

# The Impact of COVID-19 on Revenues and Expenditures of Main Regional Cities in Slovakia

Rastislav Solej

University of Economics in Bratislava, Faculty of National Economy,  
Dolnozemska cesta 1, Bratislava 5, 852 35  
Slovak Republic  
rastislav.solej@euba.sk

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**Abstract:** At the beginning of March 2020, Slovakia found itself in a situation unparalleled in its modern history. The COVID-19 pandemic has brought a wave of uncertainty into regular live of people. This uncertainty has affected every aspect of life and every economic subject. The central governments of the countries were forced to take unpopular measures to close their economies or socio-cultural life. The consequences of COVID-19 had to bear local governments. The aim of this work is to assess the extent to which COVID-19 has affected the financing of regional cities in Slovakia. Focuses on expenditure and revenues over period 2011 – 2021. The results suggest that pandemic negatively affected finances of all sampled cities. More affected were capital expenditures, which rate declined and personal income tax during pandemic year 2020. Shortfall in revenues was replaced in increase of property tax income and grants and transfers from central government.

**Keywords:** Local government, COVID-19, Slovakia

**JEL classification:** H12, H27, H72

## 1 Introduction

Since 1993, when the Slovak Republic has been established country has faced many challenges. Major transformation processes occurred in 1998, culminating in its accession to the European Union in 2004 and subsequent adoption of Euro as its currency on 1 January 2009. Another major challenge was the economic crisis and the debt crisis in the euro area. However, the COVID-19 pandemic brought with it an extraordinary situation that was almost unimaginable in the 21st century. The first patients with the new virus began to appear in early March 2020. It was clear to the incumbent Slovak government that the virus could only come from abroad and was one of the first countries in the EU to take anti-pandemic measures to reduce the spread of the disease and reduce mobility. The government has taken measures such as closing

all schools and shops except food, drugstores and pharmacies, but also establishments, bars, hotels, fitness centers, sports clubs and services. The measures taken have had a significant impact on the owners of these businesses and their employees. As a result of these measures, smaller companies and employers have been forced to lay off employees (Svabová, Metzker, Pisula, 2020).

The pandemic also affected local authorities, which had to cope with certain tasks, whether it was testing for the virus in their citizens, protecting the elderly or vaccinating.

The article focuses on the period 2011 - 2021 and provide an analysis of the pandemic impact on local governments budgeting. Main focus is on expenditure (current and capital), as well as revenues (tax income, non-tax income, grants). The results are summarized in last chapter.

## **2 Literature review**

The academic community began to address the impact of COVID-19 almost immediately after the outbreak of the global crisis. The first articles began to appear, of course, in the field of epidemiology, medicine, vaccine research.

The finances gradually examined the impacts on macroeconomic indicators, countries' indebtedness, and health expenditure. In 2020, a survey by the Organization for Economic Co-operation and Development (OECD) and the European Committee of the Regions (CoR) was conducted to assess the impact of the global COVID-19 pandemic and the socio-economic crisis on regional and local authorities. In an online survey conducted from June 2020 to July 2020 across the European Union (24 countries out of 27 EU countries), they received 300 responses from representatives of local and regional authorities or various territorial intermediaries. This survey showed that up to 63% of respondents expected a significant or very significant negative impact on lower public administrations, 26% of respondents expected a medium impact and 10% expected a low impact. There were also differences in the size of municipalities, with large cities with more than 250,000 inhabitants, where almost 80% of respondents expected a negative impact, compared to municipalities with less than 10,000 inhabitants, where just under 50% of municipalities expected a negative impact. In the area of finance, about half of local governments expected a negative short-term and medium-term impact. The impact was expected to reduce revenues and increase expenditures. On the expenditure side, upward pressure was expected on social services or social security spending, unemployment benefits and small and medium-sized enterprises affected by the closed economy. Almost 55% expected a very negative impact on tax collection, a slight impact 28%, the remaining respondents could not answer or did not expect a change or expected an increase (approximately 3% of respondents). (OECD - CoR, 2020)

In the area of impacts on local government finances and budgets, Nemeč and Špaček (2020) conducted quantitative research in the period after the coronavirus pandemic broke out before 30 June 2020. The authors sought to determine the preliminary impacts of COVID on local government revenues and expenditures in Slovakia and the Czech

Republic. They focused on whether there were fiscal imbalances compared to the central level and answered the question of the adequacy of resources in relation to the state of emergency.

