

RATIOS METHOD - A WAY OF MEASURING THE LOCAL GOVERNMENT PERFORMANCE

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Abstract. *In this paper the authors underline the methods of performance analysis in local government using financial rates. Therefore regional performance evolutions in the North-West region of Romania and its counties are analysed using indicators such as ROE, ROA, ROTA and others.*

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1. Introduction

Investors are concerned about the company's ability to generate, maintain and increase profits. Profitability can be measured in several different ways, but interdependent. First, consider the firm's profit from sales, which means sales return to a penny from sales. Another measure would be the return on investment (ROI), which correlates with profits investments required for their production. If the County Councils subordinate economic entities to measure profitability information system provides two categories of indicators: profitability expressed by the relationship between costs and sales and return on investment. Rates are useful tools of analysis that summarizes large amounts of data in a form easier to understand, interpret and compare. They show the same time limits that must be considered for each case. When comparing rates from different periods, one has to consider the conditions under which the company operates and the impact of certain changes on financial statements such as: changes in economic conditions, the production process, different product lines or geographic markets served. Rates are not the end point of the analysis and not the positive elements themselves (strengths) and negative (weaknesses) of the business or its management. Rates indicate, in our opinion, only the areas that require further investigation.

2. Methods and results

State efficiency of county governments can be detected by profitability ratios as follows:

a) Return on assets (ROA) is calculated as a percentage ratio between the result from operating activities (RAO) and total assets (AT) county administration is:

$$ROA = \frac{RAO}{AT} \cdot 100$$

Indicator highlights the contribution of property items to obtain the results. County governments in the northwest region and their situation is illustrated in the following figure.

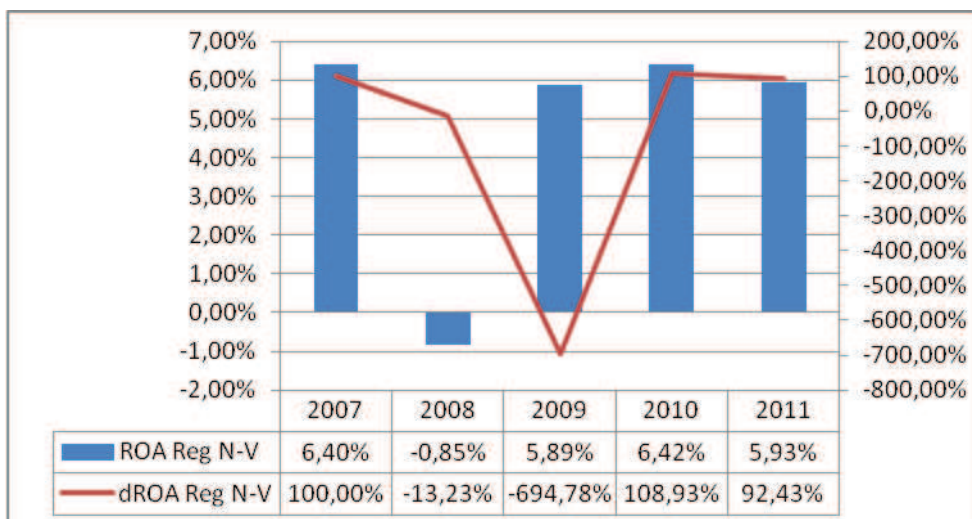


Figure 1: The evolution of Economic Rate of Return (Return On Assets)

The analysis of data shows a constant level of the indicator at 6%, except for 2008. We believe that constant trend indicator light creates a positive for future developments through county administration activities.

