

2. THE ANALYSIS OF LOCAL BUDGETS AND THEIR IMPORTANCE IN THE FIGHT AGAINST THE ECONOMIC CRISIS EFFECTS

Elena PELINESCU¹
Lucian Vasile ANTON²
Raluca IONESCU²
Radu TAȘCĂ²

Abstract

The purpose of this analysis is to assess the financial and budgetary performance of an administration. Therefore, the performance of the central and local administration is strongly connected to the capacity of controlling the expenses and to ensure the resources to cover it. Taking into consideration the economic crisis conditions, this performance can easily be turned into counter-performance, especially when the central and local authorities do not act in due time. The fight against the effects of the financial crisis implies diminution in the pressure generated by the central and local financing need combined with the growth in the performance of the authorities' management. This means achieving the financial sustainability of the central budget and the autonomy of the local community based on the budgetary equilibrium, so that the local budget deficits should not become global. Thus, the financially autonomous local communities have to efficiently plan and manage the local income and expense budgets. The Holt-Winters model should offer a good tool in order to achieve this task.

Keywords: state and local budget, efficiency, time series models

JEL Classification: H71; H21; C22

1. Introduction

The evolution of the central and local budget is important for the sustainable growth of national and local communities. The impact of their evolution on the wealth of communities increased and became crucial during the crises period. Many papers are focused on different aspects regarding these topics in order to highlight the

¹ Institute for Economic Forecasting; Hyperion University, Bucharest.
E-mail: pelinescu@ipe.ro

² "George Bacovia " University, Bacău

importance of strategic management of the fiscal revenue, the needs for strengthening local self-government in accordance with the tendency to increase the decentralization of the regions. This implies that regions use their own resources in order to ensure the development of the local communities. In the literature, there are ample debates regarding the federalism versus decentralization in the larger context of globalization, without strong arguments in favor of federalism if one takes into consideration the economic effects (Blume, Voigt, 2008 or Talpaș, Cășneag, 2010). Looking at the European Union countries, it is obvious that in a wide diversity of financial systems, the general high decentralization tendencies coexist with low decentralization tendencies. So, the integration into the Euro Area or into the European Union had very slow effects on the financial systems and on the national features of the local-administrative units. Romania, as a new member of the European Union, adopted a decentralization strategy for the local fiscal administration. A long regulation process tried to provide the best framework for the local authorities. Unfortunately, the process was predominantly focused on expenditure, without a right correlation with income. Moreover, the numerous changes in legal regulation³ (more than 10 laws regarding the local taxes, local autonomy, fiscal code, local public finance, budget law, etc.) had had a great impact on the sources of own revenue of the local budget, so the fiscal autonomy was more on the expenditure level than on the fiscal budget.

The fiscal policy became a more interesting area of research during the last period because of the challenges regarding the control of the impact of the financial crises, the need to consolidate fiscal solvency and the need to reduce the pro-cyclicality of the fiscal policy. A large literature was focused on the increase in the transparency of the fiscal budget, especially for budget expenditure (Boubeta, Santias, Alegre, 2010, Alt, Lassen, 2006), on the local government accountability (Davey, 2009), on fiscal federalism, (Demertzis Maria, 2006, Talpaș, Cășneag, 2010) or on the presentation of a guide for local management (Kovács, 2000). Some of them are focused on different aspects of the Romanian economy, highlighting issues like multiannual planning in Romania (Ioan Radu *et al.*, 2009), the fiscal concurrence and its effects, taking into consideration the competition from the government in a global economy in attracting funds in order to finance the local or national expenditure (Talpaș, Cășneag, 2010), and the equilibrium of the local budget as an assumption of decentralization (Glodeanu, 2007). We can also mention papers that were focused on the new model of analysis of the Romanian fiscal policy in the context of economic crises (A.G Socol, Măntescu, 2011), on the efficiency of the fiscal policy in fighting against the economic crises (Marinas, 2010) or those that take into consideration the fiscal correction in Romania (C. Socol, Soviani, 2010). As one may see, there is a wide range of topics on fiscal policies at the national or local level.

The paper is structured into three parts. The first part follows the work of Dogaru (2010) in order to present the evolutions of the local authorities' autonomy at the

³ At present we can mention three important laws: Fiscal code - Law 571/2003 with the supplements and future changes, Code for fiscal practice - Government Ordinance 92/2003 with the supplements and future changes and Law 273/2006 regarding the local public finance.

national level. This section reveals a general analysis of the local budget in connection with the state budget in Romania. The section is focused on presenting some legal aspects relevant to the local budget and the evolution of some key indicators of the local and state budget.

The second section shows some relevant characteristics and data from the Bacău municipality. The focus is on presenting some key aspect relevant for financing the local budget and on the execution of the local budgets' income and expenditures.

The final section presents the results of the application of the Holt-Winter method for planning the budget revenue, a very simple econometric technique that can improve the planning of the revenues by the central and local authorities. The conclusions are presented at the end.

