УДК 332.1+330.4+339.9+502/504
ББК 65.9(2Рос) +65.28
П 82

П 82 **Труды Гранберговской конференции**, 10–13 октября 2016 г., Новосибирск : Междунар. конф. «Пространственный анализ социально-экономических систем: история и современность» : сб. докладов – Новосибирск : ИЭОПП СО РАН, 2017. – 526 с.

ISBN 978-5-89665-310-3

Сборник представляет доклады международной конференции **"Пространственный анализ социально-экономических систем: история и современность"**, которая состоялась в ИЭОПП СО РАН 10-13 октября 2016 г. Доклады посвящены вопросам пространственного анализа и моделирования социально-экономических систем, использования новых методов и данных в этой области.

Конференция была посвящена памяти академика А.Г. Гранберга, внесшего неоценимый вклад в становление региональной науки в России. Публикуемые здесь труды ученых из разных регионов и стран, принадлежащих к разным научным школам, представляют современное состояние региональных исследований на постсоциалистическом пространстве.

Идеи и выводы авторов не обязательно отражают мнения представляемых ими организаций.

УДК 332.1+330.4+339.9+502/504
ББК 65.9(2Рос) +65.28

ISBN 978-5-89665-310-3

Секция I

ПРОБЛЕМЫ РЕГИОНАЛЬНОГО СТРАТЕГИЧЕСКОГО ПЛАНИРОВАНИЯ

УДК 336.15

Sona Capkova

FISCAL CAPACITY AND LOCAL GOVERNMENT TAX REVENUE IN REGIONS AT DIFFERENT LEVEL OF DEVELOPMENT

Abstract

Decentralisation leads to a growth in imbalance since the assignment of revenue sources and expenditure responsibilities to local governments is also accompanied by the emergence of fiscal imbalances between local government budgets. Intergovernmental transfers (usually tax sharing and intergovernmental grants) are two sub-central funding arrangements that are often used as fiscal equalisation instruments. In countries with formal systems of equalization transfers the aim is to reduce fiscal disparities and fill the gap between the spending needs and/or fiscal capacity of municipalities and regions in order to enable all local governments, even the smallest and poorest, to provide a basic package of local services. In Slovakia tax sharing arrangement is used which redistributes a fixed share of personal income tax revenues to subnational governments, levelling out differences in spending needs. In the paper we investigate the question whether the design of equalization reduces the fiscal inequalities and enables to perform the basic local government functions roughly at the same level. In the first part we provide a brief description of equalisation scheme in Slovakia. Afterwards we have examine the differences between the per capita revenue and expenditure in different size category of municipalities. The equalization effect of shared tax has been captured by calculating the differences in the Gini coefficient. The paper presents a part of results of a research project VEGA 1/0988/15.

Key words: Fiscal capacity. Horizontal fiscal equalisation. Tax sharing. Local tax revenue. Regional disparities.

Introduction

Fiscal equalization can be considered as natural component accompanying fiscal decentralization, since it aims to correct imbalances resulting from the autonomy of sub-national governments. Decentralization leads to growth of imbalance, when large-scale provision of public services is devolved to local government that do not have enough fiscal resources to ensure adequate funding of services. Assignment of revenue sources and expenditure responsibilities to local governments is also accompanied by the emergence of fiscal imbalances between local government budgets.

The fiscal federalism literature refer to “vertical fiscal imbalance”, also known as “vertical fiscal gap” [4; 6] as the situation that arises when the central government has a power to obtain more revenues than it requires for its own direct expenditure responsibilities, while the sub-national governments are in the opposite situation. This creates an imbalance that must be resolved in order to respond to the asymmetric decentralization of expenditure and revenue-raising authority.

Horizontal fiscal imbalance can arise when there are significant differences in income and thus public resources among sub-national governments. Horizontal fiscal imbalance refers to the situation where the municipalities and regions have differing abilities to provide comparable levels of services through the imposing comparable tax burdens, because of demographic and economic disparities between them. There are differences in fiscal capacities and/or fiscal needs.

