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The Slovak municipal financing  
system and its review



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# **The Slovak municipal financing system and its review**

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# Introduction



The Slovakian municipal system and more specifically the absurdities experienced in its financing are publicly discussed for years. The most important reforms targeted at the transformation of public administration happened during the time of the first and second Dzurinda government. This process peaked in the implementation of the so-called fiscal decentralization, when the parliament passed the act 564/2004 regarding budgetary destinations of income tax revenue. Simply put, this act regulates the income tax proceeds devoted to regional and local self-governments (Regions, municipalities and cities) from the national budget, hence how

and in what way the income tax revenue is distributed among them. The process of creating a decentralized country later stalled, and neither the first Fico administration, taking office in 2006, nor the following governments made any thorough changes in this regard.

The national financial resource distribution system, in force since 2005, was last amended in 2016. From that year the total tax proceeds from the personal income tax are redistributed among regional and local self-governments. Until 2015 68.5% was devoted to the municipalities and 29.2% to the Regions, while 2.3% remained in the

income side of the national budget. Since 2016 these proportions changed to 70%/30% among municipal and regional self-governments. This distribution has been in place ever since.

The tax proceeds redistribution is performed using a complicated mathematical process, which until now was barely analyzed and although it was many times publicly criticized for its flaws, their quantified effect on the individual municipalities, districts and administrative regions wasn't ever summarized. We would now like to fill this void. We've broken the redistribution formula down to its elements and examined its operation. We calculat-

ed the income from each element for every municipality for the period of the 6 years between 2014 and 2019 and the total amount of their share from the national personal income tax proceeds. We identified the flaws, previously only talked about, or only assumed, and defined them as a loss in Euros, respectively we'll show them as compared or proportional values. We are introducing our results further. There are astonishing differences in the amounts – especially if averaged per one inhabitant in every municipality. The full data for the almost 3000 municipalities in Slovakia for the years 2014 to 2019 are published and available on the site [www.mennyiterek.sk](http://www.mennyiterek.sk).

# The redistribution system

The current tax redistribution system is based on the distribution of employee and craftsmen personal income tax proceeds, regulated by the act 564/2004., with the specifics of its implementation defined in the government ordinance 668/2004., which also includes the tables and formulas needed for the calculation. The redistribution mechanism calculates the share of each public administration unit from the mentioned total tax revenue using a complex string of mathematical formulas.

There are several different parameters considered in the redistribution, all applied with different weights, which (put simply) precisely define how many Euros the individual self-government units receive. Regarding Regions<sup>1</sup> we can state that the used parameters are in general objectively defined and they are in line with the operation and jurisdiction of the regional level self-government. The share of the individual Regions is calculated based on param-

eters, like middle school aged population<sup>2</sup>, the area of the administrative region, the length of the road network maintained by the region administration, population density and of course also the population. The highest weight in their formula is assigned to the population beyond retirement age and the length of the road network, which two parameters define more, than half of the redistributed amount. The regional level self-governments thus receive their share of the tax proceeds devoted to them along objective and acceptable parameters, therefore we won't be dealing with them any further.

More interesting seem to be the parameters, that define the redistribution of 70% of the personal income tax proceeds among the municipalities and towns. The relevant government ordinance sets 4 different parameters for this calculation. The first and probably most interesting of them is the population, which is present in the formula both by itself and in combination with

an elevation coefficient, and which for a better illustration of an absurd situation, we'll consider as two separate factors. By this logic we will differentiate the following 5 parameters:

- Population proportion (10%)
- Elevation coefficient (13%)
- Size coefficient (32%)
- Number of enrolled students (40%)
- Population above 62 years of age (5%)

The largest portion of the proceeds devoted to municipalities, namely 40% of it is defined by the number of enrolled students, meaning that this element has the biggest impact or weight. The parameter with the second highest impact is the one defined by the size coefficient with 32%. The third is the portion calculated with the elevation coefficient, which is applied to 13% of the total amount, followed by the pop-

ulation proportion with 10% and finally the smallest weight belongs to the proportion of population above 62 years of age, defining only 5% of the total amount redistributed.

All these parameters together with their weights are built into a mathematical formula with which, after inserting the required statistical data, anybody can calculate the exact share of every municipality from the income tax proceeds devoted to this level as a financial income amount. The distribution process itself, meaning the application of the formula and thereby the calculation of the municipalities' shares is performed by the tax authority on a monthly basis. The source of data is the statistics office database<sup>3</sup> and the coefficients are published in the referenced government ordinance. We are adding the used formula for illustration and we'll explain it in detail further.

$$PD_i = PD_{i a1} + PD_{i a2} + 0,32 \times VD \times (k_i \times OB_i) / \sum_{i=1}^n (k_i \times OB_i) + 0,40 \times VD \times [\sum_{j=1}^{19} (c_j \times Z_{ij}) + \sum_{j=1}^{18} (c_j \times Z_{ij m})] / [\sum_{j=1}^{19} (c_j \times Z_j) + \sum_{j=1}^{18} (c_j \times Z_{j m})] + 0,05 \times VD \times OB_{i pp} / OB_{pp}$$

ahol:

$$PD_{i a1} = 0,23 \times VD \times 0,43 \times OB_i / OB$$

$$PD_{i a2 \text{ zákl.}} = 0,23 \times VD \times 0,57 \times OB_i / OB$$

$$PD_{i a2} = (PD_{i a2 \text{ zákl.}} \times k_{nv i}) / \sum_{i=1}^n (PD_{i a2 \text{ zákl.}} \times k_{nv i}) \times PD_{i a2 \text{ zákl.}}$$

<sup>1</sup> The regional level of self-government in Slovakia, bearing similarities with (and many times also called) counties.

<sup>2</sup> The Regions are maintaining the middle-tear education system, meaning the higher the number of students, the higher the budgetary need

<sup>3</sup> The data regarding the number of enrolled students is not collected by the statistics office, it is only publishing them. These data are collected by the Scientific-technical Information Centre (Centrum vedecko-technických informácií)

**Explanation**

$PD_i$  – tax share of municipality “i” (PD – Podiel z dane)

$PD_{i_{a1}}$  – tax share of municipality “i” based on population proportion

$PD_{i_{a2\ zákl.}}$  – tax share base of municipality “i” based on elevation coefficient

$PD_{i_{a2}}$  – tax share of municipality “i” based on elevation coefficient

VD – total tax proceeds devoted to municipalities (VD - Výnos z dane)

$K_{nvi}$  – elevation coefficient of municipality “i”

$k_i$  – coefficient of municipality “i”

$OB_i$  – population of municipality “i”

OB – country’s population

$c_j$  – coefficient “j” of the municipality according to the table in the ordinance

$z_{ij}$  – number of students under coefficient “j” in municipality “i”

$z_{ijm}$  - number of students in private or parochial schools under coefficient “j” in municipality “i”

$Z_j$  – total number of students under coefficient “j” in the country

$Z_{jm}$  - total number of students under coefficient “j” in private or parochial schools in the country

$OB_{i_{pp}}$  – population above 62 years of age in municipality “i”

$OB_{pp}$  – population above 62 years of age in the country

From the municipalities’ point of view the calculation basically consists of 3 steps. Let us illustrate with an example.

**1. Allocation of the personal income tax proceeds by 70%-30%**

*For example, if the national economy produced 1 billion Euros in personal income tax proceeds, 300 million will be distributed among Regions and 700 million among municipalities.*

**2. The 70% amount is further divided into 5 subtotals according to the five listed parameters**

*The 700 million Euros are thus divided into 5 subtotals the following way*

- *the amount defined by population proportion – 10%: 70 million €*
- *the amount defined by the elevation coefficient – 13%: 91 million €*
- *the amount defined by the size coefficient – 32%: 224 million €*
- *the amount defined by the number of enrolled students – 40%: 280 million €*
- *the amount defined by the population above 62 years of age – 5%: 35 million €*

**3. Calculation of the share for individual municipalities**

They calculate the share of each municipality from the subtotals. Practically said the formula provides a ratio for each subtotal for every municipality.<sup>4</sup> It calculates 5 ratios for every municipality, which if applied to the subtotals, meaning multiplied by them

and then summed up we get the given municipality’s share of the tax proceeds devoted to this level of regional self-governments.

*For example, if the ratios for municipality “X” for the listed subtotals in order are 1%, 0.5%, 1%, 0.7%, 1.2%, then the share of municipality “X” is calculated the following way*

<i>the amount defined by population proportion: 70 million € * 1%</i>	<i>= 0,7 million €</i>
<i>the amount defined by the elevation coefficient: 91 million € * 0,5%</i>	<i>= 4,55 million €</i>
<i>the amount defined by the size coefficient: 224 million € * 1%</i>	<i>= 2,24 million €</i>
<i>the amount defined by the number of enrolled students: 280 million € * 0,7%</i>	<i>= 19,6 million €</i>
<i>the amount defined by the population above 62 years of age: 35 million € * 1,2%</i>	<i>= 0,42 million €</i>
<hr/>	
<i>The total share for the given municipality:</i>	<i>27,51 million €</i>

Of course, the example uses much higher ratios than usual in reality for a better understanding, so the shares of municipalities are also magnitudes lower in reality compared to the ones shown in the example, however, the functioning of the system is identical with the described process.

<sup>4</sup> Meaning, that the sum of the ratios always equals 100% within the same subtotal

# Elements of the tax redistribution system

Next, we'll be analyzing the individual parameters and their definition in the formula, thus describing their specific influences on the shares of municipalities with a special focus on the ones with questionable effects.

## Population proportion

Probably the simplest parameter. The municipality's population as a proportion of the national population calculated based on number of residents on January 1st the previous year. The amount dedicated to this parameter is then multiplied by the resulting percentage, giving the share of each municipality of this parameter's subtotal. Only to illustrate the scales, the average calculated ratio for the country's municipalities is 0,03%. The highest proportion of 7,9% belongs naturally to the capital, the lowest to Príkra, counting only 7 souls, thus representing 0,00013% of the national population.

If for example the subtotal<sup>5</sup> calculated for this parameter was 100 million Euros, Bratislava would get 7,9 million, Príkra 130 Euros.

## Number of enrolled students

Opposed to the previous one, this parameter is the most complicated in the whole formula. Apart from taking into consideration the number of students enrolled in educational institutions in the given municipality, it additionally assigns 19 unique coefficients to several special educational institutions operating in the municipalities, respectively it uses another additional size coefficient for kindergartens (see table 1). This calculation step is so complicated, that the ministry's annual public notice, listing the data necessary for the share calculation, doesn't include the base values for sub-calculations of the given parameter, as it does for all other parameters, but the result itself.

This parameter has the highest impact on the tax share, it defines the distribution of the biggest subtotal from the dedicated tax proceeds. Therefore, the municipalities with the most or largest educational institutions on their territory are able to have a higher share on the tax proceeds, which effect is only strengthened, if at least one of the 20 special institution types, with a unique coefficient is operating in the municipality. It's important to note, that the calculation doesn't take the operator of the educational institutions into account, it only considers, if an institution operates on the territory of the given municipality, thus the parochial and public schools are equally counted.

The government ordinance assigns the highest unique coefficients to educational institutions providing special care, as for example reeducation centers or school sanatoriums. Of the more common institutions the artistic schools have a relatively high coefficient. We observed several times for example, that municipalities with size and elevations coefficients with a decreasing effect were able to counter their losses and reach

a per capita tax share above the national average exactly thanks to the fact, that an artistic school is operating on their territory, providing the necessary surplus share. For example, Červený Kláštor, receiving the highest per capita tax share in the country, gaining in average 2269 Euros per resident in 2019, owes its high average (compared to the national average of 407 Euros per capita) to the local artistic school, although in this case the elevation coefficient has also an increasing effect. Jastrabie nad Topľou on the other hand, despite both an elevation and size coefficient with revenue decreasing effect, had the third highest per capita tax share in the country in 2019 with 1363 Euros per one inhabitant, primarily thanks to the coefficient of the local private artistic school.

<sup>5</sup> 10% of 70% of the national private income tax proceeds

Table 1.: The unique coefficients of selected special educational institutions according to the government ordinance 668/2004

Nr.	Coefficient subject	Coefficient
1	Student of artistic school – Individual program	14,7
2	Student of artistic school – group program	4,8
3	Child in kindergarten	27,3
4	Child with special needs in kindergarten	68,2
5	Child in kindergarten for special needs	40,9
6	Child in kindergarten operating in a health institution	6
7	Child in daycare	13,2
8	Child in daycare operating in a school for special needs, including boarding schools	7,9
9	Child visiting a daycare operating in a health institution	1,8
10	Potential diner – student of elementary school, elementary school for special needs, gymnasium or conservatory	3,6
11	Potential diner – student of elementary boarding school, special needs elementary boarding schools, boarding gymnasium, or boarding conservatory	0,5
12	Student of language school	15,0
13	Child in dorm visiting kindergarten, elementary school, middle school	75,0
14	Child in dorm visiting special needs school	1,1
15	Education in leisure center	117,0
16	Child in school for children with behavioral, emotional and social difficulties	113,0
17	Student in school sanatorium	0,2
18	Child in center for pedagogical-psychological counseling and prevention	2,0
19	Child in special-pedagogical counseling center	1,5
20	For the management of educational buildings based on number of students in kindergartens and schools managed by the municipality	1,5

## Population above 62 years of age

Like the population proportion, it is a simple calculation parameter, basically works the same way. From the designated tax proceeds sub-total defined for this parameter, each municipality receives a share equal to the proportion of the population over the age of 62 living in its municipality's in relation to the national population over the age of 62. The highest ratio in 2019 belonged to Bratislava (8,92%), the lowest is a tie between two municipalities, Červeňany and Príkra (both 0,00028%). Accordingly, in 2019 Bratislava received 9,9 million Euros revenue from this subtotal, while the two other mentioned municipalities 313 Euros each.

## Parameter defined by the elevation coefficient

The government ordinance, as we already mentioned, is dealing with the parameter defined by the elevation coefficient and the one using the population proportion as one, however we would like to take a special

focus on this parameter, first because the formula actually calculates it separately, second because we think, that it deserves special attention.

As a matter of fact, the base for this parameter is also the proportion of the municipality's residents from the national population, which during the calculation has to be modified by an elevation coefficient, resulting in a new ratio, by which the municipality participates on the subtotal amount dedicated to this parameter. Simply put, the calculation in practice is applied in a way, that first a base share is calculated using the population proportion, and then this amount is increased or decreased depending on the effect of the municipality's elevation coefficient. The government ordinance assigns an elevation coefficient to every municipality in the country, which is calculated by a separate formula, and spans from 0.75 to 2. Since this is a coefficient, mathematically we can state, that if the coefficient value is higher, than 1, the coefficient increases the share of the municipality compared to the calculated base, while the coefficients below 1 decrease it. In the analysis we'll be using the phrase "decreasing" coefficient for the coefficients



below 1 and the phrase “increasing” coefficient for the ones above 1. The critical elevation, at which the coefficient changes from decreasing into increasing is 300 meters above sea level (see map 1) <sup>6</sup>.

The elevation coefficient was introduced to deal with the different energy requirements of buildings managed by the municipalities – namely stating, that the higher municipalities need to heat more. Basically, the statement is true, but it oversimplifies the issue and is unjust to some municipalities. The elevation of a municipality by itself isn't telling anything about its geographical properties – if it's for example located in a narrow valley or a plateau, although these circumstances have a strong influence on the microclimate. It doesn't consider either that at identical elevations there are colder winters in the east of the country, than in the west (stronger continental effect), or the temperature inversion effect, when the air temperature in higher areas is warmer compared to lower ones (f. e. cold air is trapped in a valley). The coefficient also doesn't consider neither the volume nor the area of the buildings heated by the municipalities – there can be signif-

icant differences in the portfolio of managed public buildings between two municipalities, that are identical in population, but at different elevations.

