# Fiscal decentralization and equalization transfers in Georgia

Petr Janský[1], Miroslav Palanský[1]

This paper analyses fiscal decentralization generally, and fiscal equalization transfers specifically, in one of the post-Soviet countries, Georgia. We start by reviewing the relevant existing literature, the historical development of fiscal decentralization in Georgia and the recent proposals and changes. We then introduce a novel merged country-level data set focused on revenues and expenditures at different levels of government and present its useful features on the case of Georgia and other transition countries. We find that, despite the proclaimed efforts to decentralize government power especially following the 2003 Rose revolution, Georgia is in fact – together with other Caucasian countries – one of the most centralized among transition countries and, moreover, has become more centralised over the last decade. Then, in the main empirical part of the paper, we re-compute the current system of Georgian fiscal transfers using municipality-level data. Furthermore, on the basis of this data we evaluate three possible proposals for changing those transfers, which we identify as interesting scenarios based on the theoretical principles, the literature and another transition country's relatively decentralized example. We compare the results of these evaluated scenarios and conclude by providing recommendations for potential further reforms and future research.

Keywords: fiscal decentralization, fiscal equalization, fiscal transfers, equalization transfers, Georgia

Subject classification codes: H21, H61, H71, H72

**Introduction**

 In this paper, we analyse tax decentralization in Georgia, which we consider as a part of a wider phenomenon of fiscal decentralization. After the Rose revolution, Georgian politicians often spoke of the need for a more decentralized government structure. We aim to confront this narrative with the data to see what impact the reforms approved over the last decade really had on Georgia's fiscal decentralization and what the state of fiscal decentralization in Georgia is currently, in the wake of another push for fiscal decentralization. We review the existing policy as well as academic literature and we consider the best available macro and micro level data from international as well as Georgian sources to learn about the history, status quo, and potential reforms in Georgia.

 In the first part of the empirical analysis, we focus on the country-level internationally comparable indicators of fiscal decentralization, mainly making use of the International Monetary Fund's database and a recently created independent dataset. This enables us to make comparisons both over time and across other transition countries on the basis of respected data sources. The majority of our empirical analysis focuses on the current Georgian situation and its equalization formula. We replicate the results of the fiscal equalization transfer system and evaluate these using the criteria of a well-designed system. We extend the observational analysis by discussing and simulating three possible scenarios for altering the current system.

 The rest of the paper is structured in the following way. The initial part reviews the existing literature and the historical development of fiscal decentralization in Georgia. Part 3 comprises the international, comparative analysis. In the fourth part, we analyse the Georgian fiscal transfer system from the microeconomic point of view, providing a replication of the status quo as well as projections of possible alternative

scenarios. Finally, part 5 provides concluding remarks focused on ideas for further research.

**Development of fiscal decentralization in Georgia**

Before 2003, tax collection and enforcement was a major issue in Georgia (Torosyan & Filer, 2014). The main problems included low tax enforcement, low taxpayer compliance, a low level of decentralization and a high share of shadow economy. In fact, as Schneider, Buehn, & Montenegro (2010) reported, Georgia had the highest share of shadow economic activity in the world in the period 1999-2007. However, the last ten years have seen efforts made to reform local self-governance and related tax and fiscal decentralization in Georgia. Center for Strategic Research and Development of Georgia (2008), Murgulia, Gvelesiani, & Toklikishvili (2011) and, most recently, Zasztowt & Skorupska (2014) provide an overview of the efforts made by the non-governmental sector, supported by the EU, and by foreign experts. We use this and other literature[2], together with information from discussions with various Georgian officials and other experts[3] to describe these efforts below, mostly in chronological order.

After the Rose Revolution in November 2003, Mikheil Saakashvili's United National Movement (UNM) recognized the palpable need to implement basic principles of local self-governance and to support the development of democracy. The ratification

---

[2] For example, Chitanava, Grigolia, & Labadze (2011) discuss public expenditures on education and health in Georgia before and during the global crisis, including the issue of decentralization. Among other results, they find that the global financial crisis had a sharp impact on the most disadvantaged members of the society.

[3] We draw here mainly on meetings during autumn 2014 and spring 2015 with officials from the ministries of finance and regional development and infrastructure as well as a number of experts from non-governmental and academic institutions.

of the European Charter of Local Self Government[4] in 2004 is generally considered the first step towards the decentralization of the Georgian government. Members of the Council of Europe committed to applying basic rules ensuring the political, administrative and financial independence of local authorities. After 2004, a series of updated laws and new legislation was put in place to strengthen the financial and economic independence of local self-government units. Also, the number of taxes was drastically lowered and a flat tax rate was implemented for personal income tax, which, together with some other tax enforcement measures, had a positive effect on tax collection according to Torosyan and Filer (2014), but decreased the share of taxes collected at the sub-national level.

One of the fundamental principles of the European Charter of Local Self Government is that local authorities are to be elected in universal suffrage. However, even 8 years after the ratification of the Charter, Tbilisi was the only city in Georgia to have a directly elected mayor, while the inhabitants of four other cities elected councillors, who then elected the mayor. Provincial governors are appointed by the President in accordance with the Prime Minister (Zasztowt & Skorupska, 2014).

Center for Strategic Research and Development of Georgia (2008) showed that the earlier reforms not only failed to increase the fiscal independence of local self-government units, but in some cases even reduced it (Murgulia et al., 2011).  Apart from the insignificant wealth tax, local governments remained dependent on income distributed from the central government. However, the legal mechanism did not ensure fair distribution of resources from the national budget to lower levels of government,

---

[4] The European Charter of Local Self Government was adopted by the member states of the Council of Europe in 1985.

which caused the local units to fail to provide services as established by the law. As a consequence, the reform was more of a backwards step (Zasztowt & Skorupska, 2014).

Helmsing (2013) discusses local economic development options for deepening Georgia's economic and social transformation. His central contention is that Georgia's main national challenges are grounded in local development, and he views democratic decentralization, bringing the state closer to the people, as one of three key issues for the country. Tax and more broadly fiscal decentralization, as has been discussed by Bardhan (2002), can play an important role in this democratic decentralization.

Other policy studies have helped stimulate the discussion about decentralization and helped local self-government bodies execute their policies effectively (Murgulia et al., 2011; NISPAcee, 2012). The winning party in the 2012 elections, Georgian Dream, was fully committed to the development of decentralization in Georgia. Their initial proposal of a new Organic Law of Georgian Local Government Code envisaged the direct election of 18 city mayors and of all heads of municipalities, and would have made the regions' governors accountable not only to the government, but also to consultative councils composed of local council representatives (Zasztowt & Skorupska, 2014).

A later version of that bill brought many progressive changes. An additional 7 cities were granted self-governing city status and their mayors are now elected directly. As explained by Transparency International Georgia (2014), the local self-governments' own revenues (currently a property tax, local fees and an equalization transfer) were increased by a "shared tax": a portion of the income tax paid by individuals registered and employed in the territory of that self-governing unit, which will remain within the self-governing unit. In addition, along with special and targeted transfers, the municipality's budget will receive capital transfers (capital transfer includes funds

allocated for building or repairing bridges, roads, cultural objects, hospitals, schools and other buildings/facilities).

However, as pointed out in (Transparency International Georgia, 2014), many issues still require close attention. Concerning fiscal decentralization, it is important to quickly clarify the exact sources and flows through which the transfers will be realized. Furthermore, additional reforms should be introduced to ensure adequate citizen participation in drawing up the budget and to further decrease the involvement of the central authorities in the local units' expenditure structure.

