

# THE STANDARD SINGLE COST METHOD AND THE EFFICIENCY OF INDUSTRIAL COMPANIES' MANAGEMENT

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***Abstract.** This article briefly describes the premises for the application of the standard direct cost calculation method in industry, the standard single cost calculation method, the stages of standard cost calculation per product and the calculation methods of standards per product.*

*It also briefly underlines the possibilities of cost calculation and monitoring of deviation of the costs of raw materials and other materials as compared to the pre-established standard costs.*

***Key words:** Calculation method, standard direct cost method, accounting organisation, calculation of deviation*

***JEL Classification:** 5303.01, 5303.02, 5311.02*

The standard, *the reference standard measuring production efficiency in certain given conditions*, expresses amounts or values scientifically established, both based on the data gathered previously, and on forecast elements correlated with the conditions in which the activity of the enterprise is estimated to develop in the future. **Therefore, their main function targets a future activity**; that is why standards are used as a means of measurement, control and management of a certain activity.

**Deviations** are central to the general outlook on management accounting and on cost calculation based on standard costs usage. They are indicative of the degree of organisation of the activity, of the observance of technological discipline, of the compliance or non-compliance of the planned level with the production, supply and sale processes. That is why, when making decisions regarding the management of machine-building companies, it is necessary to be aware of all these deviations, and this should be a starting point in immediately informing decision makers within the respective companies on the irregularities occurring in the production process. (Chart 1).

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Chart 1. Premises for the application of the standard-cost method in industry

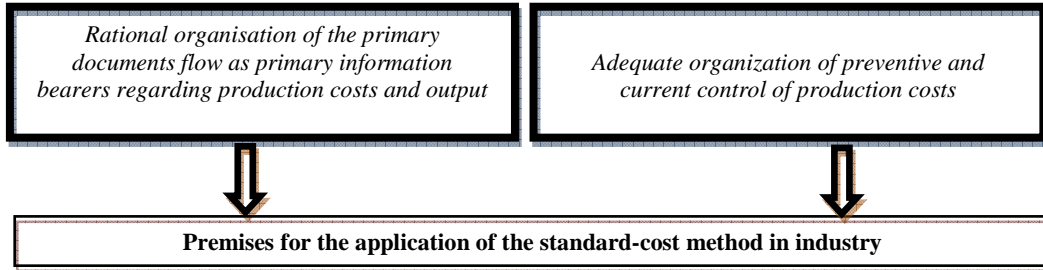
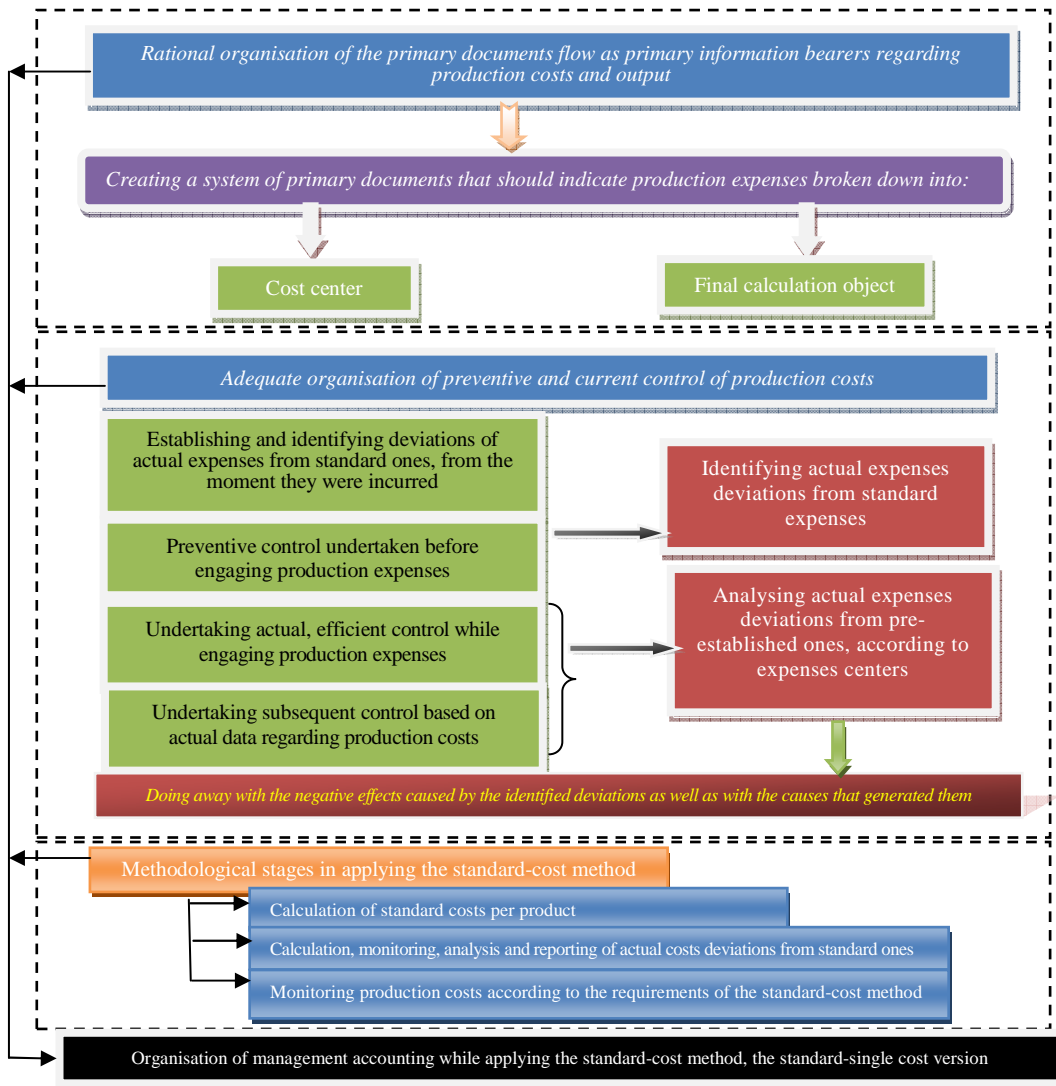


