

USING FLEXIBLE BUDGETS TO MANAGE ORGANIZATIONAL PERFORMANCE AND COST

Constantin Aurelian IONESCU¹

Abstract. *The budgetary process includes all the management levels, being at the same time an important way of communication regarding the objectives proposed. Depending on the specifics of the activities of some economic entities in the stainless steel industry, it is necessary to elaborate budgets regarding the volume of organizational activity, called flexible budgets. Such budgets represent a forecast of the expenses of an analysis centre, a forecast established for different hypotheses of the activity level. Flexible budgets get adapted to the predictable changes related to the organizational activity volume. The use of flexible budgets facilitates the managerial control, which can be exerted only by comparing the costs foreseen in the budget to those that were actually recorded, following the activities realized, consequently becoming a main tool in managing performance.*

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1. Introduction

Budgeting represents a very important managerial tool for the success of the economic entities, since, on the one hand, it determines the managers to analyze their current activity, reflecting on the future activity and, at the same time, planning their objectives, and, on the other hand, it gives the possibility to analyze performances, by comparing the results obtained to the forecasts. In other words, budgeting represents the managerial tool that can assure the global performance of the economic entity.

C.T. Horngren and his collaborators state in the work *Cost Accounting, a Managerial Emphasis*, that, when intelligently managed, a budget “requires strategic planning and implementing plans; provides a reference framework to assess performance; motivates the managers and the employees; promotes coordination and communication between the company’s subdivisions”[1].

Under the circumstances of the current economy, the economic entities need integrated management systems in order to control costs and to achieve the performances hoped for. They can be achieved by the use of new budgeting forms, such as activity-based budgeting and flexible budgets.

¹ Ph.D. Student, “Valahia” University of Târgoviște (e-mail: aurel_eco2006@yahoo.com).

2. Concepts related to flexible budgets

A budgetary system can hope for efficiency only to the extent to which the people in charge with the responsibility centers endeavor, on the one hand, to set ambitious goals, and, on the other hand, to put everything into practice, so as to reach those objectives, making the best decisions, especially when fairly important variations of the activity volume are noticed, which could hinder precisely the achievement of the goals proposed.

Under these circumstances, the scientific research proposes the solution of variable budgets, precisely depending on the variable activity volume. Nevertheless, the “hypotheses launched regarding the behavior of the expenses as a whole” are maintained, meaning that we shall have the same unit cost for the variable expenses and the same total cost for the fixed expenses. “So, we shall talk about the flexible budget versus the fixed budget, the latter being elaborated for a single volume of the activity, being valid only for this volume.” [2] In essence, “the flexible budget is a forecast of the expenses of an analysis centre, established for different hypotheses of the activity level. The flexible expenses budget gets adapted to the predicted changes that might occur in the volume of activity carried out by the company, and to different volumes of work units” [3].

Any flexible budget contains variable expenses and fixed expenses. If there are also semi-variable expenses, they shall be split into fixed and variable expenses. The variable expenses are expenses whose global values tend to follow the behavior of the activity volume expressed in work units. For the estimation of the activity volume on an analysis centre and for the budgeting of the indirect expenses, one can use as work units: the number of hours of equipment operation, the number of hours of direct manpower, the volume of the obtained production etc. The fixed expenses are those expenses which stay constant in relation to the activity volume.

For budgeting the expenses, one has to take into account the following aspects:

- the fixed expenses remain the same, irrespective of the activity level;
- the variable expenses considered as directly proportional to the production volume are calculated taking into account the proportion of expenses associated to the maximum exploitation degree, considering the use degree of the production capacity.

The flexible expenses budgets present the indirect expenses of the costs place for which they are elaborated in relation to the different activity levels of a period considered relevant for the year to come.

Based on the criterion of their adaptability to the changes in the company’s activity [4], budgets may be:

- static (fixed) budgets. Characterized by the fact that they represent a single level of expenses, irrespective of the number of possible levels of the activity which they refer to;
- Flexible budgets. Characterized by several levels of expenses, appropriate to the possible levels of the activity for which they were elaborated.

