

SUB-NATIONAL GOVERNMENT FINANCE. AN ANALYSIS ON THE REDISTRIBUTION MECHANISMS OF NATIONAL REVENUES IN ROMANIA

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Abstract

Local European Union (EU) communities are the epicenter of many current social and economic evolutions, and the sine qua non condition of inclusive development. The global financial crisis has deepened the disparities between communities, and the EU states must satisfy the growing public demand for inclusive, balanced development of municipalities and regions.

This paper analyzes how municipalities are financed in Europe, and focuses on the redistribution mechanisms pertaining to Romania's local finances. Using both data drawn from the 2014 state and local budgets, and also various mathematical and graphical means, this study intends to shed light on the contributing factors leading to persistent disparities in municipality finances.

Key words: subnational governments, income redistribution, inclusive development

1. INTRODUCTION

The recent economical evolutions have determined many European countries to conduct reforms or to reconsider the structure of subnational governments, in an effort to increase the efficiency of public resources. These reforms are partly justified by some archaic forms of territory structures. The Dutch provinces, for example, predate the Dutch state itself, and their number and structure have remained virtually unchanged for centuries. Another contributing factor is the exponential growth of metropolitan areas, seconded by the inconsistent public policies of constituent municipalities. The Paris metropolitan area has, for example, 1,400 subnational governments, and such administrative fragmentation cannot contribute to a cohesive government desideratum.

Concurrently, the EU states tend to transfer increasing amounts of state functions and responsibilities to subnational governments, a trend in which Romania leads the pack, with an increase of local finances ratio from 12% in 1995, to 23.9% in 2010. This tendency should continue, as the EU average has not yet been reached.

In 2014, there were 119,086 administrative – territorial units in the European Union. Their population varies widely, from 1 inhabitant (Uoplyst Sogn, Denmark), to 8.615.246 inhabitants (London, United Kingdom). The average population in 2014 is 3,267, mainly influenced by the French municipalities, which represent 30.80% of the total, with an average population of 1,770. Romania has 3,181 local administrative – territorial units, structured on two levels (county and city/town/commune), with an average population of 6,683, double than the EU average.

This paper analyzes how municipalities are financed in Europe, and focuses on the redistribution mechanisms pertaining to Romania's local finances.

The paper is structured on four parts, to which a conclusion paragraph and references are added.

The first part (Section 2) is dealing with the subnational government financial redistribution mechanisms in Romania.

Following, an analysis from the perspective of the revenue redistribution based on financial capacity of counties/municipalities is presented in the second part of the paper (Section 3).

Then, another criterion is used in the third part, which presents an analysis from the perspective of the revenue distribution to municipalities based on population and surface area (Section 4).

Finally, the effects of the correction mechanism based on local revenue collection over the state-shared revenues from income tax (SHA-AMM) are succinctly presented together with some suggestions for further refining the analysis.

2. SUBNATIONAL GOVERNMENT FINANCIAL REDISTRIBUTION MECHANISMS IN ROMANIA

Unlike the majority of European states (see Figure 1), local public finances of Romanian communities are dependent on state-shared revenues from income tax and value-added tax (VAT), and state subsidies:

- **In the first stage**, SHA-AMM are distributed between the 41 counties of Romania, according to the following two criteria:

(1) **County financial capacity** (70% proportion), based on income per capita, calculated based on the following formula:

$$AD_c = \frac{\frac{IPC_t}{IPC_c} * \frac{Pop.c}{Pop.t}}{\sum_{c=1}^{41} \left(\frac{IPC_t}{IPC_c} * \frac{Pop.c}{Pop.t} \right)} * AD_t$$

where: AD_c – amount distributed to each county; IPC_t – income per capita – all counties; IPC_c – income per capita – county level; $Pop.c$ – population – county level; $Pop.t$ – population – all counties; AD_t – total amount to be distributed;

(2) **County surface area** – 30% proportion.

Thus, an in-depth analysis of the financial redistribution mechanisms established in order to equilibrate local governments is needed.