**International comparative analysis**

In this section, we analyse the macroeconomic indicators of decentralization in Georgia. We use the IMF's Government Finance Statistics (GFS) as the principal source of data for tax revenues and government expenditures since it provides the best quality data for many countries, including the poor ones. We accessed the GFS through the IMF eLibrary Data.[5] As the IMF themselves acknowledge in a recent helpful paper (Seiferling, 2013), the complexity of the database makes it difficult and tedious to work with - although some improvements have been made, there is still a long way to go before it will be user-friendly. Despite many problems, it provides a unique detail and

---

[5] IMF eLibrary Data is available at http://elibrarydata.imf.org. The GFS data set consists of data downloaded in two periods. First, data before the year 2010 were downloaded on August 18, 2013. Second, data for years 2010-2013 were downloaded on November 8, 2014. On both occasions, thanks to a free trial, we created a number of download queries encompassing all the relevant information to later merge this and obtain the best freely available dataset with the GFS data.

varying coverage both across countries and years (going back to 1972 for some countries).

Additionally, we use the so called Government Revenue Dataset compiled by the International Center for Tax and Development (ICTD), recently introduced by (Prichard et al., 2014), as a data set specifically edited for the purposes of analysing poorer countries.[6] While the IMF GFS covers all expenditures and revenues at all levels of government, the ICTD data set focuses only on revenue data for central and general government. We merge the data sets from these two sources to obtain the best available data on tax revenue and tax decentralization.

In this section, we explore the merged data set using summary statistics and describe the principal advantages of our data set in the study of fiscal decentralization. An illustration of the improved availability of data achieved by combining the GRD and the GFS datasets is presented in Figure 1. For the case of Georgia, the GFS dataset contains data for years 2003-2012. The availability of the GRD, which includes observations for the time period between 1997 and 2012, thus expands the observable time span by 6 years. At the same time, the two sources are slightly inconsistent in data points for years 2003-2004.

In this particular case, the inclusion of the GRD data reveals an interesting fact. While the GFS dataset only tells us that government revenues in Georgia have become more and more centralized since 2003, which may at first give the impression that this is a general long-term trend, the GRD dataset adds the information that the year 2003 was in fact a turning point in this trend – until 2003, the country's revenues were on average becoming more decentralized. During the first decade of the new millennium,

---

[6] We downloaded this data set from the ICTD website in November 2014. (http://www.ictd.ac/en/about-ictd-government-revenue-dataset)

the central government's share of revenues rose significantly – it increased by 25 %
between 2004 and 2008. As discussed above, this is due to unsuccessful reforms that
had an adverse effect on fiscal decentralization in Georgia. While the literature suggests
rhetoric decentralization, the macro-level data reveals that the opposite is true and
confirms some more recent findings by the Center for Strategic Research and
Development of Georgia (2008) and Murgulia et al. (2011).

**Figure 1: Ratio of central and general government revenues in Georgia over time**
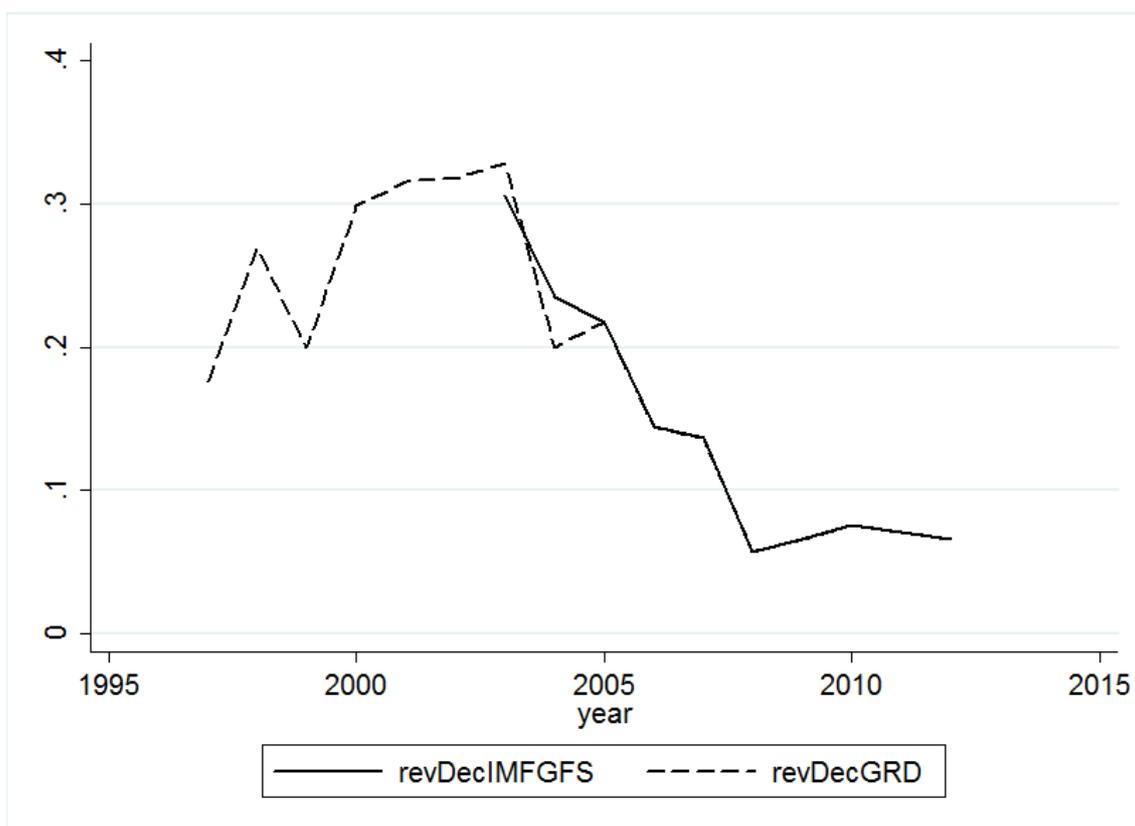


*Source: GRD, GFS and authors*

**Georgian microeconomic analysis**

The purpose of this section is to assess the current fiscal transfer system in
Georgia based both on the existing literature and on micro-level data for Georgian
municipalities. Proper implementation of decentralization requires an understanding of
the design, role and impact of fiscal equalization transfers. For this reason, we first

examine the existing theoretical conceptual basis for fiscal equalization transfers. The fundamental idea behind equalization transfers is that they promote equity. For obvious reasons, some tax revenues are more effectively collected by the central government; these then have to be transferred to municipalities and regional self-governing units according to some equalization transfer formula. The specific characteristics of this formula such that it ensures fair re-distribution are, however, subject to extensive discussions.

According to Bird & Vaillancourt (2007), intergovernmental transfers account for about 60 % of sub-governmental revenue in the developing countries. They are thus the most important source of revenue for the lower levels of government. Even in the economically more developed world, many federalist countries utilize the system of equalizing transfers to account for differences among regions' abilities to collect revenue to ensure comparable levels of public services for all citizens. The literature often mentions Australia, Canada, Germany or Switzerland as best-practice examples. The central governments in these countries subsidize below-average sub-federal governments based on their per capita tax revenue abilities. However, many more approaches to the design of the equalization formula also exist that take into account other factors, such as spending efficiency, expenditure needs, adverse effects of fiscal transfers on tax collection, etc.

It is not the main aim of this paper to review the literature relevant to fiscal transfers in depth. Rather, we intend to set out the basic framework and concepts that will influence our further analysis. We begin by focusing on the general idea of fiscal capacity as set out by Buchanan (1950), before moving towards more advanced views concerning equalization, namely the fiscal needs approach, incentive effects and transparency and accountability issues.

