

# **ZERO BASE BUDGETING METHOD APPLIED AT EDUCATION EXPENDITURES OF CLUJ-NAPOCA BUDGET**

**Paul ZAI**

---

*Teaching Assistant, Department of Public Administration, Faculty of Political, Administrative and Communication Sciences, Babeş-Bolyai University, Cluj-Napoca*

---

**Adrian Mihai INCEU**

---

*Associate Professor, Department of Finances, Faculty of Economics, Babeş-Bolyai University, Cluj-Napoca*

---

**Dan Tudor LAZĂR**

---

*Associate Professor, Department of Public Administration, Faculty of Political, Administrative and Communication Sciences, Babeş-Bolyai University, Cluj-Napoca*

---

*This study is trying to propose alternative methods for budget elaboration, in order to be able to forecast the budget. For presenting the practical part of ZBB (Zero Base Budgeting), we have decided to apply ZBB method for forecasting Cluj-Napoca budget - Chapter Education. To estimate the values of the principal expenditures we will study the data from a budgetary centre, and a tertiary unit. The accuracy of our predictions is trying to underline the necessity of using modern methods for budget elaboration.*

---

*Transylvanian Review  
of Administrative Sciences,  
18 E/2006, pp. 108-118*

---

The bases for this method have been formulated and developed by Verne Lewis in 1952 when he had done the first references for the marginal analyze of the decisions formulation regarding the assignation of the resources. This technique that is specific for the finances of the firm, the same way the cost-advantage analyze has been took over by Jimmy Carter when was the governor of Georgia state and applied public sector. Then when he became president he expanded it to the federal level. Due the complexity of the analytic tackle, as well as the laborious process of documentation, in short time from the introducing this method, it has quit his implementation. However, further, due the absence of necessary resources for covering the request for new public services, the method become an interesting one for the specialists who have formulated the target –base budgeting.

ZBB is a model a non-instrumentalist model and it is focusing on the process of reallocation of the resources, keeping a tackle from the base to the top in the implementation process of the budget. This method is differentiating from the others by giving value to the manager's involvement in the process of taking decisions. ZBB model, along with the Performance Budgets method, is based on the manager's capacity to expert, to plan the budgetary policy, to choose among the alternatives solutions for development, as well as on the manner of allocating the resources. Verne Lewis<sup>1</sup>, the initiator of the method, presents the primary role of these methods. He says that "a marginal analyze for the assignation of the resources can not function coherently if the decisional unit is not optimized". ZBB is a method of budget preparation that was trying to prevent the increasing of the costs from year to year.

This objective was achieved by an annual examination of the costs, based on the marginal analyze, made from the smallest decisional unit (the bureau) till the highest. It is suppose that each unit is starting from the premise that it hasn't any budget for the actual year and it is elaborating the alternatives solutions for each financed program. It is establish which programs must be financed, it is made a hierarchy and they are sent to the superior decisional unit. The totality of the decisional packages is reflected in the estimated budget of the state, or of the local community. Then it is determining the limit of the available resources for the costs, and it is made a hierarchy of the decisional packages, depending on the general priorities of the government (local or central) as it follows: the superior level takes the budgetary numbers that correspond to the inferior decisional unit for the previous year, and it analyze the utility and the efficacy for each program.

When the efficiency of the program is low it is called level zero, and it is a cancel of the budgetary allocation for the respectively decisional package. If the efficiency is relatively reduced, comparing to the spent sums we are around the zero level that means the finance will continue with less resources. When the finances for the decisional package are increased and the allocations remain the same, it is called a normal level. The same process will take place to the inferior level, too, till the base, by choosing which decisional package will be financed from the existing resources.

A similar method is the target-base budgeting that demands for the managers to evaluate their decisional package starting from the premise that the future budgetary allowances will be cut down to 70 or 80 percent from the current allowances. This fact will force the managers to compose new decisional package for avoid the situation in which their finances could be interrupted or reduced. On the other hand the managers will be stimulated to find alternative sources for finances and to increase the collecting index of the dues and taxes.

The advantages of this method are the followings:

- to the process of budget preparation takes part all levels of decision and that is a good communication between the higher and the lower coordinator of credits
- a better evaluation of the needs of each organizationally unit;
- this method stimulated the competition inside the organization to elaborate more coherent decisional package well underlined, with the objective to obtain the budgetary allowance.
- at the same time ZBB encourage the decisional units to be more efficient, if they wish to supplement their resources.