Law 273 of 2006 (art. 33), regarding local public finances, states that VAT and income tax shared amounts (SHA-AMM) are redistributed in 3 stages, to compensate local budgets:

- **In the second stage**, 80% of the remaining amount, after 27% is deducted to finance the county's own budget, is distributed to each administrative – territorial unit (ATU) in 2 steps:

➤ **in the first step**, income is redistributed only to municipalities with income per capita (IPC_m) less than the county average (IPC_c), following two criteria:

- population share of the participating ATUs in the total county population, accounting for 75% of the amount distributed;
- surface area of participating ATUs in the total county surface area.

All amounts distributed in this first step are limited, preventing ATUs from exceeding the county-average income per capita.

➤ **in the second step**, the remaining amount is distributed to all ATUs according to their financial capacity. Given that the formula is similar to the one used in the first stage (county distribution), the corresponding indices have been replaced – c with m and t with c:

$$AD_m = \frac{\frac{IPC_c}{IPC_m} * \frac{Pop.m}{Pop.c}}{\sum_{m=1}^n \left(\frac{IPC_c}{IPC_m} * \frac{Pop.m}{Pop.c} \right)} * AD_c$$

where: Adm – amount distributed to each municipality; IPCc – income per capita – county level; IPCcm – income per capita – municipality level; Pop.m – population – municipality level; Pop.c – population – county level; ADc – total amount per county to be distributed.

