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**MANAGERIAL ACCOUNTING AND PRICING FOR SALE OF GOODS  
AND PRODUCTS IN TRADE AND PUBLIC CATERING**

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***Abstract***

*The most relevant problems of accounting and control in the sphere of commodity exchange are the reliable determination of the cost of mass goods and products during their storage and sale, as well as the operational orientation in pricing, taking into account the demand and supply in the interests of obtaining the necessary profit at an appropriate level of profitability. In the case of the sum stock accounting method for the goods in the retail trade and public catering, the especially important element of the accounting is the process of formation of retail sales prices and calculation of production cost of sales and profit of the enterprise.*

*The article mainly focuses on the method of determining the retail sales prices for goods and products in the area of trade and public catering, respectively, through the use of trade mark-ups in percentage terms in relation not to the purchase, but to retail sales prices including VAT. Determining the cost of sales and its accounting is recommended to adjust only at the end of the month based on the calculation of the average percentage of trade mark-up (margin).*

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***Keywords:*** *accounting, trade, public catering, goods, pricing methods, sales price, trade mark-up*

## **1. Introduction**

The role of accounting in the management of commercial organizations significantly increases in today's realities of the market economy. Accounting becomes the language of effective business. The value of balance sheet indicators and other reporting data, as well as the accounting of daily information on the financial and economic activities of the enterprise, significantly increase.

Valuable information on accounting is considered as a basis, without which it is impossible to take substantiated, adequate management decisions.

A significant proportion in the composition of current assets in commercial organizations is the commodity mass, the accounting of which should be made in one of two expressions: quantitative and cost or cost terms.

Goods in trade organizations, like other inventories, are valued based on their initial (historic) cost in the process of their purchasing. The goods are accounted in the balance sheet based on this cost

or on the revalued cost (if revaluation was performed).

National Accounting Standards, in section „Stocks” [1], establishes that, depending on the specifics of the entity’s activities, one of the following methods can be used to estimate the stocks during the reporting period: standard costs (regulatory method), retail prices, FIFO, weighted average cost or identification.

The method of retail sales is typical for the system of retail trade enterprises with a high turnover rate and a large assortment of commodity stocks.

In this article, the main attention will be given to the problems of pricing at retail trade and public catering enterprises, accounting of retail sales for reliable determination of financial results.

## **2. Subject consideration degree. Research purpose**

Issues of pricing in trade, public catering and, in particular, in the retail sphere of commodity circulation were considered by various domestic and foreign authors. This is how professor V. Patrov, in his work „Accounting in trade and public catering” [2, p. 53], interprets the method for determining the average trade mark-up in the calculation of retail sales prices. However, the author, when demonstrating the formulas for calculating the retail prices for goods, does not take into account the VAT, which is usually included in the price composition in the case of taxpayers.

T. Grinnik, in article „On the problems of sum stock accounting method application for the goods in retail trade” [3, pp. 68-74], also considers some situations related to the merchandise flow in retail sales in sum terms of sales and purchase prices. But here we have to note that, for practical purposes, this method of applying the trade mark-up requires an orientation to the profitability level, that is, the accounting of cost-effectiveness and profitability of each product, which is not demonstrated in T. Grinnik’s article.

The issues studied in article „Practical aspects of the total stock accounting in retail trade”, written by N. Zlatina and E. Cheres, published in the Magazine “Contabilitate și audit (Accounting and Audit)”, No. 10, 11, 12, 2016 [4, pp. 44-54; 5, pp. 52-56; 6, pp. 63-70], are of particular interest. In our opinion, the pricing system should be simplified, taking into account the use of documentation for the current merchandise flow and internal commodity-money reports submitted by materially responsible persons.

