and measurement of these resources are complex accounting processes industrially. The essence of such complexity is an incomplete, inaccurate and untimely fixing of facts of economic operations with material resources in industrial accounting. An indicator of the problem of correct accounting is the presence of significant deficit and surplus of material resources of the enterprise. It means that the theory of internal control requires further improvement of its methodology, which guarantees full supervision of material resources and provide the executive personnel with control and analytical information about the correctness or falsity of the accounting of such resources.

Researches on the theory of internal control in the scientific literature are presented by the works of leading scientists: T. L. Bondar (2016), N. I. Dorosh (2014), S. I. Golovatskaya (2016), Y. V. Great (2017), N. S. Heymonova (2015), T. A. Kovbasa (2017), T. O. Melikhova (2018) and others.

Scientists consider control as a socio-economic phenomenon, the understanding of

which is represented by the system of knowledge of outer world in the overall mechanism of enterprise resource management. The main directions of these studies were: internal control of assets and expenses, its information support, introduction of international experience of control in domestic practice, and others. However, despite the scope of the studies, further development of methodological positions of material resources internal control at industrial enterprises in the conditions of complex dynamic systems of their use.

The purpose of the article is to investigate the socio-economic phenomenon of “blind spot” of accounting at industrial enterprise and to theorize the corresponding improvement of the methodology of internal control.

“Blind spots” of accounting

An industrial enterprise that consumes material resources in its economic processes need to be recognized as a complex dynamic system that includes constant changes influenced by internal and external factors. The peculiarity of this system is that besides the known factors influencing the state and dynamics of the system, the influence of random factors is recognized. It means that there is a possibility of changing and transitioning the system to completely unpredictable one which differs from the given initial parameters.

Material resources availability and flow accounting at industrial enterprises is a complex process. The storage and use of certain types of material resources in the technological processes of industrial enterprises are determined by the physical and chemical properties of the substance of the resource, which complicates the measuring procedure, documenting and controlling.

These resources include: loose building materials (sand, cement, lime), petroleum products (gasoline, diesel fuel, kerosene), industrial liquids (nitric acid, hydrochloric acid, ammonia water) and gases (oxygen, acetylene, chlorine). For such substances there is a functional dependence of the change in their quantity (volume, weight) under the influence of external conditions (temperature, pressure, humidity).

Identifying and measuring the impact of these conditions on the size of resources requires skilled personnel, special methods and tools. All these reasons make the completeness of resources accounting more complicated, which reflects the information about the integrity of the economic operation fragmentary. Fragments of the recorded accounting information are not sufficient to fully substantiate the cause-and-effect relationship of the behavior of the resources in economic transactions. The rest of the fragments of information about the behavior of resources at the enterprise that are not reflected in the accounting process, fall into the “blind spot” of accounting.

“Blind spot” of accounting needs to be considered as a part of the economic transaction with the asset (material resource) of the enterprise, which can not be detected, measured or documented by the process of accounting. The essence of the concept of “blind spot” of accounting is the false initial observation (perception) of economic operation integrity, which understated the completeness and reliability of information in the primary documents. The external manifestation of this essence is the actual surplus and deficit of enterprise’s material resources, which can not be justified by accounting with its records or primary documents.

For an in-depth study of the essence of the concept of “blind spot” in accounting, it is expedient to disclose its nature on the basis of basic laws of physics and accounting principles.

Acts with material resources in the economic activity of an industrial enterprise go on in accordance with the laws of physics. One of the main such laws is the "the law of conservation of mass". This law states that the total mass of matter in chemical and physical reactions remains constant.

It should be noted that the ancient Greek philosopher Democritus was one of the first who formulated the principle of conservation: "Nothing comes from nothing and does not turn into nothing" (*Andrushchenko, 1997: 48*). In 1789, this law was formulated by Antoine Lavoisier clearly and unambiguously as follows: "The mass (weight) of substances entering into the reaction is always equal to the mass (weight) of substances that are formed as a result of the reaction." At the atomic-molecular level of the organization of matter, the law of conservation of mass is explained by the fact that during the chemical reaction only the rearrangement of atomic reagents in the product molecule is occurred. The number of atoms of each element and the mass of each atom remain unchanged before and after the reaction. In spite of any internal processes of natural or artificial origin preserving of the total mass of all substances in a closed system takes place. The law of mass conservation is only quantitative (*Ryazantsev, 2011*).