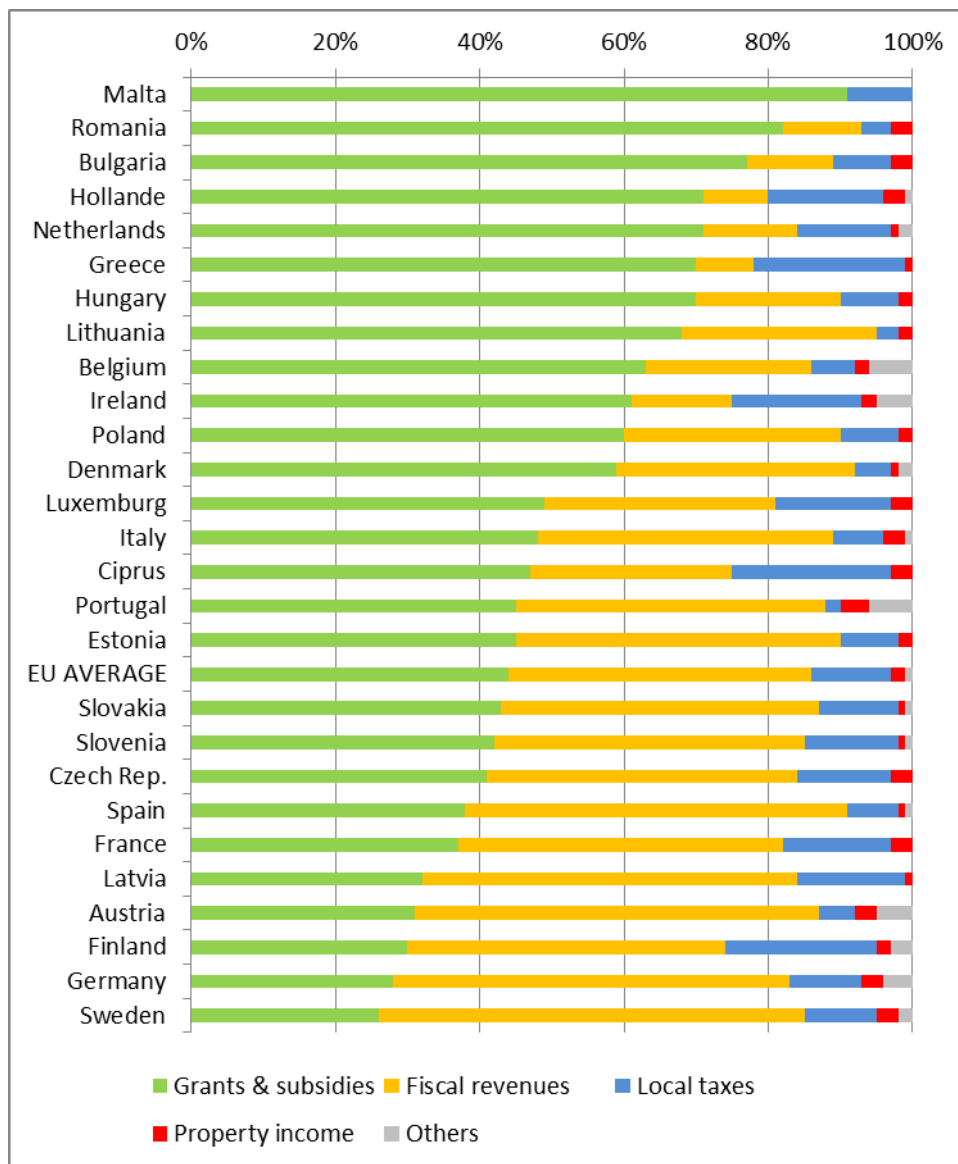


Figure 1. EU Subnational government income structure
(Source: Subnational public finance in the European Union, Dexia Credit Local, p. 15)

- **In the third stage**, the remaining 20% is distributed by the County Council, to finance outstanding debts, local development programs and infrastructure projects that need local co-financing.

3. ANALYSIS ON REVENUE REDISTRIBUTION BASED ON FINANCIAL CAPACITY OF COUNTIES / MUNICIPALITIES

As shown above, the formulas for county and municipality financial capacity are similar, allowing for extrapolation, replacing the indices as follows:

- c, respectively m, with u, representing the local territorial – administrative unit, either county or city/town/commune;
- t, respectively c with tu, representing total territorial – administrative units.

$$ADu = \frac{\frac{IPCtu}{IPCu} * \frac{Pop.u}{Pop.tu}}{\sum_{u=1}^n \left(\frac{IPCtu}{IPCu} * \frac{Pop.u}{Pop.tu} \right)} * ADtu$$

where: ADu – amount distributed to each administrative unit; $IPCtu$ – income per capita – all administrative units; $IPCu$ – income per capita – administrative unit level; $Pop.u$ – population – administrative unit level; $Pop.tu$ – Population – all administrative units; $ADtu$ – total amount to be distributed

As income per capita, both at the ATU and the Total ATU levels, is calculated as the ratio between Income (Iu/Itu) and population ($Pop.u/Pop.tu$), respectively: $IPCu = \frac{Iu}{Pop.u}$, and $IPCtu = \frac{Itu}{Pop.tu}$, we can rewrite the above formula as:

$$ADu = \frac{\frac{\frac{Itu}{Pop.tu}}{\frac{Iu}{Pop.u}} * \frac{Pop.u}{Pop.tu}}{\sum_{u=1}^n \left(\frac{\frac{Itu}{Pop.tu}}{\frac{Iu}{Pop.u}} * \frac{Pop.u}{Pop.tu} \right)} * ADtu = \frac{\frac{Itu}{Iu} * \frac{Pop.u^2}{Pop.tu^2}}{\sum_{u=1}^n \left(\frac{Itu}{Iu} * \frac{Pop.u^2}{Pop.tu^2} \right)} * ADtu$$

respectively:

$$ADu = \frac{\frac{Itu}{Iu} * \frac{Pop.u^2}{Pop.tu^2}}{\frac{Itu}{Pop.tu^2} \sum_{u=1}^n \left(\frac{Pop.u^2}{Iu} \right)} * ADtu = \frac{\frac{Pop.u^2}{Iu}}{\sum_{u=1}^n \left(\frac{Pop.u^2}{Iu} \right)} * ADtu$$

In this formula, we can consider as a constant the expression $\frac{1}{\sum_{u=1}^n \left(\frac{Pop.u^2}{Iu} \right)} * ADtu$, and we analyze the influence of the 2 variables remaining – $Pop.u$ and Iu in how the state revenue shared amounts are distributed.

Taking into consideration all the relevant statistical data used in distributing the state income shared amounts in 2014, the value of the expression $\frac{1}{\sum_{u=1}^n \left(\frac{Pop.u^2}{Iu} \right)} * ADtu$ was 0.02418.

As a result, we finally obtain $ADu = \frac{Pop.u^2}{Iu} * 0.02418$.

It is thus clear that the SHA-AMM distributed amongst ATUs based on their financial capacity are the result of a two variable function, which can be graphically represented by a tridimensional surface, as shown in Figure 2.