As this was research at a relatively early stage of the pandemic, the contribution used mainly secondary sources and publicly available government sources, international statistics, and published articles. The key results of the research were that the central governments of the surveyed countries did not provide an adequate response to the situation, especially in terms of resources and their adequacy to the tasks they had to perform by law.

Čajková, Šindleryová, Garaj (2021) in a recent study follow only the Slovak Republic, where they focused only on Slovak cities. The analysis examined 141 Slovak cities and looked at budget shortcomings caused by the COVID-19 pandemic. The authors present the findings of the Ministry of Finance of the Slovak Republic, which in 2020 reported on the negative impact of the coronavirus pandemic on the collection of personal income taxes across the country. The Ministry of Finance responded with financial assistance on October 23, 2020, and for the second time, local governments received assistance on December 7, 2020. The paper also presented a methodology based on which the ministry covered 100% of personal income tax shortfalls through either the Non-Repayable Financial Contribution (NFC) or the Reserve Fund (RF). Data from larger cities are interesting. The cities of Banská Bystrica (1,874,305 EUR), Bratislava (9,308,872 EUR), Košice (5,345,256 EUR), Nitra (1,834,157 EUR), Prešov (2,246,523 EUR), Trenčín (1,280,520 EUR), Trnava (1,462,429 EUR), Žilina (2,047,137 EUR), also applied for financial support.

Other studies focus on negative fiscal impact of the pandemic to employment reductions at state and local governments (Green, D., Loualiche E., 2021) or financial resilience of local governments in England (Ahrens, T., Laurence, F., 2020).

### 3 Data and Methodology

This chapter contains a specification of the relevant data collection process and a sample description. As is clear from the previous chapter, the main research question will be to assess the impact of the COVID-19 pandemic on the revenues and expenditures of the largest cities in Slovakia.

As can be seen in Table 1, we chose regional cities where higher territorial units are located, of which there are eight in Slovakia. In Table 1, these cities are also shown with a code according to the NUTS 3 classification.

**Table 1.** List of cities included in this analysis (NUTS3)

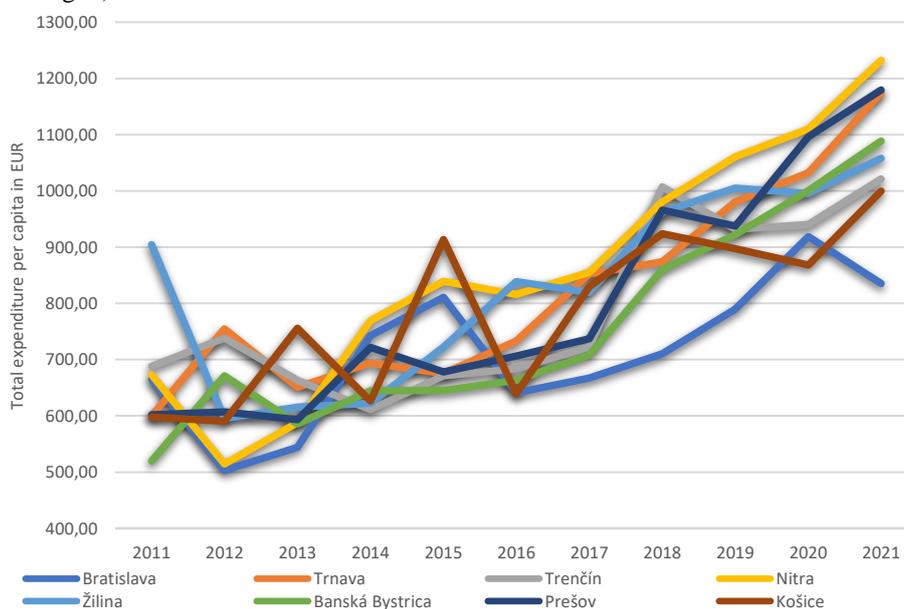
SK010 Mesto Bratislava	SK031 City of Žilina
SK021 City of Trnava	SK032 City of Banská Bystrica
SK022 City of Trenčín	SK041 City of Prešov
SK023 City of Nitra	SK042 City of Košice

