

Influence of the structure of construction organizations inventories on the balance sheet liquidity

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Abstract. The article addresses the issue of the impact of the structure of inventories on the liquidity and solvency of construction organizations. In 2019, the Ministry of Finance of the Russian Federation enacted new federal accounting standards FSBU, which expanded the composition of inventories and changed the approach to their valuation. The indicator "Inventories" in the balance sheet has a versatile structure, which depends on many factors, including the type of construction organization (customer, developer or contractor), the terms of construction contracts, the nature of the construction work performed and others. The task of analysis with regard to the structure of inventories is closely related to the task of improving the reliability of reporting and defining the liquidity and level of solvency of construction organizations. The article examines the structure of inventories in construction organizations of different types and their reflection in accounting, and reveals the influence of factors on different groups of inventories, which constitute a significant share in the total structure of inventories, as well as analyzes the main factors affecting the structure of inventories and considers the problems of construction organizations in reflecting the real value of inventories in the balance sheet. In addition, for preventive diagnostics and adjustment of reporting items, recommendations are given on how to reflect the structure of inventories in additional analytical internal supporting reporting.

1 Introduction

The liquidity of the balance sheet is determined by comparing certain groups of assets and liabilities of the balance sheet. The fact that the company has sufficient current assets to repay current debts indicates solvency. The company's inventories belong to the third group of assets (A3) and when calculating liquidity it is assumed that in case of sale of this property, the organization will have enough funds to repay long-term liabilities (group P3). However, the line "Inventories" in the balance sheet of construction organizations is formed under the influence of certain peculiarities of the construction industry, and not always the excess of the amount of reserves over long-term liabilities guarantees the repayment of debts.

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The structure of inventories and their share in the asset depend on many factors, including the type of construction organization (customer, developer or contractor), the terms of construction contracts, the nature of the construction work performed and others. The task of increasing the degree of reliability of reporting by developing an effective way to reflect the cost indicators is still relevant for most organizations.

With the enactment of new federal accounting standards related to inventories and fixed assets (FSBU 5/2019 "Inventories", FSBU 6/2020 "Property, Plant and Equipment", FSBU 25/2018 "Lease Accounting", FSBU 26/2020 "Capital Investments"), the requirements for property valuation have changed, which has affected the reporting of figures in the financial statements.

2 Materials and Methods

Inventories as part of current assets are of great importance in the economic activity of organizations, which is noted by many economists. So Borodina Y.B. writes that "current assets of the enterprise are an important element of ensuring the production and sales process, and, therefore, an important condition of financial stability" [1]. Kotova R.V., Zastupov A.V. point out that "when there is a lack of current assets there is a "deadening" of capital and the production activity of the firm slows down" [2]. Barbasheva G.M. believes that "effective expenditure of current assets is essential to ensure the normalization of the enterprise's activities, increase the efficiency of the enterprise as a whole, as well as its financial stability" [3]. Lukyanova M.T. notes that "with the help of rational use of current assets, strategies are developed to optimize the efficiency of organizations in order to strengthen their financial condition" [4].

The importance of inventories as a part of current assets for industrial and construction enterprises is conditioned by their necessity and significant specific weight in the total share of assets. Recently, economists have paid special attention to the problems of the impact of changes in inventory accounting on accounting reports due to the introduction of new Federal Accounting Standards. These issues are considered in the article by Urvantseva I.S. [5], as well as in the work of Lytneva N.A., Kyshtymova E.A., Parushina N.V., who note that "reforming the accounting of inventories, the adoption of a new national standard FSAS 5/2019 lead to the need to improve the methods and techniques of evaluation of inventories both before taking them into account and after taking them into account, which in turn requires modern approaches to the development of accounting procedures for the movement of inventories, the reflection of the results of their use in the production process of the company and in management activities" [6].