Fiscal equalisation arrangements

Fiscal equalisation involves the transfer of payments across jurisdictions with the aim of offsetting differences between a jurisdiction's revenue raising capacity and expenditure needs. It can address both vertical fiscal imbalance and horizontal fiscal imbalance. However, some authors use this term more narrowly: „Its principal objective is to allow sub-central governments to provide their citizens with similar sets of public services at a similar tax burden even if incomes differ across areas... .... fiscal equalisation is not concerned with differences in individual household income but with differences in access to public services in a geographical sense“ [2, p. 2]. Generally, the equalisation which addresses horizontal fiscal imbalance is usually also referred to as fiscal equalisation.

Intergovernmental transfers are used by central government to reduce fiscal disparities and fill the gap between the spending needs and fiscal capacity of municipalities and regions. Tax sharing and intergovernmental grants are two sub-central funding arrangements that are often used as fiscal equalisation instruments. Under the tax sharing arrangement subnational governments are automatically attributed a fixed percentage of the yields of certain national tax without any discretion or taxing power of subnational authorities. Moreover, central governments play a dominant role in determining the amount of revenue each sub-central unit receives from the shared source. It has therefore become common in the academic literature to interpret grants and tax sharing as equivalent tools of central fiscal control over sub-central tiers. We do not intend to discuss the differences between the two methods of transfers. Anyway, according to the purpose of this paper, it should be mentioned that resources emanating from tax sharing are thought to convey more power and autonomy to subnational government than intergovernmental grants. Also in a tax sharing system, subnational governments tend to bear more financial risk in terms of tax revenue losses or fluctuations than if their revenue was based on grants [3].

Tax sharing arrangements may differ according to how tax revenue is distributed across individual jurisdictions, i.e. whether an individual subnational government share is closely related to what it generated on its territory or whether there is some in-built redistribution.

In the first case the tax share allocated to each region is proportional to what that region generated on its territory there no horizontal redistribution or fiscal equalisation across regional/local governments. The other arrangement redistributes a fixed share of specific tax revenues to subnational governments on the principle of horizontal fiscal equalisation, levelling out differences in potential revenue raising capacity and/or expenditure needs.

In the paper we investigate the question whether the design of financial equalization in Slovakia reduces revenue inequalities and enables local government in regions at different level of development to perform the basic local government functions. In the first part we provide a brief description of equalisation in Slovakia. Then we examine the equalization effect of shared tax by calculating the differences between the per capita tax revenue across the eight regions. Gini coefficient has been used to measure the degree of horizontal fiscal imbalances with data set covering all Slovak local governments (regional governments and municipalities) during the period 2005–2013.

Regional disparities and fiscal equalisation in Slovakia

Slovakia is divided into eight regions (corresponding to the EU's NUTS 3 level) and 2,890 municipalities. The basic local government units are municipalities, which counts 2,890. Of these, 138 are towns and cities, where 55 per cent of the population lives. The vast majority of the municipalities are very small, being based on village communities. Over two-thirds have a population of fewer than 1,000 inhabitants, and the range is from just seven people to 424,623 in the capital, Bratislava. Most smaller rural areas are not able to provide significant local services solely from their own resources

Regional inequality is in Slovakia among the highest in the OECD and is increasing [8]. Regional inequality is apparent in terms of GDP per capita, employment and income indicators. The eastern regions has a much higher incidence of poverty, as economic activity is heavily concentrated in the west, particularly around the capital, Bratislava. GDP per capita in Bratislava region is the 5th highest among 272 regions in the EU28. Regional GDP per capita ranges from 186 per cent of EU average in Bratislava to only 51% in Eastern Slovakia. The economic crisis has increased the gap in GDP per capita between leading and lagging regions, the poorest regions got worse off and the richest region got better.

Unemployment is concentrated in the central and eastern regions. Two thirds of the unemployed live in the eastern and central regions. On the other side, skills shortages in the Bratislava region persist alongside skills mismatches and uneven availability of technological and human resources in the central and eastern regions.

The disposable income of households is a better indicator of the material wellbeing of citizens than gross domestic product per inhabitant. Disparities in regional income per capita within countries are generally smaller than GDP per capita. Still in the Slovak Republic inhabitants in the top income region were more than 60 percent richer than the median citizen in 2011.