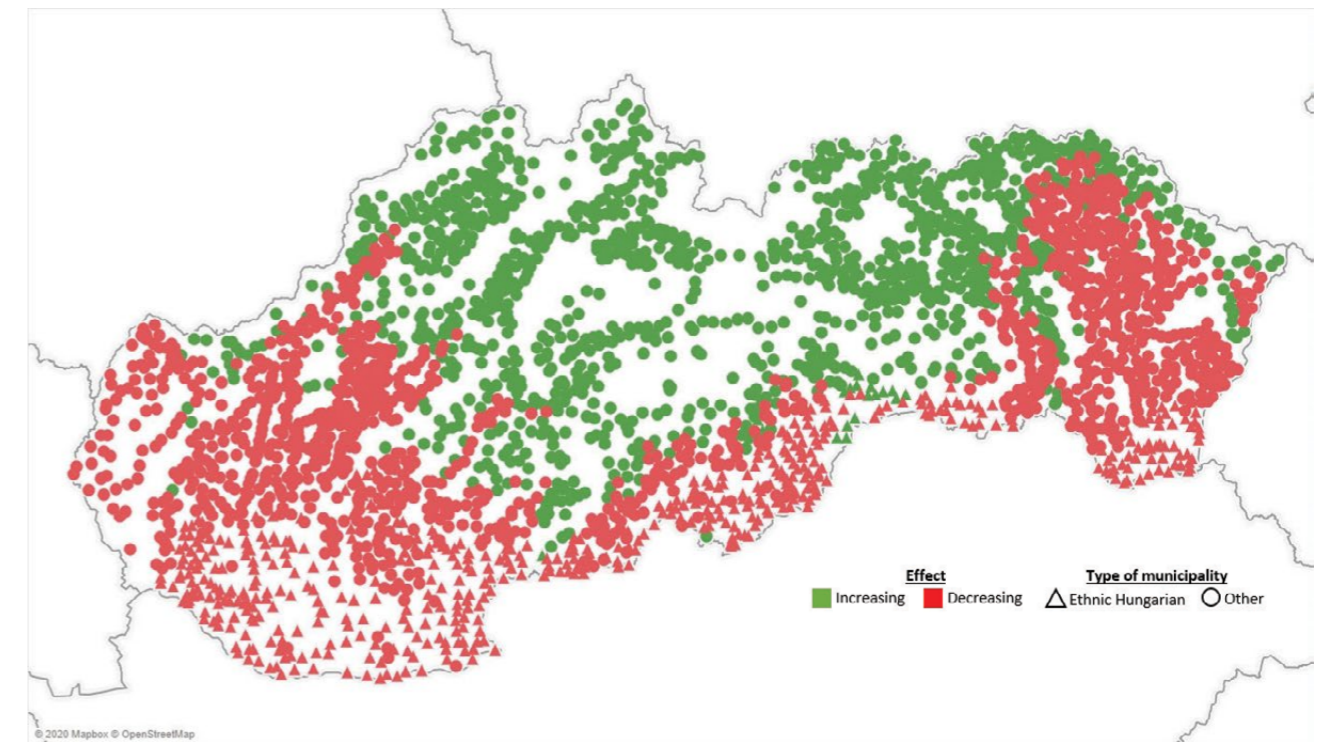
Another reasoning for the introduction of the elevation coefficient was the need for road maintenance in winter, but the length of the road network maintained by the municipality isn't considered (as it is the case for example in the neighboring Czech Republic). The elevation coefficient is meanwhile questionable also because of the technical and industrial changes, that occurred since its introduction, as the solutions for heating and heat isolation available by today's standards are able to significantly decrease the municipalities' heating expenditures. It also disregards the fact, that the lower laying municipalities also have their own specific costs and needs, for which they don't receive similar surplus funding.

To sum up, we can say, that even if we accept the argument, that additional resources should be granted to higher municipalities covering their special needs, we could accept these only in a quantified and proportional manner. This element is missing, and the elevation by itself is accepted as

a proof for the mentioned assumed special needs. Until the elevation is the only applied indicator support-

ing the claim for the assumed special costs, the redistribution system can't be considered objective.

Map 1: The effect of the elevation coefficient on the country's municipalities



Of the 2887 municipalities in the country<sup>7</sup> 1211 have an increasing elevation coefficient assigned, the resources “taken” from the remaining 1676 municipalities are transferred to them. We consider this parameter especially discriminative, because the regions inhabited by the Hungarian minority, are typically the lower, flat territories, in the southern parts of the country. Only 18<sup>8</sup> of the 512 municipalities considered

ethnic Hungarian have an elevation coefficient with revenue increasing effect. 15 of them are located in the district Rožňava, which has the highest average elevation among the districts with Hungarian population, another 2 are located in the district Rimavská Sobota, one in the district Levice. One third of all municipalities with decreasing elevation coefficients are ethnic Hungarian ones. The highest coefficient belongs

<sup>6</sup> The municipalities with elevation above 300 meters have coefficients above 1, the lower ones have coefficients below 1

<sup>7</sup> The districts of Bratislava and Košice aren't considered separately in the tax redistribution system, the two cities are both counted as one unit, the further distribution between the districts is regulated internally in both of them.

<sup>8</sup> Bôrka, Čučma, Dlhá Ves, Drnava, Ipeľské Úľany, Kečovo, Kováčová, Krásnohorská Dlhá Lúka, Krásnohorské Podhradie, Kružná, Lipovec, Lipovník, Lúčka, Rožňava, Rudná, Silica, Silická Brezová, Slizké

to Demänovská Dolina with a value of 2, whereas the lowest coefficient of 0.75 is held by Klin and Bodrogom. The latter one is considered ethnic Hungarian. Due to the effect of the elevation coefficient there can be significant differences between the tax proceeds share of two municipalities with identical population and identical, or comparable educational infrastructure, but at different elevation (depending on their size the difference can be in the tens or even hundreds of thousands).

A couple examples: The city of Veľký Meder is deprived of 92 thousand Euros yearly, whereas the similar in size Smižany in the district Spišská Nová Ves receives a surplus of 102 thousand Euros. The yearly loss of Šahy is around 68 thousand Euros, while the identical in size Nová Baňa in the district Žarnovica receives additional 70 thousand Euros because of the elevation coefficient. The 46 thousand Euros loss of Tornaľa can be retraced in the 44 thousand Euro gain of Krásno nad Kysucou. As a result of the system one resident's value for example in Kráľovský Chlmec is 49 euros, in Nové Zámky 38 euros, in Streda nad Bodrogom 34 euros, in Veľký Cetín 31 euros less, than comparable municipalities identical in size, but with a higher elevation.

## Parameter defined by the size coefficient

The second parameter in the formula, which can be considered discriminative in its nature is the size coefficient. Similar to the elevation coefficient, this modifies the population proportion too, and this one too, can have a decreasing or increasing effect depending whether its value is above or below 1. The government ordinance defines 7 size groups, each with its own coefficient. Of the 7 groups 2 are dedicated especially to Bratislava and Košice, with their own unique coefficients. Except for these 2, only the cities with population above 50 thousand residents received an increasing coefficient, and the values for all other municipalities are below 1 (see table nr.2).

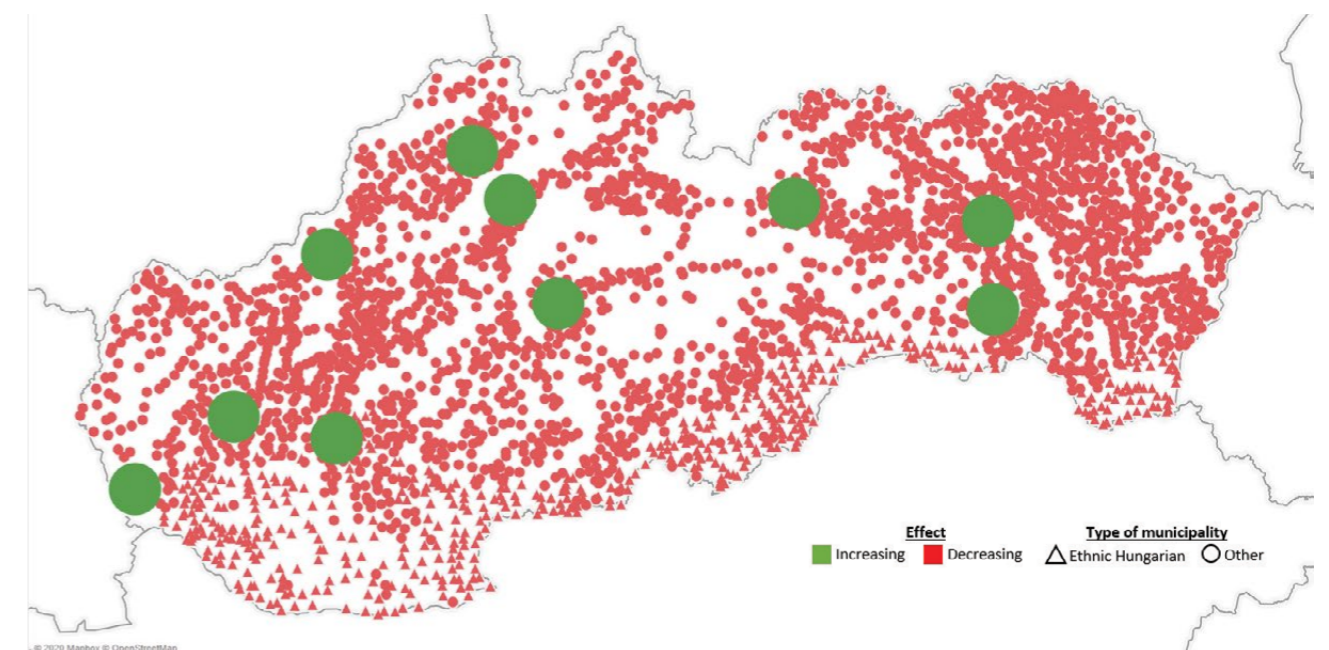
Table 2.: The size coefficient table

Size category (population)	Coefficient
1-1000	0.89
1001-5000	0.9
5001-10000	0.91
10001-50000	0.94
50001-100000	1.13
Košice	1.5
Bratislava	2.35

The size coefficient thus privileges the big cities. Including Bratislava and Košice there are overall 10 cities in the country<sup>9</sup> with an increasing coefficient. Funds are transferred to them from all other municipalities. Another interesting fact is, that the smaller the municipality is, the more it contributes - compared to itself, for example in percentage of its own budget - to the surplus of the big cities. Additional resources are granted to towns, who's own economic power and possibilities either in industry, tourism, or other sectors wouldn't make it necessary. We can usually rather see the opposite trend in other countries, where the bigger, stronger units support the smaller and weaker ones based on the

principles of solidarity. Projected on the map, it is clearly visible, how the 10 big cities exploit the other municipalities in the country because of this parameter (see map 2). An interesting question for us is the difference between the size coefficient and the population proportion. Practically the larger the municipalities' population proportion is compared to the national population, the higher its coefficient is, even though in most cases still bearing a decreasing effect. Therefore, the coefficient reapplies an element already present in the formula, the parameter based on the size of population, but in this case with a bigger impact and except for 10 cases in a discriminative manner.

Map 2: The effect of the size coefficient on the country's municipalities



9 The 8 Region seats, plus Martin and Poprad

## The effects of the elevation and size coefficients

Let us take a combined look at these two parameters, as we consider them being the discriminative elements in the system, respectively the ones lacking objectivity in their application. Both coefficients increase or decrease the given municipality's share, always to the benefit or damage of others. Therefore, during data processing, we set up a unique indicator, calculating the amount of resources lost by the combined effect of the two coefficients for each municipality.

We have to note, that if we intended to remove the discriminative element in the two mentioned parameters, we would practically have to discontinue them as a whole, since they would lose any functionality and would be identical with the parameter defined by population proportion. Right now, however almost half, 45% of the tax proceeds redistributed among municipal self-governments are defined by these parameters and the coefficients built into them, causing big disproportions between comparable municipalities.

During our analysis we experienced, that many municipalities were able to compensate the possible disadvantages of the elevation and size coefficients. Primarily a wider educational infrastructure can provide the surplus to supplement the losses caused by the two coefficients. We can see many examples, when a larger elementary school, artistic school or other educational institutions, ideally even with a high unique coefficient on their own, provide a bigger share for the municipality and thus their average tax share per capita can exceed even the national average. However, the share could be even higher if a potentially decreasing-effect elevation or size coefficient did not deprive these municipalities of additional resources.

## Analysis

The following one, is an analysis and comparison of the data resulting from applying the redistribution formula. Our calculation is based on the real tax proceeds and their distribution among the regional and municipal level self-governments as they are published and approved in the state treasury final account. To the latter amount we applied the formula published in the government ordinance and explained above and calculated separately some relevant indicators.

Such a relevant indicator is for example the gain or loss of the municipality resulting from the existing system. As mentioned, this amount is the difference between the municipality's real share and the potential share it could have received disabling the two discriminative coefficients. We are showing these amounts in whole Euros. In the case of district and national summaries these gains/losses are to be considered as the value of the overall impact, meaning that from the gains

of the municipalities of the given district we extract the losses of the municipalities of the given district, resulting in the total gain/loss, thus the overall performance.

An important point of our work is the analysis of the elevation coefficient's effect, respectively the comparison of the geographic locations of municipalities within the districts. For this reason, we are also providing a broad overview of the district's relief, providing a context for the localization of municipalities. By this we would like to present the differences the elevation coefficient can cause even within the same district due to the different location of municipalities. We illustrate this effect mostly by considering the base amount calculated in this parameter's first step<sup>10</sup> to be 100 Euros for the sake of comparison, and indicate, how much the municipality loses or gains of every 100 base Euros. We also use a ratio to show the same effect.

<sup>10</sup> See the parameter's description above

During our analysis we implemented an indicator, where we divide the total tax share of each municipality by its population, thus calculate the average tax share per inhabitant or the per capita tax share. We can consider this the “value” of one resident in the tax redistribution system. This indicator is probably the most comparable one between individual municipalities, plus we can compare it to the national and district averages. The national average is the 70% of the total private income tax proceeds divided by the population of Slovakia, so the average of the tax proceeds distributed among municipalities per inhabitant. For 2019 this national average value is 407 Euros.

It's important to note, that during the analysis we won't be dealing directly with the size coefficient, as it has an increasing effect on the tax share only in ten cases, and since the most important part of our analysis is the detailed presentation of the results in the districts with Hungarian population, and none of the 10 privileged cities are located in any of these districts, meaning that for all analyzed districts and municipalities the coefficient has a decreasing effect. We'll be noticing this fact

only as a reminder from time to time. For the purposes of the analysis we'll be differentiating between ethnic Hungarian and non-ethnic Hungarian municipalities, which we'll define according to the 221/1999. government ordinance.<sup>11</sup> As the ordinance considers several municipalities ethnic Hungarians, in which the minority population is actually below 20%, the defined limit, respectively it doesn't include some, where this ratio is met, for the sake of precision we'll be mostly using the expression “considered ethnic Hungarian” or its forms to identify ethnic Hungarian municipalities, but also in cases, when for the sake of simplicity we'll be using just the term „Hungarian” we are basing this on the government ordinance too.

On all the maps the municipalities considered ethnic Hungarian are marked with a triangle, the others with a circle, while the presented indicator is marked with the sign color.

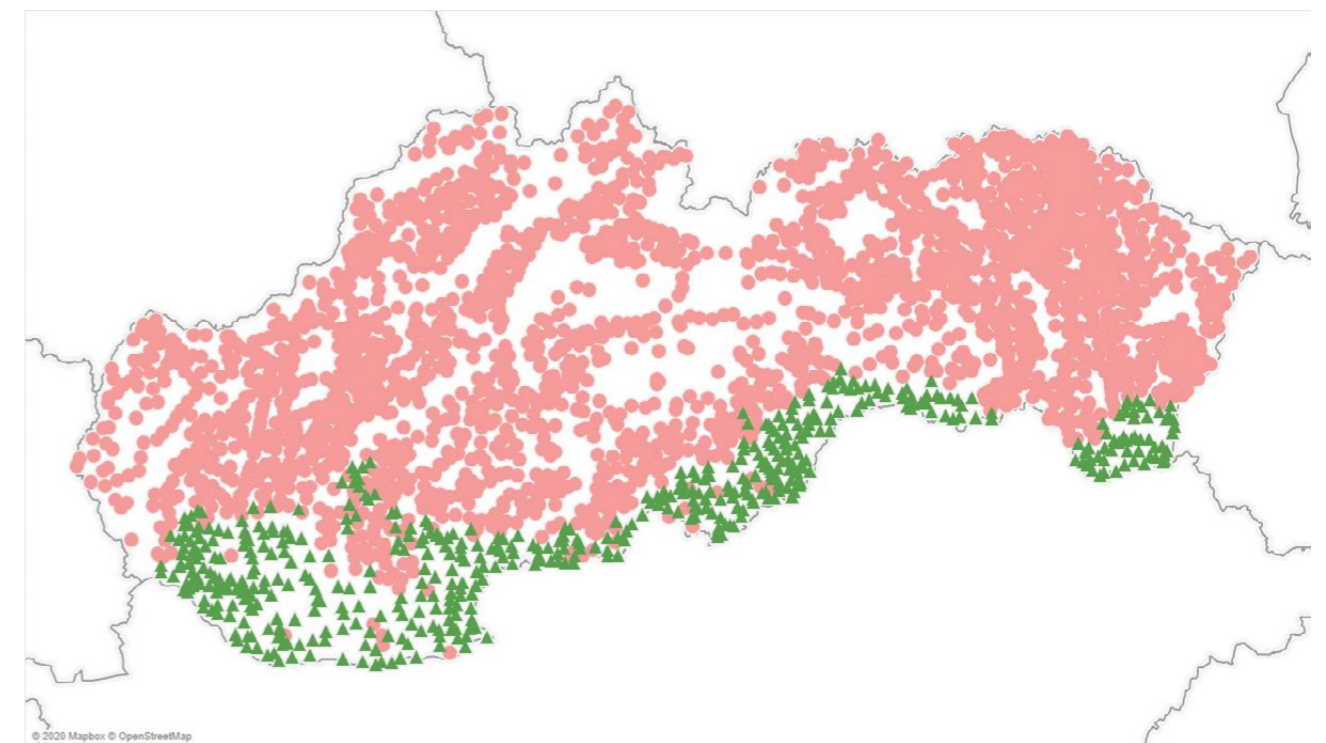
Before introducing the districts, we'll provide a national overview to illustrate the differences within the country as a whole and to provide a base for later comparison.

## National overview

The relief of Slovakia is primarily defined by the Carpathian Mountains with wider plains only in the eastern and western parts of the country, namely the Danubian Lowland and the Záhorie Lowland in the west and the Eastern Slovak Lowland in the

east. In the country, there are 512 municipalities considered ethnic Hungarian by the government ordinance 221/1999, of the total 2887 municipalities. They are mostly located along the country's south border and form a significant block territory on the Danubian Lowland, with other block territories in the Gemer and the Bodrožie regions (see map no. 3).

