

Trends and Determinants of Municipal Fiscal Disparities in Bulgaria

Nenkova Presiana

Department of Finance, University of National and World Economy, Sofia, Bulgaria

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Abstract

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The purpose of this paper is to examine the trends of municipal fiscal disparities in Bulgaria and to analyze the causes of the existing inequalities. One of the most challenging issues of fiscal decentralization process is the choice of proper policy response to the existing fiscal disparities among local governments. The identification of fiscal inequalities at local level and its determinants is a starting point in developing an equalizing mechanism that has a potential to reduce these inequalities. Hence, with this study we aim to contribute to a better understanding about horizontal fiscal imbalance in Bulgaria. Municipal fiscal disparities are measured in terms of differences in municipal own revenue, i.e. local tax revenue, user fees and charges, and other non-tax revenue. The analysis of horizontal fiscal imbalance covers the period 2007-2018 and uses several statistics measures to yield a complete picture of the trend of municipal fiscal disparities. The main findings suggest that disparities among municipalities in terms of own-source revenue were smaller at the end of the period than those at the beginning of the period as measured by the maximum-to-minimum ratio and the coefficient of variation. Regardless, municipal fiscal disparities are still considerable with very few rich municipalities which level of own-source revenue per capita is in sharp contrast to the rest of the municipalities.

Address Correspondence:
E-mail : pnenkova@unwe.bg

INTRODUCTION

Until 1990 Bulgarian public sector operated within a centralized financial and administrative structure. Following the collapse of the old system, decentralization has become a key part of the country's transformation thrust. Despite the increasing pressure to decentralize public finance, the implementation of fiscal reforms in the vertical public sector and the designation of fiscal roles among the various levels of governance were not seen as central on the agenda in the early years of transition. As in the case to other economies in transition, in the period following the political transformation, the priority was to shift away from an administrative command system to a free market economy, focusing on setting up a legislative and an institutional framework necessary to ensure the proper functioning of the new economic system, dismantle state ownership, restructure the financial system, liberate prices, etc. In the late 1990s, several different policies were implemented, for the purpose of promoting local autonomy and increasing local governments financial capacity. A second wave of reforms emerged in mid- and late 2000, when local tax administrations were set up and local government authorities were delegated discretionary powers to set local tax rates, within a range established by law.

Alongside such ongoing reforms in the area of local finance, Bulgaria has seen an upsurge in the number of analyses examining the development and effects of the fiscal decentralization process. These studies explored and discussed opportunities to achieve sound financial management, the development of municipal debt capacity and the possibilities to expand the financial autonomy of local government authorities, and subsequent steps towards fiscal decentralization (Stoilova 2009, Kalcheva 2017; Zahariev 2017). Interpreting issues related to the horizontal fiscal imbalance does not have an ample track-record in Bulgaria and more research is needed to systematically examine the distributional effects of fiscal decentralization reforms, since they could result “in different regions having differing abilities to provide given levels of public goods and services”(Boadway 2004). The heavy persistence of central government grants in municipal budgets in Bulgaria shows that the expenditure assignment was not supported by an adequate revenue assignment between levels of governments, meaning also high levels of vertical fiscal imbalance. At the same time, the transfer scheme applied throughout the years with the aim to reduce differences in local governments fiscal capacity and expenditure needs had a rather mild disparity reducing effect (Nenkova, 2019). If not properly addressed, municipal fiscal disparities will continue to lead to an unequal access of citizens to main local public services. Moreover, the existing inequalities could also be deepened by the growing concentration of population and economic activity in few local territorial units. Not at least, the sudden and extensive economic impacts of coronavirus pandemic could also contribute to municipal divergence.

The purpose of this study is to analyze the trends of municipal fiscal disparities in Bulgaria and to identify the causes of those disparities. The identification of the determinants of fiscal inequality at local level is important since it would suggest the right direction in equalization policy design. Therefore, the current paper aims at contributing to a better understanding about municipal fiscal disparities in Bulgaria – did they narrowed or widened during the period under review, and what factors cause the inequality at local level. The analysis of the horizontal fiscal imbalance in Bulgaria covers the period 2007-2018 and fiscal disparities among local governments are measured in terms of differences in municipal own revenue per capita. Municipal own-source revenue is in fact an appropriate disparity measure of municipal fiscal differences, since its level reflects objective factors such as population size, economic base and fiscal effort of local governments. The trends in municipal fiscal disparities is traced and illustrated with descriptive statistics including minimum, maximum, mean, the range, coefficient of variation and maximum to minimum rate.

The article is organized as follows. The next section presents in brief municipal finance and municipal revenue structure in Bulgaria for the period 2007-2018. Section 3 traces and explains the trends of fiscal disparities among local governments. Determinants of municipal fiscal disparities are studied in Section 4. The final section summarizes the findings and addresses policy implications.

Bulgarian municipalities and their finances

Municipalities are the only level of subnational government in Bulgaria's two-tier public sector vertical structure. The administrative and territorial reform of 1998 set up 264 municipalities, with one more autonomous municipality established in 2015, bringing their total number to 265. Local governments are in charge of providing a wide range of services: administrative services, local transport, public parks and amenities, street lighting and cleaning, child and elderly care, garbage collection and disposal, heating, water supply and sewerage. Besides provision of these services, municipalities are also in charge of investments at the local level, including both local government activities and state delegated activities financed through municipal budgets.