Table 1: Situation of counties developments regarding Economic Rate of Return

Indicator		Year				%
		2007	2008	2009	2010	2011
Economic of Return	Rate Reg. N-V	6,40%	-0,85%	5,89%	6,42%	5,93%
Economic of Return	Rate BH	9,74%	-4,99%	4,37%	6,26%	4,92%
Economic of Return	Rate BN	4,11%	5,98%	24,87%	7,33%	11,01%
Economic of Return	Rate CJ	28,05%	-0,81%	20,07%	9,11%	3,07%

Economic Rate of Return	MM	2,33%	3,16%	1,85%	8,29%	3,04%
Economic Rate of Return	SJ	14,03%	12,88%	7,58%	4,08%	11,18%
Economic Rate of Return	SM	1,20%	-3,57%	0,99%	3,14%	2,55%

Source: Financial statements of county administrations in the North-West region

a). According to other American analysts (Backer, Elgers, & Asebrook, 1988, p 598), the indicator ratio of current assets (Return On Current Assets - ROCA) is determined as a percentage ratio between the result from operating activities (RAO) and total current assets county administrations in the North-West (ACR).

$$ROCA = \frac{RAO}{ACR} \cdot 100$$

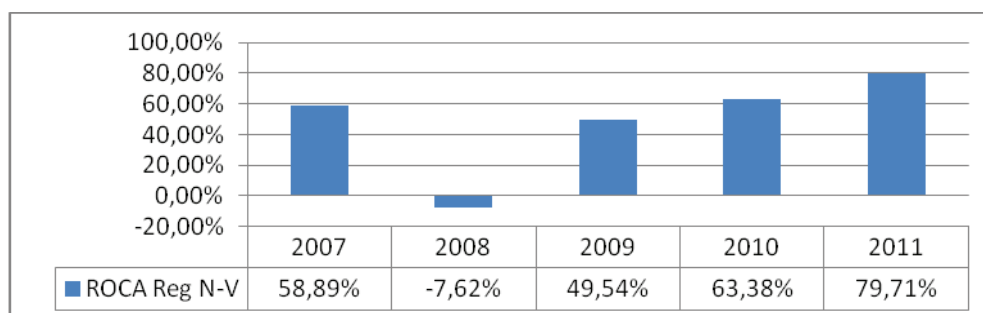


Figure 2: The evolution rate indicator of current assets in the North-West region
Source: Financial statements of county administrations in the North-West region

Table 2: Counties situation regarding the evolution of current assets ratio

Indicator		Year				%
		2007	2008	2009	2010	2011
Current assets ratio	Reg. N-V	58,89%	-7,62%	49,54%	63,38%	79,71%
Current assets ratio	BH	70,11%	-46,64%	49,45%	54,53%	45,76%
Current assets ratio	BN	51,65%	31,49%	76,43%	91,66%	535,94%
Current assets ratio	CJ	74,87%	-2,39%	63,83%	65,94%	32,02%
Current assets ratio	MM	26,20%	34,66%	23,54%	57,86%	24,40%
Current assets ratio	SJ	43,31%	50,56%	27,13%	44,94%	111,43%
Current assets ratio	SM	44,77%	-135,64%	25,64%	59,52%	70,17%

Source: Financial statements of county administrations in the North-West region

c) Return on total assets (Return On Total Assets - ROTA) is determined as a ratio of patrimonial result of the exercise (RPE), and the total assets of the county administration in the North-West. The indicator measures the return on all capital invested in the company. In Anglo-American economic literature, the indicator is called the rate of return on total assets (Return on Total Assets-ROA) or return on investment (Return on Investment-ROI). (Halpen, Weston & Brigham, 1998, p 111)