Tax revenue is the principal sources of revenue available to local governments (municipalities and regions) in Slovakia since 1993. The legislation provided Slovak local governments with eight separate optional (facultative) local taxes which municipal authorities may levy. Anyway, the real estate (property) tax has long been the most prominent source of local tax revenues in all size categories.

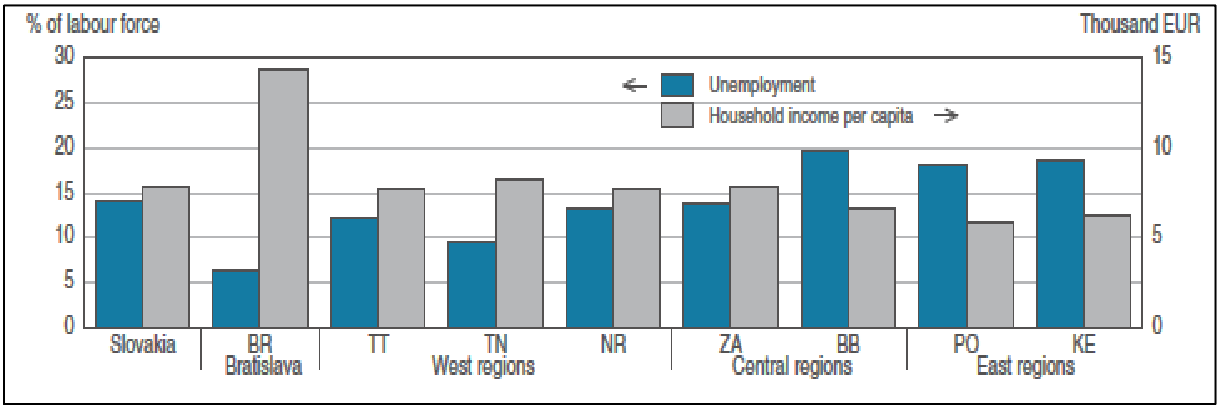

Figure 1. Regional disparities: Unemployment and household incomes per capita in 2011
Source: [8]