*General fiscal transfers framework*

*Equity*

      The fiscal equity principle stipulates that persons that live in different regions but are otherwise identical (i.e. horizontal equity) should be treated comparably by the public sector. This idea is, to various extents, encompassed in many countries' constitutions.

      As Bird & Vaillancourt (2007) explain, since no country is perfectly homogenous, it is clear that different sub-national governments are unable to provide the same level of public services while applying the same tax rates. This is not only due to the differences in territorial distribution of the tax base or natural resources, but also due to the different costs of providing an identical set of public services. These costs may differ due to the demographic profile (for example, the number of retired inhabitants or children of school age), climatological conditions (for example, regions with more precipitation may have higher sewerage system building costs), geographical conditions (for example, regions in the mountains may find it more costly to maintain the infrastructure), and so on.

      Complete decentralization in terms of both revenues and expenditures would thus fail to provide horizontal equity. Boadway (2001) points out that the concept of net fiscal benefits (NFB) as the difference between taxes paid and public services received well illustrates this problem – the more the net fiscal benefits differ among people, the more unfair the redistribution process is under the decentralized scheme of government. People then have an incentive to move to regions that offer higher NFBs.

      While the idea of fiscal equity may seem fair to citizens, an opposing view presented by Boadway (2001) should be considered. Applying this principle is in direct conflict with the basic notion of federalism and decentralization of power in that

provinces should be able to set their own fiscal policies and even compete with each other to provide the most efficient services to their citizens. Since both harmonized decentralization of power and fiscal equity seem to be, to some extent, desirable characteristics of an ideal fiscal decentralization system, it is necessary to achieve a compromise between these concepts. That is the task of fiscal transfers.

*Efficiency*

In more centralized countries where revenues from taxes are more concentrated in the hands of the central government, it is advisable to transfer expenditure responsibilities to lower levels of government in order to achieve higher effectivity in public spending (Tiebout, 1956). This is based on the idea that local governments better understand the preferences of their voters and thus can allocate the resources in a more effective way.

At the same time, a related strand of literature presents an opposing viewpoint. Scott (1952), for example, argues that fiscal transfers may, in fact, be a source of inefficiency, because they discourage competition in terms of labour migration among regions with different overall income. The regions thus do not have the incentive to operate as efficiently as they can, because they are not threatened by other regions taking away their tax base.

*More advanced approaches*

In this section, we present various concepts related to equalization transfer theory. While the basic framework consists of the two main characteristics of a good fiscal transfers system (equity and efficiency discussed above), many other ideas extend this theory. Shah (1994) concludes that ignoring the expenditure side cannot be defended on economic efficiency and equity grounds. The so-called fiscal needs

approach seeks to ensure that every citizen has access to reasonably comparable levels of public services no matter where he lives, while taking into account the differences between regions in terms of fiscal capacity and expenditure needs. Therefore, the equalization formula should not only take into consideration the revenue means of the regions, but also account for the individual provinces' expenditure needs.

Kotsogiannis & Schwager (2008) outline the impact of equalization transfer accountability and find rationale for both a positive and a negative effect. On the one hand, with equalized fiscal resources the public attaches more attention to any remaining variation in public good supplies and can thus more effectively monitor rent-taking. As a consequence, politicians are held more accountable for their actions. On the other hand, the complexity of the equalization transfers mechanism reduces the citizens' ability to perfectly derive fiscal capacities from the supplies of public goods observed in two different jurisdictions. It is thus crucial to make the fiscal transfers system as transparent for the general public as possible. Then, as Kotsogiannis & Schwager (2008) analytically demonstrate, the positive effect of equalization transfers on accountability prevails.

Another important aspect when determining the details of the equalization formula is that some variables may be directly affected by the recipient local governments. As Buettner (2006) points out, the common characteristic of fiscal equalization systems is that the value of transferred money is inversely related to the tax base (or "fiscal capacity"), which may create incentives for the sub-governmental units to raise ineffective or even distorting taxes. The standard models of fiscal equalization include tax competition ensured by tax base mobility. However, given that the recipient governments can affect the parameters of the fiscal equalization formula, the incentive effect may work against the desirable effects of tax competition by pushing local

governments to bias their tax mix in favour of taxes for which their fiscal capacity is lower, because the lower revenue from these taxes is compensated by higher equalizing transfers.

So far, only a few researchers have found empirical evidence of these adverse effects of equalization transfers on taxation. Baretti, Huber, & Lichtblau (2002) have studied the German federal fiscal system. In Germany, taxes are set uniformly across states, but states are responsible for collecting them. Higher tax revenue then reduces the amount of equalizing transfers that the state receives. At the same time, the marginal effects of a change in tax revenue differ across states because of the design of the equalization formula. This allows researchers to estimate the effect of the elasticity of fiscal transfers imposed by the equalization system on states' tax revenue. As expected, the results suggest a significantly negative effect, i.e. high marginal tax rates imposed by this system tend to reduce tax enforcement activity on the part of the state in question and thus its tax revenue. To some extent, support for the adverse incentive effect is found also by Snoddon (2003), who examines the effect of the 1982 reform of the fiscal transfers system in Canada.

The effects of the basic efficiency and equity principles may thus be partially offset by the negative incentives of equalization grants. In an attempt to merge both theories, Hindriks, Peralta, & Weber (2008) offer a model with both tax and public investment competition. As a consequence, regions with a more appealing environment for capital may be more attractive even if they set higher tax on capital. To prevent the regions from spending excessively on public investment, it may be welfare-enhancing to maintain partial cooperation on public investment.

*Optimal equalization transfers system*

Based on the conceptual basis described above, we sum up the theoretical implications for the optimal design of equalization transfers in the following areas:

- Equity – the fundamental function of fiscal transfers must be to ensure reasonably equal levels of public services to all citizens while imposing an equal tax burden.

- Efficiency – the equalization transfers system must promote efficiency of public spending. This includes, in particular, the extent to which the expenditure responsibilities should be assigned to lower levels of government.

- Expenditure needs – equalization transfers must account for different geographical, demographical and other conditions between individual jurisdictions.

- Transparency – all citizens must understand the scheme. Detailed information about the formula should be available online.

- Accountability – monitoring rent-taking and holding politicians accountable for their actions is a necessary complement to transparency.

- Negative incentive effects on tax competition – fiscal transfers dependent on tax revenue may lower the tax effort made by sub-governments. It is thus important to correctly define fiscal capacity to ensure that incentives for tax distortions are minimized.

Finding the optimal mix of criteria that form a good equalization transfer formula is rather difficult. Bird & Smart (2002) review the central issues that arise when designing intergovernmental transfers. They divide the issues to be tackled into two categories: vertical and horizontal fiscal imbalances. Vertical fiscal gaps emerge

because some taxes are collected at a different level of government than the one at which they are spent. Bird & Smart (2002) identify that in principle, there are only three possible ways to determine the total amount to be transferred to lower levels of government: (i) as a fixed proportion of central government revenue, (ii) on an ad hoc basis (that is, as any other budgetary expenditure) or (iii) on a formula-driven basis. In the Czech Republic as well as in most of the transitional countries of Central and Eastern Europe, the amount is determined by the first method – the law states that the municipalities will receive a given percentage from the amount collected from given taxes.