The commodity operations in wholesale, retail trade and public catering are quite extensively investigated by Dr. E. Bajerean. For example, in the work „Contabilitatea conform noilor reglementări contabile (Accounting under new accounting regulations)” [7, pp. 34-37], when determining the production cost of each purchased product at the retail trade enterprise, the author proposes to distribute the share of transport and procurement expenses per unit of the goods. This complicated and painstaking work of putting each product to stock records, in our opinion, needs to be avoided by categorizing this type of expenses into a separate cost account: in 217 „Goods”, for example, the subaccount 2174 „Transport and procurement expenses”, where the credit records will be made in the process of a write-off of the share of transport and procurement expenses at the end of each month to the debit of account 711 „Cost of sales” in the amount of proportional cost of sales and the balance of goods at the end of the month.

Respectively, this issue has not been sufficiently studied, and the authors can reveal some significant aspects for practical experts and theoreticians in the field of effective pricing.

### **3. Research method**

Methodological research in the work consists of fundamental and specific developments in the field of conceptual phenomena, their classification, evaluation, use of accounting and reporting. In scientific studies, a dialectical method of cognition is used with its inherent fundamental elements: synthesis, analysis, induction, deduction, observation, comparison, selection and grouping.

### **4. Results and discussions**

At the first stage of the accounting system reform in the Republic of Moldova, enterprises faced a situation in which the legislative and regulatory acts regulated only the formation of prices at manufacturing enterprises. But each branch of the economy and each type of activity has their own specific function, depending on the organizational and technical processes and forms of ownership, which requires an individual approach to pricing. Standardization of accounting requires an in-depth study of the economic and organizational activities of trade units, consumer cooperatives, catering enterprises, which was not sufficiently provided in other regulatory acts of the accounting system. The peculiarities of accounting in trade, public catering and, in particular, in the cooperative sector require more attention both from the theoretical and from the practical point of view. The main features of these activities are characterized by the following. Commercial expenses at the enterprises of trade, public catering, consumer cooperative society to envisage the implementation of a wider and more complex activity than in the production sphere, as their actions instigate the trade expenses or administrative expenses. Therefore, the study of the problems of accounting for the expenses of a certain period, by organizing their synthetic and analytical accounting in trade and public catering, will create the real opportunities for a deeper consideration of the specifics of combined processes of preparation, maintenance, storage, packaging and sale of products.

Unlike other types of activities, in the enterprises of trade and public catering the basic current assets, which are the goods, products and prepared products, are reflected in the current accounting not based on the balance-sheet value (production cost), but on the retail prices. Therefore, it becomes necessary to study some operational methods of pricing for goods and prepared products in public catering, while also taking into account the requirements of the economic law of „supply and demand” and the financial interests of the enterprise for the accumulation of profit.

It is known that the simplest method of pricing in the retail trade and public catering is the application of a trade mark-up to the production cost. However, using only the standard trade mark-ups is not rational, taking into account the characteristics of demand and specifics of competition in the market. The method of pricing based on calculating the trade mark-ups to the production cost of products and goods is the most common for the following reasons:

- 1) trade workers know the selling costs and the condition of supply and demand;
- 2) linking the price to expenses, commercial workers simplify the problem of pricing, and they do not often adjust prices depending on the demand for goods;
- 3) if the method of approximation of prices to expenses will be used by most enterprises and organizations, the prices will be similar and the impact of competition on prices will be minimal;
- 4) the method of calculating the „average cost plus profit” is considered the most objective

for buyers, without taking into account the fluctuations in the level of demand for a particular product.

Pricing is influenced by a number of factors on the side of goods offering: a change in tax rates, the level of customs expenses, the exchange rate of the national currency, the level of entrepreneurial activity and attracting the investments into various spheres of activity. Based on the influence of these factors, the real and potential volume of commodity stocks is formed, which, in relation to the total volume of demand, determines the level of balanced prices in the market.