In the analysis, we compiled our own database of individual main indicators during the period 2011 - 2021. We focused on the overall sources of funding for cities and the use of these resources. We then tracked sources of funding or total income in accordance with their largest items, which are personal income tax, real estate tax. We also followed a comparison of tax revenues, non-tax revenues as well as grants and transfers from a higher government level. We divided expenditures into current expenditures and capital expenditures.

## 4 Results

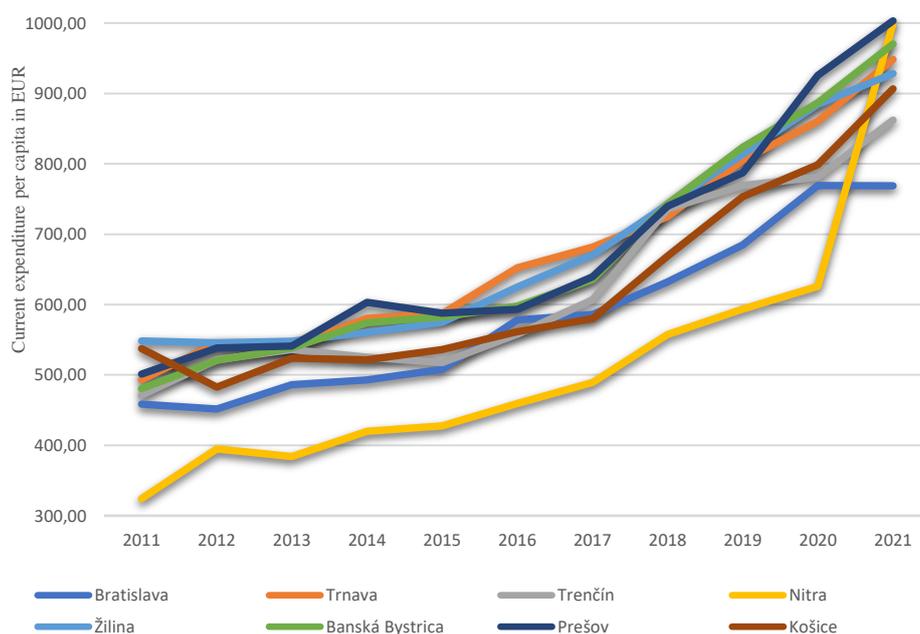
This chapter contains a specification of the relevant data collection process and a sample description. As is clear from the previous chapter, the main research question will be to assess the impact of the COVID-19 pandemic on the revenues and expenditures of the largest cities in Slovakia.

Figure 1 shows the development of total expenditure per capita over the last ten years. Prior to the start of the pandemic, per capita spending grew at an average rate of 5% per year. In 2020, during the first wave of the COVID-19 pandemic, there was an increase in total expenditure in Bratislava (17.19%), Prešov (16.22%), Banská Bystrica (7.99%), Trnava (4.83%), Trenčín (0.94%), Nitra (3.96%). The city of Žilina decreased its expenditure by 1.35% and Košice by 3.45%. In the following year 2021, the pandemic manifested itself fully and total expenditures increased on average by another 6.95%. The largest increase was in Nitra (13.32%), Trnava (11.01%) and Košice (9.99%). The decline was only in Bratislava, in absolute numbers as well as per capita. (see Fig. 1)