Map 3: The municipalities considered ethnic Hungarian in the government ordinance 221/1999 (marked green)



The elevation difference between the highest municipality in the country, Demänovská Dolina (1109 meters) and the lowest Klin and Bodrogom (97 meters) is more, than a kilometer. The

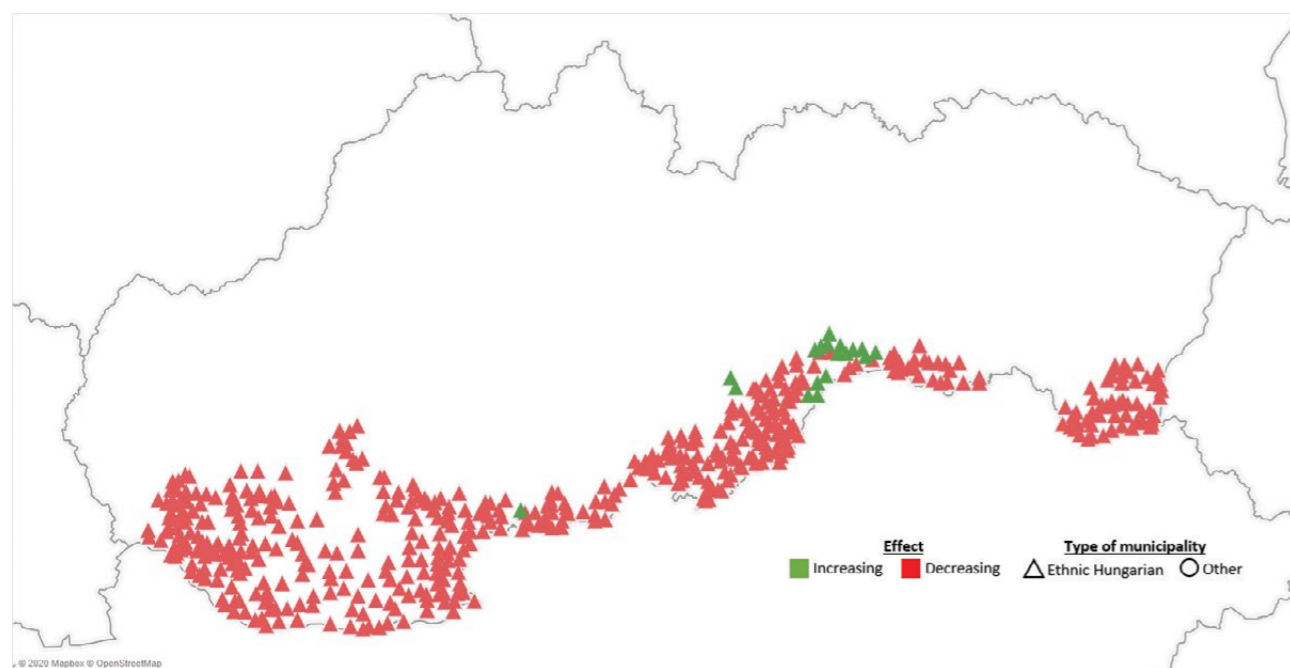
corresponding elevation coefficients cause the fact, that while the first one receives another 100 Euros on top of every calculated base 100 in the parameter defined by the elevation co-

<sup>11</sup> Ordinance of the Government of the Slovak Republic No. 221/1999 Col., including the list of municipalities in which the citizens of the Slovak Republic belonging to national minorities form at least 20% of the population

efficient, the latter received only 75 of every 100 Euro, thus losing 25 in the process. The average elevation of the ethnic Hungarian municipalities is approximately half of the critical limit of 300 meters, namely 162 meters, whereas the average of all other municipalities is 341 meters. This already shows, that the regions inhabited by Hungarians fall behind the rest of the country in regard of elevation and therefore the average elevation coefficient.<sup>12</sup> The average elevation coefficient of the Hungarian municipalities is 0.8302, whereas that of all the re-

maining ones is 1.0513. There are 18 municipalities, which are considered ethnic Hungarian among the total 20 with the lowest coefficients. All of them are located in the districts Trebišov and Michalovce.<sup>13</sup> Only 100 of the 512 ethnic Hungarian municipalities exceed an elevation of 200 meters above sea level and only 18 lie in altitudes above 300 meters. Based on the average elevation coefficient the Hungarian municipalities lose 17 Euros of every 100 in average due to the coefficient's effect (see map Nr. 4).

Map 4: The effect of the elevation coefficient in the municipalities considered ethnic Hungarian

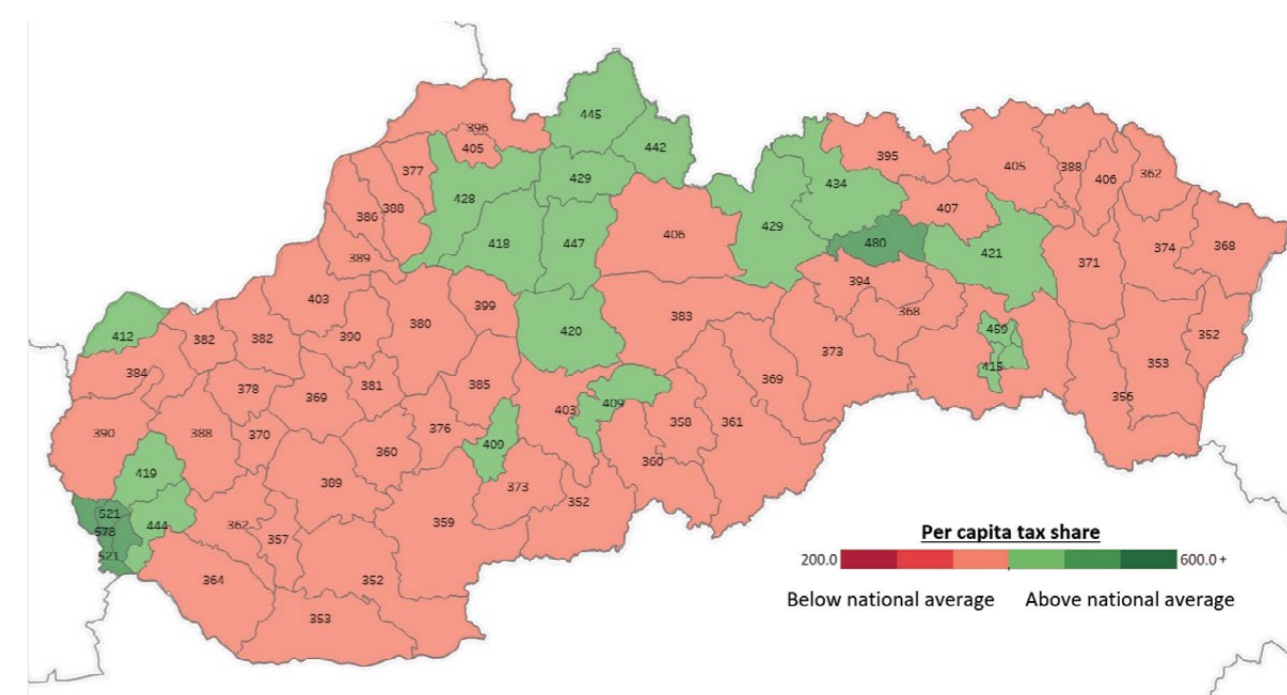


<sup>12</sup> Nevertheless, the lower-laying regions without Hungarian population, like for example the Záhorie are in a similar disadvantage too  
<sup>13</sup> The remaining 2 municipalities of the mentioned 20 are also located in the district Michalovce

Although regarding the average per capita tax share the ethnic Hungarian municipalities are mostly falling below the national average, they don't belong to the worst in the country in this regard. Of the 10 municipalities with the lowest average per capita tax share only three, whereas of the 10 with the highest average one is considered ethnic Hungarian. The highest average per capita tax share in the country belongs to Červený Kláštor, surpassing the national average by multitudes with 2262 Euros per resident. The lowest average is held by Dolný Chotár in the district Galanta, receiving an average tax share of 213 Euros per resident, which is less, then 10% of the average of Dolný Chotár.

39 ethnic Hungarian municipalities were able to exceed the national average (407 Euros per capita), representing 8% of all ethnic Hungarian municipalities. The same ratio for the non-ethnic Hungarian ones is 16%. Overall, of the 2887 municipalities in the country 410 (14%) performed above the national average. The connection between the elevation coefficient and the average tax share per resident is visible in the municipalities with the ten best and worst results. Of the 10 with the best average 7 have an increasing effect elevation coefficient, whereas all of the 10 with the lowest averages have a decreasing effect coefficient assigned by the government ordinance.

Map 5: The per capita average tax share in the individual districts compared to the national average



<sup>14</sup> The proportion of municipalities with a per capita average above 407 Euros.

Regarding the absolute gain or loss calculated from the two parameters with the discriminative coefficients, 2642 municipalities are on the losing side of the Slovak tax redistribution system, from which 82,5 million Euros are transferred to the 245 municipalities that gained a bonus. None of the latter is ethnic Hungarian, meaning that there is no Hungarian municipality, that would receive additional funds by the combined effect of the two coefficients. The summarized loss of the municipalities considered ethnic Hungarian due to the two analyzed elements in 2019 was 22,5 million Euros.

Interestingly, the 18 ethnic Hungarian municipalities with increasing effect elevation coefficients lost more resources due to their size coefficient having a decreasing effect, than they gained thanks to the elevation coefficient. Including them there are 970

municipalities in the country, where the increasing elevation coefficient couldn't compensate the loss caused by the size coefficient, meaning that in the end effect they also lose money. That's 80% of all municipalities with an increasing elevation coefficient.

Both the ethnic Hungarian municipalities and the districts they are located in, are in a disadvantage in the existing tax redistribution system considering this combined effect. Even the municipalities, that performed above the national average per capita tax share, lose resources due to the elevation and size coefficients and their average tax share per resident could be even higher in a more balanced system. There are significant differences also within regions, which we'll present by analyzing the districts with ethnic Hungarian population one by one (see map Nr.5).



## District focus

### District Senec

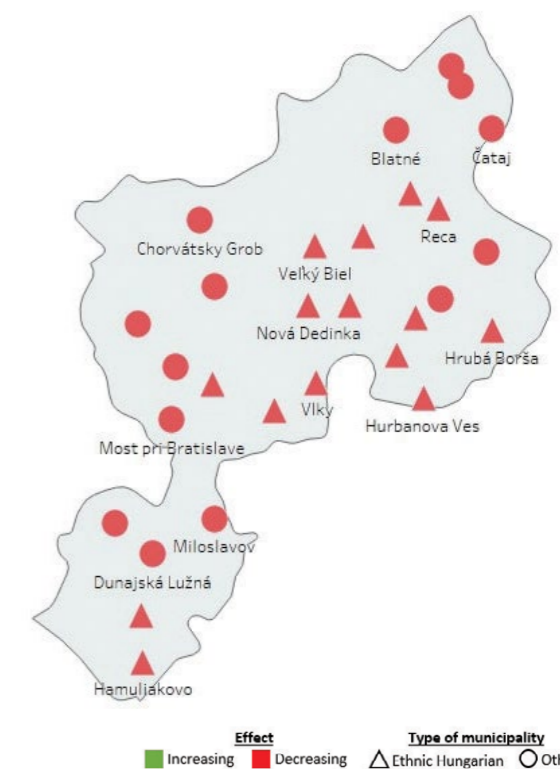
#### District data

- Average per capita tax share in 2019: 444 €
- Difference against the national average tax share per capita in 2019: +37 €
- Average elevation: 130 m
- Lowest municipality: Boldogfa, Hrubá Borša and Nový Svet (all 123 m)
- Highest municipality: Senec (148 m)
- Financial loss in 2019: 2 512 895 €
- Financial loss 2014-2019: 10 887 700 €

Of the 29 municipalities in the district Senec, 15 are considered ethnic Hungarian according to the government ordinance. As the whole district lies on the Danubian Lowland, all of its municipalities have decreasing elevation coefficients, thus all of them are losing resources ever since the current system has been in place. 3 municipalities share the title of the lowest. All lie at 123 meters above sea level with an elevation coefficient of 0.7821, resulting in only 78,21 Euros received of every 100 in this parameter. All the ethnic Hungarian municipalities in the district, except Senec, lie at simi-

lar altitudes (123-129 m) so their financial losses due to the elevation coefficient are also about the same. Even the highest municipality of the district, Senec, lies only at 140 meters, so regarding the coefficient it's far from the 300 meters limit, above which the coefficient would increase its tax share.

Map 6: Effect of the elevation coefficient in the district Senec

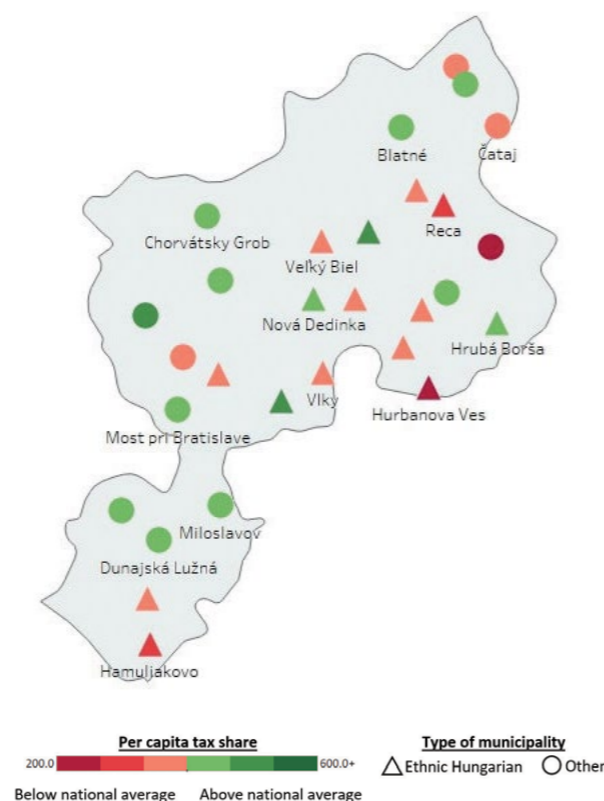


The result of the tax redistribution in the district Senec is, that in 2019 the average per capita tax share in the district's municipalities was 444 Euros per resident. Compared to the national average of 407 Euros the district was overachieving, but looking at the individual municipalities, especially at the ethnic Hungarian ones, the picture is more nuanced. Of the 29 municipalities 14 surpassed the national average per capita tax proceeds, of which only 4 are considered ethnic Hungarian, one being the city of Senec itself. Thus, of the 15 ethnic Hungarian municipalities 11 receive less, than 407 Euros averaged per inhabitant. The best performer among the municipalities below the national average is Malinovo with 395 Euros per resident, the lowest result was achieved by Hurbanova Ves with only 220 euros per resident.

As a result of the tax redistribution system the municipalities of the district Senec lost about 2.5 million euros, which were transferred into other regions because of the elevation and size coefficients. The ethnic Hungarian municipalities participated on this amount by 1,2 million. In the 6 years between 2014 and 2019 the loss totals to 11

million Euros, 5,1 million for the ethnic Hungarian municipalities.

Map 7: Per capita tax share in 2019 in the district Senec compared to the national average



## District Dunajská Streda

### District data

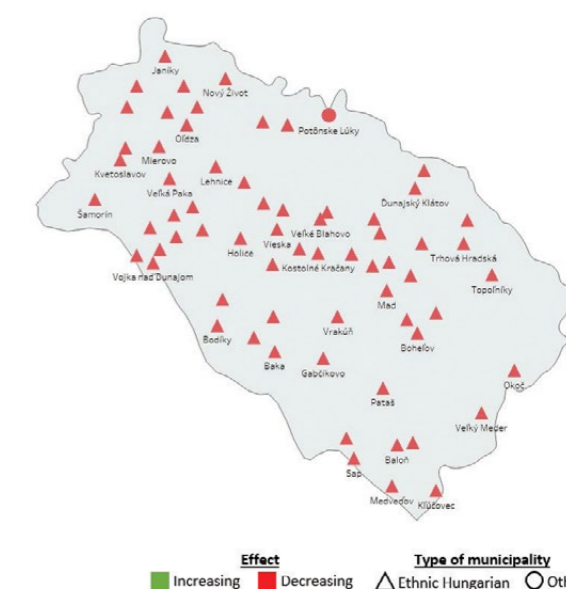
Average per capita tax share in 2019: 364 €  
 Difference against the national average per capita tax share in 2019: -43 €  
 Average elevation: 118 m  
 Lowest municipality: Klúčovec and Čiližská Radvaň (both 110 m)  
 Highest municipality: Štvrtok na Ostrove (128 m)  
 Financial loss in 2019: 3 744 558 €  
 Financial loss 2014-2019: 17 412 003 €

The district Dunajská Streda together with the district Komárno is considered the strongest ethnic Hungarian territorial block in the country, which fully shows also in the nationality mix of their municipalities. Only one of its 67 municipalities, Potônske Lúky isn't considered Hungarian according to the government ordinance, although 75% of its population being ethnic Hungarian.<sup>15</sup> As all districts with Hungarian population in the western part of the country, the district Dunajská Streda too lays on the Danubian Lowland, meaning, that the elevation coefficient has a decreasing effect for all its municipalities. The elevation difference between the highest and lowest municipality is only 18 meters.

<sup>15</sup> Potônske Lúky became an independent municipality in 2001, but the mentioned government ordinance wasn't amended ever since it first passed.

The lowest elevation coefficient in the district is 0.7661 (Ključovec and Čiližská Radvaň), the highest is 0.7833, so even this highest coefficient causes Štvrtok na Ostrove to receive only 78.33 Euros of every 100 Euros calculated as real income, the remaining almost 22 euros become part of the surplus of the higher laying regions.