The fixed budgets mainly contain the expenses established for a single level of the productive activity. Thus, the expenses are not influenced by the volume oscillations of the productive activity. The fixed budgets are based on the budgeted production level, and in this case, the deviation calculated in relation to the static budget represents the difference between the actual result and the budgeted level.

Flexible budgets “contain expenses whose size is established in direct relation to certain production levels”[4], getting adapted to the changes in the activity volume of the economic entity, which may be predictable, so that “the budget may be adjusted according to the actual activity”[4].

The flexible budget “calculates the revenues and the costs budgeted, based on the actual production level obtained during the budgetary period” [5]. The budgets, both the static ones, and the flexible ones, can be distinguished by their level of detail. The economic entities present budgets with totalizing values, which may be progressively split into detailed values using software programmes. The detailing level increases with the number of rows included in the *Account of Results* and with the number of calculated deviations” [5].

The use by the economic entities of flexible budgets facilitates the cost control activity which, in this case, can only be realized by comparing the costs foreseen in the budget to the actual costs realized and recorded in accounting, following the economic-financial operations determined by the realization of the production process, works and services.

3. Methodology for elaborating a flexible budget

To establish flexible budgets allowing the managers to determine the cost deviations and implicitly a volume of information necessary for pertinent decisions, several fundamental budgetary control *principles* need to be observed, namely:

- connecting the flexible budgets proposed with the organizational strategic and operational planning;
 - applying the flexible budgets approach to those activity programmes that frequently modify their activity volume during the production cycles;
 - assuring a coherence of the flexible budgets proposed with the global budget valid for the whole economic entity;
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- assuring a budgetary control, so that the new budgetary forecasts agreed on the occasion of the propositions of flexible budgets may serve as reference for the global budgetary steering and to evaluate performance.

At the same time, the elaboration procedure for the global budgets of the economic entity has to be observed as well in the case of propositions of flexible budgets, namely:

- knowing the objectives to attain;
- realizing preliminary studies;
- elaborating flexible budget drafts;
- choosing / negotiating adequate variants of flexible budgets;
- consolidating detailed flexible budgets.

The actual elaboration of flexible budgets requires the covering of the following steps:

- identifying the interval considered for variation of the activity during the budgeting period;
- determining the behavior of the expenses, depending on which they shall be included in the group of fixed/variable/semi-variable expenses;
- budgeting the expenses for each activity level, so that the fixed expenses may remain unchanged for all the activity levels, and the variable expenses may be determined according to the following formula:

$$CV_a = CV_u \times A_a$$

where:

CV_a = variable expenses budgeted for the activity level (a);

CV_u = variable cost of the work unit;

A_a = the volume (a) of the activity.

At the same time, the variable expenses may also be determined in relation to the weight of the expenses associated to the maximum activity degree, with different activity degrees in the interval envisioned for flexible budgeting, namely:

$$CV_a = CV_{\max} \times a \%$$

For the semi-variable expenses, the budgeting can be calculated according to the following formula:

$$CSV_a = (A_a \times CV_u) + Ch_{fs}$$

where:

CSV_a = semi-variable expenses budgeted for the activity level (a);

A_a = variable unit cost of the semi-variable expenses;

Ch_{fs} = fixed costs of the semi-variable expenses.

The budgetary control allows the recalculation of the revised or adapted budget, based on real activities, observing the norms and principles of adoption of the flexible budgets.

The flexible budget recalculated for the real activity volume shall include the variable expenses and the fixed expenses, namely:

$$BR = CV_u \times AR + C_f$$

where:

BR = the recalculated expenses budget;

CV_u = variable unit cost of the work unit;

AR = the real volume of the activity (r);

C_f = total sum of the fixed expenses.

4. Determination of the flexible budget and analysis of the deviations from the flexible budget

Next, we are going to determine the flexible budget of the economic entity EUROPA S.A., which produces and trades stainless steels, then, based on the recalculated budget, depending on the volume of the real activity, we shall analyze and control the efficiency of the use of resources, using the analysis of the deviations from the flexible budget.