An adequate response to the theory of accounting on the "law of conservation of mass" is the principle of identity, which is embodied in the element of the method of accounting – "double entry". For the first time (1494) a double entry is described in the work of the Italian mathematician Luke Pacioli, entitled "Treatise on Accounts and Records" (*Pacioli, 1994*). The essence of this method is the identical representation of business transactions in accounts, which determines the equality of debit and credit turnovers of correspondent accounts. The recognition of the fact of an economic operation must be carried out twice, on the debit of one and on the credit of the second account in the same amount and sum.

A double entry ensures the compatibility (equality) of accounting data about the material resources of the enterprise with the constant conservation of the mass of their matter. Perversity of such equality indicates the inaccuracy of the initial observation, which causes the appearance of "blind spot" of accounting.

Practical reasons for the existence of "blind spots" of accounting at an industrial enterprise can be:

- influencing quantities of physical and chemical processes of substance of material resources that influence the result of their measurement (temperature influence on volume, humidity on weight);
- failure of calibration of measuring equipment (weights, hygrometer, thermometer) or their use beyond the operating temperature range;
- error of the amount of material resources in the container;
- discrepancy of regulated values of write-off of material resources on production technology (formulation, regulation) with their actual value in production processes;
- accounting units of material resources at the "input" and "output" of the industrial process do not coincide with the actual units of their measurement in the technological procedures;
- deficit of continuous quality control of raw materials and materials in delivery;
- loss of source documents on inventory transactions;
- the deficit of automation of the processes of dosing and loading of material resources into the industrial process;
- human mistake factor.

The main problem of "blind spots" of accounting is that it is impossible to conduct precise feedback control of the full fact of an economic transaction with material resources

based on source documents. "Blind spots" distort the patterns of behavior of material resources throughout its history from the moment of receipt to the moment of consumption. Finding material resources in the "blind spot" indicates the imperfection of accounting, which can not provide accurate information on the full size of the economic operation, time, place and the causes of its occurrence.

"Blind spots" of accounting generate uncontrollable processes with many obstacles: a person (observation, perception); measuring instruments (their absence or error); complexity (assortment), speed and volume of material flows; uncontrolled changes in matter under the influence of physical and chemical processes of storage and use of material resources; incorrect units of measurement in accounting and their conversion (from volume to weight).

The result of the uncontrolled "blind spots" is the emergence or disappearance of real assets of the enterprise, which are not entered into the accounting records or not written off as a result of the entering of source documents on past facts of business transactions with material resources.

The significance of the "blind spots" of accounting at an industrial enterprise is determined by the cost of material resources, which was not been able to fix in its source documents and information about which can affect the decision of management. The threshold of such materiality can be an absolute or relative value, which is a quantitative sign of the materiality of information at the enterprise. The main signs of the materiality of information about the "blind spots" of accounting are its quantitative and qualitative characteristics, which is important for users of such information.

The subjects of determining the materiality of information about the "blind spots" of accounting at an industrial enterprise is its owner or official, who manages the enterprise in accordance with the legislation and constitutive documents.

In order to determine the significance noted, it is necessary to take into account the scale of production at industrial enterprises for a year, the cost of material resources used and their uniqueness (rarity). Objects of application of the materiality of "blind spots" of accounting are economic transactions with certain types of material resources. According to the tentative threshold of the significance of such objects of accounting it is expedient to take the value of 1% of the total transactions of a particular type of material resources. The specified size of the significance of "blind spots" of accounting is relevant for medium and large industrial enterprises, where the laws stated above have a significant impact on the real value of the amount of material resources. The final value of the threshold of materiality for the "blind spots" of accounting of material resources must be determined by the head of industrial enterprise.

The special hazard of the "blind spot" of accounting at industrial enterprise is to preserve the surplus of material resources from their theft, embezzlement, appropriation, seizure or fraud.

According to Art. 185 of the Criminal Code of Ukraine No. 2341-III of April 5, 2001 (further - CCU), theft is a secret abduction of someone else's property. The secret abduction is the abduction carried out by the guilty person who believes that it is imperceptibly to victims or others. Theft should be considered as the unlawful seizure of someone else's property by a person who was not invested with some power over the stolen property, but the person had access to the property according to the type of activity (*The Criminal Code of Ukraine, 2001*).