Although, the ZBB method has a few disadvantages<sup>2</sup>:

- in the application of this method it did not made a allowance for in the political factor, which plays a decisive role for the founds assignation and this led to a falsification of the hierarchy of the decisional package due the influence of the superior decisional forum;

<sup>1</sup> Gianakis, Gerasimos A., McCue, Clifford P., "Local Government Budgeting – A managerial approach", Praeger Publishers, Wesport, 1999, pg.27

<sup>2</sup> *Ibidem*, pg. 82

- in the preparation process the information get to the base till the top in the process of the budget realization, and from top down to the base in the implementation of the budgetary decision. This thing has complicated the preparation of the budget, because of the huge number of information and it was impossible to process them
- the hierarchy of the decisional package did not make an allowance for the differences between the duties of the decisional units. For example, a hospital wouldn't be more efficient than another one, if it cures more patients, it depends very much of the sickness they had.
- one of the most important disadvantages is the time factor. Such a bulk of information needs a long period for taking the budgetary decision and at the same time there are many levels of processing the information.

ZBB conceptually speaking is the only method that stimulates the public institutions to be efficient, not wasting the money. It is also an efficacy method because it responds to the pupil's needs. The failure of ZBB is being due to the complexity of the phenomenon and the time factor, as well as to the hurry for being introduced and implemented.

In order to present the practical part of ZBB (Zero Base Budgeting), we have decided to apply ZBB method for forecasting Cluj-Napoca budget - Chapter Education. To estimate the values of the principal expenditures we will study the data from a budgetary centre, and a tertiary unit.

Steps that have to be followed:

1. Budget preparation of each education unit financed from local budget, based on the established objectives, and also budget grounding note.
2. Cluj-Napoca Council is analyzing budget proposals, taking into consideration how efficient are used the allocated resources in the last year, and other efficiency criteria.
3. The comparison of asked sums level with available resources, depending on available local budgetary policy.
4. The allocation of financial resources on each financed unit is based on the result of an efficiency analysis and also on the efficiency of budgetary resources:
  - ▶ Low efficiency (funds)- allocation at inferior level;
  - ▶ Normal efficiency (funds)- allocation at asked level;
  - ▶ Superior efficiency (funds)-allocation at superior level;

In order to realize this part of my case study we will analyze how funds are allocated, based on available budget, and also based on budget grounding note. We applied ZBB at all kindergartens, schools and high schools from Cluj-Napoca. We identified 14 budgetary centers, and 39 schools and high schools.

The budgetary centers have the following structure:

- Budgetary Center no. 2 is formed from the following kinder gardens: Kinder garden no. (1, 2, 6, 14, 15, 18, 32, 39, 40, 43, 44, 52, 57, 58, 59, 61, 69, 74, 26);
- Budgetary Center no. 3 : Kinder gardens no. (56, 8, 10, 13, 20, 21, 22, 23, 29, 37, 42, 45, 46, 47, 49, 51, 53, 67);
- Budgetary Center no. 4 : Kinder gardens no. (64, 3, 4, 12, 16, 19, 36, 38, 55, 63, 66, 68, 70, 71, 72, 73);
- Budgetary Center no. 5 : School Ioan Bob, Emil Isac, High School Waldorf, School no. 9, Nicolae Iorga;
- Budgetary Center no. 6 : School Octavian Goga, Ioan Lupas, no. 20;
- Budgetary Center no. 7 : School S. Bărnăuțiu, School no. 22, no. 27;
- Budgetary Center no. 8 : School Ion Creangă, School no.21, High School E. Pora, School no. 6;

- Budgetary Center no. 9: School Liviu Rebreanu, School no.3;
- Budgetary Center no. 10: Theoretical High School Lucian Blaga;
- Budgetary Center no. 11: School Ion Agârbiceanu, School David Prodan, School no 12;
- Budgetary Center no. 12 : High School Octavian Stroia, High School Romulus Radea;
- Budgetary Center no. 13 : High School Terapia;
- Budgetary Center no. 14 : High School Gheorghe Lazăr;
- Budgetary Center no. 15 : High School Forestier, School Horea;