4.1. Determination of the flexible budget

The economic entity EUROPA S.A. has elaborated the income and expense budget, exclusively based on the production level planned at the beginning of the budgetary period (N + 1). The budget has been elaborated for a single quantity of planned production (Table 1.1.). At the end of the period, we calculated the deviations from the static budget for the production workshop no.1, according to the Report regarding the deviations from the static budget (Table 1.2.).

Next, we determine the indicators which needed to realize the flexible budget, going through the following steps:

- a) Determining the actual quantity produced - 1,100 tons of stainless steel.

- b) Calculating the revenues from the flexible budget, based on the budgeted sales price and on the actual quantity of stainless steel produced, using the formula:

$$VT = Q_{ef} \times PV_b$$

where:

VT = total revenues;

Q_{ef} = actual production;

PV_b = budgeted sales price.

Concomitantly:

VT = 1.100 tons x 11.909 M.U./ton = 13.100 thousand of M.U.

Table 1.1. Actual results at the end of the period compared to the static budget

- thousands of M.U. -

No.	Name	M.U.	Static Budget	Actual Results
	Main production	Tons	1,500	1,100
A	TOTAL REVENUES	M.U.	18,300	13,100
1.	Direct expenses	M.U.	6,810	4,900
	<i>Raw materials, direct materials</i>	M.U.	1,400	1,010
	<i>Direct manpower</i>	M.U.	2,050	1,470
	<i>Service provision</i>	M.U.	1,800	1,290
	<i>Amortization</i>	M.U.	1,200	870
	<i>Other expenses</i>	M.U..	360	260
2.	Indirect expenses	M.U.	2,620	1,890
3.	Administrative expenses	M.U.	5,570	4,030
4.	Sales expenses	M.U.	2,400	1,890
B	TOTAL EXPENSES (1 + 2 + 3 + 4)	M.U.	17,400	12,710

(source: processed by the author)

Table no. 1.2. Calculation of deviations at the end of the period

- thousands of M.U. -

No.	Name	M.U.	Static Budget	Actual Results	Deviations (I)
	Main production	Tons	1,500	1,100	- 400
A	TOTAL REVENUES	M.U.	18,300	13,100	-5,200
1.	Variable expenses	M.U.	14,390	9,700	- 4,690
2.	Fixed expenses	M.U.	3,010	3,010	-
B	TOTAL EXPENSES	M.U.	17,400	12,710	- 4,690
C	Result of exploitation	M.U.	+ 900	+ 390	- 510

(source: processed by the author)

- c) Calculating the costs from the flexible budget

c₁) The flexible budget of the costs for direct raw matters and materials is calculated, using the formula:

$$BF_{(MP + MD)} = Q_{ef} \times Ch_b$$

where,

$BF_{(MP + MD)}$ = the flexible budget associated to the costs for raw materials and direct materials;

Q_{ef} = actual production;

Ch_b = budgeted expenses.

Concomitantly,

$BF_{(MP + MD)} = 1.100 \times 0.9333 \text{ M.U./ton} = 1,026.63 \text{ M.U.}$

Similarly, the flexible budget is calculated for the other direct expenses.

c₂) The flexible budget of the costs for direct manpower is calculated:

$BF_{(Mdir)} = 1.100 \times 1.3666 \text{ M.U./ton} = 1,503.26 \text{ M.U.}$

c₃) The flexible budget of the costs for service provision is calculated:

$BF_{(ps)} = 1,100 \times 1.2000 \text{ M.U./ton} = 1,320.00 \text{ M.U.}$

c₄) The flexible budget of the costs for amortization is calculated:

$BF_{(AMT)} = 1,100 \times 0.8000 \text{ M.U./ton} = 880.00 \text{ M.U.}$

c₅) The flexible budget for other expenses is calculated:

$BF_{(Ach)} = 1,100 \times 0.2400 \text{ M.U./ton} = 264.00 \text{ M.U.}$

c₆) The flexible budget for indirect expenses is calculated.