According to Art. 191 CCU, a crime may be committed in the form of:

- appropriation - the unlawful and gratuitous alienation of someone else's property by the guilty person, which was in lawful possession, with the intention of subsequently turning it into its own benefit or the benefit of a third party;

- misapplication - illegal and unpaid spending (consumption, sale, free transfer, exchange, transfer for discharge of debt, etc.) by guilty of someone else's property that was entrusted to him or was under his direction;

- overtaking of someone else's property by abuse of an official of his/her official position - occurs when public individual turns someone else's property in his favor or in favor of a third party, while using his official position (*The Criminal Code of Ukraine, 2001*).

Article 190 of the Criminal Code states that fraud is the overtaking of someone else's property or the acquisition of title on property by deception or abuse of trust. The main way of committing fraud is to deceive. The essence of such a way of taking ownership of someone else's property is to inform the victim of false information or to conceal certain information the reporting of which would be significant to the victim's behavior in order to mislead the victim (*The Criminal Code of Ukraine, 2001*).

In order to preserve the assets (surplus of material resources) of the industrial enterprise that are in the "blind spots" of accounting, and protection against unlawful seizure (theft, embezzlement, appropriation, seizure, fraud), such an enterprise needs an effective system of internal control.

Internal risk control of false initial observation

The traditional purpose of internal control at industrial enterprises is to prevent the detection of violations in accounting, which may lead to financial liability (fines, penalties) for violating the laws on taxation. The essence of such control is based on the constant verification of the implementation of the accounting department of the current rules, which are established by the legislation and management of the enterprise. The object of this control is the accounting data (source documents, registers of synthetic and analytical accounting, reporting). Traditionally, internal control carries out actual control measures prior to financial reporting. The interval for such measures may be three months. The disadvantage of this approach is that internal control underestimates the risk of false internal observation of the facts of business transactions with material resources.

The risk of false internal observation is the extent of the expected significant enterprise's loss of the current portion of its assets (material resources) as a result of the false failure to identify, inaccurate measurement, or non-complete documentation of the integral fact of a business transaction, which underscores the completeness and reliability of the information in the source documents. The practical expression of the consequence of this risk is the emergence of "blind spots" of accounting, which causes actual surplus and deficit of material resources of the enterprise.

Improving the methodology of internal control in theory and practice requires the development of a new approach to the detection and control of "blind spots" of accounting. Such an approach expresses the need to assess the actual state of the protection of material resources from the risk of false internal observation. The main idea of this approach is the continuous or with a small periodicity control of material resources, where the accounting data are supplemented by verification of the actual available amount of material resources (surplus and deficit) through special procedures. The specified supplement must be completed by the source document.

It is advisable to supplement the traditional process of internal control with new procedures: assessment of the risk of false initial observation; development of alternatives to managerial decisions. Accordingly, the intermediate result of this process is the control and analytical information, while the final result is the alternatives to managerial decisions.

Internal control involves the following procedures: risk assessment, risk control and development of alternatives to management decisions.

The “risk assessment” procedure includes an assessment of the risk of false initial observation in order to harmonize further control procedures. This procedure involves calculating the probability of a risk and its possible loss. For such a procedure it is expedient to use methods that comprehensively evaluate the influence of factors of uncertainty on the substance of material resources in a complex dynamic system (production) of an industrial enterprise. Such methods can be: methods of expert evaluation, statistical and calculation and analytical methods.

The “risk control” procedure involves controlling the analytical elements (causes, conditions of development, causal relationships and consequences) of the risk of false internal observation the context of facts, records, and human being.

The main methods of controlling the facts of the material resources of an industrial enterprise are the methods of physical verification. Physical verification involves studying the actual state of the material resource, which is checked by its measurement, recalculation, weighing, and so on. For physical verification it is expedient to use the following methods: inventory, technical and technological control, control measure, experiment, and others. In order to ensure a high level of metrological reliability of the results of physical verification, it is additionally necessary to consider: influential quantities that influence the measurement result; normalized working conditions of measuring equipment; the significance of the critical change in the measurement result; obstacles, as influential values without established normalized working conditions.

The main methods for controlling the inventory of material resources are the methods of documentary control. Documentary verification involves the analysis of source documents containing information on the facts of business transactions with material resources. Such control checks the authenticity and economic feasibility of business operations. Documentary control is recommended to be performed by the following methods: content verification, arithmetic checking, formal checking, counter and mutual verification, and so on.

To control a human being the use of the “fraud triangle” method is foreseen. This method is based on the analysis of potential employee threats to commit fraud. The method of monitoring this risk is based on three criteria: the motive for committing fraud, the possibility of committing fraud and the possibility of avoiding responsibility for the act of fraud.