**Fig. 1.** Total expenditure per capita during the period 2011 – 2021 **Source:** own calculation

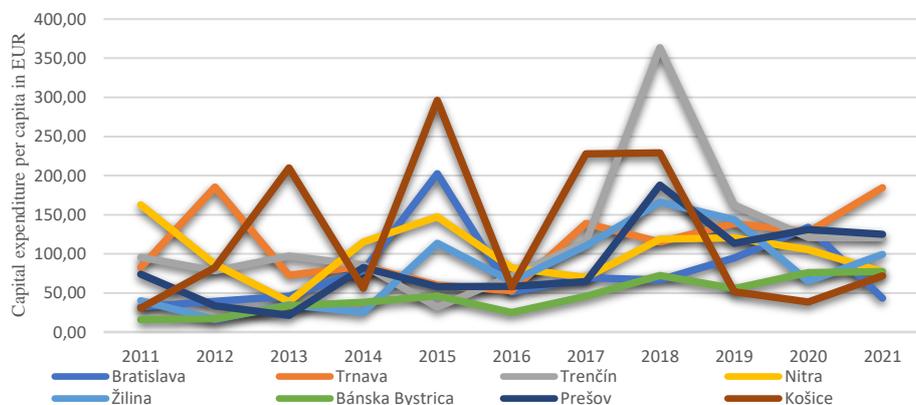
When looking at the current expenditure of cities, it is possible to observe an average increase in expenditure during the years 2011 - 2019 at the level of 5.95% per year (see Fig. 2). Year-on-year growth in current expenditure in 2020 averaged 7.96% per year. Current expenditures grew in all cities. The largest increase was in Prešov (16.78%), Bratislava (7.78%), Žilina (8.23%). The following year 2021, the increase was on average 13.97%, with the biggest distortion being made by Nitra (62.95%). Without the city of Nitra, the increase was only 6.97%. Moreover, interesting results are observable in capital expenditures (see Fig. 3).



**Fig. 2.** Current expenditure per capita during the period 2011 - 2021 **Source:** own calculation

Capital expenditures form a specific area in the research of expenditures. Many municipalities have sought to cover the increase in current expenditure by reducing investment. The decrease in 2020 occurred in 5 out of 8 cities, on average by about 25%. Namely, capital expenditures decreased in Žilina (-54.97%), Trenčín (-25.62%), Košice (-24.97%), Nitra (-13.10%) Trnava (-8.23%). Of the mentioned local governments, the decline continued in 2021 by another 25.21% in Nitra, but also in Trenčín (-2.05%). In Košice, there was a return to the original figures in 2020, where capital expenditure per capita increased from 38.62 EUR to 71.79 EUR. In the city of Trnava, there was a year-on-year increase of 40.83% in 2021 from 127.97 EUR per capita to 184.55 EUR per capita.

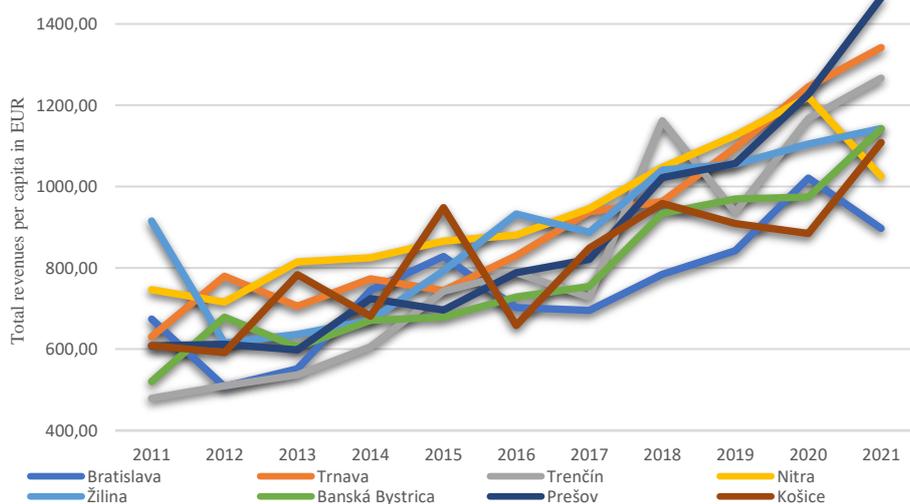
The remaining three cities, which recorded an increase in expenditures in 2020, Bratislava (42.35%), Banská Bystrica (35.90%), Prešov (14.72%) reduced their expenditures a year later. The largest decrease was in Bratislava (-65.30%), Prešov (-9.16%), Banská Bystrica (-1.24%).