We also have tertiary units formed by the following high schools: Onisifor Ghibu, Emil Racoviță, Apaczai C. Janos, Reformat, Sanitar, G. Barițiu, Ioan Micu, S. Toduța, Music School, Edmond Nicolau, Maranatha, Industria Ușoară, Economic, Poștă și Telecomunicații, Unirea, A. Salini, Tehnofrig, A. Vlaicu, Transporturi, Energetic, Raluca Ripan, Borza, Ortodox, G. Sincai, G. Coșbuc, Victor Babeș, Emanuel, Baptist, M. Eminescu, T. Popoviciu, I. Bathory, Romano-catolic, Brassai, Unitarian, N. Bălcescu, A. Iancu, N. Titulescu and C. Brâncuși.

The budgetary centers no. 2, 3 and 4 are formed only from kinder gardens with normal and long schedule and all the others budgetary centers and tertiary units are composed from schools and high schools. The budgetary centre that we will study more will be Liviu Rebreanu School (Budgetary center no 9), and Nicolae Bălcescu School.

We have to say that from September 2005 the budgetary centres were eliminate but this problem won't have a big influence in our research. From September 2005 each school has its own money.

**Budgetary center no 9** is formed only from Liviu Rebreanu School and the levels of allocation are inferior for all important expenditures. This school is functioning from 1977 in Mănăstur neighborhood, Cluj-Napoca. It has 22 classrooms, 7 labs (physics, chemistry, biology, geography, english, french, informatics), 2 workshops, 1 medical cabinet, library, and gym hall.

Thousands lei

Table 1	Expenses	2005	2006 APROUVED	2006 REQUEST
<b>TOTAL EXPENDITURES</b>		1,634,460	987,400	2,405,000
<b>CURENT EXPENDITURES</b>		1,634,460	987,400	2,405,000
PERSONAL EXPENDITURES		1,243,460	735,000	1,500,000
MATERIAL AND SERVICES EXPENDITURES		391,000	250,000	900,000
TRANSFERS		0	2,400	5,000

In order to determine all important expenditures we will have to take into consideration some data presented in table 1 from 2004 and 2005. The total expenditures are composed from current expenditure, investments, loans and expenses on loans. The current expenditures are formed from personal expenditures, materials and services expenditures subsidies and transfers. If we look in at table 1 we will see that the sum approved by the Cluj-Napoca city hall is 987,400 thousands lei and the total requested sum was 2,405,000 thousands lei. At the current expenditures the differences are the same. Regarding the personal expenditures Cluj-Napoca neighborhood approved in 2005 for Liviu Rebreanu School 735,000 thousands lei while the requested sum was 1,500,000 thousands lei. We can observe an interesting thing if we calculate the difference between the personal expenditures estimated by us and the approved ones and we will se that there is no difference because the number of classes and the number of hour are not changing from one year to another. Here we will have to take also in to consideration the number of professors that are promoted but here is not the case. If we study the personal expenditures we will see that most of them are formed from salaries, followed by the expenses with state social assurance.

The approved sums for services and materials expenditure are 250,000 thousands lei and the solicited sum is 900,000 thousands lei. The principal components of the material and services expenditures are current reparations and maintenance expenditures. The materials and services expenditures are determined also by the proposed works for 2005 (frontage, gym floor changing, sanitation). The principal component of the maintenance expenditures are determined by expenses with heating, and then sewerage expenditures.

Table 2	Expenses	Percentage		
		2006 APR / 2005 - (%)	2006 REQ / 2005	2006 APR / REQ
<b>TOTAL EXPENDITURES</b>		60.41	147.14	41.06
<b>CURRENT EXPENDITURES</b>		60.41	147.14	41.06
PERSONAL EXPENDITURES		59.11	120.63	49.00
MATERIAL AND SERVICES EXPENDITURES		63.94	230.18	27.78
TRANSFERS		-	-	48.00

We have calculated some qualitative and quantitative indicators. First we calculated how the approved expenditures from 2006 are growing or not in comparison with the approved sums from 2005. The percentages of all important expenditures are under 100%. We also have calculated how the values of all important requested expenditures from Liviu Rebreanu School are growing in comparison with the approved sums from 2005. We have obtained the biggest percentage 198,84%, at materials and services expenditures. If we take the sums approved for 2006 and the sums requested we will see that the percent at personal expenditures is 49% and at transfers 48%.