### *Equalization transfers in Georgia*

In this section, we focus on the current system (as of 2014) of equalization transfers in Georgia. It is important to note here that municipalities and cities receive money from the central government through four channels. The first and most important of these is the equalization system on which we primarily focus in the present paper. The second channel consists of capital transfers, which are based on a decision by a commission that decides about individual projects (similarly to structural funds in the EU). The third channel is that of targeted transfers, which are intended to cover specific costs declared by the law, such as vaccinations. The fourth and final channel involves special transfers, which are distributed in the event of natural disasters or medical emergencies.

In addition to these four central sources of revenue, municipalities also have their own revenues; these consist of money from property taxes, some fees and other minor revenues from various sources such as renting land. In the equalization system, "projected revenues" are calculated as the next value of the linear trend of revenues in

the last three years and they are represented by $R$ in the following formula for equalization transfers:

$$T = E - R$$

Therefore, the amount of money a municipality receives through equalization transfers ($T$) is the difference between its projected expenditures ($E$) and projected revenues ($R$). The revenues are subtracted because Georgia's diversity results in significant differences in capacity to collect revenue across regions. By covering the difference rather than sending a formula-calculated amount, the central government aims to achieve equalization. An important caveat here is that this set-up does not incentivize the municipalities to pursue high tax revenue, because they will be granted the amount E no matter how much money they collect from taxes. This is due to the fact that $T$ is floored at zero, i.e. if the difference $E - R$ is negative, the transfer $T$ is equal to 0. We will discuss this issue later.

A more interesting part of the formula is the expenditure variable, $E$. It is calculated for two groups, municipalities (64) and cities (5), using a fairly complex formula influenced by the following factors, which have more or less importance on the final outcome, based on the design of the formula:

(1) Population ($C_1$).

(2) Population under the poverty line ($C_2$).

(3) Number of children under 6 years of age ($C_3$).

(4) Number of adolescents from 6 up to 18 years of age ($C_4$).

(5) Total length of roads ($C_5$).

(6) Density coefficient ($C_6$), calculated as the ratio of population ($C_1$) over the area of the municipality in square kilometres ($C_7$).

These factors are transformed into their relative forms (that is, into shares of the total of each factor for all municipalities) and then their average value is noted and further used as a variable called $A$. The list of factors entering the formula goes on as follows:

(7) Regional administration duties ($SM$) – takes a value of 0.1 if the municipality has regional administration duties, and 0 otherwise.

(8) Alpine landscape ($SHM$) – takes a value of 0.1 for all municipalities with 10 and more alpine areas in their region, and 0 otherwise.

(9) Status of capital city ($SCC$) – takes a value of 2.8 for Tbilisi and Batumi, and 0 otherwise.

(10) Status of local self-government entity ($SU$) – takes a value of 1 for all municipalities.

(11) A number based on revenue per capita ($ESR$) – takes a value of either 0.015, 0.01, 0.005 or 0 according to the forecast revenue per capita $\left(\frac{R}{C_1}\right)$ relative to other municipalities.

(12) Average equalize ($AE$), which is a number calculated as $\frac{Aa}{A*CC}$, where $Aa$ is the average of $A$ among all municipalities ($A$ is the variable described above) and $CC$ is a correcting coefficient, currently set to 1000.

For our convenience, we name $EC$ the part composed of factors (7) to (12). Finally, the last two factors determining $E$ are the following:

(13) The total amount of money that the government distributes to municipalities and cities (M), floored by the law at 4 % of the forecast GDP of the budget year.

(14) Share of municipalities and cities on the total amount distributed by the

government ($G$), which is set by the law as 66 % for cities, 34 % for

municipalities.

These factors are encompassed within the formula with different weights by

using average values and percentage shares. The final formula for $E$ of municipality $i$

looks as follows:

$$E^i = \frac{K^i}{\sum_{j=1}^{m} K^j} * G^i * M,$$

where

$$K^i = \underbrace{\frac{\sum_{n=1}^{6}\left(\frac{C_n^i}{\sum_{j=1}^{m} C_n^j}\right)}{6}}_{=A} * \Big(\underbrace{SU^i + SC^i + SHM^i + SM^i + ESR^i + AE^i}_{EC}\Big),$$

where $m$ is the number of municipalities (currently, $m = 64$). The same formula

applies for city $i$, except for $m$, which has to be replaced by the number of cities, $c$

(currently, $c = 5$).

Looking closer at the definitions of the factors and their place in the formula, we

conclude that the roles of some factors are rather difficult to interpret. For example, $SU$

takes a value of 1 for all municipalities, and its effects are therefore only pronounced by

the design of the formula, where it ensures, for no apparent reason, higher $E$ for

municipalities and cities for which $EC$ is smaller. Also, some factors, namely (1)

through (6), enter the formula twice (in $A$ and in $EC$), which makes the final effect of

these variables very hard to estimate. The same applies to the forecast revenue ($R$),

which is directly subtracted from $E$ to form the final amount of money to be transferred

and at the same time plays a role in the calculation of $E$ (it is used to calculate $ESR$).

*Evaluation of the Georgian system*

In this section, we evaluate the Georgian system using the criteria of a well-designed equalization transfer system as we described them above. The Georgian system seems to promote equity and the principle of expenditure needs fairly well. Ensuring comparable levels of public services to all people requires different expenditures in different regions. Georgia is a very heterogeneous country in terms of geographical, demographic, income and climate differences. For this reason, it is important to account for factors such as the number of alpine areas in individual regions, the share of population under the poverty line, the total length of roads, and so on. However, especially in less developed countries, using data that are difficult or costly to obtain on a yearly basis creates a potential problem of bad quality data. An example of a variable for which it is costly to accurately collect data is the number of people under the poverty line. In such cases, it may be more suitable to use fewer, but more reliable variables.

An important factor is the general design of the transfer system. Since the transfers are calculated as the difference between some determined expenditures and forecast revenues, if we assume that by using an equalization formula we will obtain 'fair and equal' fiscal transfers – which is what we try to achieve when designing an equalization formula – we must keep in mind that subtracting revenues constitutes a source of inequality, because the individual regions' ability to collect revenues differs significantly. In another view, transfers designed in this way promote equality, because municipalities with a smaller tax base are compensated for this handicap.

Also, as pointed out by Bird & Smart (2002), a grant system designed in the same way as the Georgian one can create poor incentives for local governments to raise their own revenue. This may be true for Georgia, because the transfers that municipalities and cities obtain from the central government serve only to cover the

difference between the municipality's revenues and expenses. This difference is covered regardless of its value. Municipalities that currently raise relatively low tax revenue therefore do not have any motivation to try to increase it, because this would only result in them receiving a lower transfer. On the other hand, if a municipality raises revenue higher than its calculated expenses, it does not receive any transfer, but keeps all the money it has raised on taxes. The share of revenues to expenditures for all municipalities and cities in Georgia is presented in Figure 2.

We observe that most municipalities only cover about one fourth of their expenses from the property taxes and fees that they collect. The rest of the expenses are covered by transfers from the central government. The low number of municipalities in the range between 0.5 and 1 seems to support our hypothesis of poor incentives for collecting revenues in this range. The same applies to the large gap between the two high-revenue municipalities and the rest – these two municipalities are in the position where they have an incentive to collect as much money on property taxes and fees as possible.

