

## **CONTRIBUTION TO DISCUSSION ON EFFICIENCY OF COMPENSATING INTERMUNICIPAL INCOME INEQUALITIES**

**Introduction.** One of the most important factors influencing local development is ensuring that municipalities have numerous and efficient sources of their own income. However, as municipalities vary in many respects, equipping these units with the same sources of income does not guarantee that they are going to achieve a comparable level of income per capita. In Poland, there are significant inequalities among municipalities with respect to own income per capita [1], as the generated amounts of income vary depending on the region and the administrative type of municipality [2].

An obligation to level out the incomes of municipalities stems from the European Charter of Local Self-government of 1985 [3], which provides that: “The protection of financially weaker local authorities calls for the institution of financial equalisation procedures or equivalent measures which are designed to correct the effects of the unequal distribution of potential sources of finance and of the financial burden they must support. Such procedures or measures shall not diminish the discretion local authorities may exercise within their own sphere of responsibility”.

Excessive discrepancies in the level of own income of municipalities means that they are capable of performing public tasks to a varied extent, which does not help to reduce social inequalities and stimulate local development. Therefore, the support of the central government is necessary. In Poland this support involves compensation transfers for municipalities of lower tax income.

The aim of this article is to present the discrepancies in the incomes of municipalities in Poland on the example of the south western region and to evaluate the efficiency of the equalization mechanism in 2014.

**Construction of equalisation mechanism for municipalities.** The core of the equalisation mechanism is the compensation part and the balancing part of the general subsidy. Their construction is regulated by rules of ordinary law [4]. The basis for measuring intermunicipal income inequalities in Poland, granting them compensation transfers and making compensation payments is the tax capacity per capita index (G), which relates to the tax capacity index calculated for all municipalities in the country (Gg). Both these indices are offered by the Ministry of Finance. They take into account the potential revenues of municipalities from agriculture tax, forestry tax, motor vehicle tax, tax on civil law transactions, personal income tax in the form of the tax deduction card, inflows from stamp duty and service charge, share in the inflows from personal income tax and share in the inflows from corporate income tax.

The compensation part of the general subsidy is financed from the state budget. It includes the basic amount and the supplementary amount. The first one of them is

granted to a municipality whose tax capacity (G) is lower than 92% of the national average for all municipalities (Gg). The extent to which a municipality's income is compensated varies depending on the relation between these two indicators - G and Gg. The compensation amounts are the highest in the case of municipalities of the lowest tax capacity ( $G \leq 40\% Gg$ ) and the lowest in the case of municipalities meeting the condition of  $75\% Gg < G < 92\% Gg$ .

The supplementary amount is granted to the municipality in the case of which the population density is lower than the average population density in the country and the G index is lower than 150% of the Gg index. Municipalities in the case of which the value of this index is higher are not granted the supplementary amount. The balancing part of the general subsidy is financed mostly from compensation payments made to the state budget by municipalities whose G index exceeds 150%Gg. It is increased by the unpaid supplementary amount of the compensation part of the general subsidy.

**Study description.** The primary (before the compensation) and secondary (after the compensation) income differences among municipalities have been studied with the use of the variation coefficient weighted by population, applied also by other authors [5]. This coefficient is calculated from the following formula:

$$CV_W = \frac{\sqrt{\sum_i (y_i - \bar{y})^2 \frac{p_i}{P}}}{\bar{y}}, \text{ where: } \bar{y} = \sum_{i=1}^N y_i \frac{p_i}{P}$$

where:  $y_i$  – studied variable in municipality  $i$  *per capita*;  $N$  – number of municipalities;  $\bar{y}_U$  – unweighted national average of variable;  $p_i$  – municipality population;  $P$  – country population.

The coefficient shows the dispersion of the variable in relation to the average, which ranges from 0, meaning ideal equality, to  $\sqrt{\frac{(P-p_i)}{p_i}}$  representing ideal inequality [6].

The efficiency of the equalisation mechanism is evaluated by comparing the values of the variation coefficient before (primary diversity) and after receiving the subsidy (secondary diversity). The primary diversity is calculated from the relation between indices G and Gg, whereas the secondary diversity is described by two values: 1) tax income increased by the compensation part of the subsidy, 2) tax income increased by the balancing part of the subsidy. These indices are calculated for each municipality *per capita*. Then, they are related to similar values calculated for all the municipalities in Poland.