$$ROTA = \frac{RPE}{AT} \cdot 100$$

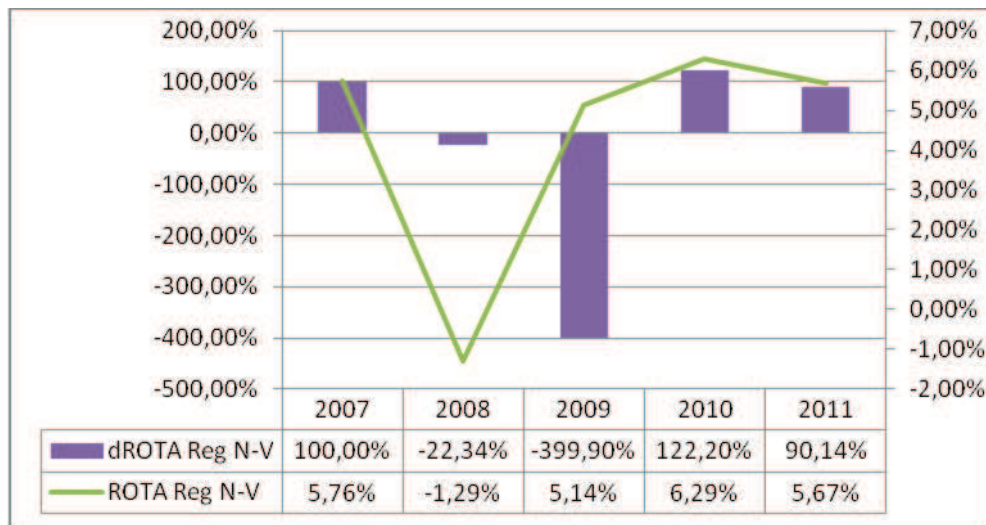


Figure 3: The evolution regarding the rate of return of total assets
Source: Financial statements of county administrations in the North-West region

In this case the indicator measures the efficiency with which assets are used by county governments in the North-West. The indicator shows earning power of county governments in the North-West from engaging in business with all its available resources. The situation of county governments in the northwest is illustrated in the figure above.

Table 3: Situation counties profitability rate of evolution of total assets

Indicator		Year				%
		2007	2008	2009	2010	2011
Return on total assets	Reg. N-V	5,76%	-1,29%	5,14%	6,29%	5,67%
Return on total assets	BH	7,64%	-5,65%	2,70%	5,64%	2,49%
Return on total assets	BN	3,91%	4,29%	24,35%	7,35%	10,95%
Return on total assets	CJ	27,93%	-0,78%	19,21%	9,12%	3,05%
Return on total assets	MM	2,29%	3,29%	1,98%	8,34%	3,08%

Return on total assets	SJ	12,58%	12,87%	7,17%	4,08%	11,20%
Return on total assets	SM	0,76%	-4,12%	0,26%	2,82%	2,35%

Source: Financial statements of county administrations in the North-West region

As indicator of trends we find that the index increases for 2008-2010 from -1.29% to 6.29%, followed by a slight reduction indicator due to the higher rate of income rate assets compared to proprietary. We appreciate that in terms of future work, the upward trend of the indicator creates favorable conditions for increasing self-financing capacity of county administration in the North-West in terms of increasing return on assets.

d) Return On Equity (ROE) is calculated as a percentage ratio between patrimonial result of the exercise (RPE) and the value of government equity (LGE) in North-West district.

$$ROE = \frac{RPE}{LGE} \cdot 100$$

The indicator shows the profitability of capital invested in a business. In Anglo-American literature this indicator is called return on equity or ROE (Return On Common Equity). With the analysed county administrations the situation is illustrated in the following figure.