Table 3	YEAR 2005	YEAR 2006
No. of buildings	2	2
Surface of building no 1	1574,7 m <sup>2</sup>	1574,7 m <sup>2</sup>
Surface of building 2	420 m <sup>2</sup>	420 m <sup>2</sup>

Table 4	NO. CLASSES			NO. HOURS/ WEEK			NO. OF HOURS/WEEK		
	2005	2006	2006/ 2005	2005	2006	2006/ 2005	2005	2006	2006/ 2005
<i>I</i>	3	3	1.00	18	18	1.000	54	54	1.00
<i>II</i>	4	3	0.75	18	18	1.000	72	54	0.75
<i>III</i>	4	3	0.75	18	18	1.000	72	54	0.75
<i>IV</i>	4	3	0.75	18	18	1.000	72	54	0.75
<i>V</i>	4	3	0.75	18	18	1.000	72	54	0.75
<i>VI</i>	3	3	1.00	18	18	1.000	54	54	1.00
<i>VII</i>	4	3	0.75	18	18	1.000	72	54	0.75
<i>VIII</i>	5	3	0.60	18	18	1.000	90	54	0.60
<b>TOTAL</b>	<b>31</b>	<b>24</b>	<b>0.77</b>	<b>144</b>	<b>144</b>	<b>1.000</b>	<b>558</b>	<b>432</b>	<b>0.77</b>

An interesting thing is happening if we divide the approved values from 2006 at the requested ones. We will see that here all the percentages are under 100%. At personal expenditures 49%, at transfers we have 48% at current and total expenditures is 41,06%, and at material and services expenditures 27,78%.

In order to estimate all important expenditures of Liviu Rebreanu School we have to take into consideration some data related to this school like: surface, the number of classrooms, number of hours per week, number of teachers, the administrative personal. We will need this data in 2005 and 2006.

Table 5	2005	2006	%
No. teachers	42	42	100%
No of Administrative personal	14	14	100%

As we can see from table 3 we have two buildings 2005 and in 2006. The surface and the number of buildings are the same because in 2006 was not built anything at Liviu Rebreanu School.

We have calculated the number of classes per number of classrooms and this number is in 2005 of 1.41, and in 2006 1.09. We also calculated the degree of classes increase by dividing the number of classes in 2005 to the one in 2006 and it is 0,77. The surface of the building was not modified so this surface does not influence the materials and services expenditures. This school has just classes from 1 to 8 and the number decreased with seven classes from 2005 to 2006, in 2005 we have 3 first classes, 4 fifth classes, 3 sixth classes, 4 seventh classes and in 2006 we have 3 first classes, 3 fifth classes, 3 sixth classes, 3 seventh classes. As we can see from table 4 in 2005 we have 31 classes and in 2006 just 24. The numbers of classes remains the same in 2006 at all classes and in 2005 the classes varies from 3 classes at first classes to 5 classes at the eight classes. We observe a reduction of the number of classes from 2005 and 2006. Regarding the numbers of hours per week we can see that the total number of hours per week remains in 2006 the same at all classes. We have also calculated the fund of hours/week by multiplying the number of hours with the number of classes. We have obtained a total fund of hours/week of 558 in 2005 and 432 in 2006. We can see that this fund decreased from 2005 to 2006. By dividing funds from 2005 to funds from 2004 we will obtain per total a percent of 0,77%, that will help us later for estimating the personal expenditures.

	2005	2006
<i>No. classrooms</i>	22	22
<i>No. classes</i>	31	24
<i>Classes/classrooms</i>	1.41	1.09

We also have calculated an indicator by dividing the number of classes to the number of classrooms. We can see that the number of teachers is the same in 2005 and 2006 (42), and also the number of administrative personal (14). An interesting thing is that although the found of hours decrease the teachers remains the same and the approved sums at Liviu Rebreanu School the personal approved expenditures in 2005 are bigger in comparison with the approved sums from 2006.