The use of accounting tools and economic analysis in pricing specifies that the amount of VAT, which is subject to be transferred into the budget, must be added for each type of product intended for sale through retail and public catering enterprises, in addition to the calculation of the trade mark-up (margin). At wholesale enterprises (wholesale centers, intermediary trade units with other forms of organization and ownership), the sales prices are usually formed at the time of the sale of goods on the basis of accompanying documents issued during the release of goods. This implies that final settlement prices for buyers, including VAT or without VAT, can be specified in contracts concluded between economic agents.

It is known that the release price set for the goods must cover their production cost (purchase price plus transport and customs expenses), commercial and administrative expenses, other operating expenses, and a part of that price (net profit) remains at the enterprise for the formation of capital stocks and ensuring the profitability of the enterprise. For these purposes the enterprise sets the sales price by determining the trade mark-up as a percentage of the sales price, the so-called commercial margin, which makes it possible to compare its level with the level of expenses in trade, and thereby to determine the level of profitability for each type of good.

If the level of expenses at a retail enterprise, for example, amounts to 15% (the amount of commercial, administrative and other operating expenses attributable to the amount of sales revenue), then the enterprise, based on the average level of expenses for the enterprise as a whole or for a specific product, will be forced to set a trade mark-up exceeding 15%, since it is necessary to ensure a positive level of profitability (economic efficiency). In light of the foregoing, when forming free prices, the administration of the enterprise should keep in mind that the cost of sold goods must cover the high or low level of expenses, depending on the type of goods. For example, a higher trade mark-up should be set for goods being sold which require a lot of labor and selling expenses (salt, flour products, cereals, fruits, vegetables, etc.).

The idea of the creation of a unified mechanism for managing the pricing process is due to the fact that at currently there are no uniform approaches to pricing. It is necessary to develop a number of measures directed to the unification of pricing process, ensuring profitability and compensation for covering all expenses.

In order to simplify the accounting of sales when using the sum method, we recommend some suggestions.

Firstly, you should monthly determine the average trade mark-up (margin) separately for groups of goods, depending on VAT rates of 20% and 8%, and also take into account the different cost-effectiveness of goods.

Secondly, as far as the goods that have been disposed of and sold at a retail price being written off, including the trade mark-up (margin) and VAT in the analytical accounting on the basis of each

commodity report of the materially responsible person, the account debit **711 „Cost of sales”** and the credit side of account **2172 „Goods in retail trade”** should be reflected within a month by an accounting record, and the adjustment of this amount by bringing it to the production cost value can only be made after the expiration of one month based on the calculation of the average trade mark-up (margin) and the amount of VAT on sales by reversing the amounts of trade mark-up and VAT.

Third, we consider it unnecessary to use account No. **832 „Revenue from the sale of goods in retail trade”**. It is not rational to reflect the revenue from sales by the accounting records on the Debit of account **832 „Revenue from the sale of goods in retail trade”** and the Credit side of account **611 „Sales revenue”** and **5344 „VAT liabilities”** and the corresponding crediting of cash to the cashier Debit account **241 „Cashier”** and the Credit side of account **832 „Revenue from the sale of goods in retail trade”**. Currently, in the case of any sale of goods, the cashier's receipts reflect the sales revenue, including VAT. Therefore there is no need to use the accounting records by means of transit account **832 „Revenue from the sale of goods in retail trade”**.

We will illustrate the above-mentioned in an example.

Unification of the pricing mechanism is also necessary in the retail trade, due to the fact that it is necessary to prepare in advance the visibility of sales prices for buyers when the goods remain on the counter. At the same time, the pricing mechanism in stores is quite dynamic, taking into account the fluctuations of various factors. In this case the selling price includes VAT and is calculated by the following formula, which we recommend:

$$X = C + aX + \frac{X}{6}, \quad (1)$$

$$\text{where } X = \frac{C}{\frac{5}{6} - a}, \quad (2)$$

where:

X - retail price of goods, including VAT,

C - purchase price of goods,

$\frac{X}{6}$  - share of VAT in the retail price of goods in the amount of 20%,

a - proposed level of a trade mark-up, which is related to the retail price of goods.