**Figure 2: Ratio of revenues to expenditures for Georgian municipalities and cities**
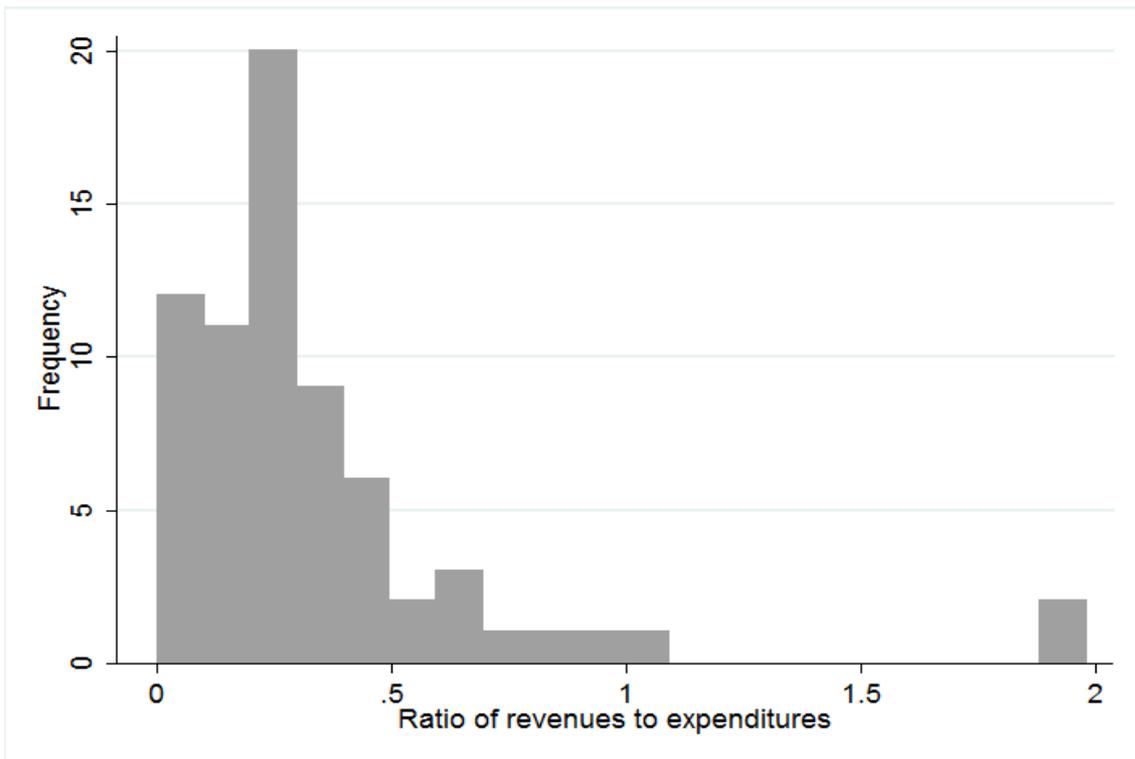


*Source: Ministry of Finance of Georgia, authors' construction*

Concerning transparency, there seems to be room for improvement, especially in comparison with the Czech system, which takes into account only 3 factors (population, area, number of students) and directly assigns the percentage importance in the formula. In the Georgian system, factors enter the formula with different weights which are not clear at first sight. It is therefore difficult for people to understand why their local government receives the amount that it receives. The current system of fiscal decentralization should be better presented to the various stakeholders as well as the public. This increased transparency should allow for a better informed and more inclusive debate on the current state of – and any future changes to – fiscal decentralization in Georgia.

These improvements should certainly include a better specification of the fiscal decentralization's objectives. Once objectives are transparently and simply set out, it is possible to propose changes in line with these objectives to improve the efficiency and

distributional outcomes of the system. A more transparent as well as simpler system of fiscal decentralization should bring benefits to Georgian citizens in its own right, but it would also properly prepare the ground for further improvements in terms of efficiency and distribution.

### *Empirical analysis of Georgian fiscal equalization transfer system*

The purpose of this section is to analyse the Georgian equalization transfer system empirically. We replicate the status quo as well as simulate various reform scenarios. We employ the best available methods in a transparent manner while making use of the best available data, primarily from the Georgian Ministry of Finance and, secondarily, from the Georgian Statistical Office. Figure 3 presents data for expenses per capita in 2013 for all cities and municipalities in Georgia, sorted by population. We see that the principle of equity is not fulfilled in terms of money – there are great differences among the cities in the expenses per capita calculated by the equalization formula. However, this does not mean that it is not fulfilled in the more general definition of equity, i.e. ensuring a comparable standard of public services to all citizens.

The two cities with the status of capital city (Tbilisi and Batumi) are at the top of this list by expenditure per capita, which is fairly standard – capital cities are used by all citizens for administrative tasks etc. and thus have higher expenditure needs. On the other side of the graph, the municipalities with low populations enjoy high spending per capita – this accounts for the fact that even small cities have some basic necessary administration costs. Nevertheless, population does not play as big a role in Georgia as in some other countries.

**Figure 3: Expenses per capita in 2013 in Georgian municipalities (black), cities (grey) and cities with capital city status (white).**
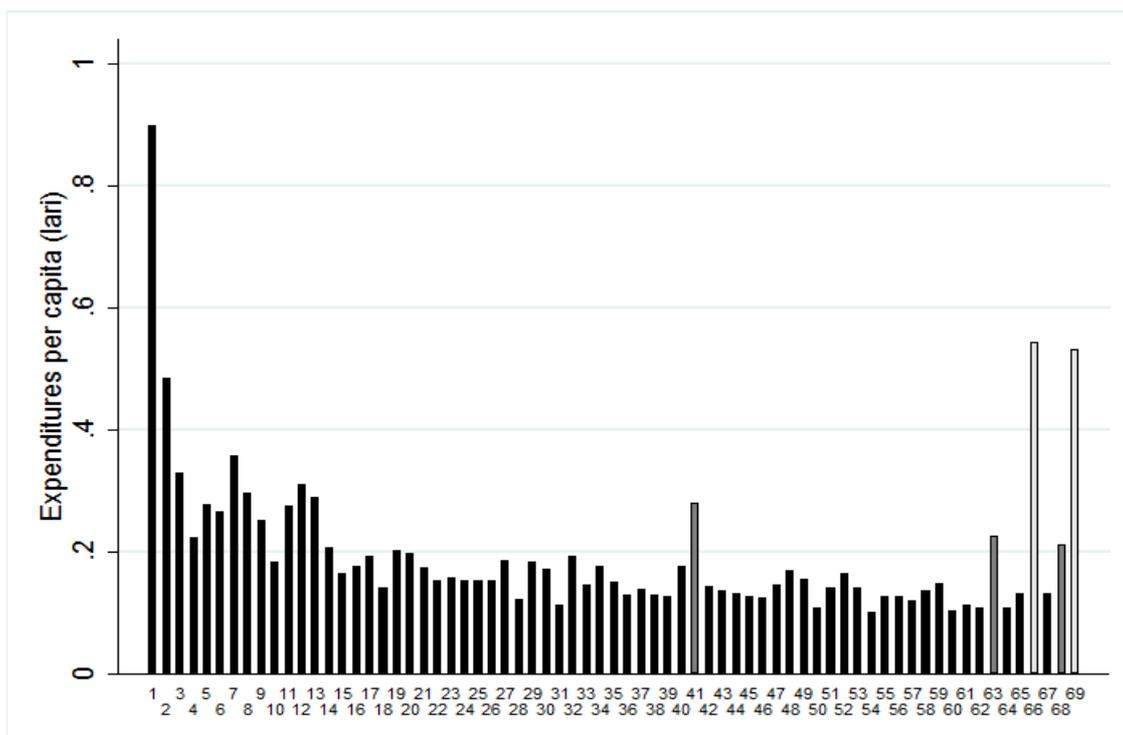