Thousands lei						
Expenses	2005	2006 APROUVED	2006 REQUEST	%	2006 ESTIMATION	2007 ESTIMATION
<b>TOTAL EXPENDITURES</b>	1,634,460	987,400	2,405,000	-	1,348,464	1,128,247
<b>CURRENT EXPENDITURES</b>	1,634,460	987,400	2,405,000	-	1,348,464	1,128,247
PERSONAL EXPENDITURES	1,243,460	735,000	1,500,000	0.77	957,464	737,247
MATERIAL AND SERVICES EXPENDITURES	391,000	250,000	900,000	1	391,000	391,000
TRANSFERS	0	2,400	5,000	1	0	0

In the following paragraphs we have made an estimation of all important expenditures in 2006 and 2007. If we compare the total sum estimated by Cluj-Napoca city hall and the sum estimated by us we will see that the difference is of 1.056.536 thousands lei. With the help of the approved sum in 2005 we will determine the estimated sum for all important expenditures in 2006 and with the help of the sums from 2006 and the indicator calculated before at the fund of hours/week, we will determine the estimations for 2007. So the estimated personal expenditures from 2006 are determined by multiplying the expenditures from 2005 with 0,77. We will obtain in 2006 at the personal expenditures an estimated sum of 957.464 thousands lei. At all the other expenditures we will use an indicator with a value of 1. We have an indicator with the value 1 because the surface used for classes and the total available surface is the same. We will calculate the estimated sum for materials and services expenditures, for subsidies and transfers using this indicator. After the calculations we will obtain for materials and services expenditures a sum of 391.000 thousands lei and for transfers

we will not be able to calculate the estimation. The estimation for current and total expenditures is obtained by adding all the estimated components. In 2006 for current a total expenditures we have the same value of 1.348.464 thousands lei. We will estimate also all the important expenditures in 2007 by multiplying the estimated values from 2006 with 0,77. We will obtain an estimated value for total expenditure of 1.128.247 thousands lei, witch is the same with the current expenditure. For personal expenditures in 2007 we have an estimated sum of 737.247 thousands lei. Regarding the materials and services expenditures we have an estimated value of 391.000 thousands lei.

If we compare the values for total expenditures in 2005, the estimated 2006 and the estimated in 2007 we will see that the total expenditures have a tendency of decreasing, from 1.634.460 thousands lei in 2005 at 1.128.247 thousands lei in 2007. The personal expenditures have the same tendency of decreasing from 1.243.460 thousands lei in 2005 at 957.464 thousands lei in 2006 and at 737.247 thousands lei in 2007. We also have calculated an indicator that will show us how the values will decrease or increase. If we compare the estimated values in 2006 with the approved values from 2005 we will see that all our estimated expenditures from 2006 are smaller than the requested values from 2005. The personal estimated expenditures in 2006 was 957.464 thousands lei and the approved sum in 2005 was of 1.234.460 thousands lei. If we compare the requested sums from 2006 with the approved sum from 2005, the estimated sums from 2006 and the estimated sums from 2007 we will see that all the requested sums are bigger than the others with the exception of transfers.

We have also calculated indicators for determining the increase or decrease of the sums. In order to make this calculations we have divided: the estimated sums from 2006 to the ones from 2005, the estimated sums to the approved ones from 2006, the estimated to the requested ones from 2006, the estimated sums from 2007 to the approved ones from 2005, the estimated from 2007 to the approved from 2006 and the estimated sums from 2007 to the requested from 2006.

<b>Table 8</b>	<b>Expenses (percentages)</b>	<b>2006 EST / 2005</b>	<b>2006 EST / 2006 APR</b>	<b>2006 EST / 2006 REQ</b>	<b>2007 EST / 2005</b>	<b>2007 EST / 2006 APR</b>	<b>2007 EST / 2006 REQ</b>
	<b>TOTAL EXPENDITURES</b>	0.825	1.366	0.561	0.690	1.143	0.469
	<b>CURENT EXPENDITURES</b>	0.825	1.366	0.561	0.690	1.143	0.469
	PERSONAL EXPENDITURES	0.770	1.303	0.638	0.593	1.003	0.491
	MATERIAL AND SERVICES EXPENDITURES	1.000	1.564	0.434	1.000	1.564	0.434
	INTEREST	0.825	1.366	0.561	0.690	1.143	0.469

If we look at table number 8 we will reargued that the smaller value is registered if we divide the estimated sums from 2007 at the requested sums from 2006(0.434). The biggest value is at transfers if we divide the estimated sums from 2006 at the approved sums from 2006 and if we divide the estimated sums from 2007 at the approved sums from 2006(1.564).