Municipal spending is funded by own-source revenue, as well as central government grants. A major

reform in the area of local finance aimed to expand the revenue base at the local level and the financial autonomy of local government authorities was implemented in 2003, enabling local government authorities to decide autonomously what services are to be provided against payment, set fees and service charges, offer reduced rates to certain users, and collect revenues from fees and service charges. In fact, that change marked the onset of revenue decentralization in Bulgaria, and user fees became a major own source of revenue for local governments for quite some time. Later on, the powers of local government authorities were further extended, and municipal tax administrations were set up in 2006, to collect receipts from local taxes and fees. The conferral of taxation powers to municipalities at the beginning of 2008 is one of the most significant steps towards strengthening the financial autonomy of local government authorities – local governments were granted the power to set local tax rates at their own discretion, within a certain range, with the floor and ceiling defined by law.

The only tax revenue in the municipal budgets is that generated through local taxes. About 95% of municipal tax revenue is accumulated through property tax, property transactions tax and vehicle tax. In 2008 the package of measures for expanding the revenue base at the local level was further enlarged by transferring the powers to levy the patent tax to municipalities. That tax is an alternative to personal income tax; it is levied as a lumpsum and is payable by individuals, including sole proprietors engaging in any of the business activities taxable on the territory of the respective municipality and having a turnover of up to BGN 50 000 in the previous year. Another tax that was new to municipalities was adopted in 2010, tourist tax. Despite that new source of revenue, the volume of tax revenue at the local level as a whole did not see any significant change, the reason being that only about very few of the municipalities in Bulgaria have a well-developed tourism sector. The fiscal weight of the local tax on taxi business, introduced in 2017, has also been negligible.

The actions taken to increase the fiscal autonomy of municipalities and the gradual empowerment of local government authorities by granting new revenue powers enabled them to grow their own-source income post-2003. Nevertheless, throughout the period under examination (between 2007 and 2018), municipal revenue did not register any structural change: central government transfers remained a core component of the municipal revenue, accounting for about 57% of municipal budgets on the average, followed by non-tax revenue (fees and other non-tax revenue) and proceeds from taxation. It took until 2014 before the total amount of local tax collected managed to exceed revenue from fees, and that trend persisted until 2018. Another interesting development is the long-term upward trend in local tax revenue after 2009, when local government authorities managed to double it up by 83%, while revenue from fees grew at much lower rates and achieved an increase of just 20%. Since no significant changes were made in terms of local taxation after 2008, the reasons behind the increase in tax proceeds in municipal budgets should be sought in improved collection rates and increased local tax rates.

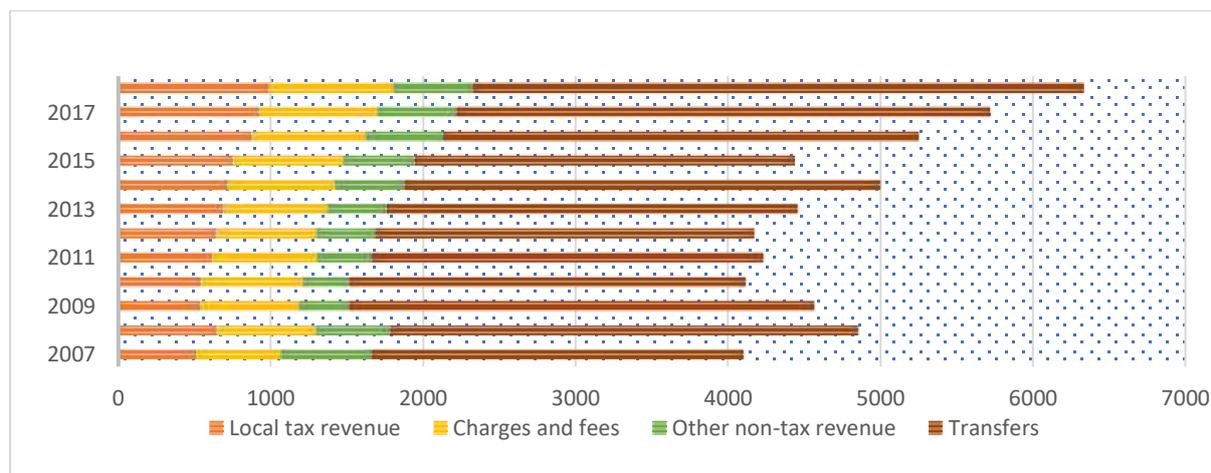


Figure 1. Municipal budget revenue (in BGN millions)

Source: Own calculations based on Consolidated Fiscal Program data and Annual Reports on State Budget Execution (2007-2018), Ministry of Finance of the Republic of Bulgaria.

Trends of municipal fiscal disparities

This part of the study examines the trends in fiscal disparities among local governments in Bulgaria by using own municipal revenue per capita. Table 1 shows maximums, minimums and means for municipal own-source revenue per capita during the period 2007-2018. The minimum values of own-source revenue per capita, i.e. those for the poorest municipality, grew throughout the whole period, except for the years

of the last economic and financial crisis, unlike the developments of the maximum values which exhibited both ups and downs. At the end of the period, own-source revenue per capita of the poorest municipality exceeded 3.5 times the own resources accumulated by the poorest municipality at the beginning of the period, while that ratio was 2.3 for the richest municipality. Means also went up in most of the years, with a decrease occurring, again, only during the crisis years.