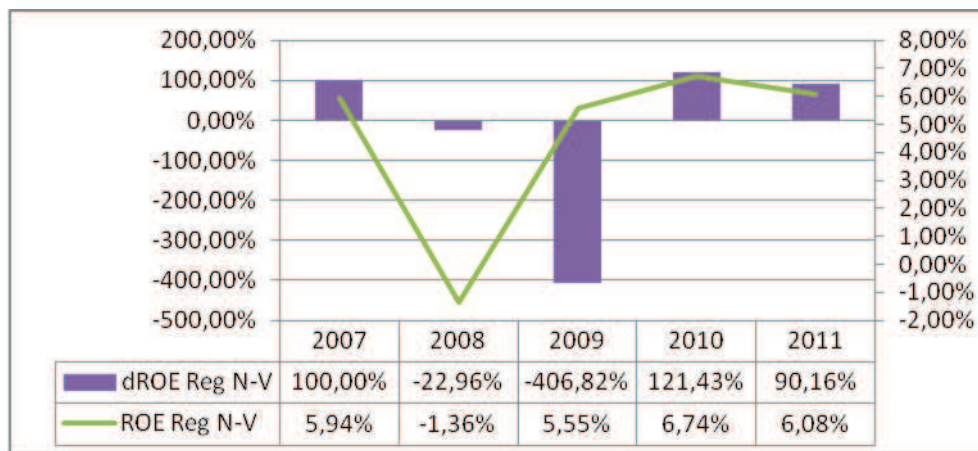


Figure 4: The evolution of financial profitability in North-West region

Source: Financial statements of county administrations in the North-West region

From analysing the indicator there is an increase in 2008 - 2010 from -1.36% in 2008 to 6.74% in 2010, and a decrease in its level from 5.94% in 2007 to -1, 36% in 2008, and from 6.74% in 2010 to 6.08% in 2011. Seen in the light of future work, we find that their funds do not generate enough profit, and therefore requires a closer analysis of the composition of these stocks, especially stocks and other funds, which

are funds which do not contribute practically to generating profit. The counties situation is presented in the table below.

Table 4: Counties situation of the evolution rate of financial return

Indicator		Year				%
		2007	2008	2009	2010	2011
Return On Equity	Reg. N-V	5,94%	-1,36%	5,55%	6,74%	6,08%
Return On Equity	BH	7,82%	-6,05%	3,11%	6,68%	3,07%
Return On Equity	BN	3,95%	4,45%	25,10%	7,47%	11,21%
Return On Equity	CJ	29,67%	-0,82%	19,94%	9,40%	3,17%
Return On Equity	MM	2,31%	3,34%	2,02%	9,26%	3,39%
Return On Equity	SJ	14,20%	14,46%	8,11%	4,36%	11,98%
Return On Equity	SM	0,78%	-4,43%	0,28%	3,10%	2,56%

Source: Financial statements of county administrations in the North-West region

Financial return is at significant levels in Bistrita - Nasaud, Cluj, Salaj and Bihor counties and insignificant in, Maramures and Satu Mare. In the research conducted we have built a statistical model to quantify the link between performance and debt in county administrations. Thus, we consider the six counties that make up the Northwest Development Region of Romania, during the period 2007-2011.

Performance of local government depends largely on its financial structure, and how the work is financed by both equity and debt finance. According to the classical theory there is an optimal ratio between the two funding sources report that lead to the minimization of cost of capital respective administration. Thus, we considered that the existence of a significant investigation interest between county government performance in the North West, as measured by ROE and ROA and total public debt service (as a measure of the government and default exposure as indirect measure of financial structure thereof) and their liquidity. In the analysis we have considered six county governments in 2007-2011, building the econometric **panel** models for each county administration, in the form:

$$ROA_{i,t} = a_1 PSDP_{i,t} + a_2 RLC_{i,t} + \epsilon_{i,t}, \quad i = \overline{1,6} \quad \text{și} \quad t = \overline{1,5}$$

$$ROE_{i,t} = a_1 PSDP_{i,t} + a_2 RLC_{i,t} + \epsilon_{i,t}, \quad i = \overline{1,6} \quad \text{și} \quad t = \overline{1,5}$$

where:

ROA (i, t) - is the value indicator recorded by the county administration and ROA in year t;

ROE (i, t) - is the value indicator recorded by the county administration and ROE in year t;

SDP (i, t) - is the value indicator PSDP (total public debt service) recorded by the county administration in year t;

RLC (i, t) - is the value indicator RLC (Current ratio) recorded by the county administration in year t

The table below notes that ROA is significantly influenced by the evolution of the share of total public debt and liquidity developments.

Table 5: Empirical study on the relationship between ROA, ROE, PSDP and RLC

$ROA_{i,t} = a_1 PSDP_{i,t} + a_2 RLC_{i,t} + \epsilon_{i,t}$		$ROE_{i,t} = a_1 PSDP_{i,t} + a_2 RLC_{i,t} + \epsilon_{i,t}$	
Coefficients	Point estimates	Coefficients	Point estimates
Bihor County			
a ₁	-0.0064**	a ₁	-0.00302*
a ₂	0.0031**	a ₂	0.004**
Bistrița-Năsăud County			
a ₁	-0.00522***	a ₁	-0.00495
a ₂	0.000102**	a ₂	0.00305*
Cluj County			
a ₁	-0.000312**	a ₁	-0.000731*
a ₂	0.04**	a ₂	0.1*
Maramureș County			
a ₁	-0.00661**	a ₁	-0.00424*
a ₂	0.00077	a ₂	0.0056
Satu Mare County			
a ₁	-0.00833*	a ₁	-0.00602*
a ₂	0.00045*	a ₂	0.0051*
Sălaj County			
a ₁	-0.00002***	a ₁	-0.00015***
a ₂	0.054**	a ₂	0.061