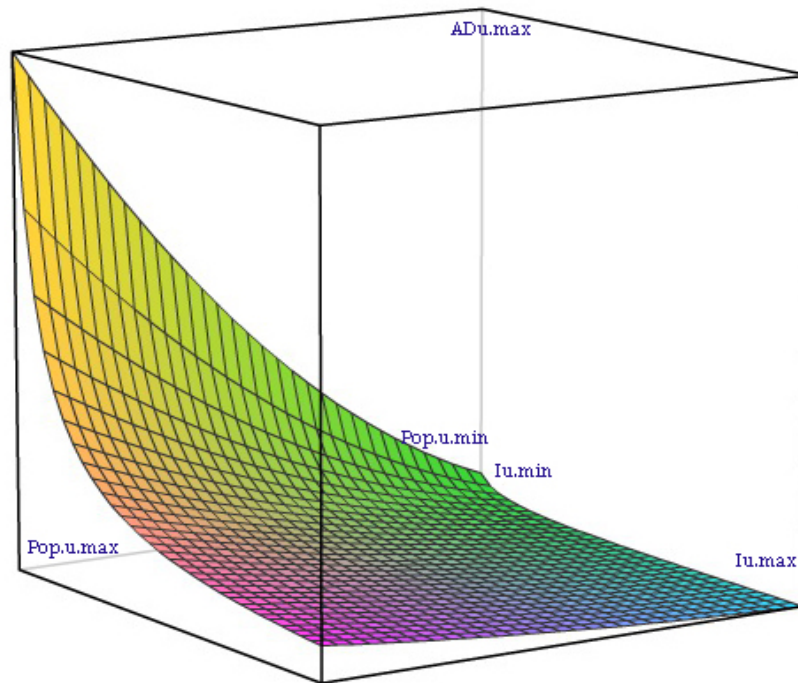


Figure 2. SHA-AMM distribution based on financial capacity
(Source: own representation, utilizing 3d function grapher)

For this graphical representation, the minimum and maximum values for Pop.u and Iu have been set according to the data pertaining to the 2014 SHA-AMM distribution at county level (first stage):

$$\begin{aligned} \text{Pop.u.min} &= 220,840 & \text{Iu.min} &= 52,960 \\ \text{Pop.u.max} &= 849,670 & \text{Iu.max} &= 730,859 \end{aligned}$$

Discernibly, SHA-AMM variation based on Pop.u, at any given level of Iu, depends on how close is Iu from Iu.min or Iu.max. If we consider $Iu = Iu.min$, then the SHA-AMM based on population will be:

$$\begin{aligned} \text{ADu.min} &= \frac{\text{Pop.u.min}^2}{52,960} * 0.02418 = 22,267 \\ \text{ADu.max} &= \frac{\text{Pop.u.max}^2}{52,960} * 0.02418 = 329,616 \end{aligned}$$

On the other hand, if we consider $Iu=Iu.max$, then:

$$\begin{aligned} \text{ADu.min} &= \frac{\text{Pop.u.min}^2}{730,859} * 0.02418 = 1,614 \\ \text{ADu.max} &= \frac{\text{Pop.u.max}^2}{730,859} * 0.02418 = 23,885 \end{aligned}$$

We can conclude that in counties with low income (I_u), SHA-AMM increase exponentially with county population, contributing significantly to averaging the income per capita at administrative unit level (IPC_u).

Nonetheless, the formula puts ATUs with high I_u , but also high Pop_u (leading to less-than-average IPC_u) at a disadvantage. If $I_u = I_{u,max}$, counties/municipalities that have maximum, respectively minimum population wouldn't benefit from an equitable distribution. Thus, in the first case, if $Pop_u = Pop_{u,max}$, following the distribution, IPC_u rises from 0.86 ($\frac{730,859}{849,670}$) to 0.89 ($\frac{730,859 + 23,885}{849,670}$).

If $Pop_u = Pop_{u,min}$, after the distribution IPC_u rises from 3.31 ($\frac{730,859}{220,840}$), to 3.32 ($\frac{730,859 + 1,614}{220,840}$).