Map 8: Effect of the elevation coefficient in the district Dunajská Streda



In the district's municipalities the average tax share per resident in 2019 was 364 Euros, which is 43 less, than the national average of 407 Euros. Only five municipalities exceeded the national average in this indicator, namely Zlaté Klasy (445 Eur), Šamorín (449 Eur), Dunajská Streda (416 Eur),

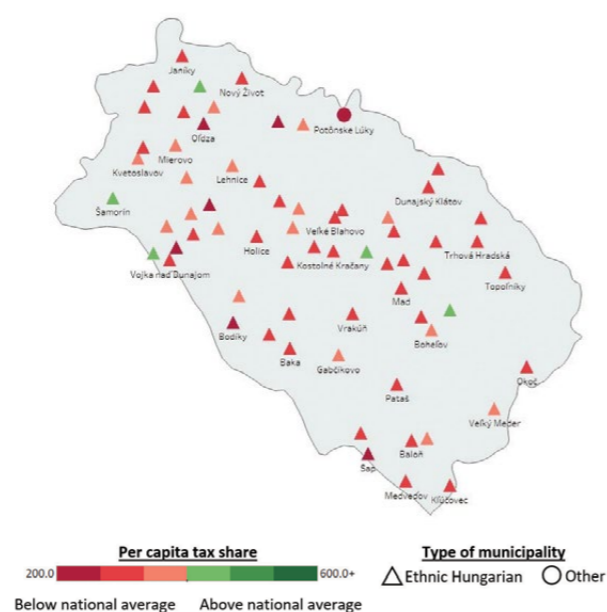
Dolný Štál (445 Eur) and Dobrohošť (427 Eur). These were able to counter the negative effects of the elevation and size coefficients, thanks either to their size or the educational institutions on their territory. In the remaining 62 municipalities the per capita tax share remained below 407 Euros in 2019.

In one third of the district's municipalities the combined effect of both coefficients is so harmful, that they received less than 300 euros averaged per one resident in 2019. Among the most affected are municipalities, like Oľdza (218 Eur), Bellova Ves (221 Eur), Macov (221 Eur), Sap (222 Eur) or Potônske Lúky (222 Eur). We can find 53 municipalities, that have an average at least 50 euros below the national average. It is obvious, that all municipalities in the district are in a clear disadvantage in the current tax redistribution system.

The result is that not only among the ethnic Hungarian districts but overall in the country, the district Dunajská Streda is the second worst (after the district Nové Zámky) regarding yearly financial loss in the redistribution process. The district's municipalities

lost more, than 3,7 million Euros during 2019 and 17.5 million Euros in the period between 2014 and 2019. Those resources would have been additional income in municipalities of the district, if the redistribution did not consider their elevation or size group.

Map 9: Per capita tax share in 2019 in the district Dunajská Streda compared to the national average



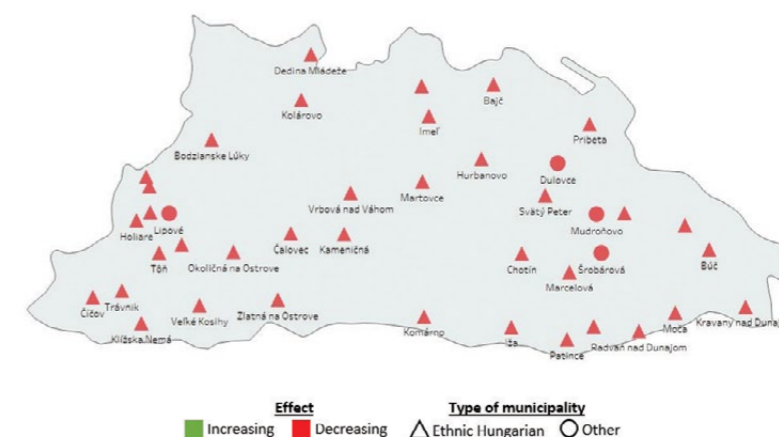
## District Komárno

### District data

- Average per capita tax share in 2019: 353 €
- Difference against the national average per capita tax share in 2019: -54 €
- Average elevation: 115 m
- Lowest municipality: Jastrabá (107 m)
- Highest municipality: Mudroňovo (157 m)
- Financial loss in 2019: 3 111 855 €
- Financial loss 2014-2019: 14 796 349 €

The district Komárno, similarly to the two previous mentioned ones, lies in the southern part of the Danubian Lowland. Accordingly, all its municipalities fall below the 300 meters altitude limit, resulting in decreasing elevation coefficients. This means, that all of them lose resources from this parameter in the redistribution process. Even Mudroňovo, the one with the highest elevation coefficient receives only 82% of the calculated base amount due to its effect.

Map 10: Effect of the elevation coefficient in the district Komárno

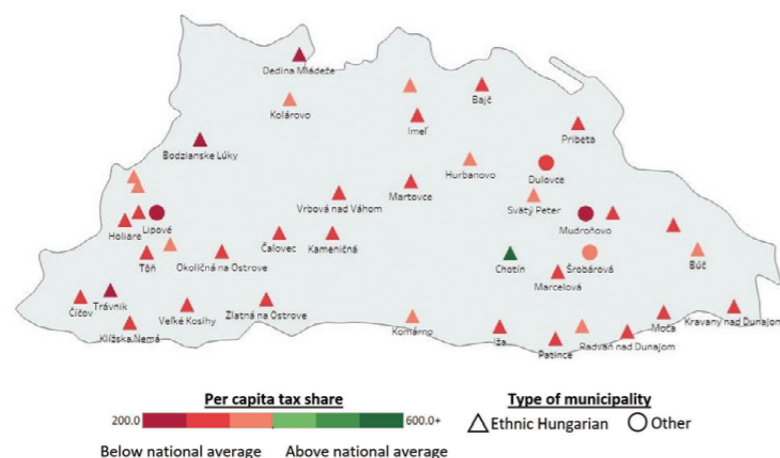


There's only one municipality with a per capita tax share above the national average. That one is Chotín, which despite losing money because of the elevation and size coefficients, compensates the decreasing effect of both questionable elements with a high coefficient on the

local schools. That's why Chotín's per capita tax share in 2019 was high above the national average, at 696 Euros. The second highest value in this indicator belongs to Hurbanovo, but only with a value of 398 Euros, 9 Euros below the national average.



Map 11: Per capita tax share in 2019 in the district Komárno compared to the national average



There are two municipalities jointly the worst off in the per capita tax share indicator. Both Lipové and Dedina Mládeže fall deep below the national average with their identical value of 224 Euros per resident. Not much better is the situation of Mudroňovo, which received 226 Eur in average per resident and ten other municipalities with this indicator below 300 Eur, among them such bigger ones, like Iža (297 Eur), Kameničná (294 Eur), Zlatná na Ostrove (289 Eur) or Dulovce (294 Eur). Of the four cities in the district the best result belongs to Hurbanovo, as already noted, Kolárovo (375 Eur) and Komárno (370 Eur) show a bit worse averages, while Nesvady receives

the least funds per one inhabitant among the cities (339 Eur).

The total financial loss in the tax redistribution system in the district Komárno in 2019 was 3.1 million Euros, almost one third of which, 957 thousand Euros is the loss of the city of Komárno itself, more than 200 thousand Euros is the loss of Kolárovo and Hurbanovo and significant losses can be calculated for Bátorove Kosihy, Marcelová and Nesvady as well, all three losing more, than 100 thousand Euros during the same year.

## District Galanta

### District data

Average per capita tax share in 2019: 362 €

Difference against the national average per capita tax share in 2019: -45 €

Average elevation: 124 m

Lowest municipality: Dolný Chotár (110 m)

Highest municipality: Vinohrady nad Váhom (166 m)

Financial loss in 2019: 2 853 048 €

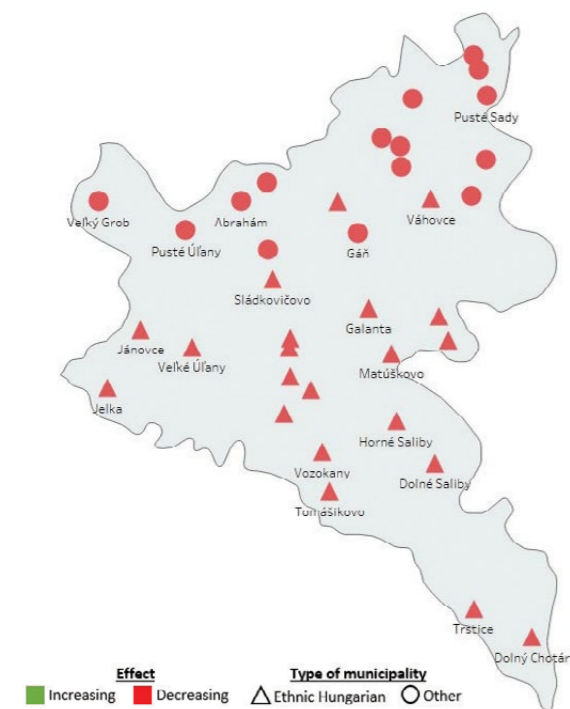
Financial loss 2014-2019: 13 434 742 €

The list of districts from the Danubian Lowland continues with the district Galanta, which also forms the northern border of the ethnic block territory in the western part of the country. 21 of its 36 municipalities are considered ethnic Hungarian, all in the south of the district. As it is visible in the above summary, this district is also negatively affected by the redistribution formula, as regarding both the elevation and size it has only municipalities with decreasing effect coefficients.

As the northern regions of the district are higher, even hilly compared to the ones analyzed until this point, regarding the elevation coefficient

there are already relevant differences between the highest and lowest municipalities, caused by a difference in elevation of 56 meters. Vinohrady nad Váhom receives 84 Euros of every base 100, whereas Dolný Chotár only 77. There are 4 municipalities in the district with an elevation coefficient between 0.8 and 1. All the others lose more, than 20% from the parameter defined by the elevation coefficient. None of the four municipalities with the highest coefficients (Pata, Šalgočka, Vinohrady nad Váhom, Zemianske Sady) is considered ethnic Hungarian by the government ordinance. Only the 9th highest elevation coefficient in the district is assigned to a Hungarian municipality, namely Váhovce with 0.7821, granting 78.21 Euros of every 100 calculated. On the other hand, all municipalities with the 10 lowest coefficients are considered ethnic Hungarian.

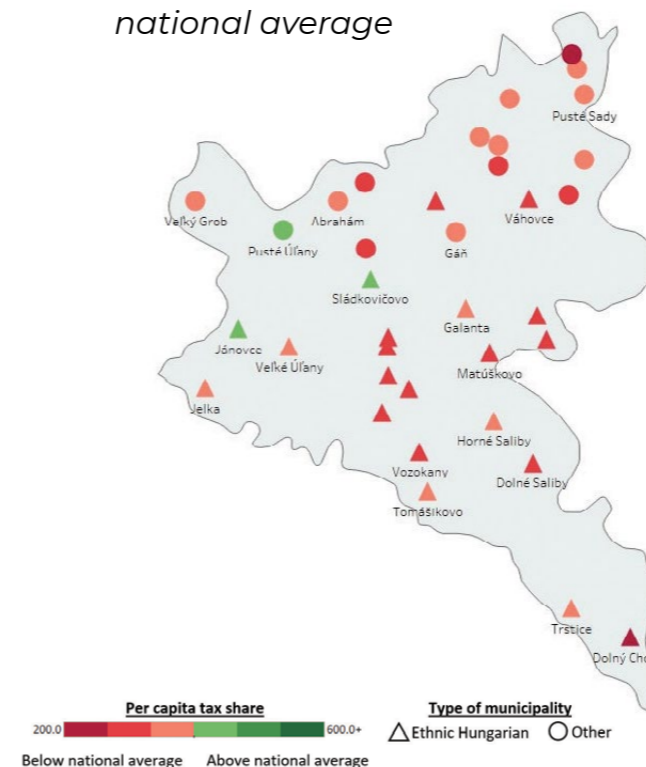
Map 12: Effect of the elevation coefficient in the district Galanta



All this implies, that the lowest per capita tax shares are associated with ethnic Hungarian municipalities. Of the municipalities with the five lowest coefficients four, of the ones with the ten lowest coefficients 8 are Hungarian. The lowest per capita tax share was received by Dolný Chotár, where the average per resident in 2019 was 213 Euros. That's almost half of the national average. The second worst is Šalgočka (218 Eur), the third is Kráľov Brod (281 Eur) and the fourth is Vozokany (291 Eur). The per capita share of all others is above 300 Eur.

Approaching from the other end, 3 municipalities of the district received a higher per capita tax share, than the national average, two of which are considered Hungarian, namely Jánovce (413 Eur) and the municipality with the best result in the district, Sládkovičovo (435 Eur). The third one able to "make the jump" is Pusté Úľany (422 Eur). The district center, Galanta is only the fourth with 404 Euros per resident, slightly below the national average. The district's average per capita is 362 Eur, which if we segment further, we'll see, that the Hungarian municipalities have a lower average (359 Eur), than the others (367 Eur).

Map 13: Per capita tax share in 2019 in the district Galanta compared to the national average



Due to the discriminative nature of the system, so the effect of the elevation and size coefficients, the municipalities in the district lost more, than 2.8 million Euros in 2019 and 13.5 million Euros between 2014 and 2019. The loss of the ethnic Hungarian municipalities is 1.8 million euros in 2019 and 8.5 million euros in the mentioned 6-year period. This result is sort-of disproportionate, since while 58% of the district's municipalities are ethnic Hungarian, due to their lower elevation, they bear a higher proportion of the losses, 63%. Overall, the district Galanta is the 8th in regard of amount lost in the redistribution system.

## District Šal'a

### District data

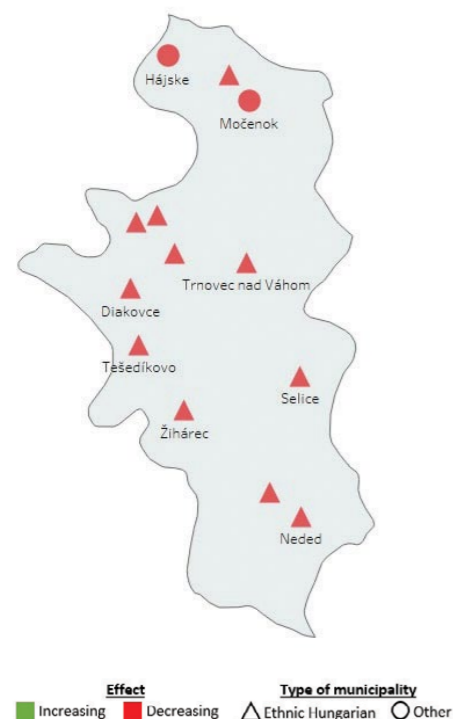
- Average per capita tax share in 2019: 357 €
- Difference against the national average per capita tax share in 2019: -50 €
- Average elevation: 118 m
- Lowest municipality: Neded, Vlčany and Žihárec (all 111 m)
- Highest municipality: Horná Kráľová (142 m)
- Financial loss in 2019: 1 578 902 €
- Financial loss 2014-2019: 7 505 591 €

Regarding number of municipalities the district Vágsellye is the second smallest in the country after the district Bytča. Of the 13 municipalities 11 are considered ethnic Hungarian by the government ordinance (the two exceptions being Močenok and Hájske). They can be geographically separated, as the two non-Hungarian municipalities are located at the northern border of the district together with Horná Kráľová, which is still considered ethnic Hungarian by the government ordinance, but the proportion of its Hungarian population is already less, than 15%. Regarding its relief the district lies mostly on plainlands, with small hills around the 3 highest municipalities, but none of

them has an elevation above even half of the 300 meters limit.

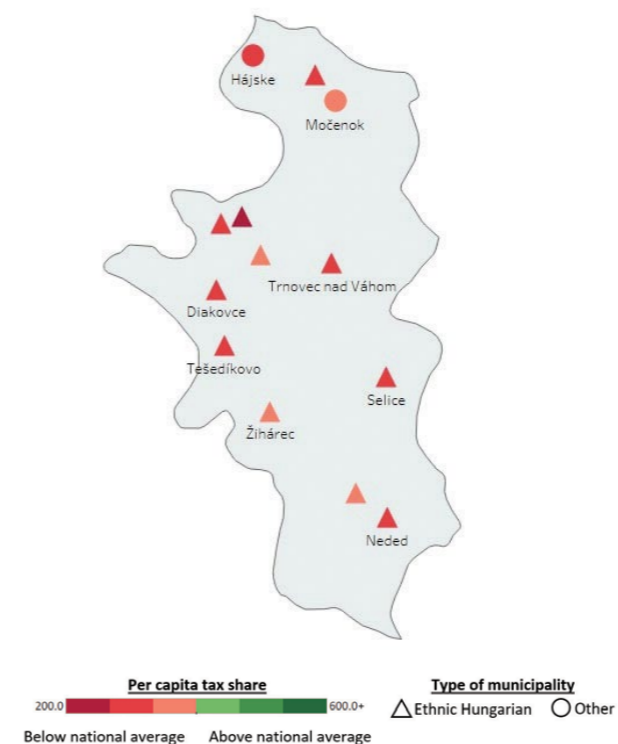
Ten of the thirteen municipalities have an elevation between 110 and 120 meters, all of them lying in the southern part of the district. Regarding the elevation coefficient this means, that only the highest, Kráľov Brod has a coefficient above 0.8, at 0.8056, thus receiving 80% of the calculated base amount in this parameter. For all others the ratio is lower, for the three lowest municipalities it's 77%.