Table 1. Own municipal revenue per capita (in BGN)

	Min	Max	Mean
2007	23.3	1978.2	179.2
2008	36.6	1860.1	185.1
2009	28	1510.4	158.3
2010	27	1379.1	154.8
2011	39.6	2944.5	194.1
2012	46.2	4305.6	219.9
2013	51.6	3979.3	236.1
2014	57.1	3629	243.1
2015	45.2	5012.6	254
2016	68.9	3728.6	266.5
2017	82.7	4939.8	283.5
2018	82.8	4480	294.8

Source: Own calculations based on NAMRB internet platform for local finance.
<http://www.namrb.obuchi-se.org/norway/bg-bg.aspx>

There are different measures applied in empirical literature to study and analyze horizontal fiscal imbalances (Bird and Tarasov,2004; Shankar and Shah,2003; Kowalik, 2015). We calculate three measures of municipal fiscal disparities for the indicator chosen to capture the fiscal differences among local governments, including: range (R), maximum-to-minimum ratio (Max/Min) and coefficient of variation (CoV). During the period under review, the change in the difference between the maximum and the minimum values of own-source revenue per capita, i.e. the range, is presented in Figure 2. While in 2007 the difference in own-source revenue per capita of the richest and the poorest municipality, respectively, was BGN 1955, in 2018 that difference went up to BGN 4399. And while the minimum values of own-source revenue increased gradually from BGN 23.3 per capita to BGN 80.8 per capita, with the exception of 2009 and 2010, the situation is different in terms of the maximum revenue per capita: maximum values fluctuated between BGN 1379.1 to BGN 5012.6, and increased and decreased at a much dramatic rate. During the period 2007-2010, and especially in the last two years, there was a decrease in own-source revenue of the municipalities at the top of the ranking, which lead to a decrease in the absolute difference between the maximum and the minimum value. After 2010, own-source revenue per capita for the municipalities with the highest amounts went up again, and significantly so, which resulted in an increase in the absolute difference between the maximum and the minimum value. In the next period, 2012-2018, the values of the range registered both upward and downward changes. The gap between the maximum and minimum values of own revenue per capita was largest in 2015 and 2017 respectively.

The reason behind the value fluctuations of the range after 2010 lies in the maximum values of the indicator, or those for the richest municipalities. While up to 2010, the ranking in terms of own-source revenue per capita accrued was headed by the municipality of Nesebar, in 2011 it was replaced by the municipality of Chelopech which retained the lead until the end of the period, with Chavdar as the runner-up in most years. The top values of the indicator own revenue per capita for Chelopech and Chavdar, which outpaced by far the rest of the municipalities, were due to the fact that both of these are small municipalities, with about 1500 inhabitants, but with very high revenues from concession fees. In 2015, the own-source revenue per capita of the municipality of Chelopech (BGN 5012.65) was more than double the figure for the second richest municipality, Chavdar (BGN 2117.26) and triple that of the third in the ranking, the municipality of Primorsko (BGN 1538.36).

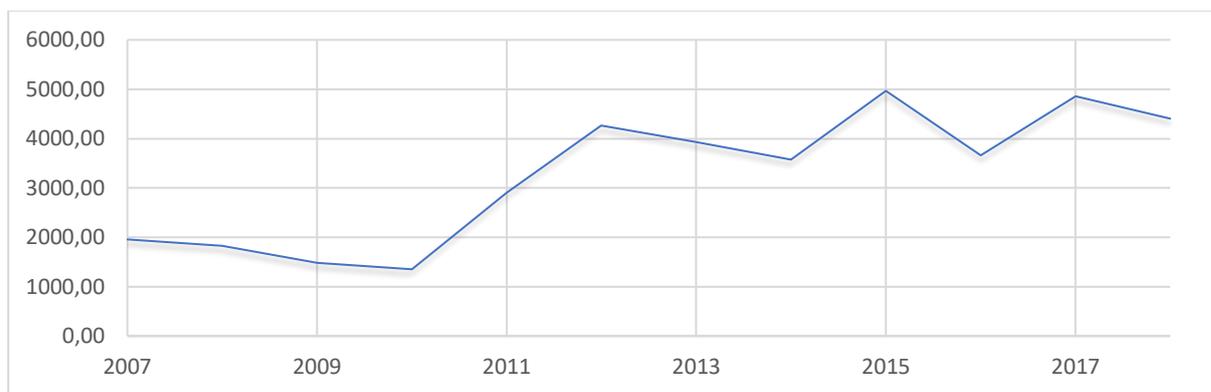


Figure 2. Range (2007-2018)

Source: Own calculations based on NAMRB internet platform for local finance.

<http://www.namrb.obuchi-se.org/norway/bg-bg.aspx>

As regards the two municipalities of Chelopech and Chavdar, the values of their own-source revenue per capita differ significantly when compared to the rest of the municipalities. And while for those two municipalities the magnitude of the indicator clearly stands out, there could be other atypical, higher values of own-source revenue per capita that deviate significantly from those of the predominant number of municipalities. The histograms for the years of 2007, 2012 and 2018 (Appendix 1) show the number of municipalities (on the y-axis) with the level of own revenue per person that fall within a specified interval (on the x-axis). The distribution is positively skewed, i.e. most values concentrate on the left, with spread-out yet significant values in the right-hand side of the distribution. The richest municipalities are very few and the level of their own-source revenues is in sharp contrast to the rest of the municipalities. In 2007 most municipalities fall within the first, second or third interval, or within the range of up to BGN 150 per capita; that includes 68% of all municipalities, given that the highest value of the indicator own revenue per capita reaches BGN 1987.27. In 2012 87% of municipalities are distributed within the first, second or third interval and show own-source revenue per capita of up to BGN 300, against a maximum value of the parameter at BGN 4305. The situation is similar in 2018 as well: the maximum value of the indicator stands at BGN 4480, but 75% of all municipalities have own-source revenues falling within the range of up to BGN 300 per capita or below the mean value.