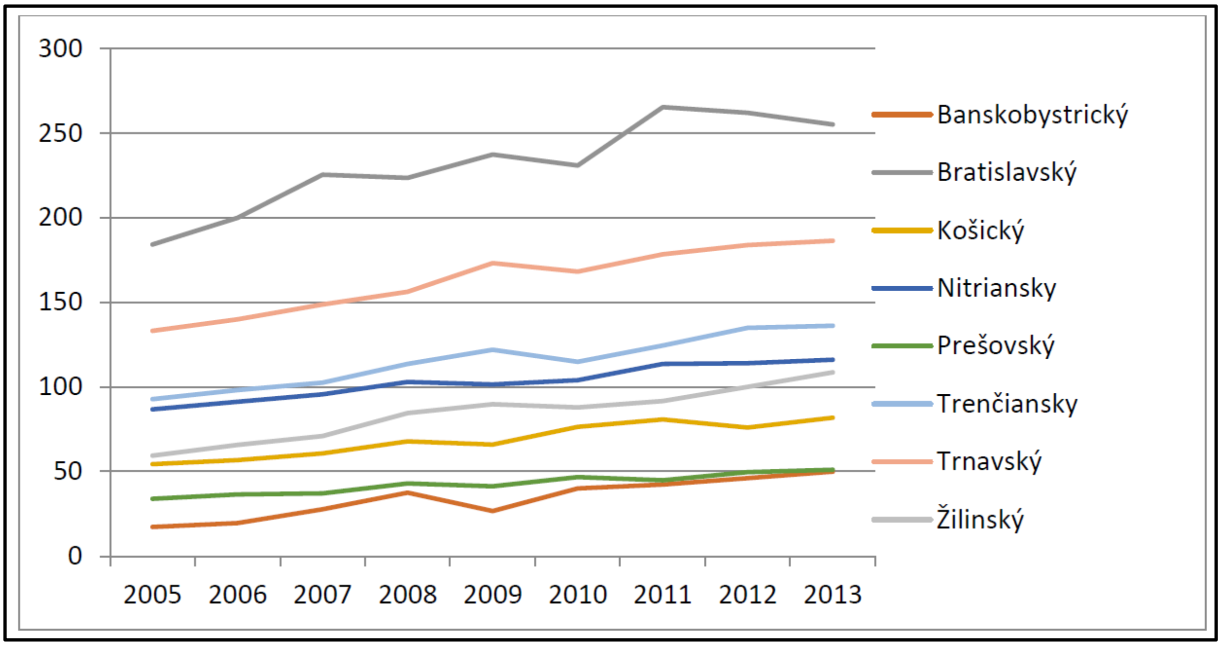

Figure 2. Local government tax revenue (without shared tax) per capita in 2005–2013
Source: [9]

Development of local government tax revenue in eight Slovak regions in the years 2005-2013 is shown in figure 2. Bratislava region dominates in terms of total tax revenues (not including shared tax throughout the whole period 2005 to 2013. The average per capita tax revenue in Bratislava amounted to 255 EUR in 2013. Significantly lower revenue were generated in Banska Bystrica region where the average per capita tax revenue per capita was 50 EUR.

Tax revenues generate more than half of local government total revenues. The most significant tax revenues (in terms of volume), however, are shared taxes. The weight of shared – taxes revenue in relation to total tax revenue has been on average 73 per cent (2014)

Accordingly, as in many other countries the majority of local revenue comes from shared taxes rather than own taxes or other intergovernmental grants. In some countries the shared tax with the element of horizontal equalization is officially classified as subnational own-revenue or subnational tax revenue rather than intergovernmental transfer. The revenue from shared taxes is legally regarded as the same as the revenue from own taxes. Similarly in Slovakia, shared tax is formally labelled as local government own revenues under current legislation. Sub-national government are free to use the revenue allocated, i.e. it is the unconditional revenue.

Under the tax sharing arrangement the revenue split is determined in the legislation. In 2004 the legislation had stipulated the share of the aggregated personal income tax that was re-distributed from the state to respectively the regional government (23.5%) and the municipalities (70.3%). The remaining 6.2 per cent was kept by the state. The amount allocated to the municipalities and regions is strictly related to the total tax yield. Since 2012 the percentages of yield redistribution was changed in favour of state, but currently the yield is divided only among local governments (70% municipalities, 30% regions).

The revenue share of each sub-central government is not related to what it generates on its own territory. The vertical tax sharing is combined with horizontal equalization.

The share for each subnational government is calculated on the basis of needs and determined by tax sharing formula. The formula system disallows room for central political interference.

As mentioned above, the share of centrally collected personal income tax (the only centrally collected tax decentralised onto self-government) is calculated using a formula. The formula is different for local and regional self-government and is based on a set of indicators and correction factors, which take into account the different functions of both tiers of government (Fig. 3 and 4).