Map 14: Effect of the elevation coefficient in the district Šaľa



Regarding average per capita tax share all municipalities in the district are below the national average, mostly with a significant difference. Šaľa, with the highest per capita value in 2019, 399 Euros per resident, is still 8 euros below the national average. The district center is followed by Močenok with 382 Euros, then Vlčany, which is not only falling below the national, but also the district average with 349 Euros. The district average is thus pulled upwards only by the two municipalities with the best results, all others performed below both the national and district average. Of them the lowest per capita tax share in 2019 belonged to Dlhá nad Váhom, which is by far the worst off in the district in this indicator. If we compare the result of Dlhá nad Váhom of 223 Euros per resident with the second worst Deakovce at 293 Euros, the difference is 69 Euros per resident. Only these two municipalities received less, than 300 Euros per inhabitant, the others have an average between 300 and 400 Euros.

Map 15: Per capita tax share in 2019 in the district Šaľa compared to the national average



The district's municipalities lost more, than 1.5 million Euros of tax proceeds, of which the participation of the two "Slovak" municipalities are 177 thousand euros, corresponding with their proportion within the district. The 6-year total loss in the district is 7.5 million Euros. Almost half of this amount falls solely on Šaľa.

## District Nitra

### District data

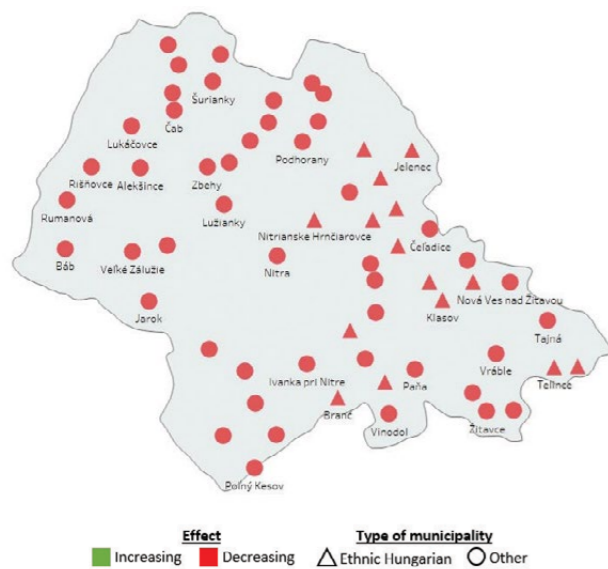
- Average per capita tax share in 2019: 389 €
- Difference against the national average per capita tax share in 2019: -18 €
- Average elevation: 164 m
- Lowest municipality: Polný Kesov (126 m)
- Highest municipality: Žirany (251 m)
- Financial loss in 2019: 2 551 542 €
- Financial loss 2014-2019: 11 826 098 €

The district Nitra is located at the north-eastern border of the Danubian Lowland, which defines most of its relief, however the Tribeč mountains reach into the northern regions. This section of the named mountain range is also called Zobor mountains. It is also the namesake of the ethnic Hungarian region of the district. Half of the 15 ethnic Hungarian municipalities (of the total of 62) are located in this so-called "Podzoborie" (Zobor foothill) region.

Since most of the ethnic Hungarian municipalities lie at the foothills of the Zobor mountains, their elevation is relatively higher compared to the other ones. Of the five municipalities with the highest elevation four are consid-

ered Hungarian and of the ten highest eight. The absolute highest, the ethnic Hungarian Žirany is practically encircled by the mountains. Despite this, it's elevation of 251 meters grants an elevation coefficient of only 0.9402, meaning a 6 Euros loss of every 100. There isn't a municipality in the district with an increasing elevation coefficient. The lowest Poľný Kesov loses 20 Euros of every 100 because of its coefficient of 0.7858.

Map 16: Effect of the elevation coefficient in the district Nitra

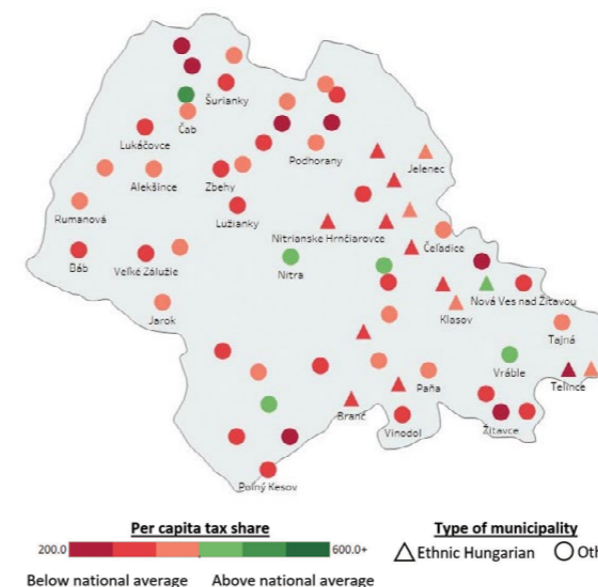


Despite the highest coefficients being mostly assigned to ethnic Hungarian municipalities, only one of the six municipalities in the district with a per capita tax share above the national average is considered ethnic Hun-

garian, Veľké Chyndice (439 Euros per resident). The highest average was attained by Nové Sady amounting to 509 euros. Similarly, of the five municipalities with the lowest averages only one, Telince (226 Euros per resident) is considered ethnic Hungarian. One resident of the municipality with the lowest average, Štefanovičová „was worth” 221 Euros in 2019. Thus, most of the ethnic Hungarian municipalities belong to a kind of a midrange regarding average tax share, as except for Veľké Chyndice another nine exceed 300 Euros per resident. However even the average of Hostová, the best performer of this group, is far behind the national average, being at 371 Euros per resident.



Map 17: Per capita tax share in 2019 in the district Nitra compared to the national average



More, than 2.5 million euros were transferred away from the municipalities of the district, 20% or 515 thousand Euros was the participation of the ethnic Hungarian municipalities. That ratio is almost twice the portion of their population within the district.

## District Nové Zámky

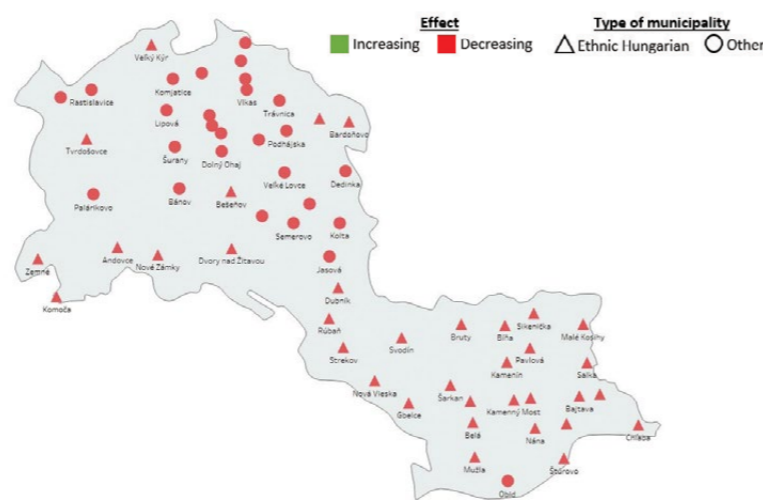
### District data

- Average per capita tax share in 2019: 352 €
- Difference against the national average per capita tax share in 2019: -55 €
- Average elevation: 134 m
- Lowest municipality: Nána (108 m)
- Highest municipality: Dedinka (194 m)
- Financial loss in 2019: 4 220 443 €
- Financial loss 2014-2019: 20 055 093 €

The district Nové Zámky is one of the bigger districts. Regarding number of municipalities it's the 12th, regarding population the 6th largest. A bit more, than half, 35 of its 62 municipalities are considered ethnic Hungarian. They are primarily located in the southern parts of the district with a handful to be found in the northern regions. Regarding relief the majority of the district lies on plainlands, with some hilly parts and with the south-eastern region having some lower mountains even. This causes big differences in the elevation and thus the elevation coefficient of the district's municipalities, too. However, it doesn't mean, that there is even one municipality in the district with an increasing elevation co-

efficient. Even the highest, Dedinka, has a coefficient of 0.8689 assigned to its elevation of 194 meters. Nána, the lowest municipality in the district lies 86 meters lower. The difference is significant not just in meters, but also in the coefficient value, as Nána's coefficient is one tenth lower, 0.7636, so while Dedinka's loss of every 100 euros is 13, Nána loses more than 23 euros from the same base. We can confirm again that the elevation coefficient affects negatively mostly the ethnic Hungarian municipalities of the district. The ten lowest coefficients are actually assigned to 11 municipalities, as Chĺaba and Jatov have the same coefficient. Of these municipalities, ten are considered Hungarian, whereas of the ten with the highest coefficients only four.

Map 18: Effect of the elevation coefficient in the district Nové Zámky

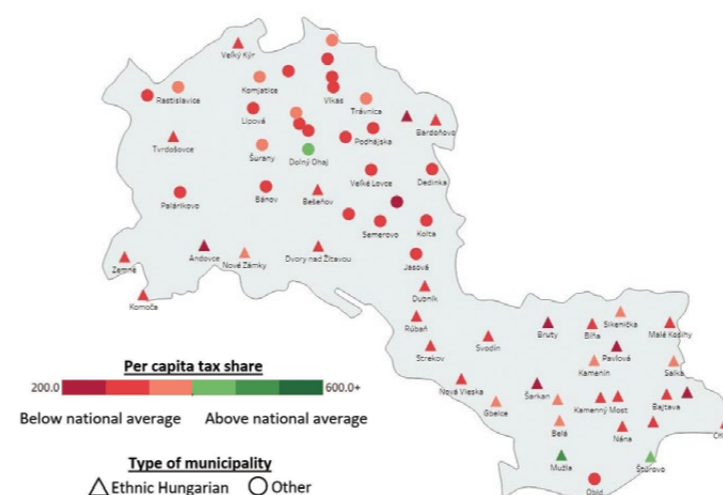


The district's municipalities lost more than 4 million euros due to the elevation and size coefficients in 2019. This is the worst loss in the country for the given year, so the district Nové Zámky lost the most in potential income from the national tax proceeds, which statement is also true looking at the 6 years interval between 2014 and 2019, totaling at 20 million euros transferred to other regions.

This implies also, that the district Nové Zámky, together with three other districts (Košíce-okolie, Veľký Krtíš and Sobrance) also has the lowest per capita tax share indicator calculated at 352 Euros per resident. Regarding the individual municipalities, only three in the district earned a per capita tax share above the national average. The best performer is Mužla with one resi-

dent being worth 504 Euros and losing „merely“ 60 thousand Euros in 2019. The second best is Dolný Ohaj (452 Euros) followed by Štúrovo in third place (414 Euros). All others received less, than the national average per resident, in fact, the majority of them, 54 out of 64 falling below the district average and fourteen even below 300 euros per capita, eleven of which are considered ethnic Hungarian. The lowest tax share averaged per one inhabitant was calculated in Pavlová, with its average of 224 Euros being just slightly above half of the national average. Among the five municipalities with the lowest per capita tax share we find also Šarkan (225 Eur), Čechy (226 Eur), Leľa (230 Eur) and Pozba (231 Eur), with only Čechy not being considered ethnic Hungarian.

Map 19: Per capita tax share in 2019 in the district Nové Zámky compared to the national average



## District Levice

### District data

- Average per capita tax share in 2019: 359 €
- Difference against the national average per capita tax share in 2019: -48 €
- Average elevation: 172 m
- Lowest municipality: Bielovce (115 m)
- Highest municipality: Uhliská (610 m)
- Financial loss in 2019: 3 113 564 €
- Financial loss 2014-2019: 14 487 806 €

The district Levice is part of Nitra Region and lies on the eastern border of the Danubian Lowland, partially on the territory of the Danubian Hills. It's the district with the largest area in the country, but since it's relatively sparsely settled, regarding population, it's only the fourteenth, and regarding number of municipalities the fourth largest. Most of its municipalities, 53 out of 89 are considered ethnic Hungarian according to the government ordinance. We can again observe that they are located in the southern part of the district.

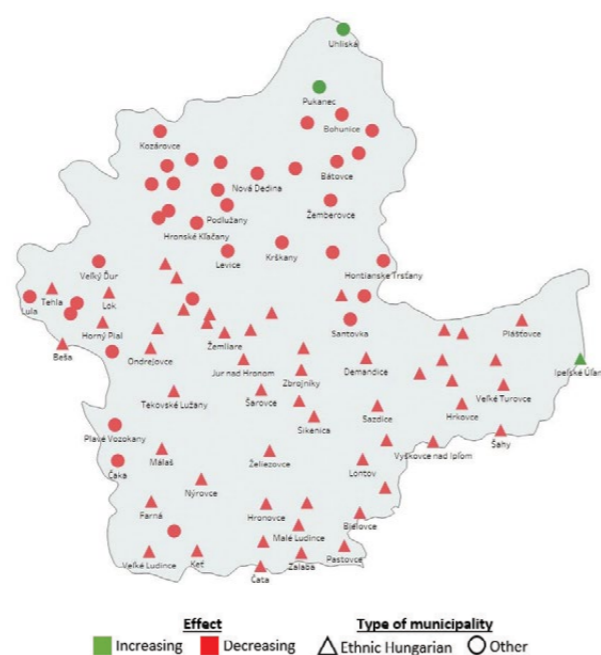
Although it mostly lying on plainlands, the northern corner of the district reaches into the Štiavnica Mountains, which causes, that Uhliská, which is located in this region, with its elevation

of 610 meters above sea level stands out above all other municipalities in the district. The second highest for example, the neighboring Pukanec lies almost 260 meters lower with an altitude of 352 meters above sea level, at the foothill of the Štiavnica Mountains. Except for these two there is another municipality with an elevation above 300 meters, Ipel'ské Úľany, so this is the first analyzed district with municipalities having an increasing effect elevation coefficient assigned, moreover, one of the three (Ipel'ské Úľany) is considered ethnic Hungarian. The elevation coefficient 1.3836 of Uhliská grants 38 euros on top of every 100 calculated, while the bonus of Pukanec is „only“ 6%, while Ipel'ské Úľany receives a 4% bonus.

Most of the district's lowest municipalities are spread along the rivers Ipel' and Hron. All of the 10 municipalities with the lowest elevations and thus lowest elevation coefficients are ethnic Hungarian. The difference in elevation between the lowest Bielovce and the already mentioned Uhliská is 495 meters. Bielovce loses 23 of every 100 Euros. Most of the district's municipalities, 79, lie below 200 meters above sea level, so more, than 100 meters below the limit for changing the

coefficient's effect. There are significant differences in elevation between the ethnic Hungarian and other municipalities as well. Whereas the average elevation of the former is 149 meters, of the latter it's 205 meters above sea level.<sup>16</sup>

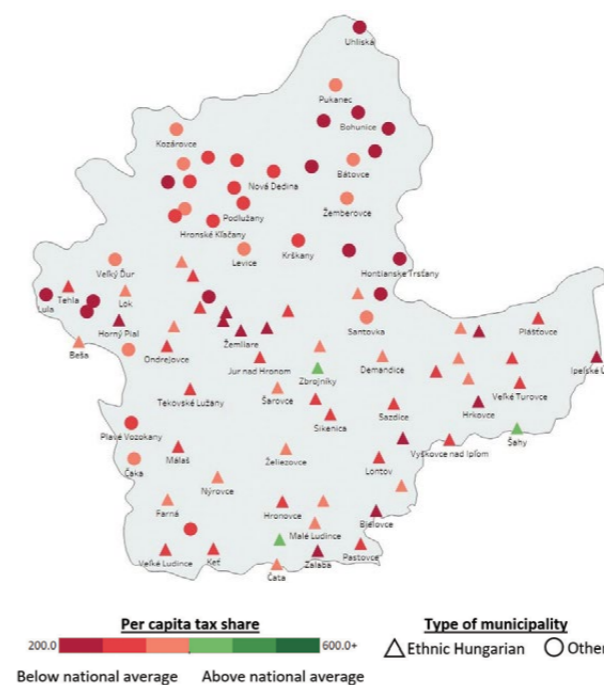
Map 20: Effect of the elevation coefficient in the district Levice



Despite their elevation coefficient having an increasing effect, all of the three highest municipalities performed below the national average regarding per capita tax share. Of these three Pukanec received the most per resident, but with 357 Euros it finds itself 57 Euros below the national and 9 Euros below the district average. The result of Uhliská is 255, the result of Ipel'ské Úľany is 234 Euros per resident in 2019.

On the other hand, the municipality with the lowest elevation is also the one with the lowest per capita tax share. One resident of Bielovce was only worth 221 Euros in 2019 in the tax redistribution system. We again see that most of the worst affected municipalities are ethnic Hungarian ones, as of the ones with the 10 lowest per capita tax shares eight are Hungarian. Three municipalities received a per capita tax share at or above the national average, Zbrojníky (437 Eur), Šahy (408 Eur) and Pohronský Ruskov (407 Eur).

Map 21: Per capita tax share in 2019 in the district Levice compared to the national average



The total loss of the district's municipalities in 2019 due to the discriminative system was more than 3 million Euros, half of which is the participation of the ethnic Hungarian municipalities, which is a bit more than the ratio of 43%, by which they participated on the total tax share in the district. The four municipalities with the highest losses are the district's four cities, Levice (808.5 thousand Euros), Šahy (219 thousand Euros), Želiezovce (203 thousand Euros) and Tlmače (98 thousand Euros). All municipalities in the district lose resources because of the current redistribution setup. Even the least impacted Uhliská lost 89 Euros in 2019<sup>17</sup>, whereas the second highest loss was suffered by Jesenské and amounts to 1476 Euros.