Another very important high school that we will study is **Nicolae Balcescu** High school. The high school has the following specializations: philology, mathematics-informatics, nature science. N. Balcescu High School is one of the most important from Cluj-Napoca.

The total expenditures are composed from current expenditure, investments, loans, and expenses on loans. At Nicolae Balcescu High School we can see the fact that we have a total approved expenditure in 2006 (2.433.750 thousands lei) and the requested expenditure (2.805.824 thousands lei), from all budgetary centers and tertiary units. The composition of the current expenditure is the following: personal expenditure, materials and services expenditure, subsidies, transfers and interests. The personal expenditures are formed from: wages expenditures, contributions for state social assurance, displacements expenditures, food tickets expenditures and contributions work and disease assurance.

Thousands lei

<b>Table 9</b>	<b>Expenses</b>	<b>2005</b>	<b>2006 APROUVED</b>	<b>2006 REQUEST</b>
	<b>TOTAL EXPENDITURES</b>	2,256,381	2,433,750	2,805,824
	<b>CURRENT EXPENDITURES</b>	2,256,381	2,433,750	2,805,824
	PERSONAL EXPENDITURES	1,861,383	1,919,000	2,275,000
	MATERIAL AND SERVICES EXPENDITURES	394,998	439,850	455,924
	TRANSFERS	0	74,900	74,900

The components of materials and services expenditures are the following articles (rights with social character, food, medicines and other materials, maintenance expenditures, material and services with a functional character, current reparations, capital reparation, books and publications, other expenditures). The requested values for materials and services expenditures in 2006 are 455.924 thousands lei and the approved materials and services expenditures in the same year are 439.850 thousands lei.

If we look at the indicators calculated in table 10 we can observe that if we divide the approved sums from 2006 at the approved sums from 2005, we will see that all percentages are above 100%. If we divide the requested sums from 2006 at the approved ones in 2005 we will see that all percentages are above 100%.

		Percentage		
<b>Table 10</b>	<b>Expenses</b>	<b>2006 APR/ 2005</b>	<b>2006 REQ/ 2005</b>	<b>2006 APR/ REQ</b>
	<b>TOTAL EXPENDITURES</b>	107.86	124.35	86.74
	<b>CURRENT EXPENDITURES</b>	107.86	124.35	86.74
	PERSONAL EXPENDITURES	103.10	122.22	84.35
	MATERIAL AND SERVICES EXPENDITURES	111.35	115.42	96.47
	TRANSFERS	-	-	-

We do not have subsidies for this high school. The composition of the subsidies the following articles: subsidies from budget for public institutions, subsidies for products and activities, and subsidies for covering price and tariff differences. We don't have capital expenditures and financial operations.

<b>Table 11</b>	<b>YEAR 2004</b>	<b>YEAR 2005</b>
No. of buildings	4	4
Surface of building 1	6.350 m <sup>2</sup>	6.350 m <sup>2</sup>
Surface of building 2	1.489 m <sup>2</sup>	1.489 m <sup>2</sup>
Surface of building 3	503 m <sup>2</sup>	503 m <sup>2</sup>
Surface of building 4	108 m <sup>2</sup>	108 m <sup>2</sup>

As we can see from table 9 the total approved expenditures in 2005 are 2.256.381 thousands lei, the approved total expenditures in 2006 2.433.750 thousands lei and the requested ones are 2.805.824 thousands lei. The current expenditures are the same with the total ones. The approved personal expenditures in 2005 were 1.861.383 thousands lei, the approved ones increased in 2006 at 1.919.000 thousands lei and the requested ones were 2.275.000 thousands lei. The most important component of the personal expenditures is wages expenditures

Regarding the material and services expenditures we can say that in 2005 were 394.998 thousands lei, decreased in 2006 at an approved sum of 439.850 while the requested sum in 2006 is 455.924 thousands lei.