**Example 1.** Let us assume that the level of trade costs in the enterprise is an average of 22%. If the goods are valued with a trade mark-up exceeding 22% in relation to the retail price, for example 25%, then the profitability level will be 3%. Let us assume that the purchase price of this product, according to the accompanying documents, was 9,50 lei per unit, VAT of 20% on the price of the goods without VAT or 1/6 of the retail price, including VAT (16,67%), and the trade mark-up is set in the amount of 25%, then the final retail price will be calculated according to the above formula as follows:

$$X = \frac{C}{\frac{5}{6} - a} = \frac{9,50}{0,8333 - 0,25} = 16,29 \text{ lei, that is, } \mathbf{16,30} \text{ lei (with rounding).}$$

Components of the retail price are the following:

C (purchase price of the product) – **9,50 lei**,

VAT – **2,72 lei** ( $\frac{16,30}{6}$ ),

a - trade mark-up in the amount of **4,08 lei** ( $16,30 \times 0,25$ ).

The retail sales price at a VAT rate of 8% for dairy products and bakery products is calculated by the following formula:

$$X = C + aX + \frac{2X}{27} \text{ or } X = \frac{C}{\frac{25}{27} - a}, \quad (3)$$

where:

$\frac{2X}{27}$  - VAT in the amount of 8%/108% or 7,407% - the share of VAT in the retail trade

price of goods.

For socially important goods, such as bakery products, dairy products, according to the normative act, the amount of a trade mark-up is limited to 10% and 20% of the purchase price, respectively, and its value in relation to the retail sales price will amount to 15,4% at a VAT rate of 8%, and 13,9% in relation to the sales price at a VAT rate of 20%. These amounts (15,4% and 13,9%) are justified by the appropriate calculations.

**Example 2.** The purchase price of bread is **2,40 lei** per unit. Setting a mark-up of 15% to the retail sales price, using the following formula, we obtain the following results:

$$X = \frac{C}{\frac{25}{27} - a} = \frac{2,40}{0,9259 - 0,15} = \mathbf{3,09 \text{ lei}}, \text{ that is, } \mathbf{3,10 \text{ lei}} \text{ (with rounding),}$$

where:

**2,40 lei** - purchase price of goods (C),

**0,23 lei** - VAT at a rate of 8% ( $3,10 \times 0,07407$ ), that is, ( $3,10 \times \frac{2}{27}$ ),

**0,47 lei** - trade mark-up (a) ( $3,10 \times 0,15$ ).

In real conditions, the retail trade enterprises in the process of calculating the sales prices for purchased goods are being guided by the level of expenses as a total for the enterprise or for the level of expenses differentiated by individual types of goods.

**Example 3.** A store purchased goods - three types of sausage products:

Type I - **50 kg** at a purchase price of **38 lei** per kg in the amount of **1900 lei**,

Type II - **30 kg** at a price of **44 lei** per kg in the amount of **1320 lei**,

Type III - **25 kg** at a price of **51 lei** per kg in the amount of **1275 lei**.

VAT on the purchased goods in accordance with the tax invoice - **899 lei** [ $(1900 + 1320 + 1275) \times 0,2$ ].

The store, when calculating the retail prices (sales prices), should focus on the level of expenses as a total for the store; for example, in the amount of 16% and at the profitability level of 5%. In this case, the level of trade mark-up with respect to the sale price for the purchased goods can be specified in the amount of 21% (16% + 5%). VAT in the retail price, in turn, will be set at a rate of 1/6, since the VAT rate amounts to 20% in the product price without VAT.

On the basis of the proposed formula  $X = C + aX + \frac{X}{6}$  or  $X = \frac{C}{\frac{5}{6} - a}$ , we get the data, which will

be analyzed below.