We consider that the very simple econometric techniques presented are useful for the planning the quarterly revenue and expenditure for the local budget and offer an instrument to improve the capabilities to manage the local budget efficiently.

II. Analysis of the local budgets in connection with the state budget

The adequate management of the present development of the Romanian economy is linked with the national and local administration responsibilities regarding the dimension of the sources for the budget income and its redistribution in order to cover the needs for development of the national and local economy. For the local administration that have autonomy to redistribute the revenue at the local level, the expenditure should be established not only based on the local capacity to produce revenue, which - considering the condition of the real equilibrium - could have a negative impact on the sustainable development of the communities. The local administrations have four sources to cover the expenditure: their own resources, the transfers and subsidies from the central budget and the loans. What is very important is how they use all these resources, for current consumption or for investments, and how they harmonized the local taxes with the general level of taxation in order to stimulate the investors' interest in their region. They must know that an increase in local taxes over the central ones could have negative effects, and that if they appeal to loans, these are to be paid by future generations by imposing new taxes. Moreover, the costs afferent to these loans can determine the creation of the so-called *snowball effect*, when a loan determines a new one, and so on. Thus, a better synchronization of the central and local decision is necessary in order to coordinate the orientation of the aggregate demand.

The ways of presenting the budgets of the European Union countries are in accordance with the rules of budgetary equilibrium, observing the Protocol No. 5 annexed to Article 104 C of the European Union Treaty. This protocol stipulates that the deficit of a budget should correspond to the net financing need it generates, that is to the net debt flow, that is contracted loans and debentures and granted needs, respectively, assuring the equilibrium of accounts. This equilibrium is not reached, all the European Union countries presenting negative balances of their national budgets.

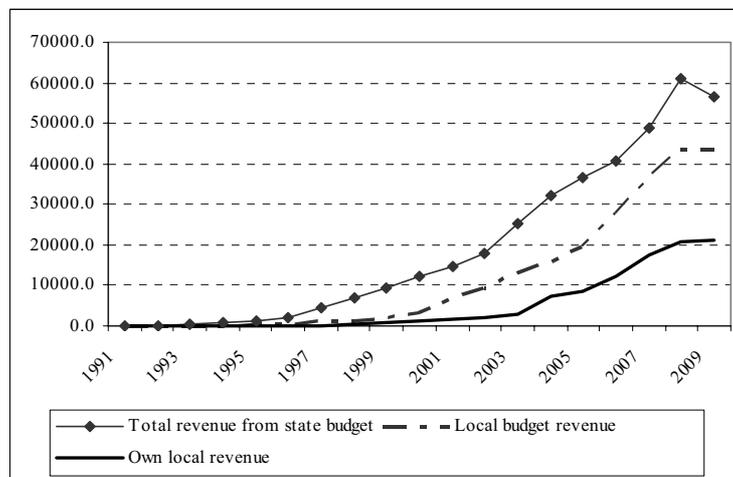
Even the local budgets are neutral in comparison with budgetary equilibrium rules and certain basic principles are established. Consequently, a series of differences between local communities may appear. Therefore, besides the territorial and demographic differences⁴, other factors may appear as well, such as the status of local communities, the number of local public administration levels, the repartition of competences and the system of public finances.

Voted, mainly, in real equilibrium, all local communities must observe a budgetary equilibrium norm as stipulated by law. Also, the two sections (functional and capital) of a local budget allow for a real balancing of the accounts. Therefore, the functional section needs to generate a surplus able to cover the repayment of contracted loans. It is obvious that this structural principle of equilibrium valid for all local communities is broken, sending disturbances to a global level. This happens when the budgetary policy for the stabilization of the economic activity intervenes with effects on the local functional expenses, particularly those related to education, health system and social security.

According to the legal regulation, local authorities can decide only on a small part of the budget revenue, namely their own revenue that usually does not exceed 50% of the total revenue, as shown in Figure 1.

Figure 1

The evolution of the consolidated budget revenue, local budget revenue and own local revenue in Romania during the period 1990-2010



Source: Data from INSE, *Annual Statistics of Romania*.

The difference between own and total local revenue is covered from the state budget by transfers (fund for equilibration, breakdown quotas, special funds, funds from state funds reserves). Consequently, it seems very difficult for local authorities to predict the future revenues for their budgets, and even more difficult to construct multi-annual

⁴ Determining the balancing of the local budget with the central one.

budgets. 2003 marked an increase in the local revenues due to the changes in the legal regulations (new Fiscal Code). According to them, the local taxes can be computed as sources for local budget revenue. 2008 marked a decrease in the local budget revenues due to the impact of the financial crisis and of the transfers of revenues from buildings transactions from local to state budget according to the new regulations of the Fiscal Code⁵.