Therefore, an obvious IPC gap remained after SHA-AMM distribution, proving, as the tridimensional representation in Figure 2 shows, that the balancing effect of the financial capacity distribution formula diminishes as I_u rises.

4. ANALYSIS ON REVENUE DISTRIBUTION TO MUNICIPALITIES BASED ON POPULATION AND SURFACE AREA

The first step of the second stage of state-shared revenues from income tax amount (SHA-AMM) distribution takes into consideration only municipalities with the income per capita at municipality level less than income per capita at county level, respectively $IPC_m < IPC_c$, and calculates the amounts distributed based on participating population and surface area.

The first step's purpose is to raise IPC_m as close as possible to IPC_c , without surpassing it. Despite this, practical cases show that significant gaps in IPC_m persist after SHA-AMM distribution, making further analysis necessary.

The vast majority of Romania's counties have a similar structure:

- one capital city, significantly more developed than the other municipalities;
- a handful of cities and towns, mainly underdeveloped;
- a few communes in vicinity of the county capital city, that host important businesses of the neighboring city;
- the majority of communes, lacking any real possibility for self-financing.

Given this structure, a large portion of municipalities in each county participate in the first step of distribution, as IPC_c is raised mainly by the county capital city and the few neighboring rich communes.

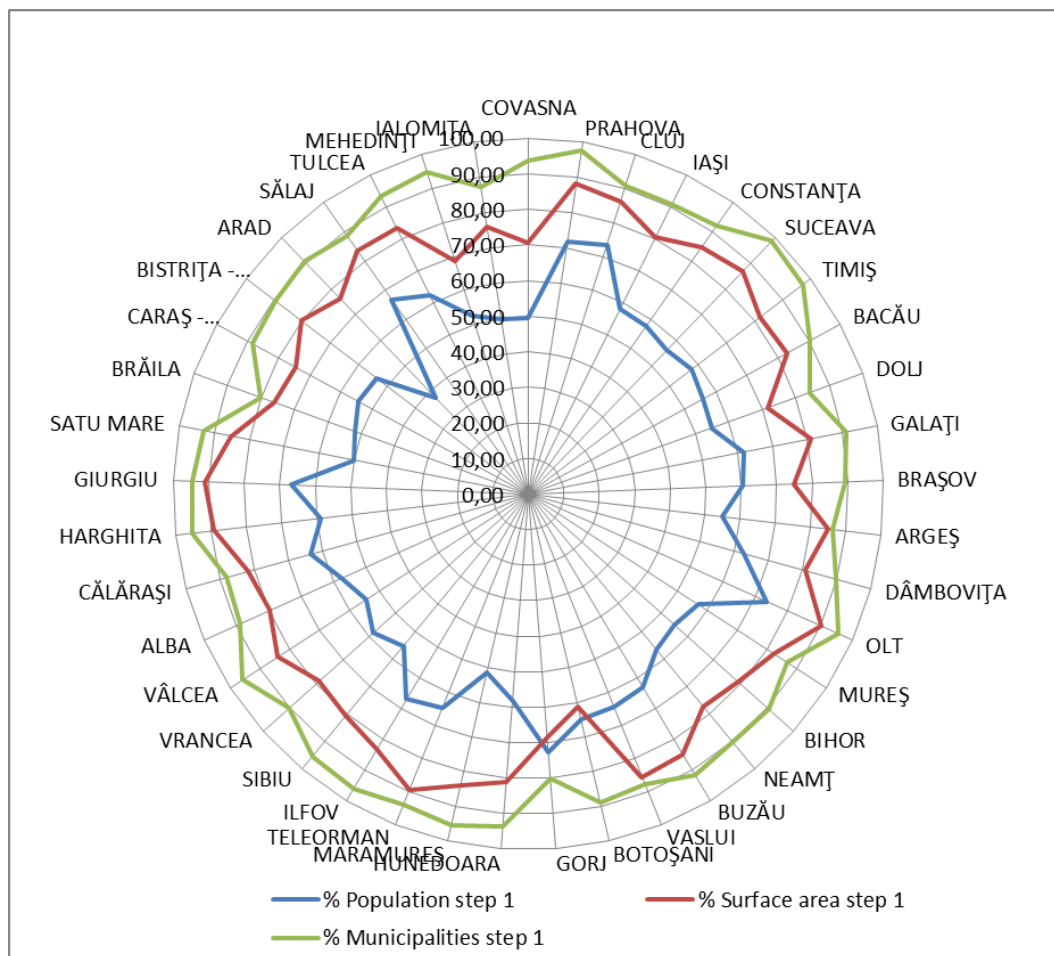


Figure 3. Percentage of municipalities, population and surface area pertaining to the first step of distribution