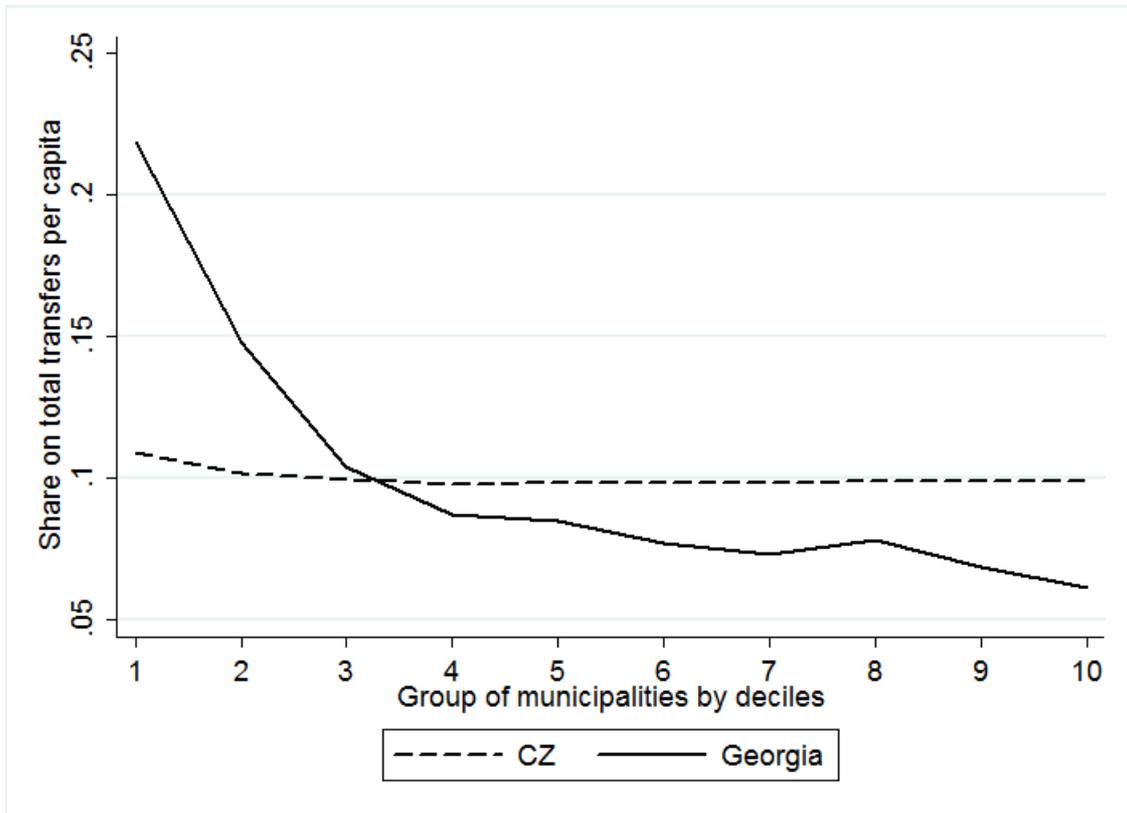*Source: Ministry of Finance of Georgia, authors' construction*

***Comparison of equalization principles in Georgia and in the Czech Republic***

        In order to be able to compare the current situation in Georgia and the Czech Republic directly, we constructed deciles (by population) for municipalities in both countries and divided the municipalities into 10 groups. We excluded large cities from this analysis, namely all self-government cities in Georgia (the expenditures of which are computed differently than for other municipalities) and the 5 largest cities (which have a special coefficient in the equalization formula) in the Czech Republic. As explained above, 'expenditures' (E) in the Georgian system correspond to 'transfers' in the Czech system. To simplify the notation, we will call these amounts 'expenditures' for both countries.

        To overcome the problem of nominal differences in expenditures in Georgia and in the Czech Republic, we calculated the average expenditures per capita for each group

and their share on the total of this statistic for all groups. The result is presented in Figure 4.

**Figure 4: Share of average transfer per capita on the total of average transfers per capita in the Czech Republic and Georgia in 2013**

In the Czech Republic, the equalization system is mainly based on the population criterion which has a 90% weight in the formula. The remaining part is composed of 3% weight of geographical area of the municipality and 7% weight of the number of children attending municipality-funded schools. Due to the inclusion of a gradual coefficient for the population criteria, people in larger cities have a slightly higher weight, which is reflected in the relative flatness of the Czech curve compared to the Georgian one. The Czech curve shows a slight increase in transfers per capita for the first two groups, with the lowest values around the fourth decile. For more populated

cities, transfers per capita rise once again. However, overall, the variation between groups is minimal.

In contrast, the Georgian system drastically promotes low-populated municipalities. The first three groups enjoy much higher expenditures per capita than the other municipalities. While the curve for the Czech system is slightly U-shaped and strictly convex, the Georgian curve does not compensate larger cities as much and exhibits distortions, especially around the eighth decile. This corresponds with the fact that there are many factors other than population that enter the Georgian formula with relatively high importance.

### *Projections of possible scenarios*

In this section, we consider some changes to the current Georgian system of equalization transfers and evaluate their impact on municipalities' and cities' expenditures. We try to replicate the current system using the same variables, but a much simpler and more transparent formula. Such changes could increase the simplicity of the system without substantially changing its distributional or other characteristics.

### *Scenario 1 – only population*

In our Scenario 1, only one factor determines the expenditures: population. The calculation is very simple – we take the share of each municipality's population on the total population of all municipalities in per cents (and we do the same for cities). Then we multiply this percentage by the total amount of money that goes into the system, which is set by the Georgian government (in 2014, this was 1.2 billion GEL (Georgian lari), or approximately 0.54 billion USD, which represented 3.27% of the Georgian GDP in that year) and the share of this money that is assigned to municipalities (34 %)

and to cities (66 %). Therefore, using the variables defined above, the expenditures $E$ of a municipality $i$ are calculated using the following formula:

$$E^i = \frac{C_1^i}{\sum_{j=1}^{m} C_1^j * 100} * G^i * M$$

For cities, we employ an analogical formula. The summarized outcome of the calculation is presented in Table 1.

**Table 1: Scenario 1 – summary. All amounts are in thousands of lari.**

| Municipalities | |
|---|---|
| Average absolute percentage difference | 22.6 % |
| Amount needed to keep all at current | 37 738.22 |
| **Cities** | |
| Average absolute percentage difference | 30.71 % |
| Amount needed to keep all at current | 334 199.85 |
| **Total Georgia** | |
| Average absolute percentage difference | 23.19 % |
| Amount needed to keep all at current | 371 938.08 |

Source: Ministry of Finance of Georgia, authors' construction

When using population as the only factor to determine the municipalities' and cities' expenditures, the average absolute difference from the current system is over 37 %. This is in line with the fact that many other factors are taken into account in the current formula. The row named "Amount needed to keep all at current" presents the amount of money that the municipalities and cities would lose if Georgia switched to Scenario 1, or, equivalently, the amount that the government would have to transfer in addition to the current amount to keep all municipalities' expenditures at least at the same level.

It is important to note that this scenario is for illustration purposes only. To our knowledge, no country's fiscal equalization system is based solely on the population

criterion, even though in many countries, population accounts for about 70-90 % of the variation across the individual self-government entities.