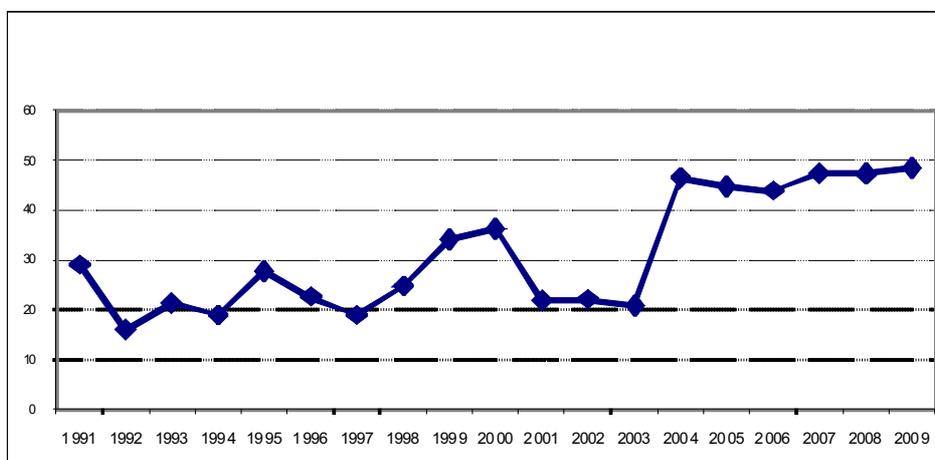
The assessment of results, of the financial and budgetary performance of a local administration is regularly done by certain specific indicators, which refer to the level, structure or dynamics of a local authority's expenditures, registered in its own budget for a period of time.

In order to identify the relation between the local budgets and the central budget, it is necessary to study the following indicators that are relevant for the analysis of local financing: the self-financing capacity of local authorities, the degree of financial dependence of local authorities, the general degree of covering expenditures by their own incomes and the dynamics of their own incomes and current expenditures.

The self-financing capacity or the degree of financial autonomy of a local authority (Ca_loc) shows the percentage of own income in the local budgets' income. The indicator varied between 20-30% during the period 1991-1998, with a peak in 1999-2000 as a result of the new regulation that increased the autonomy of the local administration (Law No. 189/October 22, 1998), as one may see in Figure 2.

Figure 2

The evolution of the local authorities' autonomy during the period 1990-2009



Source: Authors' computations, data from NIS, Annual Statistics of Romania.

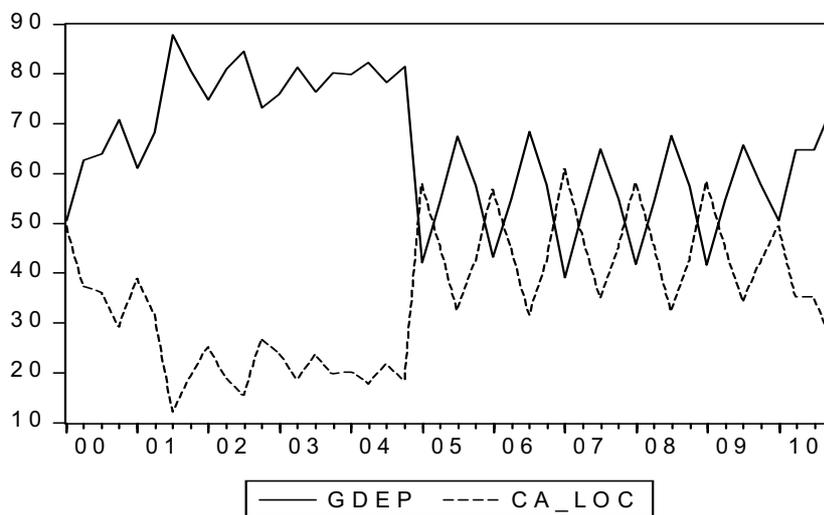
⁵ The loses at the local level can be highlighted by the Ialomita local budget that registered 2.2 mill. lei in 2007 and forecasted 3 mill. lei for 2008 to be transferred to the state budget, according to Ciupercă, 2008, p. 29.

According to Dogaru (2010, p. 71), “starting in 2000, the introduction of the global system of income taxes for individual persons and the utilization of the breakdown quotas from this taxes had lead to an increase in the total local revenue by 8.8% as compared to the previous year. The additional revenue registered at the local level in 2001, when the total financial resources increased by 55% as compared to 2000, comes entirely from the breakdown quotas from VAT deducted by the state budget”.

The *degree of local authorities' financial dependence (Gdep)* represents the percentage that the quotas and amounts broken down from the income tax, the amounts broken down from the value added tax, as well as the budgetary transfers received by local authorities from the state budget or other budgets have in the total income of local budgets. It is calculated by the following formula: $Gdep = 100 - Ca_loc$. The quarterly evolution of this indicator during the period 2000:Q1-2010:Q3 and the self-financing capacity or the degree of financial autonomy of the local authority (*Ca_loc*) are presented in Figure 3. As one may see, the indicators moved together, but in the opposite direction, so when the financial dependence increased the financial autonomy decreased. The adoption of new regulations for the Fiscal Code (Law No. 571/December 2003) and OU No. 45/2003 regarding the changes of the local finance moved to a high level as compared to period 2000-2004 the evolution of the two indicators, which reflect the impact of these changes on the evolution of the financial autonomy.