The “development of alternatives to management decisions” involves the development by internal control employees of a certain set of solutions to the identified problem that is due to deficit or surplus in the “blind spots” of accounting. This procedure is based on the use of methods for generating information, which allows you to create alternatives to managerial solutions to overcome the problems identified. For the generation of these solutions it is recommended to use such methods as brainstorming, analogy, advancement questions, tree of targets, tree of solutions, and others.

Taking into account the control of the risk of false initial observation to be urgent and effective in the facts of business operations with material resources, industrial enterprises should create a permanent internal control unit. According to the specifics of the control methods, the employees of the unit must meet the high requirements: moral qualities,

qualifications, experience, knowledge in the natural sciences (physics, chemistry), knowledge of the technology of production, and so on. In order to improve the efficiency of internal control the involvement of independent specialists (technologists, experts), the use of technical means for fixing and processing data in the control process as well as other methods are envisaged.

Conclusions and suggestions

In the Gospel of St. Matthew 15:14 it is said: "... when a blind man leads a blind man, both fall into a pit" (*Bible, 2004*). This quotation suggests that if the internal control of material resources is based only on man-made accounting data, then it is doomed to the falsity of its findings. Internal control of material resources at an industrial enterprise should increase its object in terms of facts of economic operations and actions of people. The need of control of a new part of an object is represented by the risk of false initial observation, which generates a "blind spot" of accounting. The consequence of the existence of "blind spots" is the actual surplus and deficit of material resources of the enterprise, the reason for the emergence of which can not be explained by accounting. The danger of "blind spots" of accounting is that they can cause the illicit alienation of surplus of material resources. It is recommended to improve the methodology of internal control by creating a new approach that will identify the "blind spot" of accounting and establish the logic of proving the existence of surplus and deficit of material resources in these spots. Such an investigation can be carried out on the basis of the operational application of methods for assessing and controlling the risk of false initial observation. The specified justification should be made by the primary document (proof), which will supplement the accounting data with information about the physical availability of material resources (surplus and deficit). The mentioned written evidence and alternatives to managerial decisions about appropriate improvement of accounting should become a practical result of internal control combating "blind spots" of accounting effectively.

References

- Andrushchenko, V. P., Boychenko, I.V., Nadolny, I. F. & oth. (1997). Philosophy: Textbook. Kyiv: Vikar. [in Ukrainian].*
- Bible. (2004). Old and New Testament Scriptures: in Ukrainian translation with parallel places. Kyiv: Edition of the Kyiv Patriarchate of the Ukrainian Orthodox Church of Kyiv Patriarchate. [in Ukrainian].*
- Bondar, T. L. (2016). Internal quality control of products and costs for its provision. Black Sea Economic Studies, 4, 92-98. [in English].*
- Dorosh, N. I. (2014). Internal Control and Audit in Risk Management at the Enterprise. Visnyk of Lviv Commercial Academy. Series: Economical, 44, 148-152. [in Ukrainian].*
- Golovatskaya, S. I. (2016). Internal control of enterprise expenses: organizational and methodical aspects. Young scientist, 5, 36-40. [in Ukrainian].*
- Heymonova, N. S. (2015). Internal control of costs in the system of economic security of the enterprise. Economic forum, 3, 430-434. [in Ukrainian].*
- Kovbasa, T. A. (2017). Internal control of forest enterprises. Economic Bulletin of the Zaporizhzhya State Engineering Academy, 4, 134-139. [in Ukrainian].*
- Melikhova, T. O. (2018). Internal control of inventory for timely detection of threats in the system of financial security management of the enterprise. Agrosvit, 2, 63-70. [in Ukrainian].*

- Pacioli, L. (1994). Treatise on Accounts and Records. Moscow: Finance and Statistics. [in Russian].*
- Ryazantsev, V. D. (2011). The Great Polytechnic Encyclopedia: over 7000 vocabulary articles. Moscow: Peace and Education. [in Russian].*
- The Criminal Code of Ukraine. (April 5, 2001). No. 2341–III. [Electronic resource]. Retrieved from <http://zakon5.rada.gov.ua/laws/show/2341-14>. [in Ukrainian].*
- Velikiy, Y. V. (2017). Internal control and audit in Ukraine. Investments: practice and experience, 7, 5-7. [in Ukrainian].*