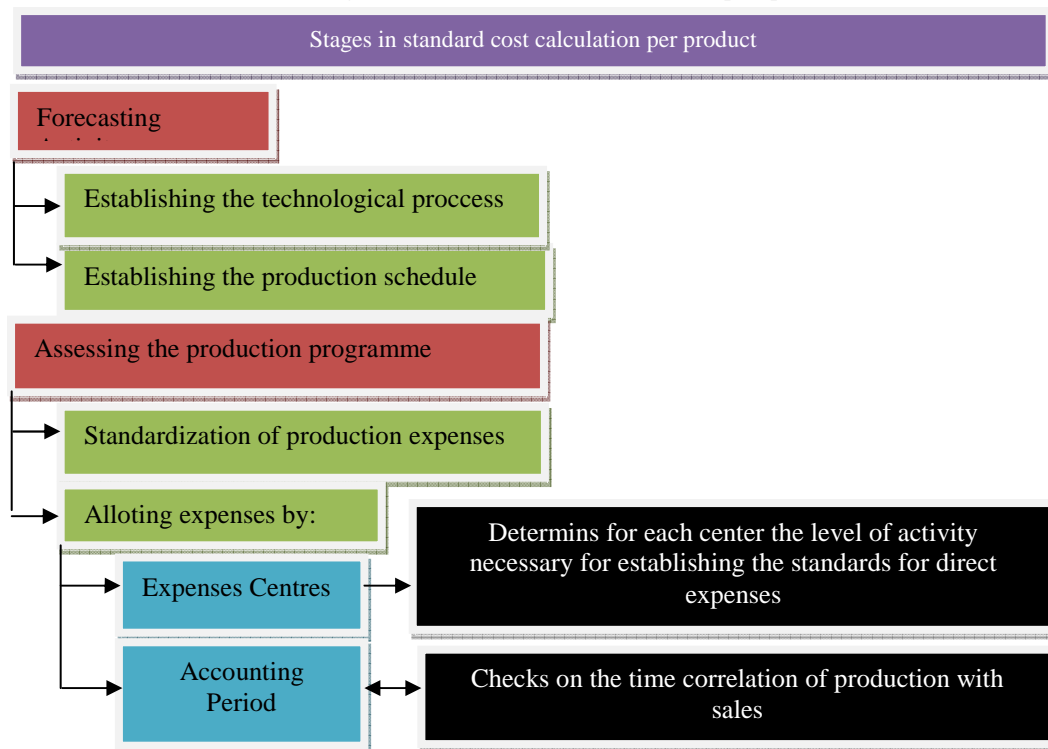
Chart 2



Calculating **direct production expenses** in a company requires knowledge of the technological process as well as of the production schedule, as a quantitative forecast aimed at determining physical production which must be obtained in order to reach the turnover provided in the sales budget, for **a one-year period of time**.

The next stage after designing the production schedule is assessing it. Assessment consists of standardising the expenses for producing a certain output and distributing them to expenses centers - the main production units, auxiliary units and service units - for certain accounting periods (quarters, months).

*Chart 3. Stages in standard cost calculation per product*



Direct production expenses include:

- consumption of raw materials and direct material;
- consumption of semi-finished products from own production;
- direct salaries and related social security and welfare contributions.

These calculation items account for almost 65% of the cost structure.

Direct expenses are calculated by applying the method of balancing quantities/amounts against prices or tariffs; we multiply consumption or time norms and standards with supply prices, with standard or standardised wage rates respectively and the amount of production scheduled to be produced in the respective unit.<sup>1</sup>

According to the concept of the standard-cost method, namely the standard single cost version, unitary production costs should be calculated in advance, and to this end, pre-established amounts will be used. Expenses are efficiently monitored during the production process, so as to be able, by comparison with standard costs, to establish the deviations according to cost centers and causes; in this way the budget control of costs will be possible<sup>2</sup>.

The standard-cost method is part of the category of methods of estimated calculation and efficient monitoring of the production process, which allows the possibility to anticipate production costs before the start of the production process and before the budget control of costs; this can be done by determining the deviation of actual costs from pre-established costs, according to types of deviation and causes, while the production process is under way. In this way, the standard-cost method offers undeniable advantages in terms of studying and analysing production efficiency; it can thus have an important role in the company management, namely it could be an investigation and forecasting instrument, a strong and efficient tool that supports the decision-making process.

The basic concept of the standard-cost method **refers to the non-calculation of actual cost**, given that the standard cost is considered a scientific and, at the same time, a real cost; therefore, any deviations of actual costs from the standard costs are considered deviations from normal, and this is mirrored by the financial results. Also the possibility of **calculating the actual costs of the production obtained** is not ruled out. This calculation is made by adding or subtracting from the standard cost, as the case may be, the deviations taken over from management accounting<sup>3</sup>, which will be monitored not only according to cost centers and causes but also according to products. The calculation model is as follows:

$$Cu_e = \frac{Ct_s \pm A}{Q} \quad (1)$$

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<sup>1</sup> C. Șendroi, *Doctoral Thesis, Faculty of Economic Studies, Bucharest, 2005.*

<sup>2</sup> Oprea Călin, *Gheorghe Cârstea: Management Accounting and Cost Calculation, AtlasPress Publishing House, 2003.*

<sup>3</sup> *Regulations for the application of Accounting Law no. 82/1991 with subsequent modifications and amendments.*

where:

$Cu_e$  – is the actual unitary cost;

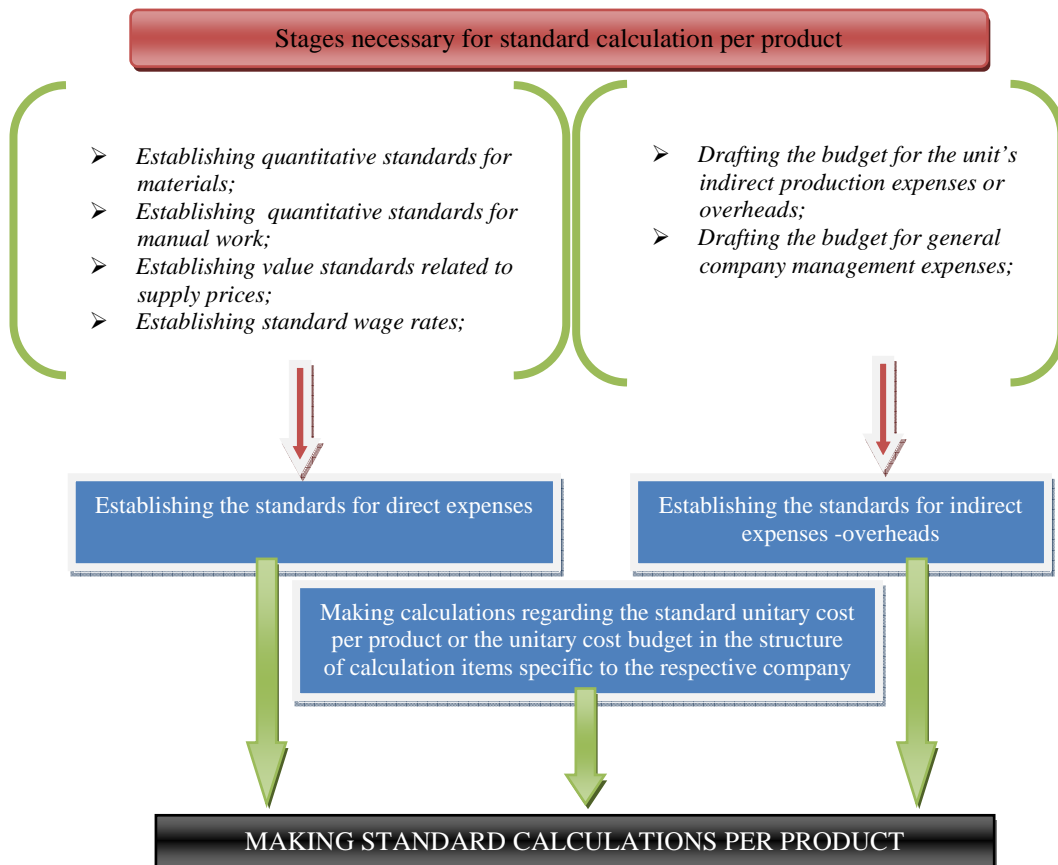
$Cts$  – the total standard cost;

A - deviations;

Q – production output obtained.