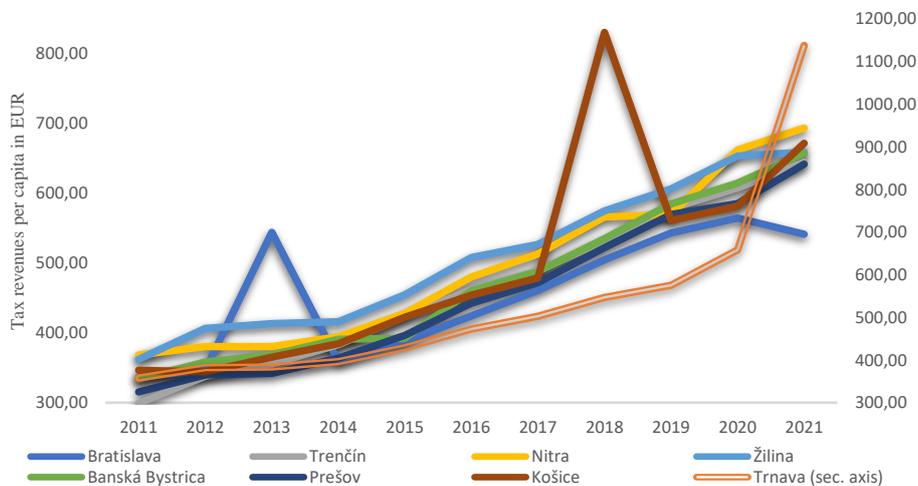
**Fig. 3.** Capital expenditure per capita during the period 2011 - 2021 **Source:** own calculation

Following chart (see Fig. 4) focuses on total income development in sample cities. Total revenues grew at a rate of 6.79% per year between the period 2011 - 2019. In 2020, an increase was observed almost in all cities. The income of cities in Trenčín (24.72%), Bratislava (22.09%), Prešov (15.36%), Trnava (7.70%), Žilina (4.30%) grew. Revenues stagnated in Banská Bystrica (0.00%), only Košice recorded a decrease by 2.83%. Income per capita ranged from EUR 884.67 in Košice to 1,244.74 EUR in Trnava.

In 2021, revenues continued to increase in Košice (19.68%), Prešov (13.88%), Banská Bystrica (13.62%), Trenčín (6.62%), Žilina (5.43%), Trnava (5.24%). The decrease occurred in Bratislava, when total revenues decreased by 5.25% and total per capita incomes to EUR 1,020.92 to EUR 896.84. Nitra's total per capita income decreased from EUR 1,220.28 to EUR 1024.98 with an overall decrease of 14.26%.