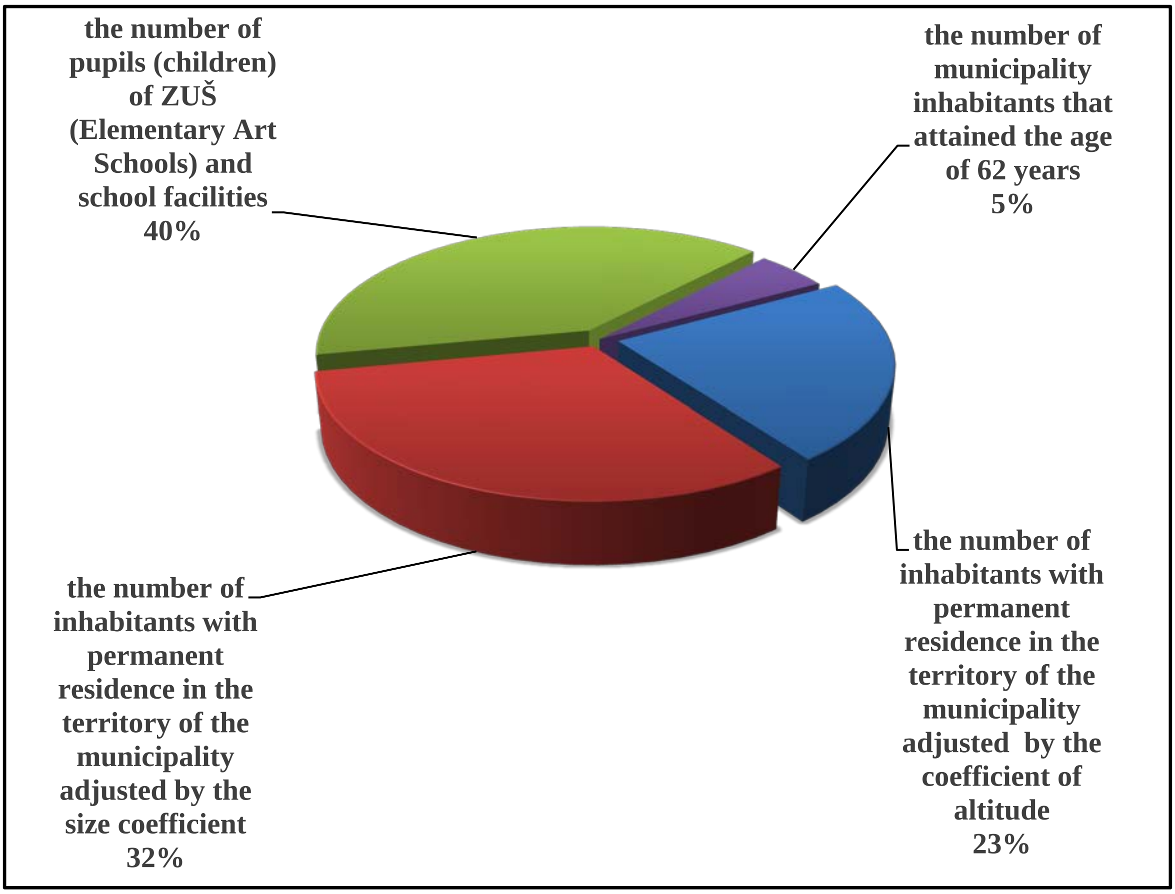

Figure 3. Criteria of shared-tax distribution and their individual weights – municipalities

Formulas used for calculating the tax re-distribution to a certain region are driven mostly by population and population-related factors such as number of inhabitants, age structure, size, population density, etc.