Now let us calculate the retail (sales) prices for:

- Sausage products of Type I

$$X = \frac{38}{\frac{5}{6} - 0,21} = \frac{38}{0,6233} = \mathbf{60,97} \text{ lei, with rounding, we get the price of } \mathbf{61,00} \text{ lei;}$$

- Sausage products of Type II

$$X = \frac{44}{\frac{5}{6} - 0,21} = \frac{44}{0,6233} = \mathbf{70,60} \text{ lei;}$$

- Sausage products of Type III

$$X = \frac{51}{\frac{5}{6} - 0,21} = \frac{51}{0,6233} = \mathbf{81,82} \text{ lei, with rounding, we set the price of } \mathbf{81,80} \text{ lei.}$$

Based on the estimated retail (sales) prices, the goods will be put to stock records by the materially responsible person and reflected in the accounting with the following prices:

- Sausage products of Type I -  $50 \times 61,00 = 3050$  lei,
- Sausage products of Type II -  $30 \times 70,60 = 2118$  lei,
- Sausage products of Type III -  $25 \times 81,80 = 2045$  lei,

**Total 7213 lei.**

If the trade enterprise purchases socially important goods with VAT in the amount of 8% or other goods with VAT in the amount of 20%, but for which the limit of trade mark-up to purchase prices is set to the value of 20%, then it is necessary to take into account the following points:

- VAT based on the calculated rate will be 7,407% ( $8 \times 100 / 108$ );
- The trade mark-up calculated for the retail sales price should not exceed 15,43%, since it is limited to 20% in relation to the purchase price. But 1/6 is the amount of the mark-up without VAT. With the VAT rate this amount will be adjusted by 1,08. Hence the trade mark-up is set in the amount of  $20/120 / 1,08$  or  $1/6 / 1,08 = 0,1543$ , or 15,43%. For the goods with a trade mark-up limited up to 20% in relation to the purchase price and VAT in the amount of 20%, the trade mark-up to the retail sales price amounts to 13,9%, which is calculated by the following calculation -  $20/120 / 1,2 = 0,139$ , i.e. 13,9%;
- the share of transport and procurement expenses should also be added to the purchase

price, in order to reliably calculate the limited trade mark-up in relation to the retail sales price of 15,43%, or 20% based on the purchase prices together with these expenses.

At public catering enterprises, for the indicative basis, the following cost components can be used in calculating the selling prices for own manufacture products:

- cost of raw materials, purchased products;
- commercial and administrative costs related to the management of trading and administrative processes;
- expenses of technological nature and expenses on customer service in public catering;
- obtaining the minimum level of profitability (profit);
- amount of value added tax.

Covering of these specified components takes place when determining the trade mark-up and the mark-up in the public catering.

Determination of the selling price for manufactured products with its minimum level (observing the competition in the market) can be carried out using the following formula:

$$X = C + (a + b)X + \frac{X}{6} \text{ or } X = \frac{C}{\frac{5}{6} - (a + b)},$$

where:

X - selling price per unit of prepared product,

C - cost of purchased raw materials,

a - level of trade mark-up to cover commercial and administrative expenses, and to obtain the profitability,

b - level of the mark-up of public catering to cover the expenses of technological and servicing nature and for obtaining the profitability,

$\frac{X}{6}$  - amount of VAT contained in the sale price of manufactured products.

Here we give an example of using this formula.

**Example 4.** Let us suppose that the production cost of the raw material set, according to the Nomenclature Reference Book, is 20 lei in a calculation card per one serving. The level of commercial and administrative expenses is calculated within the limits of 17%, and the level of expenses of technological and service nature amounts to 10%. Also, we recommend the level of profitability in the amount of 3%. In these conditions, when calculating the sales price, it is necessary to apply a trade mark-up in the amount of 20% (17 + 3) and a mark-up in the public catering at the level of 13% (10 + 3). Based on the above formulas, we get the final price of the prepared product:

$$X = \frac{C}{\frac{5}{6} - (a + b)} = \frac{20}{0,8333 - (0,2 + 0,13)} = \mathbf{39,74 \text{ lei}}, \text{ and with rounding off we get } \mathbf{40,00 \text{ lei}}.$$