In order to identify the values of per capita own municipal revenue that are far removed from the rest we use a boxplot analysis (Dawson 2011). Typically, the boxplot includes a mark of the median; the 25th percentile value and 75th percentile values, and a box extended between, and whiskers extending from the 25th percentile value to the minimum, and from the 75th percentile values to the maximum. We accept that extreme values or extreme outliers are all the values lower than $Q_{25} - 3(Q_{75} - Q_{25})$ and bigger than $Q_{75} + 3(Q_{75} - Q_{25})$, where Q_{75} и Q_{25} presents 75th percentile value and 25th percentile values. Extreme values of the indicator own revenue per capita are observed at the upper end only (Appendix 2). Based on this, and in order to illustrate an accurate picture of fiscal of disparities among local governments in Bulgaria, municipalities are divided into three groups – the first group includes all municipalities (denoted ALL), the second group consists of all municipalities without Chelopech and Chirpan (denoted ALLw/o Ch.Ch.), and the third group of municipalities excludes local territorial units with extreme values of per capita own revenue (denoted ALL w/o extremes).

The information shown in Figure 3. demonstrates clearly that the movements of the range over the years are very different as regard the observed three groups of the municipalities. While the differences in-between the maximum and the minimum value within the group that includes all municipalities are significant and vary largely over the years, showing a sharp increase after 2010 and registering both decreases and increases in the subsequent years, in the group of municipalities with no extreme values, on the other hand, fiscal disparities in terms of own-source revenue per capita measured as the difference between the maximum and the minimum value do not change significantly over the years.

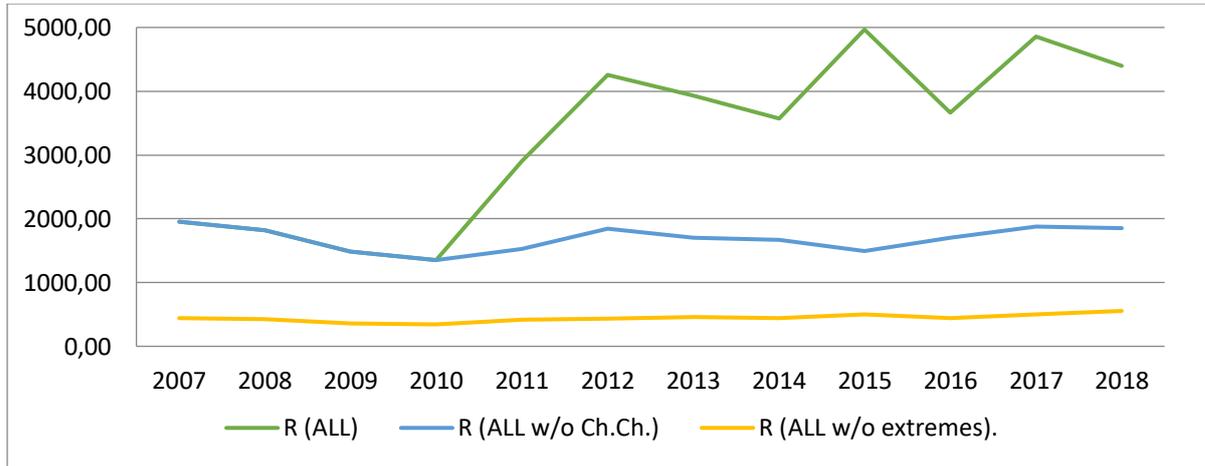


Figure 3. Range (2007-2018)

Source: Own calculations based on NAMRB internet platform for local finance.
<http://www.namrb.obuchi-se.org/norway/bg-bg.aspx>

The movements of the coefficient of variation indicates a clear downward trend with regard to the second and third grouping: in the third group, it remains relatively stable and declines slightly from 0.58 to 0.42, which shows that there is no significant change in the disparities among the municipalities in that group over the years (Fig.4). If only the municipalities of Chavdar and Chelopech are excluded, there is again a reduction in the disparities among municipalities in the period 2007-2012, and such reduction is also more significant than that in the group which excludes the extreme outliers, i.e. the values of the coefficient of variation at the end of the period have dropped almost two-fold in comparison to those at the beginning of the period. On the contrary, as regards the group made up of all the municipalities, the coefficient of variation exhibits the highest values in 2007 and 2012 - 1.54 and 1.53, respectively, indicating larger disparities and declines to 1.19 in 2018. Measured by the coefficient of variation the own revenue disparities decreased on average within the group including all the municipalities, although with high volatility.

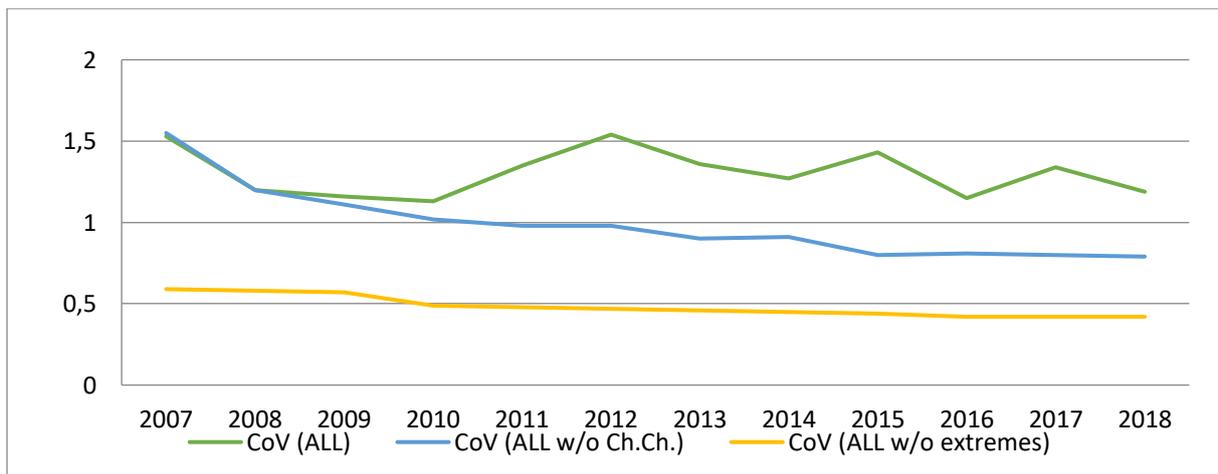


Figure 4. Coefficient of variation (2007-2018)