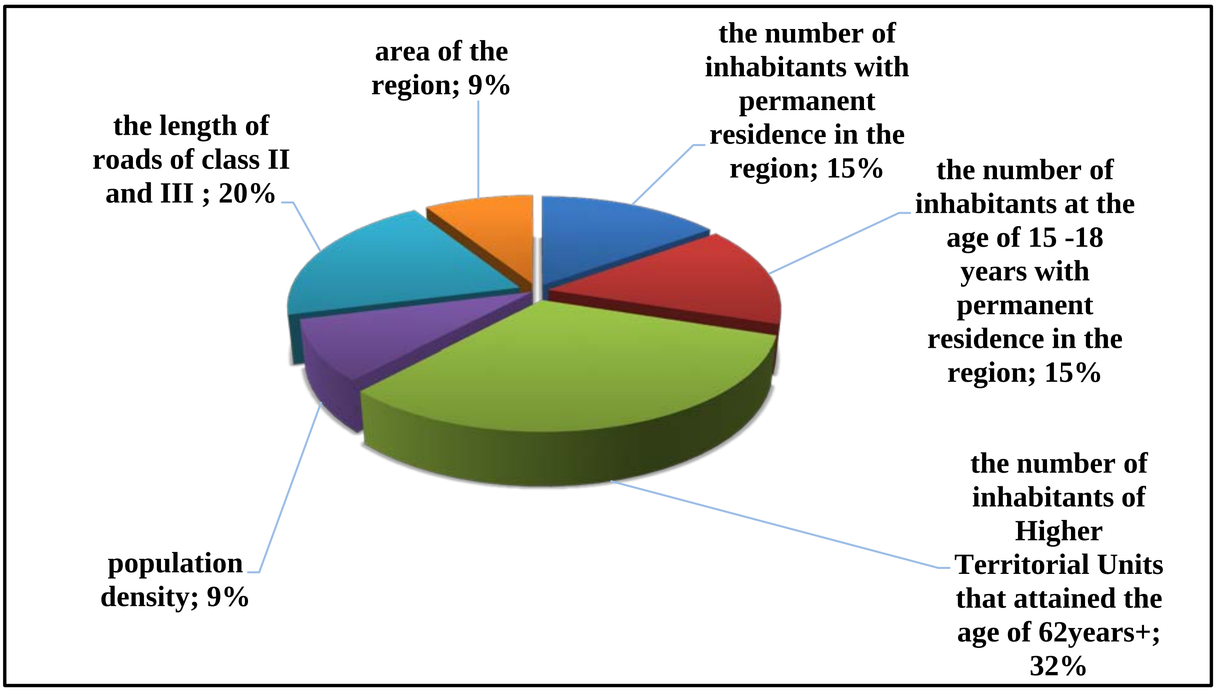

Figure 4. Criteria of tax distribution and their individual weights – regions

The fiscal disparity-reducing effect of shared tax redistribution

Does tax sharing arrangement in Slovakia narrow fiscal disparities among municipalities of different size?

We have analysed this question comparing inequality indices of fiscal capacity in different regions before and after shared tax redistribution from 2005 to 2013. The Gini coefficient is the most commonly used measure of a distribution inequality therefore the Gini coefficient has been used to measure the degree of horizontal fiscal imbalances and the equalizing tendency of the shared tax allocation. The per capita own/independent revenue of the different size municipalities (as pointed out earlier) has been taken as a measure of the financial capacity of the local government.

Horizontal financial disparity measured by Gini coefficient across eight regions is illustrated in following figure (fig.5). The figure shows the Gini coefficients of per capita tax revenue across local government in regions before and after receiving shared tax.

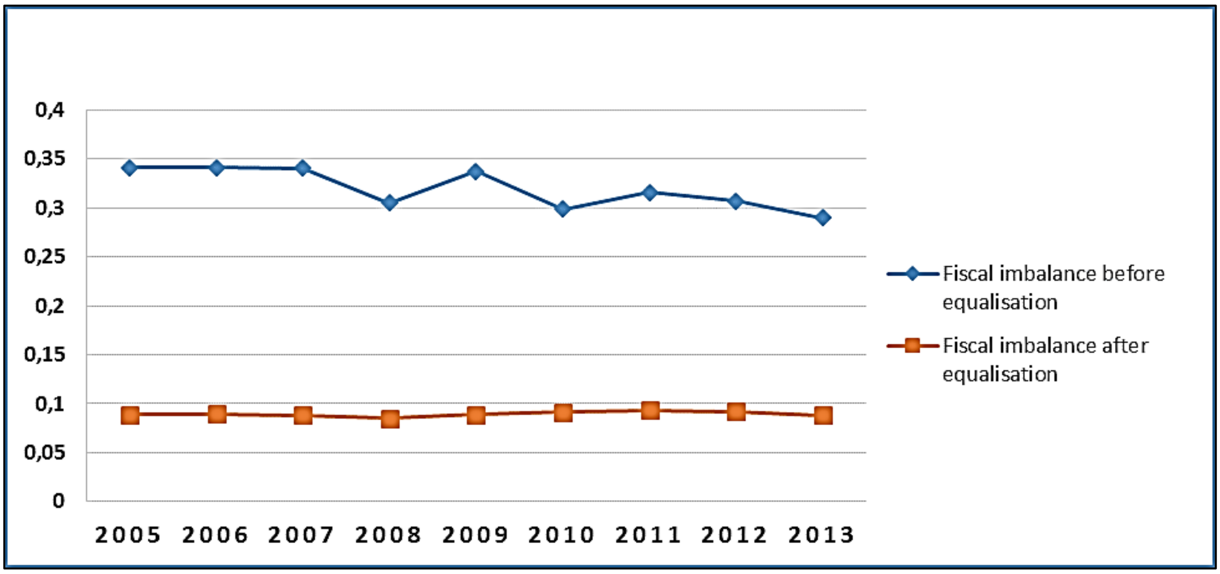

Figure 5. Gini coefficient of financial disparities before and after equalisation

The results indicate that shared tax redistribution has certain effect on the horizontal fiscal imbalance. Gini index, which measures fiscal disparities between local governments in different regions shows relatively marked inequalities in tax revenue per capita (<0,29;0,34>,) before equalisation Throughout the whole period 2005 to 2013. Disparities in fiscal capacity has been reduced by more than two thirds after introducing the equalisation scheme. Equalisation effect (difference pre/post equalisation) in following years is stable.