16 This average is largely enhanced by the especially high elevation of Uhliská compared to other parts of the district. However the average elevation of the non-ethnic Hungarian municipalities even without Uhliská is 194 meters.

17 It was able to counter the effect of the low size coefficient by the high elevation coefficient only this much.

## District Veľký Krtíš

### District data

Average per capita tax share in 2019: 352 €

Difference against the national average per capita tax share in 2019: -55 €

Average elevation: 217 m

Lowest municipality: Ipľské Predmostie (133 m)

Highest municipality: Sucháň (493 m)

Financial loss in 2019: 1 123 653 €

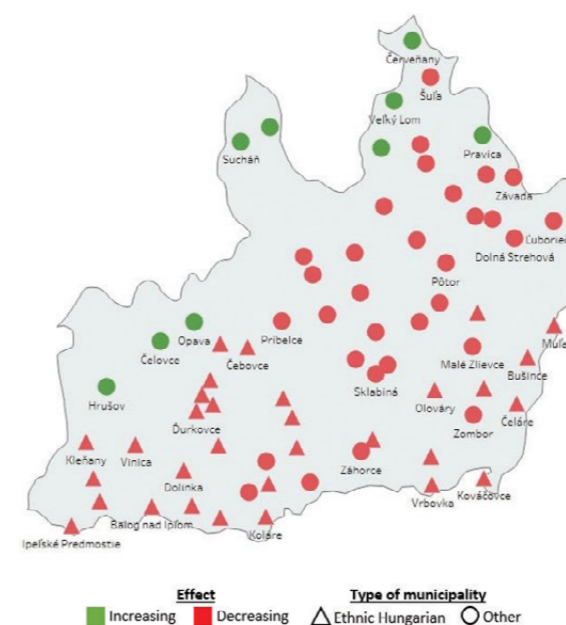
Financial loss 2014-2019: 5 367 353 €

The district Veľký Krtíš is part of Banská Bystrica Region and lies at the border between Slovakia and Hungary. From the south it's bordered by the river Ipľ, along which runs a plain, on which most of the ethnic Hungarian municipalities in the district are located, whereas the northern countryside is hilly. This causes significant differences in elevations between the ethnic Hungarian and the other municipalities, as while the ethnic Hungarian ones (31 out of the 71 in the district) have an average elevation of 172 meters, the other municipalities lie in average altitudes of 251 meters above sea level. This causes the Hungarian municipalities to fall behind the rest of the district also regarding elevation coefficients, but we can generally say,

that their coefficients are much higher, than the ones of ethnic Hungarian municipalities in districts analyzed up to this point.

Even the lowest, Ipľské Predmostie has an elevation coefficient of 0.7945, thus receiving 79.5 Euros of every 100 from the subtotal defined by the elevation coefficient. Only two other municipalities have an elevation coefficient below 0.8, namely Veľká Ves nad Ipľom (0.7957) and Balog nad Ipľom (0.7969). Of the 10 municipalities with the lowest coefficients only one isn't considered ethnic Hungarian, as opposed to none of the nine municipalities with an elevation above 300 meters, thus possessing an increasing effect coefficient. The coefficient 1.2391 of the highest laying municipality, Sucháň grants additional 24 Euros to every 100 calculated.

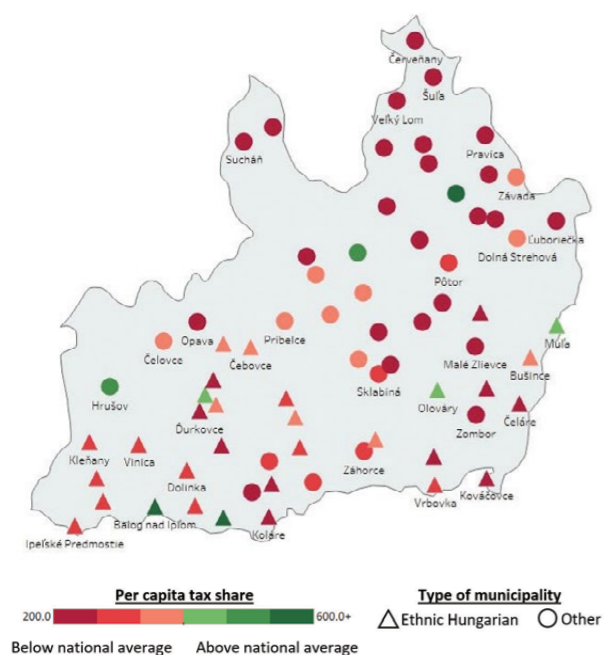
Map 22: Effect of the elevation coefficient in the district Veľký Krtíš



The average per capita tax share in the district's municipalities in 2019 was 352 Euros, but, if considering only the ethnic Hungarian ones the average decreases to 346 Euros per resident. Both are below the national average, more so, the 352 Euros per resident is the lowest per capita average on a district level in the country (joint with the districts Nové Zámky, Košice-okolie and Sobrance, where the average was also 352 Euros per resident). A total of eight municipalities were able to top the national average per capita proceeds in the district, most of them, five are considered ethnic Hungarian. Veľká

Čalomija for example, which is also considered ethnic Hungarian, despite losing resources in the parameter defined by the elevation coefficient, because of an elevation of only 140 meters paired with a coefficient of 0.8031, is able to counter this effect in the four remaining parameters in such a way, that it received the most tax proceeds in average per one resident in the district in 2019, namely 628 Euros. There is a similar situation with Balog nad Ipľom, which despite having one of the lowest elevation coefficients in the district assigned, as already mentioned, still received the second highest per capita average in 2019. An interesting fact is, that among the 8 municipalities, that beat the national average in per capita tax proceeds share, only one, Hrušov has an elevation coefficient with an increasing effect. All others were able to compensate the losses from their coefficients.

Map 23: Per capita tax share in 2019 in the district Veľký Krtíš compared to the national average



The municipalities in the district lost more, than one million euros in 2019, of which the ethnic Hungarian municipalities participated with almost 500 thousand Euros. The highest loss was suffered by the district center, Veľký Krtíš, from which 247 thousand Euros were reassigned due to the elevation and size coefficients.

## District Lučenec

### District data

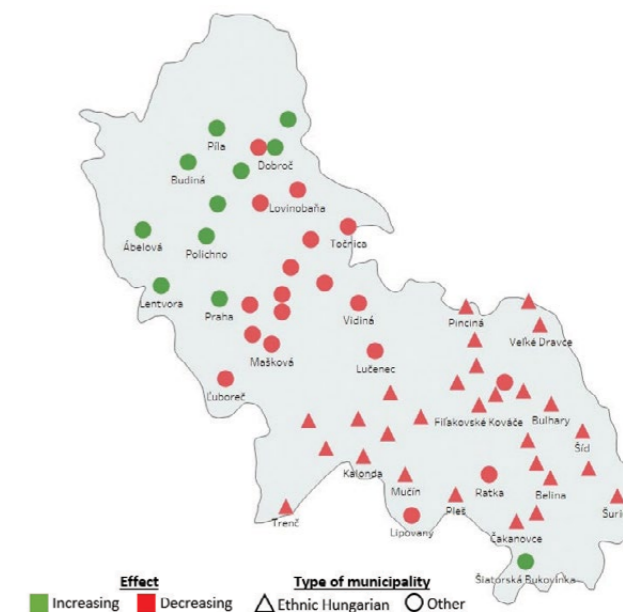
- Average per capita tax share in 2019: 360 €
- Difference against the national average per capita tax share in 2019: -47 €
- Average elevation: 262 m
- Lowest municipality: Kalonda (168 m)
- Highest municipality: Dobroč (654 m)
- Financial loss in 2019: 1 730 671 €
- Financial loss 2014-2019: 8 197 211 €

The district Lučenec is part of the Banská Bystrica Region, in Middle Slovakia. Most of its municipalities lie in the Ipeľ Basin, the south-eastern corner reaches into the Cerova highlands and the highest municipalities in the district are located in the north-western hilly regions. 28 of its 57 municipalities are considered ethnic Hungarian according to the government ordinance, and they are located in the south of the district, typically in the Ipeľ Basin. This is the cause for the significant differences in elevation.

The average elevation of the ethnic Hungarian municipalities is 197 meters, whereas for all others it's 324 meters, thus the average of the latter

is already above the 300 meters limit. The difference is much bigger between the highest and lowest municipality. The lowest is Kalonda at 168 meters above sea level with the lowest elevation coefficient in the district assigned. The coefficient 0.8377 causes it to lose 16 Euros of every 100 because of its elevation. The highest municipality, Dobroč lies 486 meters higher, at 654 meters above sea level with a coefficient of 1.438, meaning that from the same 100 Euros it receives 144, which surplus is supplied by the municipalities with a decreasing effect coefficient. Eleven municipalities have an increasing effect elevation coefficient in the district, none of them being ethnic Hungarian. On the other hand, of the twenty municipalities with elevations below 200 meters only two aren't.

Map 24: Effect of the elevation coefficient in the district Lučenec

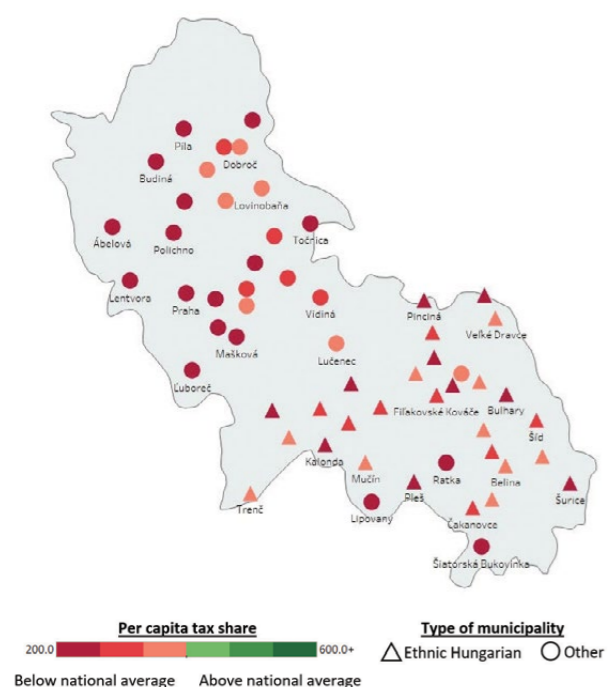


The worth of the district's inhabitants in the tax redistribution system in 2019 was in average 360 Euros each. The per capita average tax share was 349 Euros in the ethnic Hungarian and 367 Euros in all other municipalities. Despite several municipalities having been assigned elevation coefficients with an increasing effect, due to other circumstances, for example losses from the size coefficients, none of the district's municipalities performed above the national average regarding per capita tax share. Filakovo registered the highest per capita share, receiving 406 Euros per resident in average, only one Euro less, than the national average. All the others earned less, than 400



Euros per one resident, half of them even less, than 300. The lowest average in 2019 was 221 Euros and belongs to Kalonda. Of the municipalities with the ten lowest per capita tax shares seven, of the ones with the 10 highest five are considered ethnic Hungarian. An interesting phenomenon is, that nine of the eleven municipalities with an increasing effect elevation coefficient also received less, than 300 Euros per resident. They are relatively small villages, mostly with less, than 300 residents, so the elevation coefficient isn't able to balance out the losses caused for example by the size coefficient or the thinner educational infrastructure.

Map 25: Per capita tax share in 2019 in the district Lučenec compared to the national average



Regarding total financial gain or loss from the combined effect of the elevation and size coefficients all municipalities except for two lose resources in the process of the tax proceeds redistribution. The two exceptions are the two highest municipalities, Dobroč (1533 Euros surplus in 2019) and Budiná (186 Euros surplus), which receive a higher bonus from the elevation coefficient, than the amount they lose from the size coefficient, securing a positive result. As we already mentioned, despite this both are below the national average in the per capita indicator (Dobroč 371 Euros per resident, Budiná 264 Euros per resident). The total loss summed up for the district is 1.7 million Euros, half of which is caused by the combined amount of the two cities in the district, Lučenec (-639.5 thousand Euros in 2019) and Filakovo (-240.5 thousand Euros).

## District Rimavská Sobota

### District data

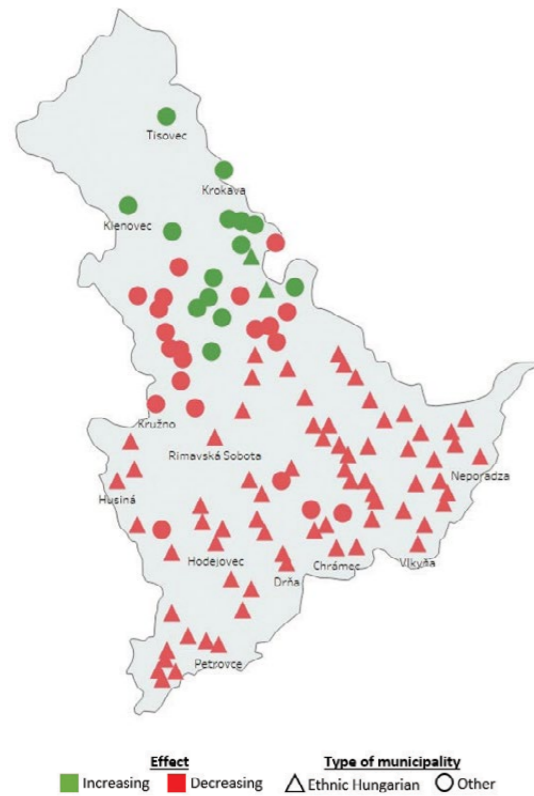
- Average per capita tax share in 2019: 361 €
- Difference against the national average per capita tax share in 2019: -46 €
- Average elevation: 245 m
- Lowest municipality: Lenartovce (155 m)
- Highest municipality: Krokava (787 m)
- Financial loss in 2019: 1 901 223 €
- Financial loss 2014-2019: 8 974 776 €

The district Rimavská Sobota is the third largest in the country from an area perspective and the second largest regarding number of municipalities, but since more often than not they are smaller in size, regarding population the district is only the 24th largest. Of the 107 municipalities 72 are considered ethnic Hungarian. The Cerova uplands are located in the south of the district, north and east of them runs the Rimava-Slaná Basin and the northern part of the district lies on the territory of the Slovak Ore Mountains, respectively the Muran plateau. As diverse is the relief, so different are the elevations of the district's municipalities and the resulting values.

The average elevation in the munic-

ipalities is 245 meters, but only 209 meters for the ethnic Hungarian ones, compared to the 319 meters average of all other ones. This indicates that there aren't many Hungarian municipalities above 300 meters of elevation. Of 16 municipalities above this limit two are ethnic Hungarian (Lipovec and Slizké), which also means, that only these two Hungarian municipalities don't lose resources in the district due to the elevation coefficient. The elevation difference between the highest and lowest municipality is 632 meters, which causes, that while Krokava with its 27 souls receives a 60 Euro bonus to every 100 Euros calculated in this parameter, Lenartovce receives only 82 of the same 100 Euros. The majority of the municipalities in the district are spread out in the mentioned river basins, so it can't be a surprise, that almost half of them, 43 don't even reach elevations of 200 meters above sea level. Only two of these are not considered ethnic Hungarian.

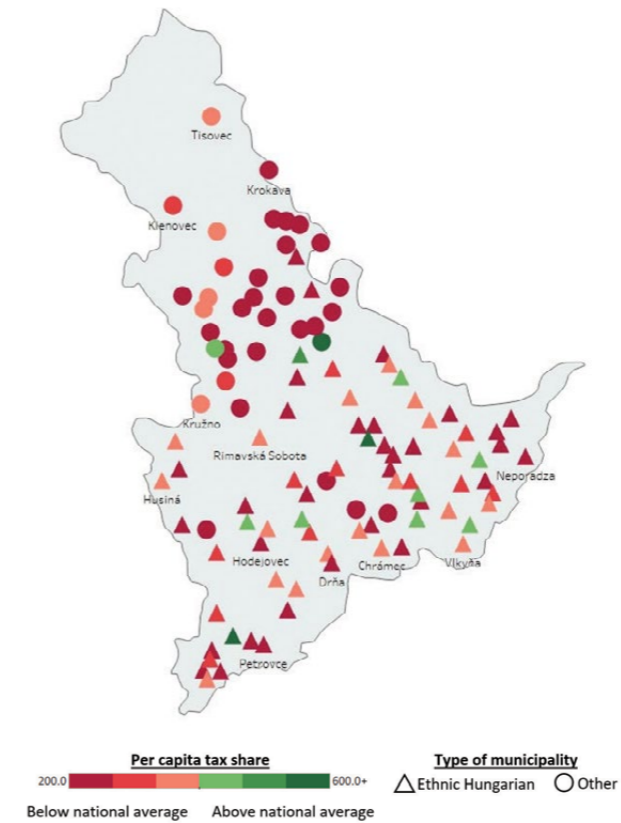
Map 26: Effect of the elevation coefficient in the district Rimavská Sobota



If we calculate the tax proceeds share per one resident, we can discover twelve municipalities with this indicator value above the national average in 2019. An interesting fact is, that all twelve have elevation and size coefficients with a decreasing effect, thus countering the losses from the mentioned two elements with resources from the other three. Ten of them are considered ethnic Hungarian, which means, that of the 39 Hungarian municipalities in the country with a per capita tax share above the national average, this district provides the most.