The main steps entailed by the application of the standard-cost method consist of making the standard calculations per product; **calculation, monitoring, analysing and reporting the deviations of actual costs** from standard costs with a view to **undertaking budget control**; organising management accounting in accordance with the application of the standard-cost method <sup>1</sup>.

Chart 4. Stages necessary for the standard calculation per product



<sup>1</sup> Oprea Călin, Gheorghe Cârstea: Management Accounting and Cost Calculation, Tribuna Economică Publishing House, 2008.

Establishing the standards regarding production costs requires establishing the types and volume of standard production which should lead to an optimal utilisation of production capacity in machine-building companies.

The calculation, monitoring, analysis and reporting of actual cost deviations from standard ones are made in an efficient way (daily, weekly, every ten days, etc.) according to cost centers, calculation items and causes (and even according to products or their component parts, if the case may be), with a view to undertaking the cost budget control and adopting the decisions related to the value management of the production process.

To this end, reports on deviations are being drafted within the abovementioned structure, and following data centralisation, a report on deviations at the level of the company is obtained.

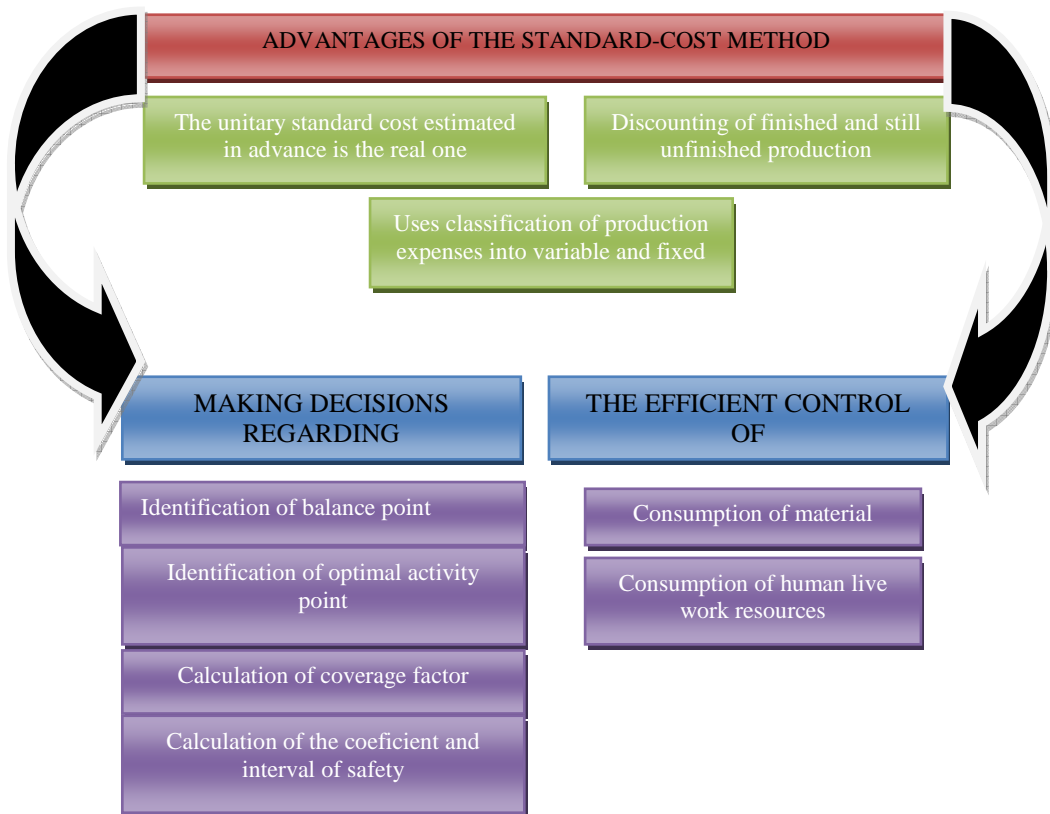
Advantages of applying the standard-cost method:

- ✓ the unitary standard cost determined in advance is considered a real cost and consequently there is no need to calculate the actual cost of the finished production and of the unfinished production at the end of each accounting period, and deviations are considered deviations from normal and are directly reflected by the company's financial results, hence the advantage of rationalising the calculation work;
- ✓ finished and unfinished production can be discounted from the standard cost without eliminating the possibility of calculating actual unitary costs at certain intervals, by distributing deviations to the finished and still unfinished production according to certain conventional criteria;
- ✓ uses the classification of production expenses into variable and fixed expenses (allows the analysis of costs in proportion with the volume of production and the calculation of some indicators specific to the direct-cost calculation method).

Efficient comparisons between actual expenses and pre-established ones, taken as a reference point, are the main characteristic of the standard-cost method (see Chart 4).

By applying the standard-cost method, the standard single cost version, the practical value of the accounting information will increase and the organisation of the economic activity will be implicitly improved. **Hence the conclusion that the principle of the objective/target-based management method can also be used in calculating pre-established values such as standard costs.** The main purpose of such a calculation is to efficiently provide the information necessary for budgeting, assessing, co-ordinating and controlling the company's activity.

Chart 5. Advantages of applying the standard cost method



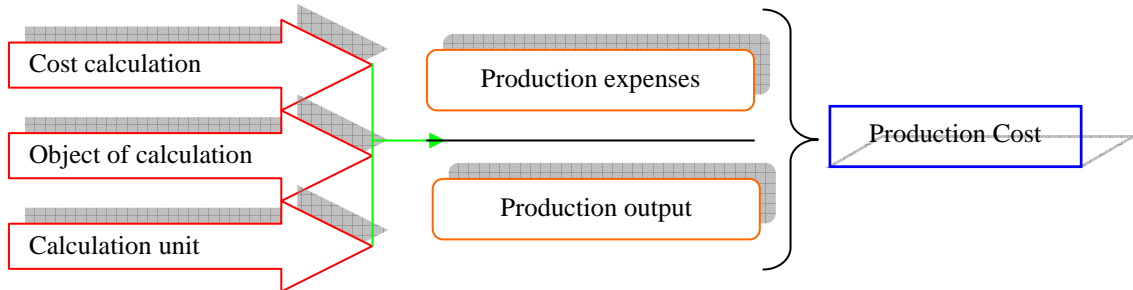
Given the above, accounting becomes, at the level of machine-building companies, a useful management tool, as its main mission is no longer about determining the production cost alone; it also provides information necessary for controlling various sectors of activity. In this way, management accounting may monitor and check on compliance with budget provisions and may provide efficient information on the level of production expenses.