Table 12	NO. CLASSES			NO. HOURS/ WEEK			NO. OF HOURS/ WEEK		
	2005	2006	2006 / 2005	2005	2006	2006 / 2005	2005	2006	2006 / 2005
I	4	4	1.00	20	20	1.000	80	80	1.00
II	4	4	1.00	20	20	1.000	80	80	1.00
III	6	4	0.67	15	22	1.467	90	88	0.98
IV	4	6	1.50	35	23	0.657	140	138	0.99
V	6	4	0.67	18	28	1.556	108	112	1.04
VI	4	6	1.50	41	27	0.659	164	162	0.99
VII	5	4	0.80	25	31	1.240	125	124	0.99
VIII	5	5	1.00	31	31	1.000	155	155	1.00
IX	4	4	1.00	38	38	1.000	152	152	1.00
X	4	4	1.00	38	38	1.000	152	152	1.00
XI	4	4	1.00	34	34	1.000	136	136	1.00
XII	4	4	1.00	32	32	1.000	128	128	1.00
TOTAL	54	53	0.98	347	344	0.991	1510	1507	0.99

These maintenance expenditures are formed from expenses with heating, lightning, post and phone, sewerage.

Another very important component of the materials and services expenditures is current reparations. Also there were requested sums for books and publications.

If we look at table 11 we will see that Nicolae Balcescu High School has 4 buildings with different surfaces. The first building is the biggest one with a total surface 6350  $m^2$ , and the smaller one is building number 4 with a total surface of 108  $m^2$ . The school functions in 4 buildings, some of them are very old: building no 1 is 115 years old, building no 2 is 68 years old, building 3, 26 years old and building no 4 is 78 years old.

In the following paragraph we will explain some necessary data: number of classes, number of hours per week and fund of hours per week. We had a total number of classes in 2005 of 54 and their number decreased at 53 in 2006. We have constant number of classes in 2004 and 2005 at the following classes: *I, II, VIII, IX, X, XI, XII*. In the third grade we had 6 classes in 2005 and now we have only 4, the same thing happened in the fifth grade. In the seventh grade we had 5 classes and now we have 4. In the sixth grade we had 4 classes and now we have 6. Regarding the total number of hours per week we can see that in 2005 was 347 and in 2006 are 344. So the total number of hours per week is decreasing. This decreasing is determined by the reduction of the subjects at the classes *III, V, VII*. The total decreasing between 2005 and 2006 is of 0,991.

Table 13	2005	2006
No. classrooms	54	53
No. classes	54	53
Classes/classrooms	1.00	1.00

Like at Liviu Rebreanu School we have calculated the fund of hours per week and we have obtained in 2005 a total number of hours per week of 1510 and in 2006 1507.

Table 14	2005	2006	%
No. teachers	104	99	95.19231
NoofAdministrative personal	19	16	84.21053

This found of hours per week is calculated by multiplying the number of hours with the number of classes. By dividing this fund of hours of each class from 2005 to the one in 2004 we will obtain a value of 0,99 that will be used in the personal expenditure estimation.

The number of teachers decreased from 2004 to 2005. If in 2005 were 104 teachers in 2006 there were 99 teachers, so if we divide the value from 2006 to the value from 2005 we will obtain a

percentage of 95,19%. The administrative personal decreased with 3 persons. In 2005 there were 19 administrative personal and in 2006 at Nicolae Balcescu High School we have just 16 employees.

In table 15 there are presented the approved sums from 2005 and 2006, the requested sums from 2006 and the estimations for 2006 and 2007. If we compare these data we can say that we have differences between the estimations and the approved sums.

Table 15	Expenses	percentage					
		2006 EST / 2005	2006 EST / 2006 APR	2006 EST 2006 REQ	2007 EST / 2005	2007 EST / 2006 APR	2007 EST / 2006 REQ
<b>TOTAL EXPENDITURES</b>		0.992	0.919	0.798	0.984	0.912	0.791
<b>CURRENT EXPENDITURES</b>		0.992	0.919	0.798	0.984	0.912	0.791
PERSONAL EXPENDITURES		0.990	0.960	0.810	0.980	0.951	0.802
MATERIAL AND SERVICES EXPENDITURES		1.000	0.898	0.866	1.000	0.898	0.866
TRANSFERS		-	-	-	-	-	-