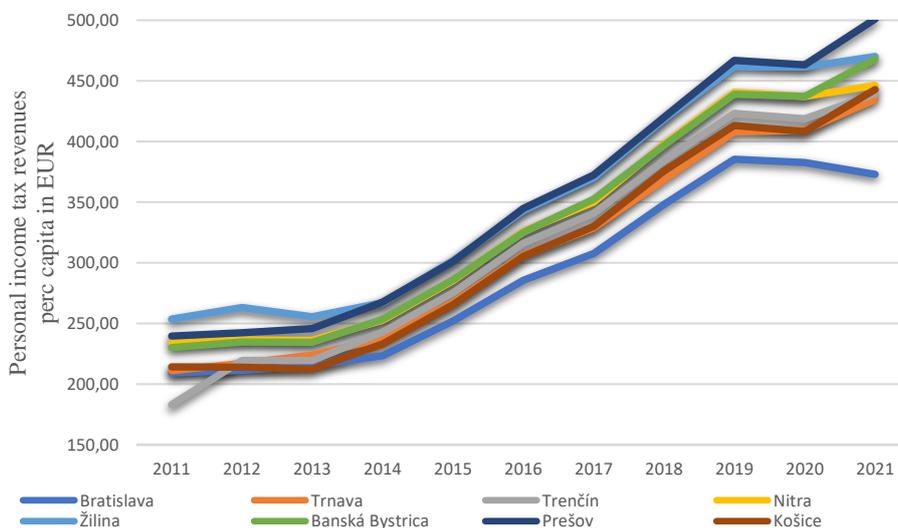


**Fig. 4.** Total income per capita during the period 2011 - 2021 **Source:** own calculation



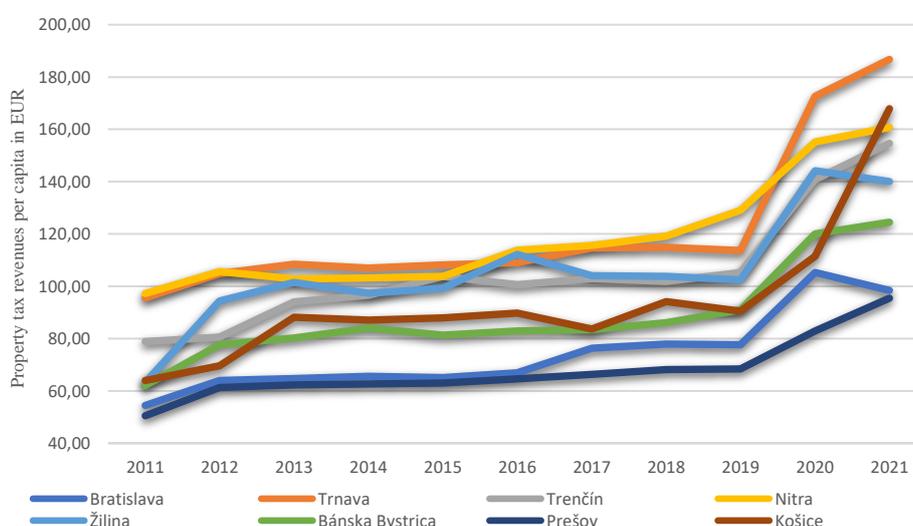
**Fig. 5.** Revenues from taxes per capita during the period 2011 - 2021 **Source:** own calculation

Tax revenues (see Fig.5) have been growing regularly since 2011, at an average annual rate of 7.40%. Over the last ten years, tax revenues per capita increased from an average of EUR 339.97 in 2011 to EUR 573.47 in 2019. The overall increase in tax revenues increased by 7.11% year-on-year in 2020 and by approximately 13%. The largest increase was in Trnava by 68.57%, the growth was recorded in all cities. In terms of per capita income, total income decreased in Bratislava alone from 564.48 EUR to 541.28 EUR.



**Fig. 6.** Revenues from personal income tax per capita during the period 2011 - 2021 **Source:** own calculation

In terms of total revenue, personal income tax is the largest component in local government budgeting. From 2011 to 2019, they grew at a regular average annual rate of 8.45% (see Fig. 6). In 2020, there was stagnation and economic recession, which was caused by the COVID-19 pandemic. The average decline in personal income tax revenues averaged -0.84%. In terms of individual cities, the decrease was as follows: Prešov (-1.44%), Nitra (-1.42%), Košice (-1.39%), Trenčín (-1.00%), Banská Bystrica (-0, 92%), Žilina (-0.43%), Trnava (-0.13%), Bratislava (0.00%). The per capita personal income tax averaged 427.25 EUR. In 2021, revenues started to grow again, by 3.81% on average.