Production costs can be monitored through the accounting system, using the standard-cost method; one of the following versions can be used: **standard-partial cost**, **standard-single cost** and **standard-double cost**.

### Object and unit of calculation

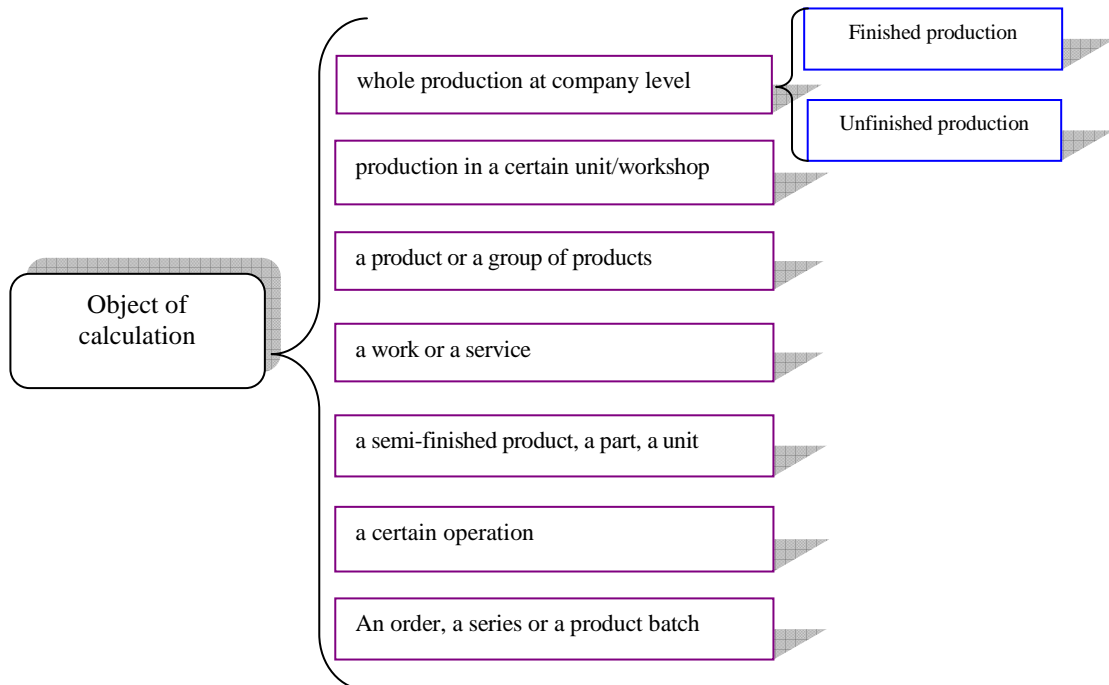
At present, production cost is calculated as a ratio of two quantifiable values: production expenses expressed as a value and the production output obtained in the interval to which the expenses incurred refer, expressed through a certain measurement unit (Chart 6).

Chart 6. Manner of calculating production cost.



In order to set the two elements of the ratio underlying the calculation of the unitary cost of production, one should know, on the one hand, the means of collecting and distributing expenses needed for production, namely the accounting and cost calculation method, and on the other hand, the object of calculation, based on which the respective expenses are collected and distributed, as well as the calculation unit as a production measurement unit representing the object of calculation (see Chart 7).

Chart 7. Object of calculation



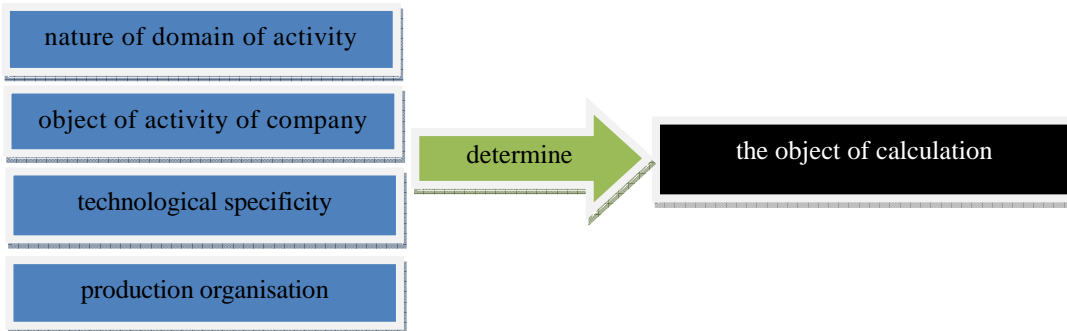


Cost bearers as calculation objects, in the companies operating in the machine-building industry, can be either intermediate or final, with the following specification:

- **intermediate cost bearers** are specific only to certain calculation methods and refer, for instance, to the operation time of a machine, to a concrete activity undertaken as part of the production process, to a cost center or may simply have a conventional nature;
- **final cost bearers** are related to production as a whole, to the production type, the manufacturing technology, the way production is organised etc.

It's worth mentioning that *at present, production expenses are influenced by aspects related to the quality or type of products* obtained, because the object of calculation may be detailed depending on the quality of products or their type, if the products that are being manufactured come in various qualities and types.

Chart 8. Activities that determine the object of calculation



In calculating the unitary cost of production, after collecting production expenses on the final bearers, seen as calculation objects, an important role is held by *the calculation unit (a homogeneous measurement unit which expresses the amount of production that represents the object of calculation)* in which the respective production can be expressed and which is an object of calculation. Both natural and conventional measurement units can serve as calculation units. It's worth mentioning that at the level of the same machine-building company *one or more measurement units* can be used as calculation units, depending on the variety of manufactured products, *but using the same calculation unit* for homogeneous products<sup>1</sup>.

<sup>1</sup> C. Șendroi, *Doctoral Thesis, Academy of Economic Studies, Bucharest 2005.*

When production homogeneity cannot be achieved, which should allow for the possibility to measure it based on the conventional measurement units, due to diversification according to kinds, types, sizes, quality, etc., or when production cost should be calculated at certain levels, or at the level of the entire company, in the absence of natural homogeneity, *a conventional, calculation-wise homogeneity will be created for the sake of calculation*, which will be used to measure the respective production in adequate measurement units, known as *calculation units of conventional nature*. In the case of machine-building companies, examples of such units are the following: natural measurement units of a certain product seen in relation with an essential qualitative or functional characteristic of the product, for instance, a ton of finished product of a certain concentration of useful substance, ton/axle; value units, such as expenses for a 10 lei turnover; various equivalence figures obtained following calculation based on elements whose size can be determined, which are common to all products and which express quantitative relations (quantity of raw material consumed, number of machine operation hours, etc.), value or price relations that exist between products and which make them equal in terms of calculation.

*In conclusion*, the machine building companies use:

- physical and natural calculation units, such as, order, piece, etc.;
- conventional calculation units, such as “expenses for a 100 lei turnover”.