The share of personal income tax is the principal intergovernmental transfer that plays a significant role in a redistribution of resources between local governments in Slovakia, intending to ensure sufficient revenues to meet its expenditure responsibilities. We have examined if the reduction of revenue imbalance via allocating shared tax has been reflected in per capita expenditure imbalance. Using the Gini coefficient we quantify differences indicated by the gap between Gini coefficients of per capita revenue and expenditure (Figure 6).

As shown above, Gini coefficient for revenue disparities almost equals expenditure disparities, although disparities in per capita expenditure are a little bit smaller in last years of the period.

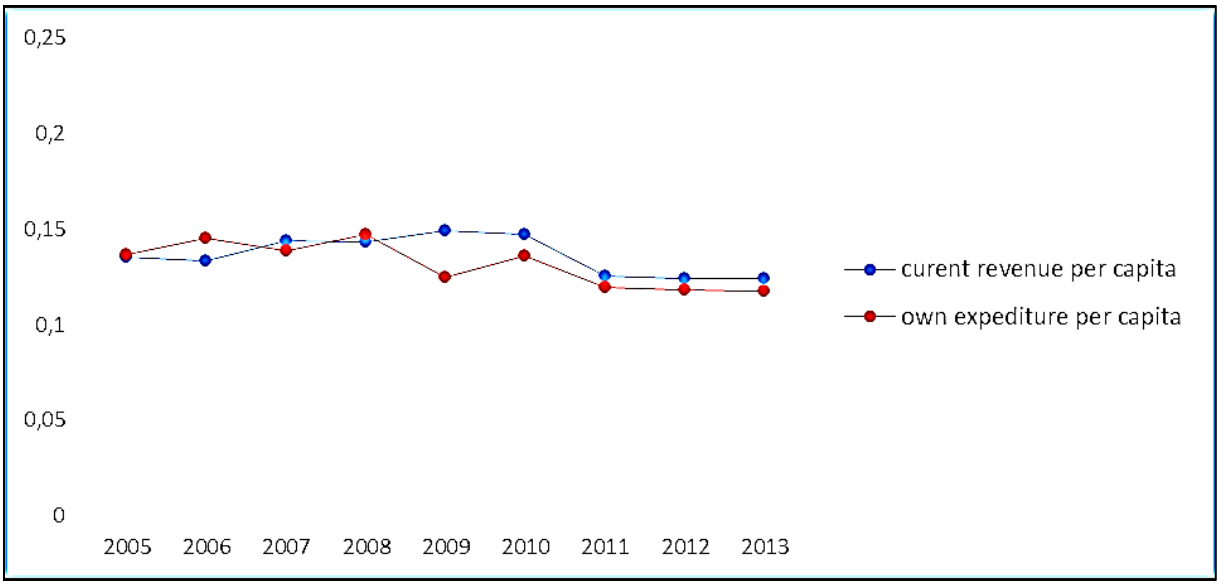

Figure 6. Gini coefficient for revenue and expenditure disparities after equalisation

Closing remarks

Nearly 70 per cent of total revenue of Slovak municipalities comes in the form of transfers. More than half of these transfers is unconditional shared tax. (The great bulk of the remaining transfers are specific grants used to fund and specific investment projects).

The main purpose of equalisation scheme is to equalise financial capacity across local government and thereby contribute to comparable provision of public services. The case of equalisation is particularly strong in Slovakia where all municipalities no matter the size were assigned in 2002 responsibilities for welfare services (education, child care, and care for elderly).

The research has shown that equalisation reduces disparities among regions at different level of development**.** Disparities in financial capacity have been reduced by 35 per cent on average. However, shared tax is essential revenue in budget of small municipalities. Thus, equalisation could prevent small municipalities from amalgamating or from searching other forms of joint provision that would help save cost or increase quality.