Source: Financial statements of county administrations in the North-West region

Note:

* Significant risk with a threshold of 10%,

** significant risk threshold of 5%;

*** Significant risk threshold of 1%

For Bihor county government, a 1% change in the share of public debt will result in a variation of the ROA 0.0064% and a 1% change in the rate of current liquidity will generate a change in ROA by 0.0031%. For ROE, a 1% change in the share of public debt will generate a modification of ROE 0.00302% and a 1% change in the rate of current liquidity will generate a change of 0.004% ROE.

For Bistrița - Nasăud, a 1% change in the share of public debt will lead to a change in ROA of 0.00522% and a 1% change in the rate of current liquidity will lead to a change of 0.000102% and ROA for ROE change of 1% public debt service will result in a variation of 0.00495% of ROE (but the coefficient is not statistically significant) and a 1% change in the rate of current liquidity will lead to a change in ROE with 0.00305%.

Data processing in Cluj County, showed that a 1% change in the share of public debt will result in a variation of the ROA 0.000312% and a 1% change in the rate of current liquidity will generate a change in ROA of 0.04% and for ROE, all for Cluj county, a 1% change in the share of public debt will rise to a modification of ROE 0.000731% and a 1% change in the rate of current liquidity will lead to a change in ROE by 0.1%. In Maramureș County, a 1% change in the share of public debt will lead to a change in ROA of 0.00661% and a 1% change in the rate of current liquidity will lead to a

change in ROA to 0.00077% (but the coefficient is not statistically significant). In exchange for ROE, a 1% change in the share of public debt will generate a modification of ROE 0.00424% and a 1% change in the rate of current liquidity will generate a change of 0.0056% ROE (ratio but not is statistically significant).

For the administration in Satu Mare, a 1% change in the share of public debt will result in a variation of the ROA 0.00833% and a 1% change in the rate of current liquidity will generate a change of 0.00045% and ROA for ROE change of 1% public debt service will generate a modification of ROE 0.00602% and a 1% change in the rate of current liquidity will generate a change of 0.0051% ROE.

Research conducted in Salaj county noted that a change of 1% public debt service will result in a variation of the ROA 0.00002% and a 1% change in the rate of current liquidity will generate a change in ROA of 0.054% while Why a 1% change in the share of public debt will lead to a modification of ROE 0.00015% and a 1% change in the rate of current liquidity will lead to a change of 0.061% ROE (but the coefficient is not significant in terms statistic). From research conducted that both ROA and ROE are negatively influenced total public debt service, regardless of county.

3. Conclusions

The county investigations undertaken revealed a number of issues on which we present a summary below.

- in the regional market there is a dispute of financial information between harmonization and standardization, domestic and international standard setters trying to replace international accounting differences with a set of consistent and harmonized accounting standards globally;

- although the national accounting reform has not been completed, the introduction of International Financial Reporting Standards is an important new step towards harmonization and standardization of national and international accounting. With this background we find that national accounting standards in local government are closer to international standards both in accounting rules, especially financial reporting system.

- in local government financial resources are presented in the balance sheet, whose format is closer to International Financial Reporting Standards that are reflected in current assets and non-current, non-current and current liabilities and equity. Meanwhile patrimonial result as an account is structured in operational activities, and extraordinary financial and patrimonial result and is treated as a final result no longer taxable.

- system resources and performance analysis of county government is based on a correlation of indicators presented in the form of financial ratios by which to highlight the financial structure, liquidity and solvency, the administration of public resources, debt and profitability.

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