### **Methods of cost calculation in industry – Short comparative analysis**

When establishing the object and unit of calculation to be used in a machine-building company one should also establish the methods that can be used to collect production expenses according to types, categories and cost centers and to distribute them on the final cost bearers (finished products, works, services, etc.) obtained from the respective cost centers, as well as the methods for unitary cost calculation.

These interdependent procedures used in management accounting for collecting production expenses on cost bearers and on cost centers, depending on the possibilities of identifying them the moment they are made, and of distributing them on cost centers and on final cost bearers, as well as of calculating the unitary cost of products, works and services resulted from the production process, are included in various calculation systems which, if taken separately, make up the cost calculation method<sup>1</sup>.

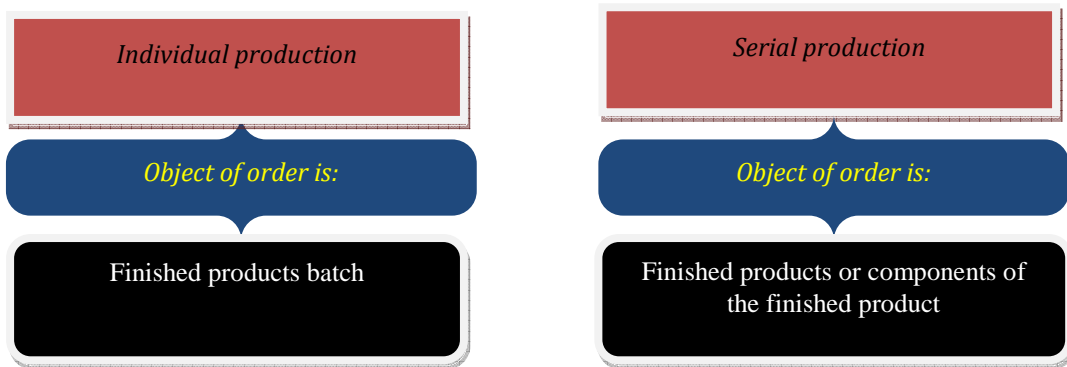
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<sup>1</sup> *Oprea Călin, Gheorghe Cârstea: Management Accounting and Cost Calculation, Tribuna Economică Publishing House, 2008.*

In the methods used at present in the machine-building industry, namely the *method on orders* and the *global method*, cost calculation represents the economic model which mirrors, in terms of values, the company's production process. The role of cost calculation is to faithfully reflect the company's production process from the point of view of value, therefore the model of production cost calculation, irrespective of the calculation method applied, should be designed in such a way to reflect the production process within the circuit of values, while taking into account the time factor and the need for information.

The calculation method is applied in the companies with individual or serial production where the organisation of production is made by orders, as is the case of companies operating in the machine-building industry.

Chart 9. Method on orders- organisation



A special case is that of companies with serial production. In this case an order may include various parts that can be assembled (parts) in a finished product. These particular aspects imposed by the object of calculation determine the application of the method on orders, either in the “*without semi-finished products*” version or in the “*with semi-finished products*” version.

Within those companies where production is organised in the “*with semi-finished products*” version and where this version is applied in cost calculation, the model of the unitary cost calculation is as follows:

$$Cu = \frac{\sum_{p=1}^k Cu_p * q + \sum_{x=1}^n Ch_{da_x} + \sum_{y=1}^m Ch_i}{Q} \quad (2)$$

where:

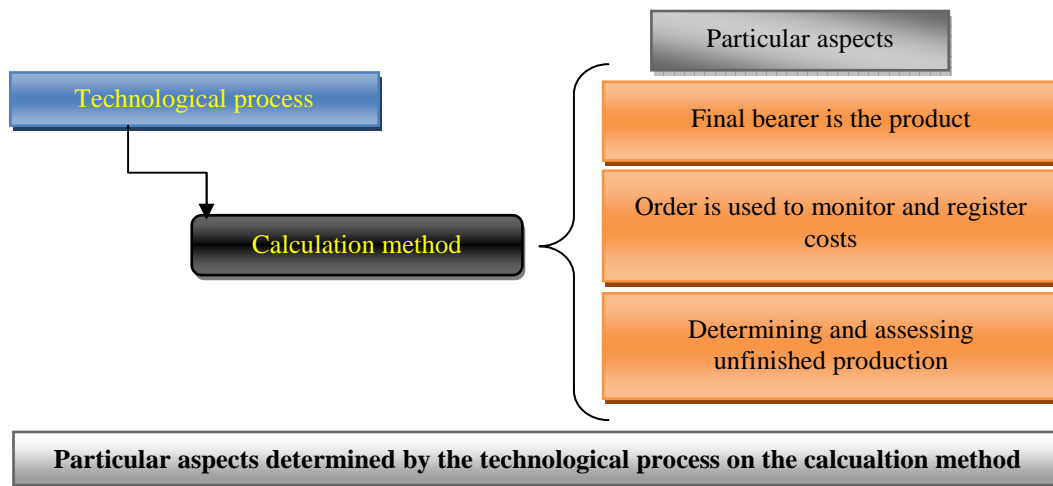
$Cu_p$  - unitary cost of a component part (part, semi-finished product etc.)  $p = 1$  la k;

$q$  – consumption of parts;

$Ch_{da}$  – direct assembling expenses;

$Ch_{ia}$  - indirect assembling expenses.

Chart 10. Influence of the technological process on the calculation methods



The calculation method on orders involves establishing two types of calculations necessary to determine production cost:

- ante-calculations;
- calculations related to actual costs;

Orders are launched in the manufacturing process within the machine-building companies for amounts/ quantities that are manufactured during an accounting period of one month. Therefore cost calculation is periodical.

If products or semi-finished products, parts, aggregates and ensembles that are included in an order are delivered by batches, part of them in stock or to the customer, before the whole number of products ordered is manufactured, they will be assessed either at a pre-established cost or at the actual cost of similar products manufactured in the previous accounting period.

**The global method of management accounting and cost calculation** is applicable only within machine building companies that focus their production on one single type of product; their production is called homogeneous production.

Within the machine-building companies, this method can be applied in the auxiliary sections or workshops which have a homogeneous production, in the sense that one and the same product is the constant output of the production process taking place in these sections and which have an independent organisation.

This leads us to the conclusion that all production expenses are identified on the product resulting from the manufacturing process and therefore they are direct expenses.

Total or integral costs represent the concept underlying the global method of cost calculation, and the calculation object or the cost bearer is the finished product as a concrete material result of the manufacturing process.

The concept underlying this method is the following:

- ✓ all production expenses are collected on one single cost center;
- ✓ at the end of the accounting period, in order to calculate the unitary cost, the simple division procedure will be applied, making a ratio of the total expenses collected and the production output obtained.

The model for calculating the actual unitary cost is:

$$Cu = \frac{\sum_{i=1}^n Ch_i}{Q} \quad (3)$$

In which:

$Cu$  – is the unitary cost;

$Ch_i$  – production expenses according to calculation items “i” (i = 1 to n);

$Q$  – production output obtained.