If we want to calculate the estimated sums from 2005 we will use the approved sum from 2005 and the indicator calculated before at the fund of hours/week. So the estimated personal expenditures from 2006 are determined by multiplying the expenditures from 2005 with 0,99. We will obtain in 2006 at the personal expenditures an estimated sum of 1.842.769 thousands lei. At the material and services expenditures, subsidies and transfers we will use an indicator with a value of 1. We have an indicator with the value 1 because the surface used for classes and the total available surface is the same. We will calculate the estimated sum for materials and services expenditures, for subsidies and transfers using this indicator. After the calculations we will obtain for materials and services expenditures a sum of 1.861.383 thousands lei. The estimation for current and total expenditures is obtained by adding all the estimated components. In 2006 the total value of the current and total expenditures estimated by us is the same (2.237.767 thousands lei). We will calculate all the other expenditures in 2007 by multiplying the estimated values from 2006 with 0,99. We will obtain an estimated value for total expenditure of 2.219.339 thousands lei, witch is the same with the current expenditure. The personal expenditures estimated for 2007 are 1.824.341 thousands lei. Regarding the materials and services expenditures we have an estimated value of 394.998 thousands lei.

In the following paragraphs we will make a comparison between the estimated values from 2006 and 2007 and the approved sums from 2005 and 2006. If we look at the data from table 15 we can see that the sums decreased with the exception of the estimated total and current expenditures from 2006. The total expenditures evolved in the following way: the approved total expenditures were 2.256.381 thousands lei, the approved ones in 2006 were 2.433.750 thousands lei, the estimated total expenditures in 2006 were 2.237.767 thousands lei and the estimated total expenditures in 2007 were 2.219.339. The requested sums for total expenditures were in 2006 of 2.805.824 thousands lei. The current expenditures evolved in the same way.

The personal expenditures have the same tendency as they had at Liviu Rebreanu School, but here we have an approved sum in 2005 of 1.861.383 thousands lei. In 2006 we estimated a smaller value of 14.527.260 thousands lei and in 2006 we estimated a value of 14.381.987 thousands lei.

If we look at the percentages from table 16 we will see that at subsidies, interest, investments, loans and expenses on loans we don't have values. The calculations were made in the same way as they were at Liviu Rebreanu School.

We presented how the calculations had to be made just at Liviu Rebreanu School and al N. Balcescu high school because of some technical issues. The whole study could be made in a PHD paper and it would be not possible to make in this paper the calculation for all the budgetary centers and for all the other 39 schools. We just presented the methodology of calculating the budget, in order to make estimation for the next year.

#### **FURTHER READINGS**

- Adrian Mihai Inceu, Dan Tudor Lazăr, „*Finanțe și bugete publice*”, ISBN 973-8915-01-5 Ed. Accent, Cluj Napoca, 2006
- Dan Tudor Lazăr, Adrian Mihai Inceu, „*Bugetul funcțional (line – item budget) și metoda buget bază zero (zero base budgeting – ZBB)*”, Revista Transilvană de Studii Administrative, nr. 2(11) 2004, pag. 86-91
- Dan Tudor Lazăr, Adrian Mihai Inceu, „*Metode de elaborare a bugetului local*”, Revista Transilvană de Studii Administrative, nr.1(6) / 2001, pag.71-76
- Gianakis, Gerasimos A., McCue, Clifford P., „*Local Government Budgeting – A managerial approach*”, Praeger Publishers, Wesport, 1999
- Harvey Rosen, „*Public Finance*”, 6-th ed., Ed. McGraw-Hill, New York, 2002
- Howard A. Frank, „*Budgetary Forecasting in Local Government*”, ISBN 0-89930-725-6 Ed. Quorum, Westport, Connecticut, London, 1993
- Joseph Stiglitz, „*Economics of the Public Sector*“, 3-rd ed., Ed. R.S. Means Company, USA, 2000
- Jack Rabin, „*Handbook of Public Budgeting*”, Ed. Marcel Dekker, New York, 1992
- Musgrave R. & P., „*Public Finance in Theory and Practice*”, Ed. Mc. Graw-Hill Book Company, 1973.
- Dan Tudor Lazăr, Adrian Mihai Inceu, „*Specificul principiilor elaborării bugetelor locale*”, Revista Transilvană de Studii Administrative, nr.1(6) / 2001, pag.66-70