The highest average in the district is also held by a Hungarian municipality, Gemerský Jablonec. In 2019 each of its residents was worth 3 times the national average, 1114 Euros. With this result it tops not just the district but has the highest average among all ethnic Hungarian municipalities in the country, even though it lost 18 thousand euros due to the system setup in the same year. Considering all Slovakian municipalities (without regard on the nationality situation) Gemerský Jablonec earned the 5th highest per capita value. Of the 5 municipalities with the highest averages in the district only one is not considered Hungarian. On the other hand, the lowest per capita tax shares were also connected to ethnic Hungarian municipalities. The least resources averaged per resident were assigned to Riečka (220 Euros), and the remaining four of the five lowest performing municipalities in the district are also considered ethnic Hungarian, all with elevation coefficients below 0.9.

Map 27: Per capita tax share in 2019 in the district Rimavská Sobota compared to the national average



The summarized loss of the district's municipalities in 2019 was 1.9 million Euros, of which 1.5 million Euros was the loss of the ethnic Hungarian ones. The only municipality in the district not losing funding in the current system is the already mentioned Krokáňa, which thanks to its very high elevation coefficient was able to outweigh the very low size coefficient, resulting in a total surplus of 308 euros in 2019.

## District Revúca

### District data

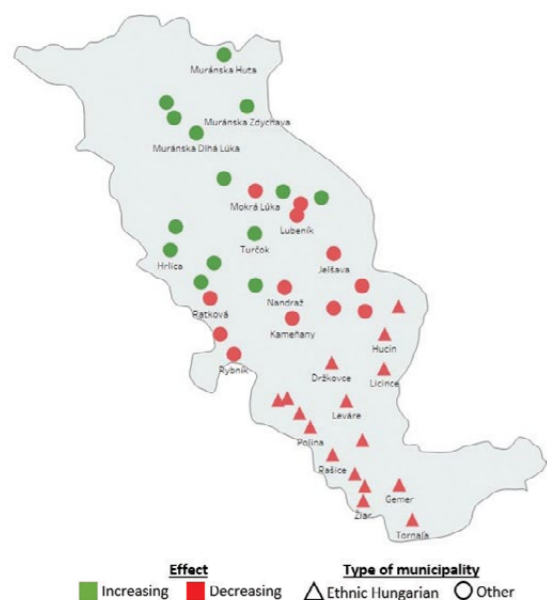
- Average per capita tax share in 2019: 369 €
- Difference against the national average per capita tax share in 2019: -38 €
- Average elevation: 289 m
- Lowest municipality: Žiar (180 m)
- Highest municipality: Muránska Huta (688 m)
- Financial loss in 2019: 786,410 €
- Financial loss 2014-2019: 3,712,090 €

The district Revúca lies at the eastern border of the Banská Bystrica Region. Its relief is defined by the Rimava-Slaná Basin in the south and by the Slovak Ore Mountains, respectively the Muran Plateau in the north. 16 of its 42 municipalities in total are considered ethnic Hungarian, all of them located in the southern, lower parts of the district. This again causes significant differences in the municipalities' environments, as the average elevation of the Hungarian municipalities is 208 meters, while for all others the average is 338 meters above sea level. Among the districts, that have significant Hungarian population, the district Revúca has the second highest average elevation (if we only consider the ethnic Hungar-

ian municipalities within the same districts, it would be third).

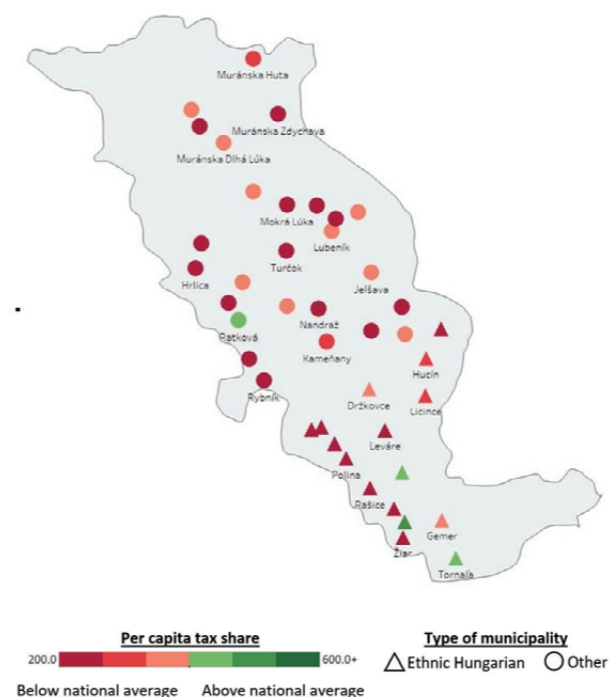
The lowest municipality, Žiar is considered ethnic Hungarian and lies at 180 meters of elevation, while 500 meters higher lies Muránska Huta. All of the ten lowest municipalities in the district are considered Hungarian, in fact, if we look at the 20 lowest municipalities, all of the Hungarian ones are there. The highest of them, Gemerský Sad lies 50 meters below the 300-meter limit. Thus, none of them have increasing effect elevation coefficients assigned. Gemerský Sad loses almost 6 Euros of every 100. There are fourteen municipalities in the district with increasing effect elevation coefficients, the highest of course belonging to Muránska Huta (1.48).

Map 28: Effect of the elevation coefficient in the district Revúca



Only four municipalities in the district managed to surpass the national average per capita tax proceeds. Two of them are ethnic Hungarians, one, Otročok even topping the district in 2019 with an average of 484 Euros per resident. Similarly to the district Rimavská Sobota, all municipalities with an above average per capita tax share managed to counter a decreasing effect elevation and size coefficient thanks to the other parameters. Otročok for example, despite losing 14 Euros of every 100 in the parameter defined with the elevation coefficient, received almost 80 euros more per one resident, than the national average. The lowest values in this indicator are also connected to Hungarian municipalities. Two municipalities share the lowest per capita tax share indicator in the district, Ploské and the ethnic Hungarian Skerešovo, both receiving 227 Euros per resident. Three of the five municipalities with the lowest per capita tax shares are considered ethnic Hungarian.

Map 29: Per capita tax share in 2019 in the district Revúca compared to the national average



The district lost more, than 786 thousand Euros in tax proceeds in 2019, with the share of the ethnic Hungarian municipalities being 46%<sup>18</sup>. More, than half of the amount was the combined loss of the three cities in the district, Revúca (-143 thousand Euros), Tornaľa (-194 thousand Euros) and Jelšava (-74 thousand Euros).

## District Rožňava

### District data

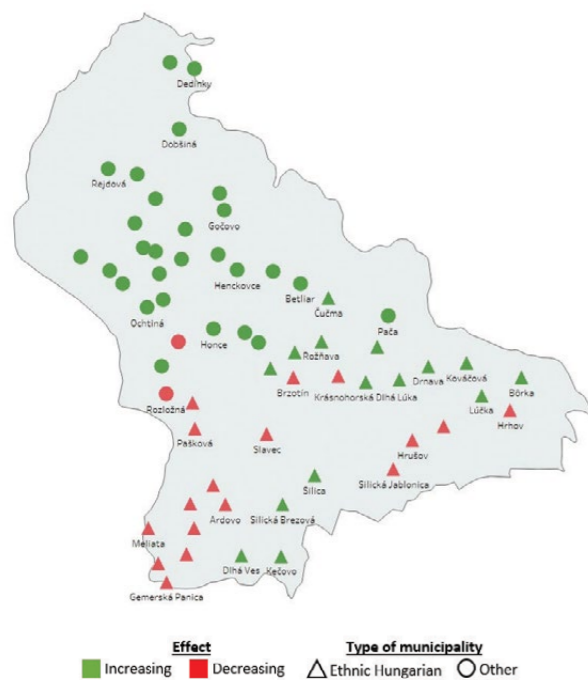
- Average per capita tax share in 2019: 373 €
- Difference against the national average per capita tax share in 2019: -34 €
- Average elevation: 366 m
- Lowest municipality: Gemerská Panica and Bretka (both 191 m)
- Highest municipality: Stratená (831 m)
- Financial loss in 2019: 1 010 647 €
- Financial loss 2014-2019: 4 786 883 €

The district Rožňava is the westernmost district of the Košice Region. Regarding the average elevation of its municipalities, it is the highest district with Hungarian population. The majority of its territory is mountainous. The average elevation of the municipalities in the district is 366 meters, which if analyzed further, we see, that the northern, ethnically Slovak municipalities lie higher, at 426 meters in average, than the southern, ethnic Hungarian municipalities with an average of 310 meters above sea level. Both averages are above the 300 meters limit. 32 of its 62 municipalities are considered ethnic Hungarian. Only fourteen municipalities lie below 300 meters of elevation, twelve of

<sup>18</sup> Although the portion of ethnic Hungarian municipalities within the district is 38%, and their population is 33% of the district's total

them are ethnic Hungarian. All other municipalities have increasing elevation coefficients assigned. Of the five municipalities with the highest coefficients one, Bôrka is considered ethnic Hungarian, receiving 32 Euros on top of every 100 from this parameter. The surplus of the highest, Stratená is 66 Euros of every 100. The loss of the two lowest municipalities, Gemerská Panica and Bretka from the same 100 Euros is 13.

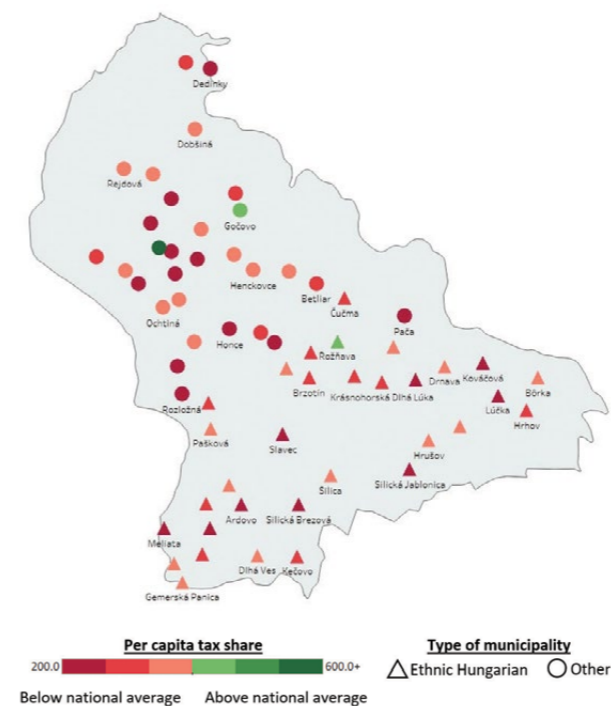
Map 30: Effect of the elevation coefficient in the district Rožňava



Although most of the district's municipalities have elevation coefficients with an increasing effect, they are typically smaller villages, only 6 of

them have a population above 1000 residents. Similarly, of all municipalities in the district, only eleven have a population above 1000, indicating a less dense infrastructure (for example less municipalities have a school). This causes, that despite a high average elevation and elevation coefficients, due to the losses in the other parameters only 3 municipalities have a per capita tax share above the national average. Of these three only the city of Rožňava is considered ethnic Hungarian by the government ordinance, where one resident was worth 436 Euros in 2019. The other two municipalities are Gočovo (411 Euros) and the municipality with the highest average in the district, Markuška with 668 Euros per resident. In the remaining municipalities the per capita tax share was below the national average of 407 Euros. 22 municipalities, and among them nine ethnic Hungarian ones didn't even earn 300 euros per resident. The lowest value in this indicator belongs to Rozložná with 222 Euros per one resident. Of the Hungarian municipalities the lowest average was achieved by Meľiata with 224 Euros.

Map 31: Per capita tax share in 2019 in the district Rožňava compared to the national average



More, than one million Euros were transferred away from the municipalities in the district due to the elevation and size coefficients in 2019, almost one third of which is the loss of the city of Rožňava alone. The ethnic Hungarian municipalities participated on this amount by 71%, so almost with 717 thousand Euros. Two municipalities were able to get a surplus in the same year, Dedinky and Stratená, both thanks to their very high elevation coefficient. The first received 2754, the latter 1793 additional Euros for their budget.

## District Košice-okolie

### District data

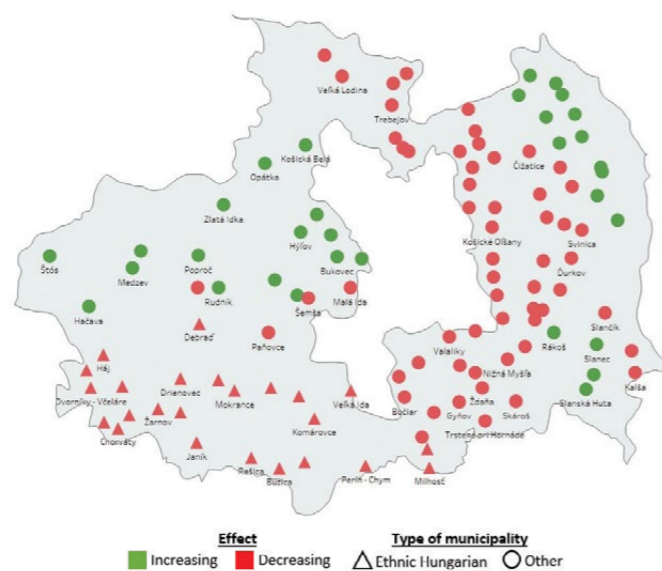
- Average per capita tax share in 2019: 352 €
- Difference against the national average per capita tax share in 2019: -55 €
- Average elevation: 267 m
- Lowest municipality: Milhost' (166 m)
- Highest municipality: Zlatá Idka (662 m)
- Financial loss in 2019: 3 031 441 €
- Financial loss 2014-2019: 13 972 901 €

The district Košice-okolie is the second largest in the country regarding area and the largest regarding number of municipalities. It's eastern and western border regions are mountainous; the central region is defined by the Košice Basin. The average elevation of the district's municipalities is 267 meters above sea level. Of 114 municipalities 24 are considered ethnic Hungarian, all of them located in the south-western corner of the district, in the mentioned Košice Basin. Thus, the average elevation of the ethnic Hungarian municipalities is 82 meters lower (202 m) than that of the others.

About third of its municipalities, 32 have elevations above the 300 meters above sea level limit. None of

them is considered ethnic Hungarian. The highest Hungarian municipality, Háj has an elevation of only 270 meters and because of its coefficient of 0.9637 loses 4 euros of every 100 calculated. Almost half of the ethnic Hungarian municipalities, eleven lie higher, than 200 meters above sea level, but only three of them have a coefficient above 0.9, therefore losing less, than 10% of the resources in the parameter defined by the elevation coefficient. Only one of the five municipalities with the lowest elevations and thus the lowest elevation coefficients are not considered ethnic Hungarian. The lowest coefficient is assigned to Milhošť, lying at 166 meters above sea level, receiving 84 Euros of every 100 calculated. The situation is not much better in Hostovce, Kechnec (both 0.8414) or Turnianska Nová Ves (0.8426) either.

Map 32: Effect of the elevation coefficient in the district Košice-okolie



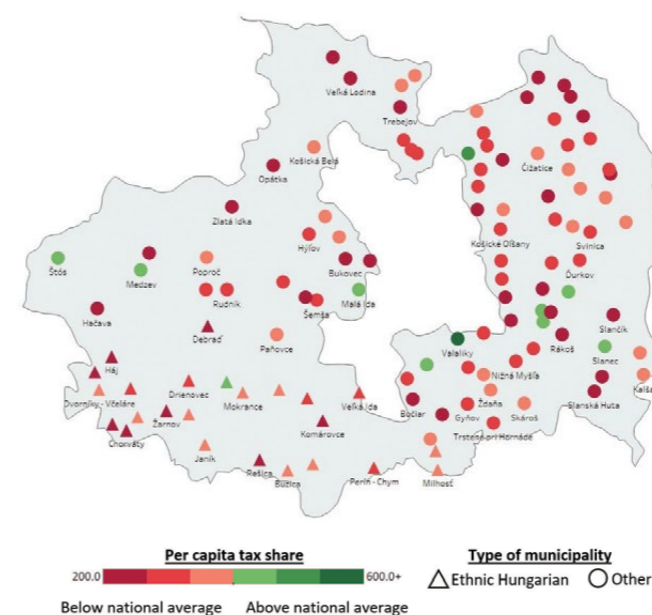
If calculating the tax share as an average per resident, the district Košice-okolie has earned, together with the districts Veľký Krtíš, Nové Zámky and Sobrance, the lowest average in the country, 352 euros per inhabitant. This average is more-less identical for the ethnic Hungarian municipalities within the district. If we only consider the ethnic Hungarian municipalities in each district, the district Košice-okolie would only have the 10th worst value in the per capita indicator.

A total of eleven municipalities have earned a per capita tax share above the national average, only one of them, the city of Moldava and Bodvou (419 Euros per resident) is considered ethnic Hungarian. As we also saw in the case of other districts, not primarily the

municipalities with increasing effect elevation coefficients have a high per capita average. In this particular case, for example of the mentioned eleven municipalities two have an increasing elevation coefficient, and naturally all have decreasing size coefficients. This is the case also in the municipality with the highest per capita tax share in the district, Valaliky, with an elevation of 185 meters and a coefficient of 0.8587, but with an average tax share of 547 Euros per one resident. The lowest per capita indicator belongs to an ethnic Hungarian municipality, Žarnov (221 Euros per capita), except for which there is one other Hungarian municipality among the five with the lowest per capita indicators, Rešica (224 Euros per capita).