### **Calculation of standard costs for materials**

In order to improve the calculation of expenses for raw materials and direct materials, in the context of applying the standard-cost method in the machine-building

companies, one needs to **calculate, ahead of the start of products manufacturing**, the level of these expenses necessary for obtaining the scheduled production.

The calculation item “*Raw materials and direct material*” includes the costs of raw materials and direct materials used in the product manufacturing, taken over from the “*table of product components*”.

„Raw materials and direct materials” general calculation model:

$$Ch_{mi} = \sum_{j=1}^n C_{sij} P_{sj} * Q_f \quad (4)$$

where:

$Ch_m$  – represents expenses on raw materials and direct materials;

$C_s$  – standard consumption;

$P_s$  – the standard supply price;

$i$  – the product;

$j$  – the kind of raw material or direct material;

$Q_f$  – the scheduled production output to be manufactured in the respective cost center.

Material standards are calculated for each kind of material scheduled to be used in the respective product manufacturing, based on specific consumptions provided for in the technological charts of each product.

Input information comes mainly from the system of drawing up production schedules related to the programmed amounts, the starting and completion terms, etc. and from the technical training activity, related to the characteristics of raw materials and the specific consumptions, being used in **drawing up, according to order and cost center**, the schedules of materials in which you register/enter all bills of materials, indicating for identification purposes: the number of the bill; the quality of material; the quantity of material; the code of the part or order for which the material is needed; the total value of the bill. Finally the values of the bills are added up in order to determine the value of the schedule of materials. With a view to facilitating the cost calculation process, the established quantitative standards are entered on the „**list of quantitative standards**” (table 1).

**Table 1****List of quantitative standards related to product manufacturing**

No.	Raw materials and direct materials	u.m.	Quantitative standard
1	Bolt 3mm	piece	31
2	Valve 10	piece	1
3	Rubber rollers	piece	10
4	Nuts	piece	100

In order to establish the standard costs for raw materials and materials, **the standard quantities are balanced against the standard supply prices.**

*The standard supply prices* are established by using the historical-statistical method in one of the following versions:

- ✓ version of average prices of a period of 5-10 years;
- ✓ trend version which takes into account the trend followed by prices in the period of time under consideration;

We suggest that prices established as standard prices should be registered according to the model “price list” (see table 2).

**Table 2****List of standard prices**

No.	Raw materials and direct materials	u.m.	Standard unitary price (lei)
1	Bolt 3mm	piece	42
2	Valve 10	piece	500
3	Rubber rollers	piece	3
4	Nuts	piece	2

In order to exemplify the calculation of standard costs for raw materials and direct materials, we take a certain product „X” of the company, as follows:

**Table 3****Costs sheet for raw materials and direct materials per product “X”**

No.	Raw materials and direct materials	Qualitative standard	Standard unit price (lei)	Value standard (lei)
1	Bolt 3 mm	3	42.00	126.00
2	Valve 10	1	5.00	5.00
3	Rubber rollers	10	3.00	30.00
4	Nuts	100	2.00	200.00

These results will be transcribed in the standard cost sheet of product “X”.

### **Calculation of standard costs for manual work**

Expenses on direct salaries and implicitly the social security and welfare contribution related to salaries account for almost 35% of the production cost structure.

The standard cost for manual work is determined by multiplying the standard time by the standard wage rate.

The standard time, expressed in minutes or hours, is provided for in the technological charts for product manufacturing. Establishing time standards for the companies operating in the machine-building industry is based on the analysis of the technological operations chain, of workers qualification and the calculation of theoretical time for each operation. When determining the standard time, one should also take into account, besides the theoretical hours necessary for the execution of each operation, the time of putting into service, distributed for each of the units making up the order, as well as the break time needed after a period of physical effort.

Standard wage rates are established based on the standard qualification of workers and on the data related to paid salaries (including social security contributions).

Standard expenses for manual work are determined, for product “X” in the manner showed in (table 4), with one mention: the data provided for calculating standard manual work by operations will be transcribed in the standard cost sheet of product “X”.

**Table 4**

#### **Standardisation of expenses on manual work for product “X”**

<b>No.</b>	<b>Name of operation</b>	<b>Standard time (hours in the decimal system)</b>	<b>Unit wage rate (lei)</b>	<b>Standard manual work (lei)</b>
<b>1</b>	Operation 1	0.24	1.32	0.3168
<b>2</b>	Operation 2	2.56	30.50	78.08

Indirect expenses are those expenses necessary for the organisation and development of the production process in the company’s main sections.

These expenses are mainly determined, on the one hand by the activity of equipment maintenance and operation, and on the other hand, by the activity of organising and managing the production process in the main sections; these indirect expenses include several items of simple expenses which are different in nature and have a different economic destination.



Within the machine-building companies, the apportionment of indirect production expenses to the cost of manufactured products is done by using methods that are based on various conventional apportionment keys or criteria. When choosing one of these methods it is important to take into account the fact there should be a causality relationship between the indirect expenses to be apportioned and the apportionment base or criterion.

The apportionment of indirect expenses is critical not only for the calculation of unitary price but also for the calculation of other efficiency indicators of the company such as profit and rate of return, especially in the case of those companies where indirect expenses account for a significant percentage of the cost of products. Therefore it is necessary to find the most adequate criteria of apportioning indirect expenses which should express, as realistically as possible, the causality relationship with them.

In the case of machine-building companies, for the apportioning of indirect expenses to the cost of orders and products respectively, we use, at present, the *supplementing procedure in its classical form, with its single or global coefficient version*, and we use as apportionment base the direct salaries plus the social security and welfare contributions related to them.

At present, in the machine-building companies, indirect production expenses are made using the classical form of the supplementing procedure, the single coefficient version; the apportionment base used is the total direct standard expenses (direct materials plus direct manual work) incurred at the level of the section.<sup>1</sup>

$$K = \frac{\text{Total standard overheads}}{\text{Direct standard expenses}} \quad (5)$$

*Expenses on equipment maintenance and operation, actual consumption of electricity, fuels and water* account for an important percentage in the indirect production expenses; they are complex and therefore we suggest that they should be registered in the financial accounting books and reflected in the company's management with a view to supporting the decisions made to boost production at the level of cost centers.

This actual registration is allowed due to technological progress which meets the needs for metering and measuring, in real time, by pre-established sections, the consumptions for definite periods of time (for instance one hour, one day or one month).