Figure 3

The evolution of the degree of local authorities' financial dependence (Gdep) and degree of financial autonomy of the local authorities (Ca_loc) in Romania



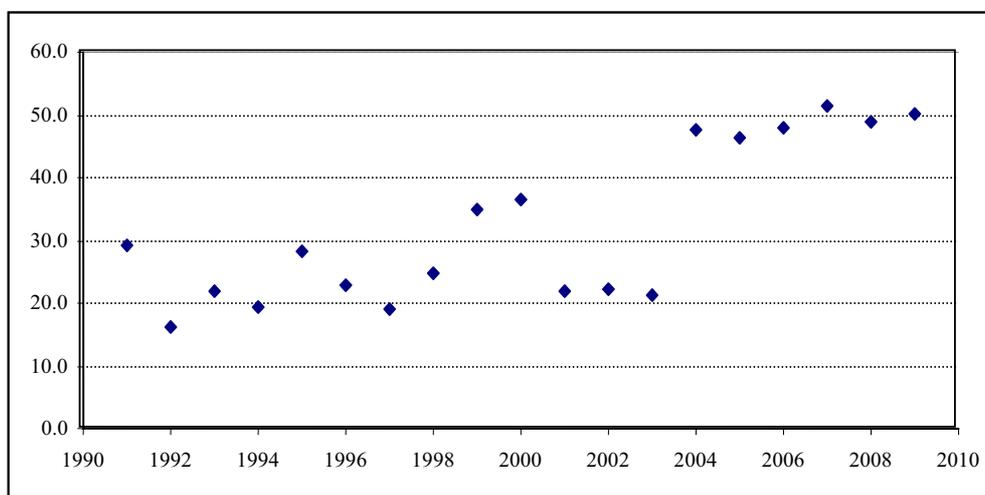
Source: Authors' computations, data from NIS, Annual Statistics of Romania.

The reforms of the local administration after 2003 decreased the local dependence on the state budget, but it still remained at a high level if we consider that over 50% of the local revenue comes from the state budget, although the responsibilities increased after 2006, without a corresponding increase in the autonomy.

The degree of covering the local expenditures by own incomes (Gvp/c_{loc}) shows the extent to which the total expenditures of local budgets are financed on the account of their own income. The calculus formula is: $Gvp/c_{loc} = (Vp_{loc} / Cht_{loc}) \times 100$ and the evolution of this indicator during the period 1990-2010 is presented in Figure 4.

Figure 4

The evolution of the degree of covering the local expenditures by own incomes in Romania



Source: Authors' computations, data from NIS, Annual Statistics of Romania.

Practically, this indicator shows the same dynamics as the self-financing capacity of the local authorities, as the local real budgets show that total incomes are equal to total expenditures. The reforms of the local administration and the numerous changes in the fiscal regulation explain the evolution of this indicator, which proves that without a correlation between the competence of the local administration and the financial sources, the autonomy remains at the declarative level. At the World Bank conference Ciupercă (2008, p. 8) mentioned that "the local authority should have more competence on adjusting fund distribution in a transparent system of assigning."

In conclusion, in Romania the local budgets were strongly connected with the national budget, because part of the local budgets continued to be financed from the national budget via subsidies or transfers, even in the context of the Law 273/2006 regarding the local finance. The future measures must continue to harmonize the general framework for the management of local resources and the sources in accordance with the local communities' responsibilities. In order to balance the local budget and to finance some expenditure according to the law, part of the state revenue is reallocated

to the local budget taking into consideration the financial capacities computed as a 70 percent share in the income taxes and as a 30 percent share based on the surface of the region, so the size of the population and land are important in the reallocation process.

We consider that a clear organization of public finances based on financial decentralization allows: the exemption of central finances from certain expenditures; the reduction in number of financial flows between the central authority and the local authorities; the creation of a clearer image of the way the national public finances are managed.

III. Case study: the Bacău Municipality

Bacău Municipality has a surface of 43.2 km², being the largest city of the county, with more than 177 thousand inhabitants at present, in decline as compared to 1997, when it registered the highest number (209.7 thousand persons) in the period 1990-2010. These indicators are important for accounting the transfers from the state budget to the local budget, according to the methodology of the Law 273/2006. The decline is a result of the socio-economic conditions and migration (during the period 2002-2007 the migration balance reached more than -1000 persons per year, with a peak in 2004, when the balance reached -1692 persons). Because of the decrease in population, we might expect that revenues and the need for services would decrease proportionally, with high impact on the local budget.