The study concerns the municipalities of the north western region (PL4 according to the NUTS1 classification) - the second largest region in Poland, covering the area of 66,706 km<sup>2</sup>, with the population of 6.2 million people [7]. Its area covers the provinces of lubuskie, wielkopolskie and zachodniopomorskie. The number of municipalities in these provinces is 83, 226 and 114, respectively, and they all constitute 17.1% of all the municipalities in Poland. Most of them are rural units. The study does not include an outlier - a municipality from the zachodniopomorskie province, whose income in the studied year was exceptionally high. The studied year is 2014.

**Results of the study and discussion.** The primary diversity of tax incomes of the studied provinces seen against the background of the Gg index is average (Table 1), as the variation coefficient is between [20-50] [8].

Table 1 – Fiscal disparities and disparity reducing effect of fiscal equalisation, 2014

Province	Variation coefficient before equalisation (in percent)	Variation coefficient after equalisation (in percent)		Equalisation effect (difference pre/post-equalisation, percent points)	
		$G^a + cp^b$	$G + bp^c$	$G^a + cp^b$	$G + bp^c$
lubuskie	21,1	15,0	20,6	6,1	0,5
wielkopolskie	39,1	28,0	38,4	11,1	0,7
zachodniopomorskie	28,7	21,8	28,4	6,9	0,3

a – the tax capacity per capita index, b – the compensation part of the subsidy, c – the balancing part of the subsidy. Source: own calculations.

The level of tax income diversity varies depending on the location of a given municipality. It is the highest among the municipalities of the wielkopolskie province: they are the most numerous, as many as 68.6% of them is entitled to the basic amount of the compensation part of the subsidy, and only in this province there are municipalities whose tax capacity is below 40%Gg.

The best compensation effect was achieved by granting municipalities the compensation part of the general subsidy. This part decreased discrepancies in tax income of the municipalities in the studied provinces, as measured by the variation coefficient, by – on average – 1/4, from 29.6% to 8.0%. In the lubuskie and zachodniopomorskie provinces, the efficiency of this part of the equalisation mechanism is similar, and in the wielkopolskie province the effect was even more significant (11.1 pp), as the primary diversity had also been greater. The variation coefficient indicates a slight (0.5 pp on average) decrease in intermunicipal tax income differences after the municipalities received the balancing part of the subsidy. The efficiency of horizontal redistribution is, then, lower, than in the case of vertical redistribution.

It is difficult to refer the obtained results to the findings of other authors, as this sort of research is scarce both in Poland and abroad. Much as M. Podstawka and A. Świrska [9] also measured intermunicipal income diversity and evaluated the efficiency of the equalisation mechanism, their study concerned only the municipalities of the mazowieckie province and the period of 2006–2008, and it used a different index of municipal income-generating capacity. The efficiency of the equalisation mechanism in Poland was also evaluated by M. Turała, but his research concerned either the whole country [10], or only selected units [11]. Nevertheless, M. Turała emphasizes that the most significant equalising effect is to be ascribed to the compensating part of the general subsidy. Contrary to the results of the studies conducted for some of the OECD countries [5], the efficiency of horizontal transfers in Poland is lower than that of vertical transfers.

**Conclusion.** The primary diversity of the incomes of Polish municipalities in the north western region against the national average is moderate (the average

variation coefficient before equalisation was 29.6%). The efficiency of the equalisation mechanism is high, as after the equalisation the variation coefficient was only 8%. The efficiency of the vertical redistribution represented by the compensation part of the general subsidy is in Poland higher than that of the horizontal redistribution, represented by the balancing part of this subsidy. Horizontal transfers are, then, only supplemental to the vertical ones.

Basing on the findings of other authors [10, 11], it can be stated that the diversity of tax incomes of municipalities in other regions of Poland is similar. The results of the presented study do not allow to conclude whether the diversity is constant or the compensation mechanism encourages municipalities to increase their income-generating efforts and stimulates local development. More extensive, unpublished studies of the author indicate, however, that intermunicipal tax income inequalities in Poland persist and the equalisation mechanism does not perform a stimulating function.

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