Source: Own calculations based on NAMRB internet platform for local finance.
<http://www.namrb.obuchi-se.org/norway/bg-bg.aspx>

In the period 2007-2018, for the group including all the municipalities, the values of the maximum-to-minimum value ratio changed dramatically (Fig. 5.). Thus, in 2015, the ratio between the own-source revenue per capita of the richest municipality and that of the poorest municipality increased almost two-fold in comparison to 2014 and reached a value of 110, and then decreased over the subsequent years, reaching a value of 55 in 2018, which is exactly two times lower than the highest value for the period that occurred in 2015. Despite those fluctuations, disparities among municipalities in terms of own-source revenues were smaller at the end of the period than those at the beginning of the period. While in 2007 own-source revenue per capita for the richest municipality were 85 times higher than for the poorest one,

in 2018 the richest municipality was only 55 times richer than the poorest one. As for the other two groups, the trend of declining fiscal disparities among municipalities as measured by the maximum-to-minimum value ratio is clear-cut. In the third group, the one without extreme outliers in 2018 own revenue per capita for the richest municipality in the group was only 8.7 times higher than for the poorest one.

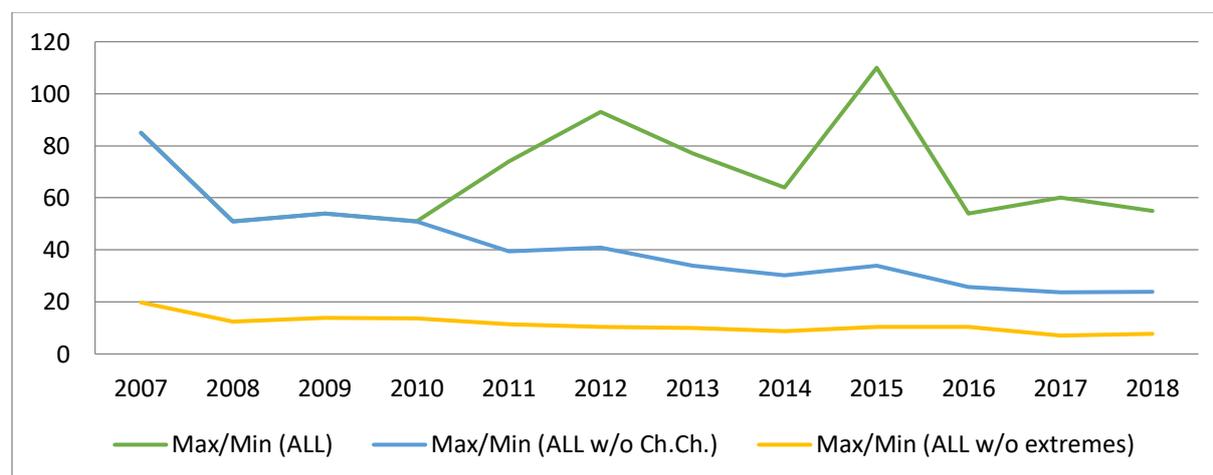


Figure 5. Maximum-to-minimum ratio (2007-2018)

Source: Own calculations based on NAMRB internet platform for local finance.

<http://www.namrb.obuchi-se.org/norway/bg-bg.aspx>

Causes of municipal fiscal disparities

Decentralization of public sector revenue combined with differences in endowments of local territorial units could result in fiscal disparities across local governments. Different kinds of revenue sources existing on the territory of the respective municipality could be considered a major factor determining the existence of horizontal fiscal imbalance. Unequal distribution of natural resources, sources of revenue specific for only certain municipalities, such as resort municipalities, or the concentration of a considerable amount of buildings that are taxable by property tax can translate into differences in local governments revenue raising capacity. Specific characteristics and endowments of municipalities as drivers of disparities in terms of their revenue-earning capacity are particularly manifest in local territorial units in Bulgaria that exhibit outliers in own-source local revenue per capita. The group of the municipalities with extreme values of own revenue per capita (see Appendix 2), or the richest municipalities in Bulgaria includes primarily resort municipalities and few small municipalities with high revenues from concession fees. And while until 2010 the lead in ranking in accordance to own revenue per capita was held by resort municipalities, since 2011 the top place has been occupied by small municipalities such as Chavdar and Chelopech. Over the years, the group of those municipalities was joined by other small municipalities, such as Mirkovo, Radnevo and Galabovo, where other non-tax revenues account for most of their local budgets. Their specific features, such as deposits of natural resources located in their territories, define their high revenue-earning capacity. Thus, the municipalities of Chelopech, Chavdar, Zlatitsa, Etropole and Mirkovo receive 50% of the concession fee paid by the Elatsite Med AD, which is then apportioned among them on a pro rata basis depending on what portion of the Elatsite gold filed falls within their respective territory. In addition, the Chelopech and Chavdar municipalities have on their territory Europe's largest deposit of copper, gold and pyrite which is also operated on the basis of a concession agreement.

As regards resort municipalities with high values of own-source revenue per capita, their individual characteristics again stand out as a key factor for their high own-source revenue per capita in comparison to the core group of municipalities. What makes them special is that, unlike the small municipalities generating high revenues from concession fees discussed above, the predominant share of their own-source revenues come from local taxes. Resort municipalities register a considerable share of own-source revenues, sometimes exceeding that for the capital city. This is largely due to the profile of municipal proceeds, which are linked primarily with property value and property transactions. In locations with intensive property development and high demand, and high property value, respectively, own-source revenues of municipalities are higher. However, even in those local territorial units, tax revenue accounts for 20 to 30% of the municipality's total budget revenue.