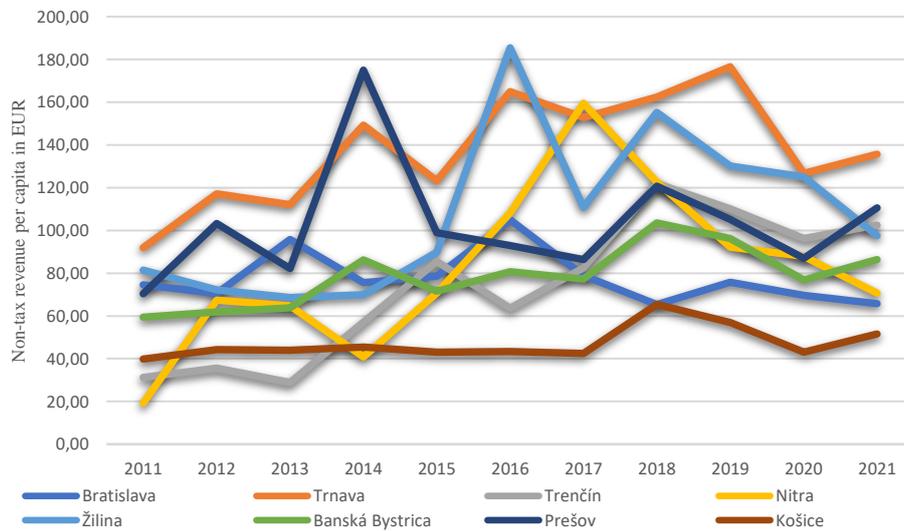


**Fig. 7.** Revenues from property tax per capita during the period 2011 - 2021  
**Source:** own calculation

The second most profitable tax is the real estate tax, which accounts for about 20% of all municipal revenues. The following chart (see Fig. 7) shows the development of the last 10 years, and we can see that this is a relatively stable source of revenue for local governments, which grew by an average of 4.33% between 2011 - 2019. In connection with COVID-19 we can see an increase in income tax revenues per capita from EUR 97.24 to EUR 129. In each of the mentioned places, the increase in revenues was above 20%, while on average the growth rate was 31.97%. The largest increase was in Trnava (51.18%), Bratislava (36.64%) and Trenčín (33.76%). The lowest growth was in Nitra (19.43%), Prešov (20.38%) and Košice (22.99%).

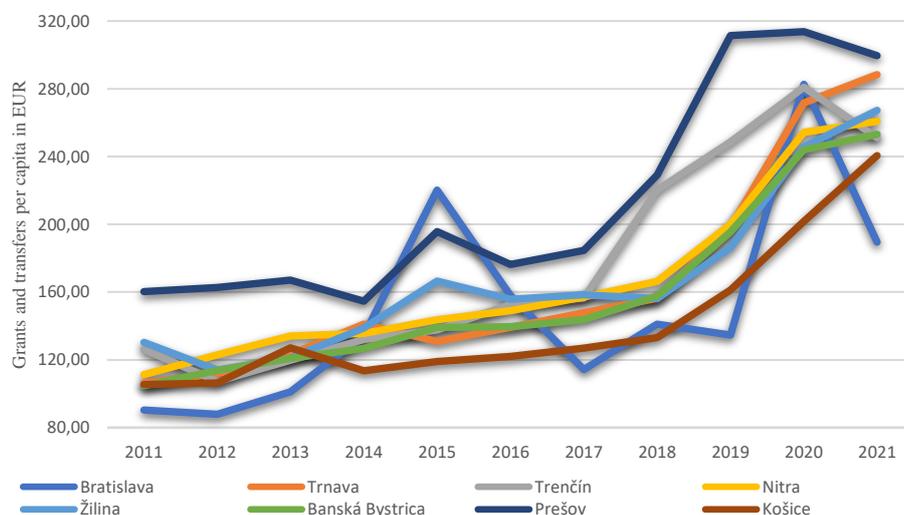
In the following year 2021, growth continued average by 9.18%. The largest increase was in Košice and reached 43.80%. Compared to 2019, when revenues were EUR 90.50 per capita, in 2021 these revenues amounted to EUR 167.89. In Prešov, there was an increase between 2019 and 2021 from EUR 68.39 per capita to EUR 95.44. The city of Bratislava (0.77%), Banská Bystrica (0.56%) increased property taxes only