Bacău makes the connection between the capital, Bucharest, and the Northern part of the country, respectively with the main corridor crossing Moldavia to Greece, Bulgaria, Ukraine and the Russian Federation. These environmental indicators could measure the external influence on the municipality that may create or reduce demand, provide or diminish resources.

The elaboration of the local budget projects is correlated with the management demands of the budgetary expenditures, depending on the real necessities and priorities and with the easily usable budgetary resources of all local authorities, services or public institutions in every commune, town or county.

The drawing-up of local budget projects is under the competence of mayors, as regards the commune and town budgets, and under the competence of the county councils' presidents, as regards the county budgets.

The budgetary incomes and expenditures are grouped according to the budgetary classification approved by the Ministry of Public Finance.

The local budget incomes consist of taxes and other incomes established by the annual budgetary law, as well as by the provisions of Law 273/2006 on local public finances.

The establishment of budgetary expenditures represents the result of the expenditure foundation process.

Taking into account the financial crisis that affected Romania since the end of 2008, the Bacău Municipality authorities aimed to diminish expenditures. Thus, the local administration performance consisted in the ability of rapidly reducing expenditures.

The execution of the local budget incomes and expenditures

The evolution of incomes and expenditures of Bacău Municipality budget in the period 2004-2009 is presented in Table 1.

Table 1

The evolution of incomes and expenditures of Bacău Municipality budget
- RON -

Bacău Municipality	2004 (million lei)	2005	2006	2007	2008	2009
Total incomes	1,460,507.7	161,788,882	243,258,598	264,302,119	303,982,014	299,808,682
Revenue per capita	8,045	897,242	1,353,979	1,481,173	1,717,344	1,704,652
Own incomes	69,889,610	73,129,658	101,545,263	122,718,649	145,556,039	151,000,095
Total expenditures	1,369,582.5	157,065,539	230,939,511	262,784,952	304,432,013	291,592,881
Of which, total investment	14,400,000	21,600,000	52,600,000	127,400,000	108,700,000	75,560,000

Source: General Direction of Bacău Public Finances.

One may notice that the level of total expenditures is growing together with total incomes, every year registering a budgetary surplus, except for 2008, when a budgetary deficit of 449,999 lei was registered by the Bacău Municipality administration. But the decrease in the revenue per capita in 2009 is a signal that the local administration might be unable to maintain the existing service level unless it finds new revenue sources or ways to save money.

The public investments in Bacău Municipality in the period 2004-2009 amounted to 400 million lei for achievement of certain objectives, but also for the development of some ongoing projects. The financing sources came from the local budget, internal loans, sanitation taxes, state budget. The investment budget of local administration does not include non-repayable funds from the PHARE, ISPA and POR programs.

By comparing the own income with total income, we obtain the financial autonomy degree of the local authority of Bacău Municipality in the period 2004 – 2009 (Table 2).

Table 2

The evolution of the financial autonomy degree and the degree of covering of expenditures by own incomes in Bacău Municipality

	2004	2005	2006	2007	2008	2009
Degree of financial autonomy	47.85 %	45.2%	41.74%	46.43%	47.88%	50.36 %
Degree of covering of local expenditures by own incomes	51.02%	46.55%	43.9%	46.69%	47.81%	51.78 %

Source: Authors' own processing of the data provided by the General Direction of Bacău Public Finances.

By comparing own incomes with total expenditures of Bacău local authority, we obtain the degree of covering of local expenditures by own income (Table 2). It shows the degree to which the total expenditures of local budgets are funded by their own incomes. If the budgetary execution does not have a deficit, the obtained values are closer and higher than the degree of financial autonomy, as local budgets meet the real balance condition. However, if these values are lower than the budgetary execution, the respective year shows a deficit, as it happened in 2008, the first year of the financial crisis in Romania, but the potential problems are increasing as one may see from the correction of the tendency in 2009.

The dynamics of incomes and expenditures in the period 2004-2009 is the following (Table 3).

Table 3

The dynamics of incomes and expenditures in Bacău Municipality (with mobile basis)

Dynamics of		2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)
Incomes	total	110.78	150.35	108.65	115.01	98.62
	own	104.64	138.85	120.85	118.61	103.74
Expenditures		114.68	147.03	113.79	115.85	95.78
Investment		150.0	243.52	242.21	85.32	69.51

Source: Authors' own processing of the data provided by the General Direction of Bacău Public Finances <http://www.primariabacau.ro>.

Thus, in the financial crisis period the investment was more affected; consequently, its volume decreased in 2008-2009. That highlights that the municipality was more focused on covering the current expenditure, which meant cutting the investment, with great impact on the medium- and long-term development of the region. The main investors in Bacău Municipality are presented in Table 4.