To determine the flexible budget for indirect expenses, the supplementation index is necessary:

$$K = \frac{\frac{\text{Total expenses of company}}{\text{Number of workshops}}}{\text{Expenses for bugeted workshop}}$$

Respectively:

$$K = \frac{\frac{83,520}{5}}{17,400} = \frac{16,704}{17,400} = 0.96$$

$BF_{FCHI1} = 1,890 \times 0.96 = 1,820.16 \text{ M.U.}$

c₇) The flexible budget for administrative expenses is calculated, using the same distribution index:

$BF_{CHA1} = 4,030 \times 0.96 = 3,868.80 \text{ M.U.}$

c₈) The flexible budget for the sales expenses is calculated, using the same distribution index:

$BF_{CHD1} = 1,890 \times 0.96 = 1,814.40 \text{ M.U.}$

After the above calculations, there results the flexible budget of Workshop No. 1 - Stainless steels for the period determined (Table 1.3).

Table no. 1.3. The flexible budget of Workshop no. 1 Stainless Steels

No.	Name	M.U.	Flexible Budget
	Main production	Tons	1,100
A	TOTAL REVENUES	M.U.	13,100
1	Direct expenses		4,993.89
	- raw materials, direct materials	M.U.	1,026.63
	- direct manpower	M.U.	1,503.26
	- service provision	M.U.	1,320.00
	- amortization	M.U.	880.00
	- other expenses	M.U.	264.00
2	Indirect expenses	M.U.	1,820.16
3	Administrative expenses	M.U.	3,868.80
4	Sales expenses	M.U.	1,814.40
B	TOTAL EXPENSES (1+2+3+4)	M.U.	12,497.25
	RESULTED FROM EXPLOITATION (+/-)	M.U.	+602.75

(Source: Processed by the author)

4.2. Analysis of the deviations from the flexible budget

The deviations from the flexible budget may be determined as a difference between the actual results and the flexible budget. The deviation report based on the flexible budget is presented in detail per calculation items in Table no. 1.4.

Table no. 1.4. Report of deviations based on the flexible budget

Name	M.U.	Actual results	Flexible budget	Deviations (+/-)	Static budget	Deviations impuTable to sales
Main production	Tons	1,100	1,100	0	1,500	-400
TOTAL REVENUES	M.U.	13,100	13,100	0	18,300	-5,200
Direct expenses		4,900	4,993.89	-93.89	6,810	-1,816.11
- raw materials, direct materials	M.U.	1,010	1,026.63	-16.63	1,400	-373.37
- manpower direct	M.U.	1,470	1,503.26	-33.26	2,050	-546.74
- service provision	M.U.	1,290	1,320.00	-30.00	1,800	-480.00
- amortization	M.U.	870	880.00	-10.00	1,200	-320.00
- other expenses	M.U.	260	264.00	-4.00	360	-96.00
Indirect expenses	M.U.	1,890	1,820.16	+69.84	2,620	-799.84
Administrative expenses	M.U.	4,030	3,868.80	+161.20	5,570	-1,701.20
Sales expenses	M.U.	1,890	1,814.40	75.60	2,400	-585.60
TOTAL EXPENSES	M.U.	12,710	12,497.25	+212.75	17,400	-4,902.75
RESULTED FROM EXPLOITATION	M.U.	+390	+602.75	-212.75	+900	-297.25

(Source: processed by the author)

One can notice that the unfavorable variation observed in the Deviation Report based on the flexible budget may be due to several internal causes, namely: a lower demand of products, compared to what was budgeted; realization of a budgeting without a detailed analysis of the market; some problems related to the products' quality and distribution; an intensified competition on the sales market for these products.

Conclusions

The use of flexible budgets allows the managers of the economic entities to determine both the proportion of the deviation compared to the static budget triggered by the incorrect forecast of production, and the proportion triggered by performance. At the same time, the analysis of the deviations allows the managers to obtain useful information and suggestions in order to realize thorough investigations to determine the performances of the economic entity. Actually, the analysis of the deviations is frequently used to assess organizational performance, especially regarding the efficiency of the production factors and the efficacy in reaching the objectives proposed. The flexible budgets become extremely useful in the managers' activity, seeing the detailed deviation analysis, and the highlighting of many individual aspects of performance, helping, in this way, in the pursuit of the realization of all the general objectives of the economic entities.

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