minimally. In Žilina, taxes fell by 0.98% and per capita (EUR 140.05) were at one of the lowest levels.



**Fig. 8.** Non-tax revenues per capita during the period 2011 - 2021 **Source:** own calculation

The following chart (see Fig. 8) shows the development of non-tax revenues of local governments in the period 2011 - 2021. Non-tax revenues account for approximately 10% of total municipal revenues. Based on data, non-tax revenues decreased by an average of 15.11% during the pandemic. The largest decrease was measured in Trnava by 28.57%, non-tax per capita income decreased from 176.58 EUR to 126.72 EUR. The mentioned decrease in 2020 was observable in all monitored cities. In the following year 2021, non-tax revenues increased slightly.



**Fig. 9.** Revenues from grants and transfers per capita during the period 2011 - 2021  
**Source:** own calculation

Grants and transfers from the central level account for about 20% of total municipal revenues. In the period 2011-2013, grants per capita ranged from € 105 per capita to € 135 per capita. The capital Bratislava received a lower subsidy in this period at an average of 93 EUR per capita. The city of Prešov received the highest subsidy from the state budget, averaging EUR 163.32, which accounted for approximately 27% of total revenues. Until 2017, per capita grants increased at the same rate. The change occurred in 2018 and 2019, when there is an observable increase in the cities of Prešov and Trenčín. For example, in 2019 in Prešov, these grants accounted for up to a third of budgeted revenues.

## 5 Conclusion

The COVID-19 pandemic has brought about an unprecedented situation in the history of modern Slovakia. Almost every aspect of life and the economic entity was affected. The local governments were no exception, as they had to take on a number of tasks in dealing with the pandemic situation and, in addition, had to deal with funding problems.

The results of the analysis of this article confirm the negative impact of the COVID-19 pandemic on the financing of the largest Slovak cities, which are expected in Nemeč and Špaček (2020). In this study, we focus more on the revenue and expenditure impacts. Within expenditures, total expenditures increased in Bratislava (17.19%), Prešov (16.22%), Banská Bystrica (7.99%), Trnava (4.83%), Trenčín (0.94%), Nitra (3.96%).

There was a decrease only in Žilina (1.35%) and Košice by 3.45%. In 2021, spending increased by an average of 6.95%. Current expenditures increased by approximately 8% in 2020. The pandemic negatively affected investments represented by capital

expenditures in most cities in 2020 by an average of 25%. Cities with an increase in capital expenditures Bratislava, Prešov and Banská Bystrica in the following years 2021 decreased.

From the revenue side, there was a decline in personal income tax revenues. This loss was compensated through grants and transfers from the state budget, which was presented in the paper Čajková, Šindleryová, Garaj (2021) and compensated by an increase in real estate tax revenues, which is a relatively more stable income.

The situation of the pandemic has opened up many questions of the stability of local government financing and the reassessment of the adjustment of the tax mix in the Slovak Republic. In terms of size, the impact was not as dramatic as initially expected. In further research, it would be appropriate to focus on the effects of the pandemic on smaller municipalities and compare them regionally.

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