There are also certain ancillary factors for the existing horizontal fiscal imbalance at local level. These include the large differences among local territorial units in terms of size of population and economic base. *Ceteris paribus*, the larger the population of a municipality, the higher its revenue-earning potential, with

revenues from service charges and tax revenue, and vice versa. In 2018, there was only one municipality in Bulgaria with a population exceeding 1 million inhabitants, 8 municipalities with over 100 000 inhabitants, 14 municipalities with populations ranging from 50 000 to 100 000, 19 municipalities between 30 000 and 50 000, 90 municipalities between 10 000 and 30 000, and 60 municipalities with 6 000 to 10 000 inhabitants. In 2018, a major part of Bulgarian municipalities – 73 municipalities, or more than a quarter of all municipalities, reported populations of less than 6 000, which is in fact one of the eligibility criteria for setting up a new municipality required under the Bulgarian Law on Administrative and Territorial Planning. The negative population growth rate paired with on-going internal and external emigration processes lead to a persistent decline in the population size, which in turn has a negative effect on the economic and social environment, particularly in municipalities in underdeveloped rural or mountainous areas. In smaller territorial units own revenue barely exceed 15 percent of total budget revenue, with local tax revenue being negligible. In fact, the existing inequalities induce people to migrate to jurisdictions with better economic prospects which in turn exacerbate the existing municipal disparities.

The concentration of economic activities in certain areas of the country also contributes considerably to disparities among municipalities in terms of own-source revenues. According to the Institute for Market Economy the 20 largest economic centers in Bulgaria cover about 1/3 of the national territory and generate 86% of the national output, employ 75% of the workers in the economy and have over 1/3 of the population in Bulgaria (IME, 2018). A higher concentration of countries population and economic activity to one or few large cities and certain metropolitan areas leads to unproportionally distribution of revenue base. Revenue patterns tend to be different in large metropolitan regions compared with smaller cities, reflecting their greater ability to levy taxes. To the extent that cities rely on property tax revenues, for example, larger, more densely populated cities have a larger per-capita tax base than smaller cities or rural areas because of generally higher property values. On the other hand, since commercial and industrial properties are taxed at a higher rate than residential properties larger cities have a greater ability to accumulate property tax revenue.

A study of the role and fiscal significance of property tax receipts in local budgets in Bulgaria found out that the most significant revenues from that tax are generated in very few municipalities – 19 local territorial units, or 7% of all municipalities (Kalcheva and Nenkova, 2018). In addition to resort municipalities such as Bansko, Nessebar, Pomorie, Primorsko, Sozopol, Tsarevo where the real estate value and quantity are the highest and consequently the opportunities to generate higher revenue from property taxation (property tax and property transactions tax), that group includes also the largest municipalities that are major urban centers and have well-developed economies such as Varna and Sofia, which implies a considerable tax base. The fiscal significance of property tax is also high in certain small municipalities with well-developed manufacturing, where revenue from taxing the real property of businesses operating on their territory is a major budget contributor. The municipalities from that group stand out with values of the indicators for the revenue significance of real property taxation that are many times higher than in the rest of municipalities. The group of the municipalities where property tax has negligible fiscal significance, is the largest but also the most homogeneous, with indicator values that are extremely close, and includes more than half of the Bulgarian municipalities. A considerable number of municipalities in that group are small and medium-sized ones, have a rural profile and are local territorial units identified as underdeveloped rural or mountainous areas.

CONCLUSION

The data on local governments own revenue per capita during 2007-2018 reveal the following observation about municipal fiscal disparities. Fiscal differences in own revenue at local level in Bulgaria are considerable. Excluding outliers reduced municipal fiscal disparities significantly in any year during the period under review. While the differences in-between the maximum and the minimum value within the group that includes all municipalities are significant and vary largely over the years, in the group of municipalities with no extreme values, on the other hand, fiscal disparities in terms of own-source revenue per capita measured as the difference between the maximum and the minimum value remained basically unchanged over the period of 12 years. If extreme outliers excluded the values of the maximum-to-minimum ratio and the coefficient of variation point to a clear-cut decrease in the disparities in terms of own-source revenue per capita in the period under review.

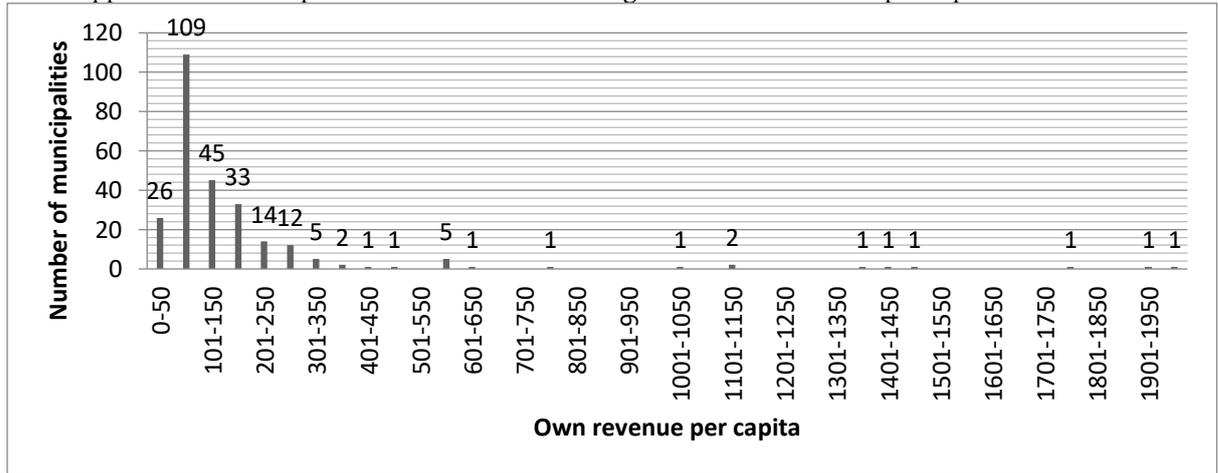
Specific characteristics and endowments of municipalities as drivers of disparities in terms of their revenue-earning capacity are particularly manifest in local territorial units in Bulgaria that exhibit outliers in own-source local revenue per capita. In designing state equalization transfers as a fiscal instrument intent to reduce municipal fiscal disparities the grant allocation formula should take in account the major force behind the fiscal differences in revenue potential of local governments. It has to be noted that the revenue component of general equalization grant formula applied in Bulgaria during the period under