Comparative analysis of accounting and inventory management rules in accordance with the new Russian standard FSBU 5/2019 with the rules of international standards is presented in the work of Kesyan S.V., Fedoseeva O.I., Kabaeva G.A., Kislyak A.A.. who write that "it is important to identify trends for the convergence of these standards, which will allow a more realistic view of the financial condition of an economic entity" [7]. Levchenko N.E., Borodina D.A., Chistyakova L.V. in their article point out that the difference between IFRS and FSBU lies in the terminology used, valuation rules and existing accounting practices in Russia [8].

The need to reflect in the accounting policy of the organization the rules of inventory valuation in accounting and tax accounting is noted by the authors Bogdanova J.A., Ananchenkova L.E.: "The accounting policy should revise the accounting procedure for work in progress and finished goods, the order of distribution of direct and indirect costs" [9].

The problems of analysis of liquidity and solvency of the organization are raised by the authors Shmulevich T.V. Shmulevich.[10], Sorokina E.M.[11], . Noeva E.E. [12], Gladkikh A.D., Polennikova G.I. [13].

In accordance with FSBU 5/2019, inventories include:

- raw materials, materials, fuel, spare parts, spare parts, component parts, purchased semi-finished products;
- tools, inventory, special clothing, special tooling, tare and other similar items;
- finished goods;
- goods purchased from others and intended for sale in the ordinary course of the organization's activities;
- finished goods, goods transferred to other persons in connection with sale until the moment of recognition of proceeds from their sale;
- costs incurred for production of products that have not passed all stages (phases, redesigns) stipulated by the technological process, products not completed, not tested and technically accepted, as well as costs incurred for performance of works, rendering services to other persons until the moment of recognition of proceeds from their sale (hereinafter together - work in progress);
- immovable property acquired or created (in the process of creation) for sale in the ordinary course of the organization's activities;
- intellectual property acquired or created (in the process of creation) for sale in the ordinary course of the organization's activities.

In the field of construction there are practically no such categories of inventories as goods; finished goods; intellectual property acquired or created (in the process of creation) for sale. The remaining groups of inventories are utilized to varying degrees depending on various factors.

3 Results

One of the important factors influencing the inventory structure is the type of construction organization (investor, developer, customer, contractor).

A construction organization - developer provides construction, reconstruction and capital repairs on the land plot owned by it. As a rule, the developer plans to sell real estate objects in the future, so the main group of inventories having the greatest weight are real estate objects acquired or created (in the process of creation) for sale. The situation is the same for an investor investing in real estate objects. The investor and the developer keep records of expenses on the construction of real estate on account 20 "Basic production". Upon completion of construction, the cost of the object is written off to account 43 "Finished goods" and its realization is recorded in the generally established order.

A customer who plans to use a construction project in its business activities may have a minimum of inventories (especially in the case where the contractor provides material support for the construction project), since these objects are classified as non-current assets in its accounting. The customer keeps records of costs on account 08 "Investments in non-current assets". Upon completion of construction and registration of rights to the real estate object, the cost of the object is written off by the entry Debit 01 "Fixed assets" Credit 08 "Investments in non-current assets".

The construction organization - contractor directly performs construction works and uses such types of inventories as raw materials, materials, fuel, spare parts, component parts, purchased semi-finished products; tools, inventory, special clothing, special equipment, tare and other similar objects; costs incurred to perform works, render services to other persons until the moment of recognition of proceeds from their sale (work in progress). The contractor records costs for each object from the beginning of the

construction contract to the time of its completion and transfer to the customer or developer. These costs are recognized as work in progress until the entire constructed asset is delivered to the customer.

In addition, the structure of inventories is influenced by such factors as the size of the organization, types of construction works (material-intensive or non-material-intensive), duration of works, terms of the contract (deadlines, availability of toll raw materials, etc.) and other factors.