References

1. Blöchliger, H., et al. 2007. *Fiscal Equalisation in OECD Countries*. OECD Working Papers on Fiscal Federalism, No. 4, OECD Publishing. 38 p.

2. Blöchliger H. and Charbit C. 2008. *Fiscal Equalisation*. OECD Economic Studies No. 44, 2008/1. OECD 2008. ISSN 0255-0822, pp. 1–22.

3. Blöchliger, H. and Petzold, O. 2009. *Finding the dividing line between tax sharing and grants: A statistical investigation*. OECD network on fiscal relations across levels of government.COM/CTPA/ECO/GOV/WP (2009)10.

4. Boadway R, Tremblay, J. 2005 *A Theory of Vertical Fiscal Imbalance*. IFIR Working Paper No. 2006-04. 45 p.

5. Čapková, S. 2010. Slovakia: *Local Government: Establishing Democracy at the Grassroots*. In Loughlin, J., Hendriks,F. and Lidström, A. eds. The Oxford Handbook of Local and Regional Democracy in Europe. New York: Oxford University Press, 2010. ISBN 978-0-19-956297-8, pp. 552–576.

6. Oates, W. E. 1977. *The Political Economy of Fiscal Federalism*. Toronto: Lexington Books, 1977. 355 p. ISBN 978-0669009613.
7. OECD 2013: *Fiscal federalism 2014: Making decentralisation work.* Paris, OECD Publishing. 136 p. ISBN 978-92-64-20456-0.
8. OECD. 2014. *OECD Economic Surveys: Slovak Republic 2014*, OECD Publishing. 120 p. ISBN 978-92-64-11357-2.
9. Rončáková, L. 2016. *Horizontal fiscal imbalance and regional growth*. Doctoral thesis. Matej Bel University, Banská Bystrica. Faculty of Economics.

Author

Sona Capkova, PhD. Associate Professor Faculty of Economics, Matej Bel University, Banska Bystrica, Tajovskeho 10, Banska Bystrica, Slovakia
sona.capkova@umb.sk

Соня Чапкова

БЮДЖЕТНАЯ ОБЕСПЕЧЕННОСТЬ И НАЛОГОВЫЕ ДОХОДЫ МЕСТНОЙ ВЛАСТИ В РЕГИОНАХ НА РАЗНЫХ УРОВНЯХ РАЗВИТИЯ

Аннотация

Децентрализация ведет к росту дисбалансов, так как назначение источников доходов и расходных полномочий для местных властей также сопровождается возникновением фискальных дисбалансов между бюджетами местных органов власти. Межбюджетные трансферты (обычно, перераспределение налоговых поступлений и межбюджетные субсидии) – это два субцентральных механизма финансирования, часто используемых как инструменты выравнивания бюджетной обеспеченности. В странах с формальными системами выравнивания трансфертов ставится цель уменьшить бюджетные дисбалансы и сократить разрыв между расходными нуждами и/или бюджетной обеспеченностью муниципалитетов и регионов для того чтобы дать возможность всем местным органам власти, даже самым малым, обеспечить базовый набор общественных услуг. В Словакии используется механизм перераспределения налоговых доходов, который перераспределяет фиксированную долю доходов от подоходного налога в пользу субнациональных органов власти, выравнивая различия в расходных нуждах. В этой статье мы исследуем вопрос о том, уменьшает ли данная схема выравнивания бюджетное неравенство и дает ли эта схема возможность местным властям выполнять их базовые функции примерно на одном уровне. В первой части дано краткое описание выравнивающей схемы в Словакии. Затем мы изучаем различия душевых показателей доходов и расходов по категориям муниципалитетов в зависимости от их размера. Эффект выравнивания в результате перераспределения налога оценивается с помощью вычисления разностей коэффициента Джини. Статья представляет результаты исследовательского проекта VEGA 1/0988/15.

Ключевые слова: Бюджетная обеспеченность, горизонтальное бюджетное выравнивание, перераспределение налоговых доходов, доходы от местных налогов, региональное неравенство.