Table 4

The main foreign investors, with investments over 1 million euro, in Bacău Municipality

No.	Company name	Country of origin	Activity sector	Foreign participation in the authorized capital
1	ELMET INTERNATIONAL SRL	Netherlands	Metal-working industry	6,110,000 USD
2	DIANA FOREST SA	Spain	Wood industry	15,067,747 USD 13,648,303 EURO
3	SONOMA SPORTSWEAR	Switzerland	Textile industry	4,680,000 USD
4	WORLD MACHINERY WORKS SA	USA	Machinery industry	3,299,684 USD

Source: ADL Bacău.

We can mention the main investment made with non-repayable European Funds.

Ongoing projects or projects to be implemented:

- The construction of an underground street between Oituz and Stefan Gusa streets, ROP – Axis 2, total value of the estimated investment: 8 mil euro.
- The rehabilitation of buildings and the modernization of Social Centers on Henri Coanda street, total value of investment: 900 000 euro.
- The rehabilitation and equipment of the Elderly Social Centre, on Aleea Ghiocelilor Street, total value of investment: 760 000 euro
- The rehabilitation and modernization of the Leisure Island, ROP- Axis 5, total value of investment: 5 million euro
- The construction of a Tourism and Leisure Centre - Tamas Forest Axis 5, total value of investment: 10 million euro
- Exhibition and Business Centre, approved project with a total value of 14 million euro.

Projects for which the evaluation papers were handed in:

- Unirii 3 Park – 6.730 m2 (Government and local funds);
- The improvement of water supply systems, the collection and treatment of used waters in Bacău Municipality, Bacău County (ISPA measure No 2002/RO/16/P/PE/018);
- Project value: 52,056,000 euro (ISPA non-repayable funds: 39,004,500 euro)
- The integrated management of waste in Bacău Municipality and in neighboring areas (ISPA 2004/RO/16/P/PE/007 measure);
Project value: 20.000.000 euro (75% by ISPA non repayable financial support);
- The equipment of the Sports Complex – with a surface of 2.93 ha, which consists in the creation of new green areas on a surface representing 75% of the total area, as well as the development of a leisure area, including playground and facilities. The total value of the project is 560,000 euro (Government funds);
- The equipment of the leisure public areas of the city centre, being a recreation area, suitable for public meetings (local funds).

IV. Econometric technique for planning the budget revenue

One of the main issues for the authorities is to use the strategic management tools in order to map out their budget on short and medium term. Taking into consideration the frequent changes in legislation and the external factors, namely the European Union requirements, the planning of the budget even for one year is not an easy task. Because the annual local budget must be balanced, it is difficult to extend the planning process on the multiannual basis without some changes in the fiscal regulation connected with this process. Taking into consideration the advantage of the multiannual budgeting as a strategic management tool and the limits of the Romanian economic behavior, such as: “the lack of historical data regarding past evolution of revenues and expenditures from the local budget structure and of determinants...; the low qualification degree of the specialized personnel as compared to the requirements of the multiannual budget practices...; the long time span of strategic planning...; the

limits of the forecast techniques due to the large number of variables they use...; problems related to data consolidation and hypothesis formulation...; wrong evaluation and usage of the results of the forecasts”, Radu *et al.* (2010, pp. 48-49) propose an economic-mathematical model of the evaluation of the revenue within a city hall. Taking into account the limits presented by Radu *et al.* (2010), and using the quarterly data for national local budget during 2000:Q1-2010:Q3, we offer an alternative technique to forecast the revenue on a quarterly basis. We used the data in national currency, without any transformations. Our data contained the trend and seasonal component.

We applied the Holt-Winter multiplicative models based on equations (1-4) in order to forecast the total local revenue and the Holt-Winter additive models based on equations (6-9) for the own revenue of local authorities.

a. Holt-Winter multiplicative model

$$X_t = (a_t + T_t) \cdot S_t + e_t \quad (1)$$

$$a_t = \alpha \frac{X_t}{S_{t-4}} + (1 - \alpha)(a_{t-1} + T_{t-1}) \quad (2)$$

$$T_t = \beta(a_t - a_{t-1}) + (1 - \beta)T_{t-1} \quad (3)$$

$$S_t = \gamma \cdot \frac{X_t}{a_t} + (1 - \gamma)S_{t-4} \quad (4)$$

The forecasting value on the horizon n are computed based on equation (5)

$$X_{t+n} = (a_t + n \cdot T_t) S_{t+n} \quad (5)$$

b. Holt-Winter additive models

$$X_t = a_t + T_t + S_t + e_t \quad (6)$$

$$L_t = \alpha(X_t - S_{t-4}) + (1 - \alpha)(a_{t-1} + T_{t-1}) \quad (7)$$

$$T_t = \beta(a_t - a_{t-1}) + (1 - \beta)T_{t-1} \quad (8)$$

$$S_t = \gamma(X_t - a_t) - \gamma S_{t-4} \quad (9)$$

where: X is total revenue for local authorities at national level; parameters α , β and γ take on values within the interval (0,1), a_t is the permanent component, the S_t is the seasonal factor and the T_t is the trend value.