(Source: Compiled by author, using data available at http://www.dpfb1.mdrap.ro/echilibrare_initiala.html)

An analysis of the 2014 SHA-AMM distribution shows that 91.48% of all municipalities participated in the first step of the distribution, amassing 58.97% of the total county population and 80.80% of the total county area surface (see also the graphical representation in Figure 3).

This is expression of a polarized demographic and economic distribution in most of the counties, each containing densely populated social and economic powerhouses, opposed to the rest of the municipalities:

It is worth mentioning that, in order to equalize IPCu in this first step, the whole SHA-AMM at county-level is used, and the financial capacity formula from step 2 uses only the undistributed amount from the first step.

Drawing from the 2014 distribution data, we can conclude that the amount distributed using the financial capacity formula from step 2 is marginal, representing only 23.26% of the total SHA-AMM. This is due to the high levelling need of the first distribution step, characterized by a large gap between IPCm and IPCc.

5. THE EFFECTS OF STATE-SHARED REVENUES FROM INCOME TAX AMOUNT (SHA-AMM) CORRECTION BASED ON LOCAL REVENUE COLLECTION

According to *art. 33 paragraph f)* of the Public Local Finances Law no. 273 of 2006, the SHA-AMM calculated in stages I and II are corrected according to the local revenue collection rate.

This provision intends to motivate ATUs to collect thoroughly their own income, but the reality showed that it has several adverse effects. In fact, most of the communes do not properly evaluate their income, based on finding, evaluating and registering taxable objects or services provided. Practically, most communes do not know the income amounts due, and correcting SHA-AMM based on local collection revenue % is a discouragement to further extend taxation reach. It is difficult to presume that an ATU is inclined to extend its taxation reach, considering that the new income to be collected most likely comes from tax evaders or hard to collect sources, thus contributing to a lower collection rate. This is one of the reasons why fiscal inspection function is virtually non-existent in most communes.

Another unwanted side effect of this provision is that many fiscal revenues are not recorded into accounting journals, leading to significant discrepancies between fiscal and accounting records, directly impacting the reported revenue collection rate.

In most cases, the principles of accrual accounting are not followed, as fiscal and property income are recorded only when collected, and penalties are not calculated. This leads to unreal data being reported in the financial statements, and artificially increases the collection rate.

6. CONCLUSIONS

Municipality financing in Romania has evolved greatly in the past 20 years, sustaining both local public services and local development projects.

Financing mechanisms must be adapted to consider the multitude of factors that influence the social and economic structure of ATUs, and also the economic model of local communities, relating to aspects such as:

- big business process automation, leading to a decrease in human capital participation in income realization, with sizeable effects on IPCm;
- redistributing resources from small, rich municipalities, that host industries of neighboring cities;
- increasing number of commuters, mainly to big cities, that leads to income shift from the hometown;
- tourism influence in local/regional economy, including the contribution to local services breaking even (public transport, museums, etc.);
- infrastructure networks managed by each municipality, as each functioning network rises public spending, considering they are subsidized;
- public spending related to pollution and energy consumption reduction, especially in the urban areas;
- uniform regional development strategies, taking into account a synergy of the constituent municipalities, etc.

The European Union has identified the *lack of strategic focus* of its regional financing programs for the period 2007-2013 and the *financial crisis of 2008* as factors that increased the need of coherent strategic planning regarding the financing of EU regions.

These new approaches must also take into consideration issues raised by modern metropolitan areas, such as:

- *sustainable urban mobility* – using alternative energy, public transport, efficient logistics;
- *energy - sustainable buildings and districts*;

- *integrated IT&C, energy and transport infrastructures*, contributing to the developing of the Smart Cities.

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