review was targeted at addressing disparities only in local tax base, thus undermining other local sources of revenue such as charges and concession fees. Its aim was to reduce the differences in tax receipts across municipalities, which was done by giving more resources to those municipalities with lower tax revenue per capita and excluding from benefits those municipalities for which tax revenue per capita was higher than the national average. As a consequence, all municipalities extreme outliers in terms of their own revenue per capita having low tax revenue per capita but high per capita revenue from concession fees were included in the group of grant beneficiaries. What does emerge clearly from current analysis is that rich municipalities are very few and the level of their own source revenue is in sharp contrast to the rest of the municipalities, which comes to show that only local territorial units comprising the latter group or those with low revenue capacity could be treated as potential beneficiaries to an equalization scheme.

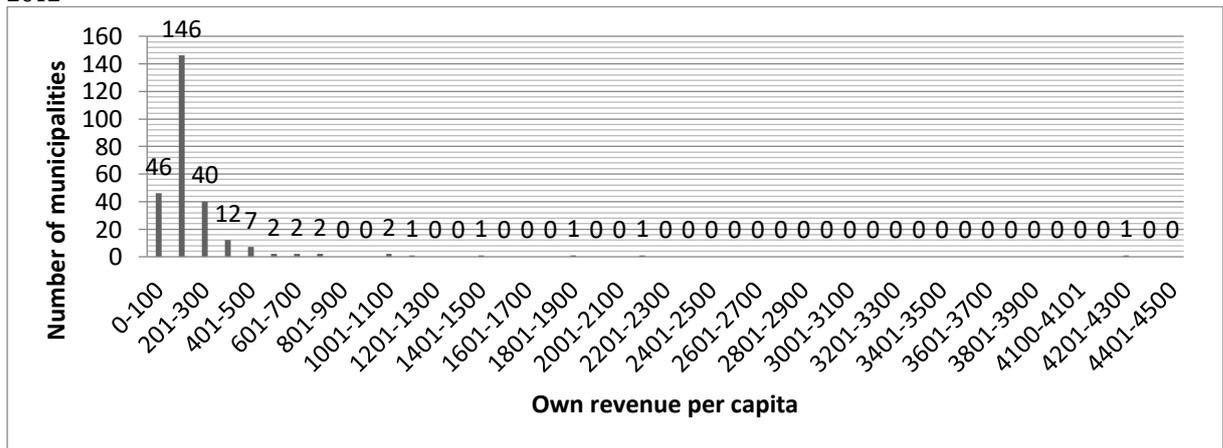
REFERENCES

- Chandra, T. (2008). Development of Theory of Capital Structure: From Modigliani-Miller, Myers, to Jensen. *Journal of Information Technology and Management*, 6 (4), 840–850.
- Bird, R.M., Tarasov, A.V. 2004. Closing the gap: fiscal imbalances and intergovernmental transfers in developed federations. *Environment and Planning C: Government and Policy*. Volume 22:77-102.
- Boadway, R. 2004. The Theory and Practice of Equalization. *CESifo Economic Studies*. Volume 50, 1/2004: 211–254.
- Dawson, R. 2012. How significant is a boxplot outlier? *Journal of Statistics Education*. Volume 19, number 2.
- IME - Institute for market economy. 2018. Regional Profiles. Available at: <https://www.regionalprofiles.bg/var/Economic-Centres-BG-2018.pdf>.
- Kalcheva, D. 2017. Access to Debt Financing - Opportunities for Improvement of the Investment Capacity of Bulgarian Municipalities (for the period 2003-2015). *Economic Alternatives*. Issue 3: 390-404, November.
- Kalcheva, D., Nenkova, P., Fiskalna rolya i znachenie na danaka varhu nedvizhimite imoti v Bulgaria - sravnitelnen analiz na 265 obshtini. *Biznes posoki*. Issue 2: 95-110.
- Kowalik, P. 2015. Horizontal fiscal imbalance in Germany. *BEH-Business and Economic Horizons*. Volume 11 Issue 1:1-13.
- Nenkova, P. 2019. An Analysis of Equalizing Capacity of State Transfers for Local Government Activities in Bulgaria. *Economic Alternatives*. Issue 4: 627-640, December.
- Shankar, R., Shah, A. 2003. Bridging the Economic Divide Within Countries: A Scorecard on the Performance of Regional Policies in Reducing Regional Income Disparities. *World Development*. Volume 31, No. 8: 1421–1441.
- Stoilova, D. 2009. Financial decentralization in Bulgaria: which are the most important achievements of the transition period and how to move forward?. *Analele Stiintifice ale Universitatii "Alexandru Ioan Cuza" din Iasi - Stiinte Economice*, vol. 56: 166-177, November.
- Zahariev, A. 2017. Fiscal Decentralization and Financial Management of Municipalities in Bulgaria. Tsenov Academic Publishing House. Available at SSRN: <https://ssrn.com/abstract=2915415> or <http://dx.doi.org/10.2139/ssrn.2915415>