Constituent price components are as follows:

**20,00 lei** - purchase price of raw materials (C);

**6,67 lei** - the share of VAT at a rate of 20% in the sales price (**40,00/6**);

**13,33 lei** - trade mark-up and mark-up in the public catering (a+b) (**40,00x0,33**).

## 5. Conclusions

According to section 39 „Stocks” of the National Accounting Standards, by means of accounting policies the entity has the right to apply one of the methods of stocks assessment: the method of standard costs or the method of retail prices (sales prices). Concerning the retail trade enterprises and public catering enterprises, it is advisable to evaluate the goods and products prepared to meet the needs of a wide range of people based on the final retail sales prices. The authors of the article investigated the methodology for the formation of retail sales prices for the goods and products in trade and public catering, measuring the levels of trade mark-up on different goods with the expected level of profitability, i.e. using the percentage of mark-ups in relation not to the purchase, but to sales prices. In the article, by calculating the average trade mark-ups for certain groups of goods and products or as a total for the enterprise, the authors recommend the methodology for determining the production cost of sales and their reflection on synthetic and analytical bookkeeping accounts, as well as a system of records in sales revenue accounts, which will allow a more reliable calculation of the real gross margin from sales and other financial and economic indicators of the enterprise.

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### Rezumat

*Unele din actualele probleme ale contabilității și ale controlului în domeniul schimbului de mărfuri constau în determinarea cu un grad înalt de certitudine a valorii mărfurilor și produselor aflate la păstrare în stoc și a celor vândute, precum și în orientarea operațională în procedura formării prețurilor în funcție de cerere și ofertă, în scopul obținerii profitului necesar în condițiile unui nivel corespunzător de rentabilitate. În cazul aplicării metodei valorice de evidență a mărfurilor în comerțul cu amănuntul și alimentația publică element important al contabilității apare procesul formării prețurilor de vânzare cu amănuntul și de calculare a costului vânzărilor și a profitului întreprinderii.*

*În articol se acordă atenție primordială metodologiei calculației prețurilor de vânzare cu amănuntul la mărfuri și produse în comerț și alimentația publică, prin aplicarea adaosului comercial în mărimi procentuale nu de la mărimea prețurilor de cumpărare, ci de la mărimea prețurilor de vânzare cu amănuntul inclusiv TVA. Se recomandă determinarea costului vânzărilor și efectuarea evidenței corecțiilor sau ajustărilor doar la finele lunii, prin intermediul calculului procentului mediu al adaosului comercial (marjei).*

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**Cuvinte-cheie:** contabilitate, comerț, alimentație publică, mărfuri, metode de calculație a prețurilor, preț de vânzare, adaos comercial.

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**Аннотация**

*Наиболее актуальными проблемами учета и контроля в сфере товарообмена являются достоверное определение стоимостной массы товаров и продуктов при хранении и их продаже, а также оперативная ориентация в ценообразовании с учетом спроса и предложения в интересах получения необходимой прибыли при соответствующем уровне рентабельности. При суммовом методе учета товаров в розничной торговле и общественном питании особо важным элементом учета составляет процесс формирования розничных продажных цен и исчисление себестоимости продаж и прибыли предприятия.*

*В статье, в основном, уделено внимание методике определения розничных продажных цен на товары и продукты в торговле и общественном питании, соответственно, через использование торговых надбавок в процентном выражении не к покупным, а к продажным розничным ценам включая НДС. Определение же себестоимости продаж и ее учет корректировать рекомендуется только в конце месяца на базе расчета среднего процента торговой надбавки (маржи).*

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**Ключевые слова:** бухгалтерский учет, торговля, общественное питание, товары, методы ценообразования, продажная цена, торговая надбавка.

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