The municipalities in the district lost a bit more, than 3 million Euros caused by the two questionable parameters. Two municipalities were able to receive a bonus, Hačava earned only 190 euros on top, Zlatá Idka 1192 Euros.

Map 33: Per capita tax share in 2019 in the district Košice-okolie compared to the national average



## District Trebišov

### District data

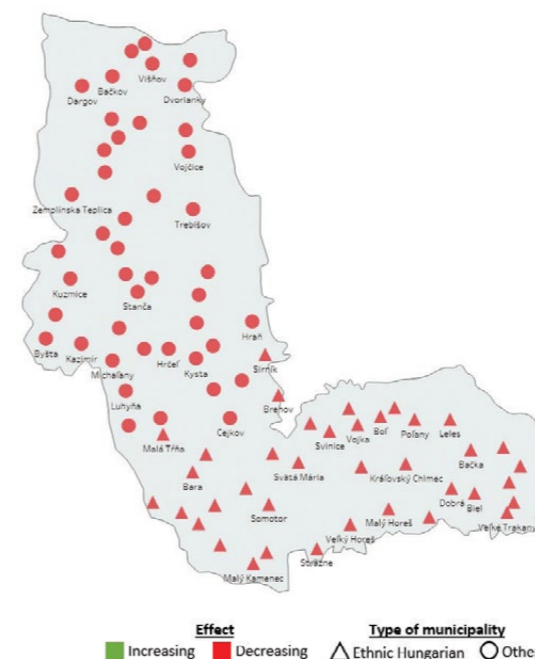
- Average per capita tax share in 2019: 356 €
- Difference against the national average per capita tax share in 2019: -51 €
- Average elevation: 129 m
- Lowest municipality: Klin nad Bodrogom (97 m)
- Highest municipality: Byšta (279 m)
- Financial loss in 2019: 3 286 098 €
- Financial loss 2014-2019: 15 556 979 €

The district Trebišov is located in East-Slovakia, in the Košice Region. Its relief is mainly defined by the Eastern-Slovakian Lowland, with the Zemplín Mountains reaching into the southern regions, where we can also find the geographic region of Bodrožie. From the north-east, the district is bordered by the Slanec Hills. Of the total of 82 municipalities in the district 38 are considered ethnic Hungarian, all located in the southern parts, near to the border with Hungary, most of them in the mentioned Bodrožie region.

The lowest municipality of the whole country, Klin nad Bodrogom is located exactly here in an elevation of only 97 meters above sea level and is of

course also in possession of the lowest elevation coefficient of the country. It's coefficient of 0.75 means, that 25 euros of every 100 are transferred to municipalities located in a higher elevation. The other municipalities of the Bodrožie region are in a similar situation, as the whole region is low-lying. This is very much visible if we consider the average elevation of the ethnic Hungarian municipalities being 108 meters compared to the 148 meters average of all the other municipalities in the district. Except for Klin nad Bodrogom there are another eight municipalities with elevations below 100 meters and their coefficients are similar to that of Klin nad Bodrogom. All of them are considered ethnic Hungarian by the government ordinance. None of the municipalities in the district have an elevation above 300 meters, meaning, that all of them have elevation coefficients with a decreasing effect, even the highest Byšta, with the highest coefficient loses 2 euros of every 100. Only 2 other municipalities have an elevation of at least 200 meters above sea level.

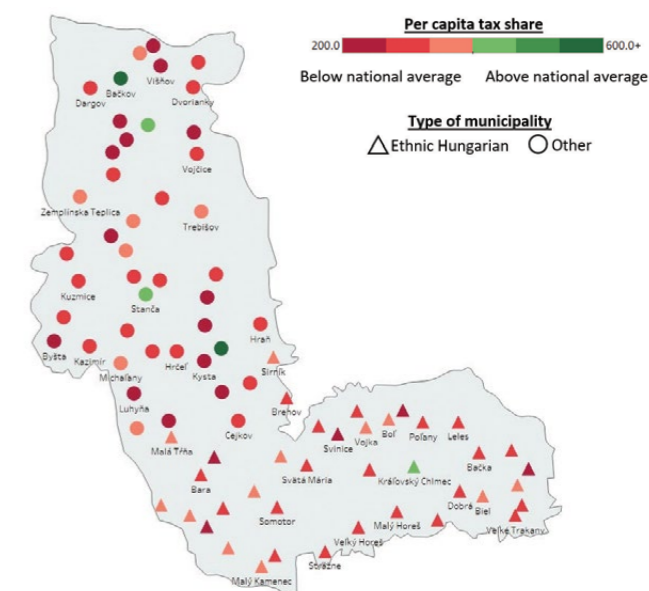
Map 34: Effect of the elevation coefficient in the district Trebišov



An interesting phenomenon is, that of the nine municipalities with elevations below 100 meters only two, Klin nad Bodrogom and Svätá Mária have a per capita tax share below 300 euros per resident. The municipality with the best average of the same nine, Malý Kamelec is also 37 Euros below the national average, but a per capita tax share above 300 Euros is remarkable, considering, that these municipalities lose around 25% of the potential resources in the parameter defined by the elevation coefficient, plus lose resources also due to the size coefficient. The per capita tax share of the ethnic Hungarian municipalities is relatively high com-

pared to the other ones in the district. Of the five municipalities with the lowest averages only Klin nad Bodrogom is considered ethnic Hungarian, whereas eight Hungarian municipalities earned a per capita value above the district average. Kráľovský Chlmec was even able to receive more per one resident, than the national average with 415 Euros. Of the 38 ethnic Hungarian municipalities in the district 25 have a per capita average above 300 Euros. The absolutely best average in the district was that of Bačkov at 885 Euros per resident.

Map 35: Per capita tax share in 2019 in the district Trebišov compared to the national average



The district Trebišov suffered the fourth highest absolute loss due to the combined effect of the elevation and

size coefficients in the country. More, than 3.2 million Euros were transferred to other regions, 1.3 million being “taken” from the ethnic Hungarian municipalities. There is no municipality in the district, that would not lose resources in the existing setup.

## District Michalovce

### District data

Average per capita tax share in 2019: 353 €

Difference against the national per capita average tax share in 2019: -54 €

Average elevation: 114 m

Lowest municipality: Ižkovce, Kačanov, Senné, Veľké Raškovce (all 100 m)

Highest municipality: Poruba pod Vihorlatom (200 m)

Financial loss in 2019: 3 444 105 €

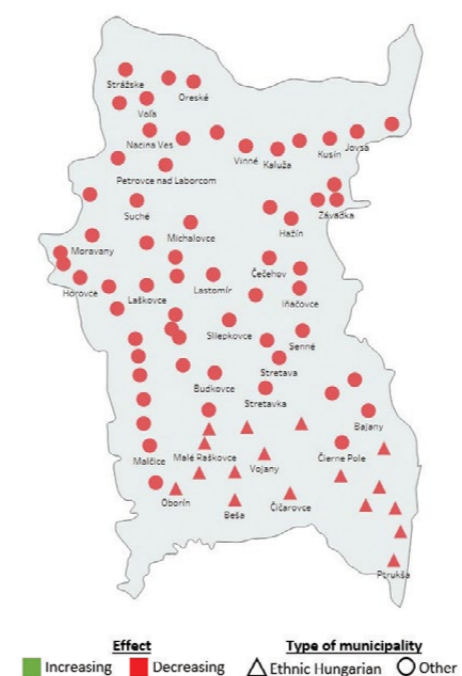
Financial loss 2014-2019: 16 256 694

The district Michalovce is the easternmost district with Hungarian population in Slovakia. It lies almost entirely on the Eastern-Slovakian Lowland, with some mountainous territories in the north. 17 of its 78 municipalities are considered ethnic Hungarian, all of them located in the south of the district. Regarding average elevation it is the lowest district in the country.

None of the municipalities reach, or even get close to the 300 meters elevation. The highest Poruba pod Vihorlatom also lies at 200 meters above sea level, none of the Hungarian municipalities have an elevation of more, than 110 meters. The highest of them is Veľké Kapušany, with an elevation of 109 meters above sea level. If we consider all municipalities in the district, 50 out of 78 lie below 110 meters above sea level.

The low elevations of the district are naturally also visible in the elevation coefficients. We probably don't have to point out, that there is no municipality in the district with an increasing effect elevation coefficient. Also, only seven are assigned a coefficient higher, than 0.8, therefore losing less, than 20% of the potential resources in this parameter. Even the highest coefficient in the district (0.8772) causes a loss of 12 Euros per every 100, the four municipalities with the lowest coefficients lose 25 Euros of the same 100.

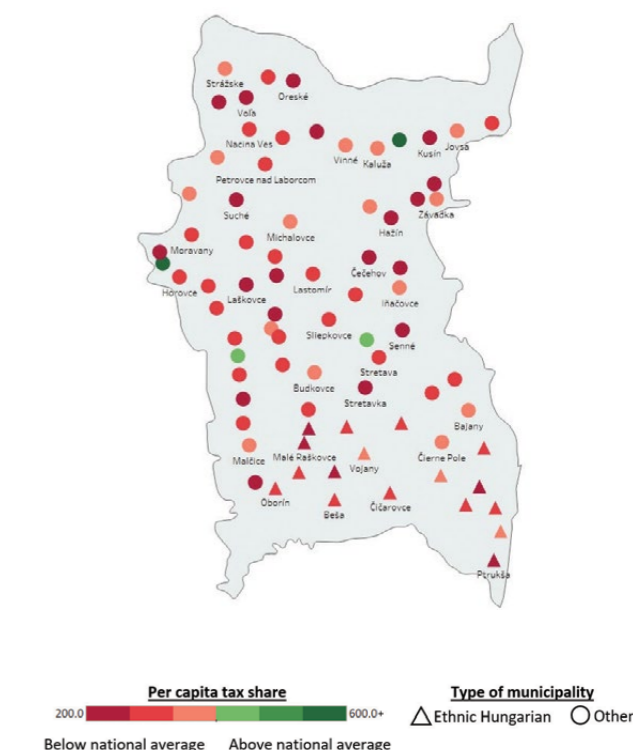
Map 36: Effect of the elevation coefficient in the district Michalovce



In four municipalities was the per capita tax share higher, than 407 Euros per resident, none of them being considered ethnic Hungarian. Only three Hungarian municipalities were able to beat the district average, the best performer being Veľké Selmence (380 Euros per resident), followed by Veľké Kapušany (379 Euros) and Vojany (358 Euros). More, than half of the ethnic Hungarian municipalities have per capita averages below 300 Euros. Summed up, of the five municipalities with the lowest per capita averages in the district only one is ethnic Hungarian. The best result in 2019 was that of

Tušická Nová Ves, receiving in average 588 Euros per each resident.

Map 37: Per capita tax share in 2019 in the district Michalovce compared to the national average



The district Michalovce with its loss of 3.4 million Euros is the third most negatively impacted district in the country. One third of the amount is the loss of the city Michalovce itself. More, than 600 thousand Euros were transferred from the ethnic Hungarian municipalities in the district to higher territories, respectively to the 10 largest cities.

## Summary

Our opinion is, that the tax redistribution system, with the described setup and results, requires a revision. A revision, during which at least the two parameters defined by the two discriminative coefficients would be removed from the formula. Their combined effect in 2019 caused damages of more, than 82 million Euros in total in the affected municipalities, of which amount the share of ethnic Hungarian ones is 22 million Euros. This amount could be spent on additional investments, renovation or just operations of the given municipalities.

The arguments raised at the introduction of the elevation coefficient could hardly stand ground in a professional debate, as they take a one-sided approach on the topic, considering only the extra requirements of the municipalities in higher elevations. We claim that the low-lying municipalities have different, but not less costly additional requirements to fulfill, furthermore, that due to technical developments

and investments such requirements might have meanwhile changed also in the higher municipalities. An overall examination of these issues, that would have taken the interests of both sides into account wasn't performed neither then, nor ever since, thus, we're stuck with an outdated system, that is trying to comply with requirements assumed 15 years ago.

The current setup of the size coefficient is also unacceptable for us. The logic of economic and administrative operations dictates, that based on the idea of solidarity the stronger and larger unit supports the weaker and smaller. These principles are also maintained in the support programs of the European Union, economic groupings or other regional programs. That's because their goal is convergence, the easing of economic centralization, so that the affected individual economic or administrative units would get closer to the average of the group, remov-

ing significant differences and disadvantages in the process.

It is also unacceptable, that because of the current financing system, municipalities aging and undergoing depopulation are finding themselves in a downward spiral. It is obvious from the redistribution formula, that the two largest elements of the municipality financing are the population (considered twice) and the number of enrolled students. In the regions, where the migration towards economically stronger territories of the country is strong, the municipalities are struck four times by the population decrease: by the decrease itself (considered twice in the formula), by the decrease of children enrolled in local schools (primarily the young are the ones leaving and starting a family elsewhere) and also by creating an imbalance between the costs of maintaining educational buildings and the income received for this task. Thus, the income side of the balance sheet shrinks constantly and there are no means to reverse this trend.

Opposed to the idea of solidarity, the Slovak tax redistribution formula with its parameter defined by a size coef-

ficient only strengthens the economic centralization for the benefit of the ten largest cities. Since this parameter has the second highest weight in the formula, its discriminative effect is also significant. If we want to keep the size coefficient in the system, its effect must be reversed, so that it supports the convergence of the many times aging, economically lagging, less attractive municipalities with smaller population and less dense infrastructure. The large cities, thanks to their own economic power aren't reliant on these special resources.

In a just system there can't be such a discrimination between municipalities; the system must be adjusted in a way, that the tax proceeds would be distributed according to the size of municipalities and their objectively identifiable and measurable infrastructural needs, and that the special needs of both the higher and lower elevated regions would be financed from a separate source dedicated specifically to this task and not by transferring resources from the so called common pot.

Regarding solutions it seems obvious, that the municipalities should



not participate only on the proceeds of one type of tax, but they should receive a share defined by law of all national tax proceeds. Raising taxes in such a setup would not only appear in the expenditures of the municipalities, but also on the income side and vice versa. For clarification: when for example the VAT changed from 19 to 20 percent, it meant additional expenses in the whole municipal segment, while they were unable to cover these with additional resources. Another, but not less important phenomenon is, that the during an economic regression the decrease of wages, workforce reductions, and craftspeople applying for sickness benefits cause huge losses in private income tax proceeds, which again is the only national tax redistributed among municipalities. A specific example is the situation caused by the COVID-19 epidemic, when between March and June 2020 we observed drastic setbacks in municipality incomes, whereas they were assigned additional tasks as anti-epidemic measures, increasing their costs.

Another important element in the current system's transformation would be the change in the applied

mathematical formula. Municipality financing can't be set up in a way, that discriminates between the values of residents neither by maintaining the elevation coefficient, nor by forcing the smaller municipalities to support the larger ones. Obviously, there can be different proposals for a solution, but the amount of average share per resident must be guaranteed. We think, that the redistribution mechanism should also consider factors such as the number of residential properties in addition to the residency by itself, the parameters of the buildings managed by the municipalities, the length of maintained infrastructure and the educational infrastructure, which questions, by their nature, need professional reconciliation. What is however clear, is the need to change this discriminative system! We pay the same taxes, we deserve the same benefits!

*Pro Civis*  
2021

# Notes

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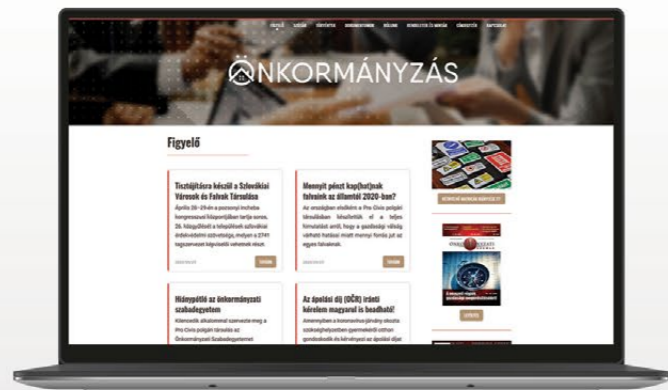
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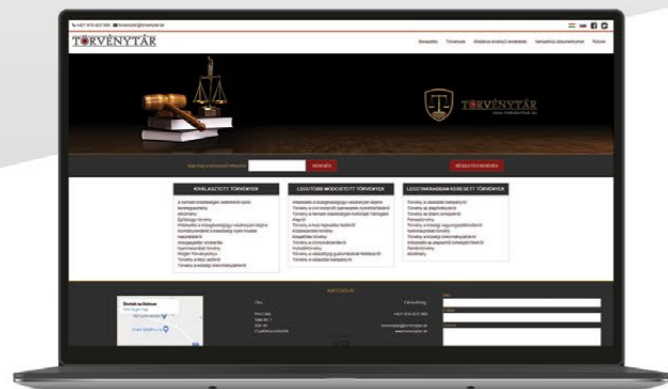
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**Pro Civis Füzetek XXXII.**  
**The Slovak municipal financing system and its review**

A one-time, informative, free publication

Publisher:  
Pro Civis NGO  
Mýtne námestie 1, 930 40 Štvrtok na Ostrove,  
registration number: 37846671

Publisher responsible: Péter Óry  
Technical editor: Andrej Kállay  
Pre-press: EGM s.r.o.

The place and the year of publication: Štvrtok na Ostrove, 2021

ISBN: 978-80-89741-21-2

Supported by:

**HUN.iN.EU**  
MAGYAR NEMZETI KÖZÖSSÉGEK  
EURÓPAI ÉRDEKKÉPVESELETI IRODÁJA