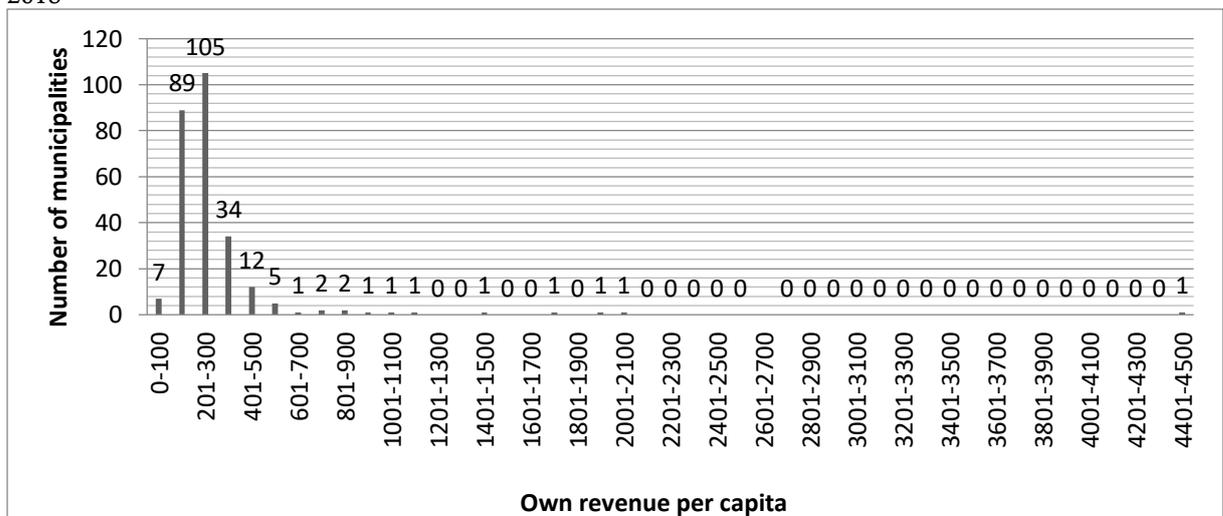
Appendix 1. Municipalities distribution according to their own revenue per capita 2007



2012



2018



Appendix 2 Results of boxplot analysis

	Q1 25 th percentile point	IQR	Q3 75 th percentile point	Q3 + 3.IQR	Extreme values Per capita own revenue > (Q3 + 3.IQR)
2007	66,4	102,5	168,9	476,4	Nesebar, Primorsko, Bansko, Sapareva banya, Tsarevo, Samokov, Byala-Varna, Kavarna, Shabla, Chavdar, Koprivshitsa, Chelopech, Sozopol, Razlog, Malko Tarnovo, Balchik
2008	83,6	99,3	182,9	480,5	Nesebar, Primorsko, Bansko, Byala-Varna, Kuklen, Tsarevo, Kavarna, Sozopol, Pomorie, Chavdar, Sapareva banya, Bozhurishte, Chelopech, Koprivshitsa, Balchik, Razlog
2009	77,4	88,7	166,1	432,2	Nesebar, Bansko, Byala-Varna, Chelopech, Primorsko, Chavdar, Tsarevo, Sozopol, Kavarna, Balchik, Malko Tarnovo
2010	81,3	77,6	158,9	391,7	Nesebar, Chelopech, Primorsko, Byala-Varna, Chavdar, Tsarevo, Bansko, Sozopol, Balchik, Koprivshitsa, Kavarna, Malko Tarnovo
2011	98,0	89,8	187,8	457,2	Chelopech, Chavdar, Nesebar, Primorsko, Byala-Varna, Bansko, Sozopol, Tsarevo, Balchik, Beloslav, Malko Tarnovo
2012	108,4	102,1	210,5	516,8	Chelopech, Chavdar, Nesebar, Primorsko, Byala-Varna, Shabla, Sozopol, Tsarevo, Bansko, Balchik, Koprivshitsa, Mirkovo, Galabovo
2013	127,6	103,8	231,4	542,8	Chelopech, Chavdar, Nesebar, Primorsko, Sozopol, Byala-Varna, Tsarevo, Bansko, Balchik, Bolyarovo, Pomorie, Mirkovo, Borino
2014	132,8	94,9	227,7	512,4	Chelopech, Chavdar, Primorsko, Nesebar, Byala-Varna, Sozopol, Hitrino, Tsarevo, Koprivshitsa, Bansko, Borino, Galabovo, Bolyarovo, Mirkovo
2015	140,9	114,3	255,3	598,2	Chelopech, Chavdar, Primorsko, Nesebar, Sozopol, Koprivshitsa, Tsarevo, Byala-Varna, Bansko, Mirkovo, Georgi Damyanovo
2016	155,5	107,8	263,3	586,7	Chelopech, Primorsko, Chavdar, Nesebar, Sozopol, Galabovo, Radnevo, Tsarevo, Byala-Varna, Koprivshitsa, Stolichna obshtina, Bansko, Mirkovo
2017	161,3	115,6	277,0	623,8	Chelopech, Chavdar, Primorsko, Nesebar, Sozopol, Koprivshitsa, Byala-Varna, Tsarevo, Mirkovo, Bansko, Balchik, Galabovo
2018	168,1	130,3	298,4	688,4	Chelopech, Chavdar, Primorsko, Nesebar, Mirkovo, Tsarevo, Sozopol, Koprivshitsa, Byala-Varna, Bansko, Devnya, Galabovo