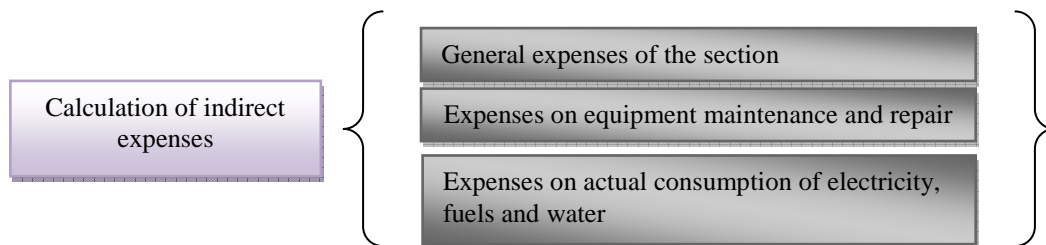
<sup>1</sup> C. Şendroi, *Doctoral Thesis, Faculty of Economic Studies, Bucharest, 2005.*

We therefore consider it useful to establish the number of measurement devices needed and install them (electric power meter, water meter or gas meter), which will allow the registration of the consumption levels/ values in the respective center.

The operations of metering electricity, fuels and water consumption will be accompanied by a primary bookkeeping, broken down by cost centers, of the expenses for equipment maintenance and operation.

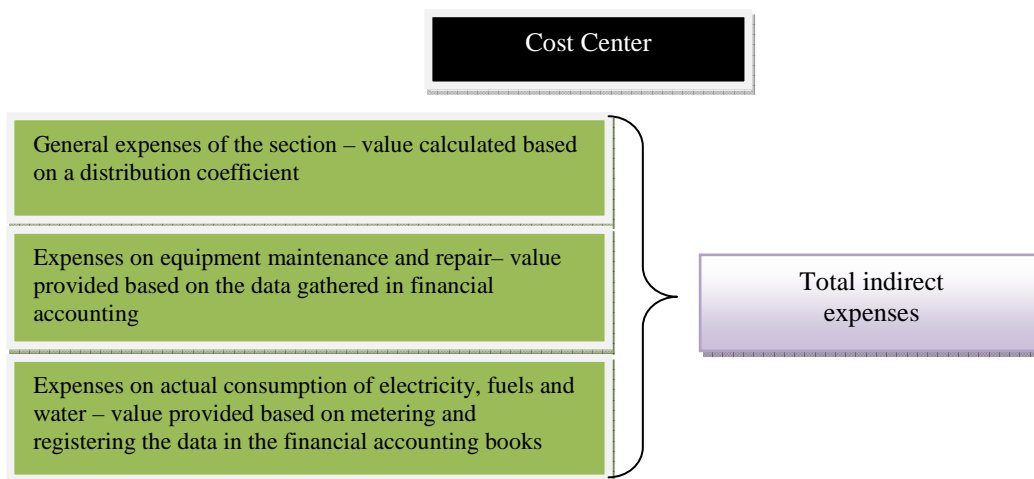
Given our proposals, we suggest the following graphic representation of the method of indirect expenses calculation and monitoring.

*Chart 11. Calculation of indirect expenses*



We suggest that the apportionment of indirect expenses by cost centers should be made based on the following algorithm:

*Chart 12. Total indirect expenses per cost center*



General management expenses are generated by the activity of administering and managing the patrimonial unit as a whole.

The apportionment coefficient of general management expenses in proportion with the value of global production, shall be calculated as follows:

$$K_{CGA} = \frac{\sum CGA}{\sum_{i=1}^n br_i} \times 100 \quad (6)$$

$K_{CGA}$  – is the coefficient (the standardised value or the standard) of general management expenses);

CGA – total general management expenses;

$br_i$  – the apportionment base corresponding to a section (value of production);

$n$  – number of sections or products.

We suggest bringing under one heading, namely *overheads*, the indirect expenses, the general management expenses and the expenses generated by the marketing/sale of products.

The standard cost sheet presents the standard cost for each finished product unit in the three-calculation-item structure used in the standard-cost method.

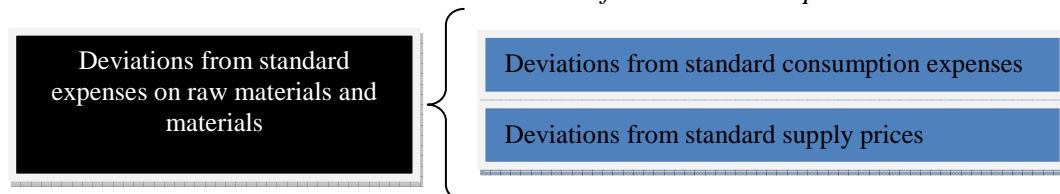
The standard cost sheet includes data taken over from the list of quantitative standards, the price lists, the time standards and the list of wage rates broken down by operations. It also includes, as shown before, the overheads quota.

### ***Possibilities related to the calculation, monitoring, analysis and reporting of deviations from standard costs***

#### ***Standard Costs for materials - calculation, monitoring, analysis and reporting of deviations from standards***

Deviations should be established in an efficient manner during the development of the production process, according to types, cost centers and causes that generated them. Deviations from standard expenses for raw materials and direct materials shall be monitored both physically and in terms of value.

Chart 13. Total deviations from standard expenses



**The deviations from standard consumption (quantity deviations)** for raw materials and direct materials may be determined at the level of each section or order, or according to the kinds of raw materials and direct materials.

At present, within the machine-building companies, quantity deviations are determined by using several procedures.

► **Procedure of materials delivery and return documentation.** In this case, supplementary consumptions and returned products mentioned in documents are centralised based on primary documents.

The value of deviations from standard consumption ( $A_{CM}$ ) is determined after the centralisation of quantities in one single operation:

$$A_{CM} = \Delta_{CM} \times P_S \quad (7)$$

where:

$\Delta_{CM}$  – quantitative deviation from standard consumption of materials;

$P_S$  – standard supply price.

We suggest that raw materials and direct materials consumption within the machine-building companies should be verified efficiently by means of consumption norms, which are limited to the quantitative aspect; this is done for statistical reporting and may lead, following the briefing of the company's decision makers, to the delivery of correct information on quantity deviations.

► **Procedure of dividing the necessary quantities before the materials are delivered for consumption-** is used in those cases when raw materials are processed in batches, and the technological process requires the division or tailoring/cutting of materials by sizes. This procedure can be applied mainly in the mechanical working sections and the sheet metal cutting press sections, which are very important sections within a machine-building company. By comparing actual consumption with standard consumption, one can determine the deviations from standard consumption for each batch of products, assembly marks or parts.

In this case consumption deviation is determined as follows:

$$A_{CM} = (C_E - C_S) \times Q \times P_S \quad (8)$$

where:

$C_S$  – standard quantitative consumption per product;

$C_E$  – actual quantitative consumption per product;

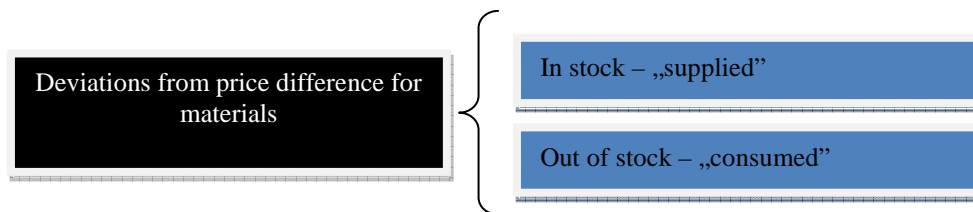
Q – quantity of manufactured products;

$P_S$  – standard unitary price of material.