In order to solve these models, we used EViews programs and the results are presented in Figure 5a and the own local budget in Figure 5b.

Figure 5a

The forecast of the local budget revenue

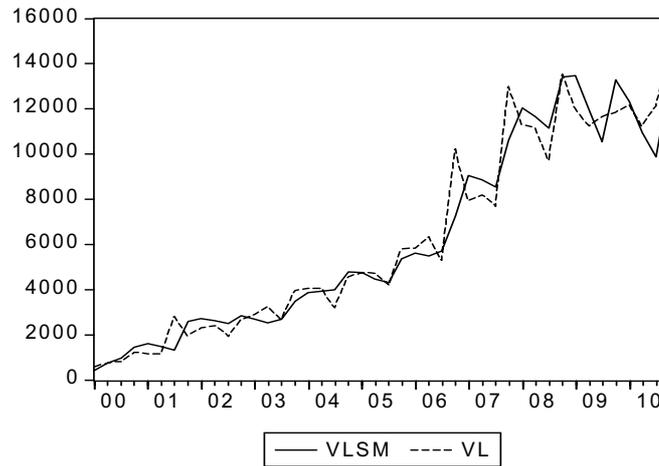
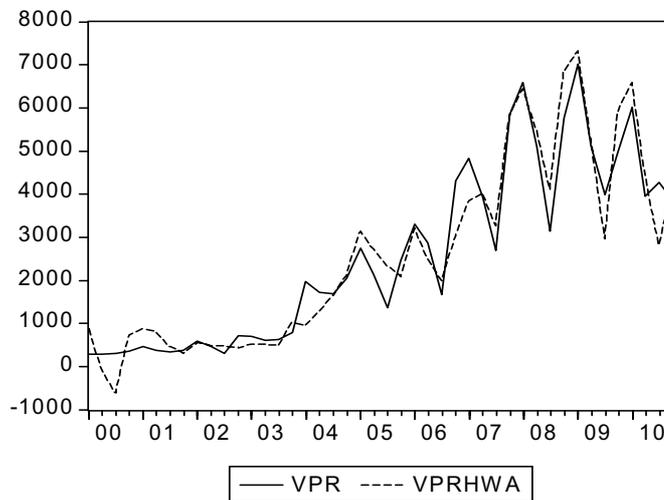


Figure 5b

The forecast of the local budget revenue



The parameters, the permanent component, the seasonal factor and the trend for both models are chosen based on the lower level of the Root Mean Squared Error and are presented in Table 5.

Table 5

The results of the models applied to the total local revenue and the own local revenue of the budget

	Total revenue local budget	Own revenue local revenue
Parameters	Holt-Winters Multiplicative Seasonal	Holt-Winters Additive Seasonal
Alpha	0.2600	0.2100
Beta	1.0000	1.0000
Gamma	0.0000	1.0000
Sum of Squared Residuals	38638230	15227625
Root Mean Squared Error	937.0921	588.2877
End of Period Levels		
Mean=a	12514.34	4248.021
Trend=T	726.0888	-166.6808
Seasonals=S: 2010:1	1.058741	1105.216
2010:2	0.970744	-552.3543
2010:3	0.888132	-145.5160
2010:4	1.082383	-407.3462
Forecasting results		
2011:1	14018.18	5186.56
2011:2	12853.07	3362.31
2011:3	11759.25	3602.46
2011:4	14331.22	3173.95

- As one may see in Figure 5, the forecast based on the Holt-Winters models for total local revenue (VL) and local own revenue (VPR) are close to the statistical values. The result of the forecasting exercise for 2011 compared to the Budget Law for 2011 offers a good picture of the accuracy of these models in the case of the Romanian economy.

When the precision criterion is considered, we have to take into account the reserve specific to these classes of the models. As Jula and Jula (2010, p.155) mentioned by citing Brown and Makridakis *et al.*, the advantages “are the flexibility and the simplicity of the computations”. Because the fiscal legislation had great volatility in Romania, the precision criteria is difficult to achieve, taking into consideration that changes operate even during the fiscal year. These changes have a negative impact on any tools used for prognosis. We consider as Lindeke (2010) that other advantages can be considered, namely this method is easily understood, easily computed and provides stable forecasts. In order to improve the precision of the models, we focus on choosing the correct seasonality based on judgment. We used quarterly data for the model as Chatfield (1978) suggests in order improving the accuracy of the forecasting in the case of the Holt-Winters models. We consider that the Holt-Winters methods can be used as a tool for the multiannual budget forecasting because it is easily understood, computed and provides a stable forecast.

Conclusions

The decentralization process became more and more important in Romania and it must be accompanied by real decentralization of the revenue, not only of the expenditure. The decentralization of the revenue has to be in accordance with the degree of the responsibility specific to the local level.