*Scenario 2 – simplifying the current system*

In Scenario 2, we try to find the best possible linear combination of the criteria that are currently used in the formula (or some of them) to produce results as similar as possible to the current state. To do so, we calculate the share of every municipality's and city's criterion on the total amount for municipalities and cities, respectively, and then multiply this share by a "coefficient of importance". A coefficient of importance in this context means a percentage by which each factor is multiplied in the final formula. By this procedure, we obtain the percentage that belongs to each municipality out of the total amount of money that flows into the system. In an ideal situation, we would be able to produce minimal variation from the currently computed amounts by using this transparent calculation.

A simple computing exercise in a spread sheet program reveals that the lowest possible average change from the current system when using a straightforward linear formula is around 3 %. That is a fairly low number, considering potentially vast improvements in the understandability of equalization transfers that would stem from a change to a linear setup. Variation-minimizing weights as percentages, however, in our view would not increase the formula's understandability as they are far from being natural numbers. Since the main idea behind using the linear weights system lies in simplicity, we do not use these variation-minimizing weights in this scenario. Rather, we choose them in a way that balances low variation and simplicity of used weights. For municipalities (which represent the main area of focus here), we assign the same importance (15 %) to the 6 basic criteria ($C1 - C6$) and lower importance to the criteria

*SHM* (alpine regions) - 9% - and *SU* (status of self-government entity) - 1%. Therefore, the formula looks as follows:

$$E^i = \left( 0.15 * \sum_{n=1}^{6} \frac{C_n^i}{\sum_{j=1}^{m} C_n^j} + 0.09 * \frac{SHM^i}{\sum_{j=1}^{m} SHM^j} + 0.01 * \frac{SU^i}{\sum_{j=1}^{m} SU^j} \right) * G^i * M$$

For reasons described below, we analyse the outcomes of this scenario individually for cities and for municipalities. For cities, we add a coefficient to account for their status as self-government cities (see Table 2). These coefficients are added to the percentage share and are calculated specifically to be in line with the current system, which is why for cities, there is no variation between the current system and Scenario 2. For larger cities, it is usual in most countries that a coefficient is added whose size is based on a political agreement. A more transparent way to calculate expenditures for larger cities is a potential area for future research.

**Table 2: Scenario 2 - coefficients for cities**

| City | Percentage share calculated by the simplified formula | Coefficient added to keep in line with the current system |
|------|------|------|
| Tbilisi | 41.68 % | 36.93 % |
| Batumi | 5.69 % | 5.27 % |
| Qutaisi | 6.99 % | -1.76 % |
| Poti | 1.7 % | -0.01 % |
| Rustavi | 4.36 % | -0.85 % |

Source: Ministry of Finance of Georgia, authors' construction

Therefore, for cities, Scenario 2 does not alter the current situation. The problem with larger cities is more complex than one might think. In all systems of fiscal equalization, larger and capital cities have an advantage given by a coefficient that enters the formula at some point. In Georgia, this is provided for by the variable SCC (status of capital city, given to Tbilisi and Batumi) and also by the design of the calculation of the formula – as some parts of the formula are averaged, the averages are

taken individually for municipalities and cities. This is somewhat unusual and brings about further complexities. In the Czech Republic, for example, the larger cities are given an advantage by including a larger coefficient than other cities, but using the same formula. The Georgian design is thus less straightforward, since the outcomes cannot be easily adjusted by correcting the cities' coefficients.

For municipalities, on the other hand, the simplified system brings about the variation summarized in Table 3. The average change is only 3.87%, which points to the idea that some variables in the current formula are redundant and make the formula unnecessarily complex. The amount that would be needed to keep the expenditures of all municipalities at the current level is very low as well.

**Table 3: Scenario 2 – summary for municipalities. The amount needed to keep all at current is in thousands of lari.**

| Municipalities | |
|---|---|
| Average absolute percentage difference | 3.87% |
| Amount needed to keep all at current | 9 297.4 |

Source: Ministry of Finance of Georgia, authors' construction

*Scenario 3 – replicating the Czech system*

In this scenario, we replicate the current Czech fiscal transfers system and calculate the expenditures using the formula design that is used in the Czech Republic. The Czech system takes into account only three factors – population, children of school age (i.e. children between 6 and 15 years of age) and area. The population criterion, however, enters the formula twice – once as the simple share of the number of inhabitants on the total population (with 10 % importance) and once in a more complex way as a "gradual correcting coefficient" (with 80 % importance). The setup of the gradual correcting coefficient in the Czech system is summarized in Table 4.

**Table 4: Gradual correcting coefficient in the Czech fiscal transfers system**

| Population of a municipality | Correcting coefficient | Gradual correcting coefficient |
|---|---|---|
| < 50 | 1 | 1 * Population |
| 51 – 2 000 | 1.07 | 50 + 1.07 * (Population - 50) |
| 2 001 – 30 000 | 1.1523 | 2 136.5 + 1.1523 * (Population – 2 000) |
| > 30 000 | 1.3663 | 34 400.9 + 1.3663 * (Population – 30 000) |

Source: The Collection of Laws of the Czech Republic (Amendment 2 to the Act No. 243/2000 Coll. On Budget Allocation of Revenue of Certain Taxes to Territorial Self-Government Units and to Certain State Funds), authors' construction

Such design implies that more populated municipalities are compensated more for their population expenses. Since Georgia has far fewer self-government units (which are, however, larger on average) than the Czech Republic (69 vs. 6 246), it is impossible to use the same population brackets when comparing the two systems. For this reason, we have computed percentiles corresponding to the boundaries of Czech brackets and constructed specific brackets for Georgia. These are presented in Table 5.

**Table 5: Construction of Georgian population brackets**

| CZ boundary | Percentile | Georgian boundary | Georgian population brackets |
|---|---|---|---|
| 50 | 0,011 | 1846.5 | < 1 846.5 |
| 2000 | 0,892 | 75809.6 | 1 847 - 75 809.6 |
| 30000 | 0,994 | 165293 | 75 810 - 175 215.5 |
| 100000 | 0,999 | 175215.5 | > 175 215.5 |

Source: The Collection of Laws of the Czech Republic (Amendment 2 to the Act No. 243/2000 Coll. On Budget Allocation of Revenue of Certain Taxes to Territorial Self-Government Units and to Certain State Funds), authors' construction

Next, we use the same correcting coefficients for the four corresponding population brackets and assign 80 % importance to the gradual correcting coefficient variable.

For the other two factors entering the formula, we assign the importance they have in the Czech system, i.e. 7 % for the share of the number of school-aged children and 3 % to the area of each municipality. Due to the lack of data for children of school age, we instead use the variable $C_4$, i.e. the number of children between 6 and 18 years of age, which we consider a very good proxy. The formula for this scenario, again using the variables defined above, thus looks as follows:

$$E^i = 0.8 * \frac{GC^i}{\sum_{j=1}^{m} GC^j} + 0.1 * \frac{C_1^i}{\sum_{j=1}^{m} C_1^j} + 0.07 * \frac{C_4^i}{\sum_{j=1}^{m} C_4^j} + 0.03 * \frac{C_7^i}{\sum_{j=1}^{m} C_7^j}$$

where $GC$ is the gradual correcting coefficient and $C_7^i$ is the area of municipality $i$.

For larger cities, the situation is, once again, a little more complicated. In the Czech Republic, there are four cities that enjoy higher expenditures ensured by a special correcting coefficient which is the outcome of a political discussion. For Prague, this coefficient is currently set to 4.064, and for the three next largest cities (Brno, Pilsen and Ostrava), it is 2.2961. This coefficient, multiplied by the corresponding municipality's population, enters the formula instead of the gradual correcting coefficient. In Scenario 3, we do not add any special coefficients for cities. Rather, we project the outcome of the same system for all local units in Georgia.