► In order to determine quantity deviations one can also use, as a procedure, the **stock-taking of materials that were not consumed at the work place**. Therefore actual consumption is established, which is then compared with standard consumptions. Stock-taking may be done daily or at other intervals, on the condition that the stock-taking operation does not obstruct the production process.

The second type of deviation from standard expenses for raw materials and direct materials is **the deviation from the price difference for materials**.

Chart 14. Total deviations from standard price



Experts recommend that machine building companies should use the second procedure, of the materials ‘out of stock’, ‘consumed’, **given that materials are registered in the accounting books with the actual supply price**. Deviations from price differences ( $\Delta_{PM}$ ) are calculated, in this case, as follows:

$$\Delta_{PM} = (P_E - P_S) \times C_E \times Q \quad (9)$$

where:

$P_E$  – actual supply price;

$P_S$  – standard supply price;

$C_E$  – actual consumption per product unit;

Q – volume of manufactured production.

The calculation and analysis of deviations can be made both during the production process and at the end of the accounting period when one can check on compliance with the production costs budget.

When determining the deviations resulted during the production process, the analysis is meant to identify the causes that determined the respective deviations so that, in relation to these causes, the management of the company should be able to adopt a number of decisions aimed at correcting the ones made previously.

When determining the deviations based on subsequent control, the analysis is needed for establishing and adopting future decisions based on the forecasts made in relation to production cost.

## Annex

S.C. FIRMA S.A.

Section 1

Product: X

Quantity: 100 pieces.

Order: C 1/01.09.2007

**REPORT ON THE DEVIATIONS FROM STANDARD  
COSTS FOR MATERIALS 01 – 31 OCTOBER 2007**

No.	Name of material	U.M.	Quantities		Unit supply price		Value of materials		Deviations		
			Actual	Standard	Actual	Standard	Actual	Standard	Total	From consumption	From price difference
1	Bolt 3 mm.	piece	30	31	45.00	42.00	1350.00	1302.00	-48.00	-42.00	-
2	Valve 10	piece	1	1	600.00	500.00	600.00	500.00	100	-	100
3	Rubber rollers	piece	4	3	12.00	10.00	48.00	30.00	18.00	10.00	

**REPORT ON THE DEVIATIONS FROM STANDARD  
COSTS FOR MATERIALS 01 – 31 OCTOBER 2007**

Nr. crt.	Order name	Value of materials		Deviations		
		Actual	Standard	Total	From consumption	From price difference
1	C1	310780494	158076.3847	31615276.94	9895.56	6261.3
2	C2	6689492.5	6678379.78	11112.72	9809.2825	1304.4375
	TOTAL	317469986.5	6836456.1647	31626389.66	19704.8425	7565.7375

**REPORT ON THE DEVIATIONS FROM STANDARD  
COSTS FOR MATERIALS 01 – 31 OCTOBER 2007**

No.	Section	Value of materials		Deviations		
		Actual	Standard	Total	From consumption	From price difference
1	Section 1	42547768.95	42365250.23	182518.7208	165052.3027	17466.41813
2	Section 2	66989556.81	66852667.77	136889.0406	123789.227	13099.81359
	TOTAL	90861692.26	89136890.35	1724801.912	1559744.26	165057.6513

### Conclusions

The efficient organisation of an economic activity requires the improvement of the economic activity management methods, which also entails a reconsideration of the methods of management accounting and cost calculation, which should be able to provide information in line with the requirements of an efficient management of production against the backdrop of the market economy.

The current cost calculation methods used in industry, namely the global method and the method on orders, by means of which a historic cost is determined, which is used for the settling and subsequent justification of production expenses, do not provide the managerial team with the full amount of information needed.

An efficient management, in terms of the value of the production process and economic growth, can be assured by the standard-direct cost method, which provides information regarding production costs, and this makes the management process efficient, functional and able to produce forecasts.

The standard-direct cost method is part of the category of methods of forecasting calculation and efficient monitoring of the production process, which allows the possibility to anticipate production costs and to undertake the budget control of costs by determining the deviations of actual costs from pre-established costs, according to types of deviation and causes, during the development of the production process.

Applying this calculation method is advantageous in efficiently analysing production efficiency, which ensures an important function of management, namely that of forecasting instrument.

Taking into account the advantages and disadvantages of each of the three versions of organising the standard costs accounting, we consider that the version that best meets the needs of industrial companies management, mainly of machine-building companies, is the standard-single cost version, because it allows for:

- ✓ determining the deviations of actual costs from standard ones during the production process;
- ✓ establishing costs according to calculation items and causes, thus facilitating the budget control of costs and an efficient decision making process;
- ✓ **efficient monitoring of deviations for each calculation item**, by means of a technical-operational report, which should provide relevant information related to the cost center, causes and cost bearers involved;
- ✓ applying the method is not aimed at making accurate calculations meant to set the cost of products, it is actually aimed at boosting the role of production costs in ensuring the completion of the set targets<sup>8</sup>;
- ✓ providing information in real time necessary for budgeting, assessing, coordinating and controlling the company's activity.

### **Bibliography**

- Aghion, P. and Howitt, P. (1998), *Endogenous Growth Theory*, Cambridge: MIT Press.
- Barro, R. (1991) "Economic Growth in a Cross-Section of Countries", *Quarterly Journal of Economics*, vol.106, pp. 407-44.
- Bărbulescu G, Oprea C., "Factorii de organizare a bugetării, contabilității de gestiune și calculației costurilor", *Revista Tribuna Economică*, București, 2002.
- Boulescu M., *Managementul financiar-contabil*, Ed. Fundației România de Măine, București, 2002.
- Burlaud A., Simon C., *Comptabilité de gestion*, 3<sup>e</sup> édition, Vuibert gestion, Paris, 2003.
- Gervais M., "Contrôle de gestion et stratégie de l'entreprise", *Economica*, Paris, 1991.
- Oprea C., "Locul și rolul informațiilor privind costurile de producție și activitatea de conducere a unităților economice", *Revista Tribuna Economică*, București, 2001.
- Oprea C., Cârstea Gh., *Contabilitatea de gestiune și calculația costurilor*, Ed. Tribuna Economică, 2008.

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<sup>8</sup> C. Șendroi, *Doctoral Thesis, The Faculty of Economic Studies, Bucharest, 2005.*



Saada T., Burlaud A., Simon C., *Compatibilité analytique et contrôle de gestion*, Educapôle gestion, Paris, 2005.

Stiglitz, J., *Competition and competitiveness in a New Economy*, [www2.gsb.columbia.edu/faculty/jstiglitz/](http://www2.gsb.columbia.edu/faculty/jstiglitz/); 2002.

Şendroi C., Teză de Doctorat, A.S.E., Bucureşti 2005.

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