Table 1 summarizes some of the types of factors that affect the structure of inventories in the balance sheet (Table 1):

Table 1. Factors affecting the structure of inventories

Factors affecting the structure of inventories	Types of inventories that account for a significant share in the total structure of inventories			
		Raw materials, materials, fuel, spare parts, component parts, purchased semi-finished products	Tools, special clothing, special equipment	Work in progress
Type of construction organization	Contractor / Customer	Contractor	Contractor	Developer / Investor
Organization size	Small business	Medium and large business	Small business	Medium and large business
Type of construction work	Material-intensive (general construction works, electrical and plumbing works)	Material-intensive (general construction works, electrical and plumbing works)	Material-intensive (general construction works, electrical and plumbing works)	-
Duration of work	- More than 12 months - Less than 12 months	- More than 12 months - Less than 12 months	More than 12 months	

Despite the differences in the structure, all inventories are included in group A3 when analyzing the balance sheet liquidity and when calculating the solvency ratios. Using the typical approach to determining the solvency of a construction organization, one can come to wrong conclusions.

So for an organization such as a Developer (Investor), there will be no real estate for sale in inventory until construction is completed, even if construction is on schedule with no delays. The Contractor's lack of materials may mean that they are all immediately written off at the construction site and are in work in progress. A customer who builds a real estate object for further use in its business activity does not reflect these costs as part of the group "Inventories". During the liquidity and solvency analysis such construction costs will be included in group A4 and will be compared with group P4.

For construction organizations that independently purchase materials and equipment for construction works, there is a high probability of reflecting inventory balances in the balance sheet at an inflated (purchase) cost, which does not correspond to reality. In such cases, it is recommended to use the adjustment of the balance sheet figures with the help of reserves for reduction in the cost of tangible assets. In accordance with FAS 5/2019, in case of impairment of inventories, the organization creates a reserve in the amount of excess of the actual cost of inventories over their net selling value.

In addition, the real solvency may be influenced by the methods of financing the work. If the financing of a long-term investment project is carried out step by step according to a schedule, the indicators in the balance sheet at the end of the reporting year may indicate low liquidity, although the current situation will be stable.

A special situation is the transfer to the category "Inventories" of real estate properties intended for sale, the so-called "Long-term assets for sale" (LAS). In view of their significant value, from the moment of transfer to current assets until sale, this property significantly increase the liquidity and solvency of the enterprise. This situation is not a peculiarity of the construction industry, it is typical for any organization that sells real estate. However, due to the sharp increase in the value of inventories, it is necessary to take into account LAS as a separate group in the analysis, in order to more accurately determine the reasons for the decrease in liquidity and solvency of the construction company.

It is necessary to conduct a more detailed analysis, it is necessary to structure inventories by type and degree of liquidity. In parallel with the use of the traditional formula of balance sheet liquidity ($A1 > P1$, $A2 > P2$, $A3 > P3$ and $A4 < P4$), as well as the generally accepted solvency ratios, it is proposed to maintain an additional analytical internal auxiliary report for preventive diagnosis.

The auxiliary report should structure inventories not only by type and cost, but also assess the reality of sale or use for business purposes. It is possible to introduce an additional reserve "Probability of sale of inventories" in accounting as a sub-account to account 14 "Reserve for reduction in the value of tangible assets", which will increase the reliability of reporting and affect the A3 indicator in the analysis of liquidity and solvency.

4 Conclusion

Inventories constitute a significant share of assets in most construction organizations, therefore their value reflected in the asset side of the balance sheet has a significant impact on the calculation of balance sheet liquidity and solvency. However, conducting the analysis without taking into account the structure of inventories may give a false picture of the organization's condition.

Organizations of the construction industry have specific features that are the result of their activities. In addition, there are also significant differences among construction organizations, which should be taken into account when identifying the impact of the structure of reserves on the liquidity and solvency of the organization. Shmulevich T.V. in his work concludes: "each business entity should independently determine the optimal values of ratios and refine the methodology of their calculation depending on the specific conditions of economic activity, which will increase the objectivity and reliability of financial analytics at the enterprise" [10]. Such a statement is also relevant to the enterprises of the construction industry. Thus, for the most reliable analysis of balance sheet liquidity and solvency, it is necessary to take into account the peculiarities of the organization, including factors affecting the structure of reserves.

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