The summary of the outcome of the Scenario 3 calculation for municipalities and cities is presented in

Table **6**. The average absolute percentage difference for municipalities is a little over 21 %, which underlines the notable differences between the Georgian and Czech systems. For cities, we obtained lower variation than in Scenario 1, however, it was still substantial at almost 31 %, which highlights the importance of special coefficients for larger cities.

**Table 6: Scenario 3 – summary. All amounts are in thousands of lari.**

| Municipalities | |
|---|---|
| Average absolute percentage difference | 21.09 % |
| Amount needed to keep all at current | 36 327.3 |
| **Cities** | |
| Average absolute percentage difference | 31.05 % |
| Amount needed to keep all at current | 42 053 |
| **Total Georgia** | |
| Average absolute percentage difference | 21.8 % |
| Amount needed to keep all at current | 78 380.3 |

Source: Ministry of Finance of Georgia, authors' construction

**Conclusion**

In this paper, we focused on the historical development, the current state and the potential future development of fiscal decentralization generally and the equalization transfers system specifically, in Georgia. The results of the analysis of comparable country-level data suggest that after the reforms of 2004, Georgia turned back to gradual centralization of its tax collection, despite the proclaimed efforts to decentralize government power. Today, Georgia is one of the most centralized transition countries according to our results based on the data set merged from two suitable sources.

Our microeconomic analysis on the basis of domestic, municipality-level Georgian data revealed heterogeneity in the current system's distributional outcomes (especially how much each municipality gets per inhabitant), complexity in the fiscal decentralization rules and difficulty when attempting to compute and replicate the amounts of equalization transfers, which are currently the most important sources of revenue for municipalities.

The fiscal transfer data suggest that there are some areas where an improvement would lead to efficiency gains. One of them is the need to clearly set the objectives of the fiscal equalization system. Today, the Georgian system uses a very complex and

non-transparent formula to calculate its transfers. Other issues include possible negative tax collection incentives or distortions in the per capita distribution of equalization transfers. Once the objectives of the fiscal decentralization system are clarified, it should be easier for the Ministry of Finance or other internal or external stakeholders to evaluate the current or any alternative or future system of fiscal decentralization against its objectives. It is likely that such a detailed comparison would imply changes to the formula that would better align the distributional outcomes of fiscal decentralization with its objectives.

We constructed three scenarios of possible changes to the system. The first was based entirely on the population criterion, and resulted in a large variation compared to the current system, which is in line with the fact that many other factors enter the current formula. The second was based on a simple linear combination of factors, where a specific importance is given to each factor. This scenario is similar to the system used currently – the amounts calculated for municipalities vary on average only by 3.87% from the current system, while providing vast improvements in terms of understandability of the formula. Third, we replicated the Czech system on the data from Georgian municipalities. Although there are many differences between the countries to overcome when comparing the two systems, we achieved a relatively low variability of about 21 % on average with this scenario. Scenario 3 also underlined the importance and advantages of calculating the transfers for large cities in a transparent way using a correcting coefficient which enters the general formula rather than using separate calculations for municipalities and cities.

As far as we know, there are no comparable international microeconomic data on fiscal decentralization for Georgia or similar countries. An analysis of this kind of data would combine the strengths of the two separate analyses carried out in the present

research and would allow new research questions to be answered. Among the most important of these lies the issue of finding the optimal level of fiscal decentralization for each country, which is of crucial interest to policy makers not only in transition countries, but throughout the world.

## References

Bardhan, Pranab. 2002. "Decentralization of Governance and Development." *Journal of Economic Perspectives*, 185–205.

Baretti, Christian, Bernd Huber, and Karl Lichtblau. 2002. "A Tax on Tax Revenue: The Incentive Effects of Equalizing Transfers: Evidence from Germany." *International Tax and Public Finance* 9 (6): 631–49.

Bird, Richard M., and Michael Smart. 2002. "Intergovernmental Fiscal Transfers: International Lessons for Developing Countries." *World Development* 30 (6): 899–912.

Bird, Richard, and Francois Vaillancourt. 2007. "Expenditure-Based Equalization Transfers." *Fiscal Equalization*, 259–289.

Boadway, Robin. 2001. "Equalization Revisited: Its Role and Design." *30th Annual Conference of the Atlantic Provinces Economics Association, Fredericton, New Brunswick, Canada.*

Buchanan, James M. 1950. "Federalism and Fiscal Equity." *The American Economic Review*, 583–599.

Buettner, Thiess. 2006. "The Incentive Effect of Fiscal Equalization Transfers on Tax Policy." *Journal of Public Economics* 90 (3): 477–497.

Center for Strategic Research and Development of Georgia. 2008. "*Fiscal Decentralization Reform in Georgia.*" Tbilisi, Georgia: Center for Strategic Research and Development of Georgia.

Chitanava, Maka, Maya Grigolia, and Lasha Labadze. 2011. "Public Expenditures on Education and Health in Georgia before and during the Global Crisis." *CASE Network Reports*: 101.

Dziobek, Claudia, Carlos Alberto Gutierrez Mangas, and Phebby Kufa. 2011. "Measuring Fiscal Decentralization-Exploring the IMF's Databases." *IMF Working Papers*, 1–30.

Helmsing, Bert. 2013. "Local Economic Development Options for Deepening Economic and Social Transformation of Georgia." *ISS Staff Group 3: Human Resources and Local Development.*

Hindriks, Jean, Susana Peralta, and Shlomo Weber. 2008. "Competing in Taxes and Investment under Fiscal Equalization." *Journal of Public Economics*, 92 (12): 2392–2402.

Kotsogiannis, Christos, and Robert Schwager. 2008. "Accountability and Fiscal Equalization." *Journal of Public Economics*, 92 (12): 2336–2349.

Murgulia, Shota, Giga Gvelesiani, and Giorgi Toklikishvili. 2011. *"Fiscal Decentralization in Georgia."* Tbilisi, Georgia: Center for Strategic Research and Development of Georgia.

NISPAcee. 2012. "*Managing Public Investments at Municipal Level - Manual for Local Officials.*" Bratislava, Slovakia: NISPAcee Press.

Prichard, Wilson, Alex Cobham, and Andrew Goodall. 2014. "The ICTD Government Revenue Dataset."

Schneider, Friedrich, Andreas Buehn, and Claudio E Montenegro. 2010. "Shadow Economies All over the World: New Estimates for 162 Countries from 1999 to 2007." *World Bank Policy Research Working Paper Series*

Scott, Anthony D. 1952. "Federal Grants and Resource Allocation." *The Journal of Political Economy*, 208–217.

Shah, Anwar. 1994. "*A Fiscal Needs Approach to Equalization Transfers in a Decentralized Federation.*" No. 1289. Washington, DC: The World Bank.

Snoddon, Tracy. 2003. "On Equalization and Incentives: An Empirical Assessment." *Department of Business and Economics, Wilfred Laurier University, Waterloo, Canada*.

Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64 (5): 416–24.

Torosyan, Karine, and Randall K Filer. 2014. "Tax Reform in Georgia and the Size of the Shadow Economy." *Economics of Transition* 22 (1): 179–210.

Transparency International Georgia. 2014. "The New Local Self-Government Code: Overview of the Main Novelties." Tbilisi, Georgia: Transparency International Georgia.

Zasztowt, Konrad, and Adriana Skorupska. 2014. "Georgia's Local Government Reform: How to Escape from the Soviet Past (and How Poland Can Help)." *The Polish Institute of International Affairs Policy Papers*, 4 (87): 1–6.