The local degree of autonomy is still below 50%, which means that the local authorities need some additional funds, part of them from the state budget, part from loans in order to finance programs for local development. Since 2008, which marked the beginning of the financial crisis in Romania, the public authority of Bacău Municipality has managed to reduce by half the current expenditures in 2009 as compared to 2008; its own income remaining constant. This fact increased the degree of solvency of the local authority, which allowed it to contract loans for local projects, financed by structural funds.

In order to increase their efficiency, the local authorities must learn to use the strategic management tools for planning the local budget. In this context, the Holt-Winters models can be used to achieve this task, being easily computed and understood and providing good results.

References

- Alt, J.E. Lassen, D.D., 2006. Fiscal transparency, political parties, and debt in OECD countries. *European Economic Review*, 50, pp. 1403-1439.
- Boubeta, A.S. Santos, F.R. and Alegre, J.C., 2010. Budget Transparency in Local Government: Empirical Analysis on a Sample of 33 Galician Municipalities, XVII Encuentro De Economía Pública Murcia, 4 y 5 de febrero de 2010.
- Chatfield, C., 1978. The Holt-Winters Forecasting Procedure. *Journal of the Royal Statistical Society, Series. C Applied Statistics*, [e-journal] 27(3), Abstract only. Available at: <<http://www.jstore/pss/2347162>>
- Ciuperca, S.V., 2008. Dezvoltare locală-dimensiunea financiară. Presented at *Regional Development and Municipal Finance*, Bucuresti 26 iunie 2008. [online] Available at: <http://resources.worldbank.org/.../CJ_lalomita_Vasile_Silvian_Ciuperca.ppt>
- Demertzis, M., 2006. Debating Fiscal Federalism in EMU: Plus ça change, Economics and Research", De Nederlandsche Bank, Amsterdam: University of Amsterdam.
- Dogaru, E., 2010. Studiu privind autonomia financiară locală în România. In: *Economie teoretică și aplicată*, 17(6), pp. 65-73.
- Filip, G., 2002. *Finanțe publice (Public Finances)*. Iasi: Junimea Publishing House.
- Jula, D. Jula, N.M., 2010. *Metode de prognoza*. Bucuresti: Editura Mustang.

- Kovacs, R. Rosenberg, P. and Hegedus, J. Vigvari, A., 2000. *Financial Analysis Modernizing Financial Management for Hungarian Local Governments*. Washington DC: The Urban Institute (UI). [online] Available at: <www.urban.org/PDF/fin-analysis.pdf> [Accessed on January 2011].
- Kenneth, D., 2009. Making Government Accountable. Local Government Audit in Postcommunist Europe. *Open Society Institute–Budapest OSI/LGI*, [online] Available at: <<http://lgi.osi.hu/>>.
- Lindeke, R. (2010), *Forecasting models*, IE 3265. Ch.2.
- Mutascu, M. et al., 2007. *Modele de finantare a dezvoltarii regionale*. Timisoara: Mirton Publishing House.
- Radu, I. et al., 2009. Drafting Multiannual Local Budgets by Economic-Mathematical Modelling of the Evolution of Revenues. In: *Theoretical and applied economics*, 01(530), pp. 45-60. [online] Available at: <[http://ideas.repec.org/a/agr/journal/v01\(530\)y2009i01\(530\)p45-60.html](http://ideas.repec.org/a/agr/journal/v01(530)y2009i01(530)p45-60.html)> [Accessed on August 2010].
- Talpas, I. and Casneag, A.O., 2010. Efectele concurenței fiscale. *Economie teoretică și aplicată*, 17(8), pp. 38-54.
- Vacarel, I. Bercea, F. et al. 2006. *Finanțe publice (Public Finances)*. Bucharest: Didactic and Pedagogic Publishing House.
- Vennekens, A. and Shun Govende, 2005. Local Government Budget Guide. IDASA, Budget Information Service.
- Voinea, G., 2002. *Finanțe locale (Local Finances)*. Iasi: Junimea Publishing House.
- Voigt, S. and Blume, L., 2009. The Economic Effects of Federalism and Decentralization - A Cross-Country Assessment. CESifo Working Paper Series, No. 2766, [online] Available at: http://www.cesifo.de/DocCIDL/cesifo1_wp2766.pdf [Accessed on August 2010].
- Wallace, H., Wallace, W., Pollack, M., 2005. *Elaborarea politicilor in Uniunea Europeana*. Bucuresti: Institutul European din Romania.
- Law no. 273/2006 of Local Public Finances. [online] Available at: <<http://www.insse.ro>>; <<http://www.primariabacau.ro>>
- UI Project No. 07009, 2000. *Local Government Management and Finance Project – Analysis of the Legal Framework Latvia*. Washinton DC: The Urban Institute Washington. [online] Available at <<http://www.urban.org>> [Accessed on August 2010].