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## Impact of the financial crisis on revenues of urban municipalities in Poland – experiences the COVID-19 pandemic

**Abstract:** The COVID-19 pandemic has given rise to grave economic consequences, especially for the public finance sector, both at the central and local government level. The aftermath of the pandemic-induced crisis began to be felt particularly by local government units (LGUs), which are responsible for the implementation of most public tasks at local level. As a consequence, the role of budget planning increases and the rationalization of public expenditure in response to declining revenues becomes important. This paper is in line with the ongoing discussion on the implications of the COVID-19-induced crisis. Two research goals were formulated. The former was to assess the effects of the crisis caused by the COVID-19 pandemic on budget revenues and indirectly on the financial standing of Polish urban municipalities, and the latter was to identify changes in the structure of urban municipalities budgets in Poland as a consequence of the pandemic. For the needs of the study, we used an indicator analysis of urban municipalities budgets, which allows for a synthetic determination of the financial condition and verification of development decisions. The aim of the research was achieved by analyzing the dynamics of indicators that characterize urban municipalities budget revenue in Poland. The scope of research covered the years 2010–2022. The results and the formulated practical recommendations constitute a complementation of the research on the effects of the COVID-19 pandemic for public finance, in particular the finances of local government units. The analyses demonstrate a shift in the urban municipalities revenue structure in Poland, which is the effect of a decreased share of own revenue, especially tax revenue, and an increase in the share of transfer revenue. This was due to three factors. Two of them were directly related to the COVID-19 pandemic, i.e. 1) reduction in tax revenue (mainly from shares in PIT) as a result of the lockdown and the economic crisis; 2) options of support for local governments in the form of increasing transfer revenue. The third factor that contributed to the decline in own revenue are changes unrelated to the pandemic. These include, for example, changes in personal income tax or changes in the “Family 500+” programme.

**Key words:** COVID-19 pandemic, local revenues, urban municipalities, financial crisis

## Introduction

The COVID-19 pandemic had serious consequences for the economy, and in particular for the public finance sector, at both central and local government levels. The first predictions about the effects of the pandemic on a global and national scale appeared immediately after its outbreak. McKibbin & Fernando (2021) presented the projected costs of the COVID-19 pandemic. The basis for their calculation was seven different scenarios of the development of the pandemic on macroeconomic outcomes and financial markets. However, the effects of the crisis caused by the pandemic were also felt by local government units, which are responsible for the implementation of most public tasks at the local level and the provision of services. The effects of the crisis largely affected budget revenues. As an example, in the United States budget revenues for 2020 were falling faster and to a much greater extent than during the so-called Great Recession which began at the end of the first decade of the 21st century (Felix 2020, Gordon et al. 2020). In addition, local governments were burdened with new tasks and costs of their implementation in the scope of counteracting the spread of the pandemic and combating its effects. This has resulted in a strong operational and fiscal pressure, which was also associated with local governments expecting support for their activities from central authorities. The government's response to these expectations and declining own revenue affected the revenue structure and resulted in a downturn in revenue independence of local government units (Ahrens, Ferry 2021).

The literature query indicates that although issues related to the effects of economic crisis on public finance are increasingly the subject of research and analysis, this area still constitutes an important research gap, and many questions related to the issues and challenges that financial crisis causes in the functioning of local government. In the search for an answer to the questions posed, in contrast to the majority of research conducted so far, the authors focused on analysis on the influence of the crisis caused by the COVID-19 pandemic on the budget revenues of urban municipalities, rather than revenues of state budget. Furthermore, the paper takes into account the effects on the functioning of local government resulting from the financial crisis and the effects resulting from changes in legal conditions connected with the crisis. A considerable portion of research on the COVID-19-induced crisis has centered around its socio-economic and epidemiological aspects. Studies were often undertaken at the macroeconomic level, while analyses of the effects of the pandemic on local self-government units and their budgets were less frequent (Nemec, Špaček 2020).

The effects of the COVID-19 pandemic and the resulting recession have considerably burdened not only state budgets, but also the budgets of local government units (LGUs). An increase was noted in budget expenditure with a simultaneous decline in revenues, and local authorities, which were constrained by the balanced budget amendment, were confronted with a financial crisis. This crisis threatened with deepening the recession and inhibiting the current revitalization (Leachman, McNichol 2020). Thus, the considerations presented in the article

complement the current research on the effects of the financial crisis, filling the research gap in the area of urban municipalities finance.

Hence, taking into account the above premises, the research problem was formulated in the form of following questions: 1) What were the effects of the COVID-19 pandemic on the budget revenues and indirectly financial standing of Polish urban municipalities? 2) How has the structure of budgetary revenue of Polish urban municipalities changed due to the pandemic? On the basis of such a specific problem, a research hypothesis was made, according to which the crisis caused by the COVID-19 pandemic has caused a decrease in urban municipalities own revenues.

The main objectives of the study are derived from the undertaken research problem and the research hypothesis: 1) to assess the impact of the crisis caused by the COVID-19 pandemic on budget revenues and indirectly the financial standing of Polish urban municipalities, and 2) to identify changes in the structure of urban municipality budgets in Poland as a consequence of the pandemic.

Financial analysis was used in the research. It belongs to the methods of assessing the financial situation of local government units. It is intended to study the structure, characteristics, and dependencies of an entity's revenue and expenditure. Financial analysis makes it possible to identify and evaluate the progress of financial management processes and to verify the effectiveness of decisions taken so far, as well as to set directions for future activities (Denison, Guo 2015). The practical advantage of using financial analysis is the possibility of making diagnoses about the state of finances and identifying decision-making alternatives in the future. In addition, importantly from the point of view of this research, financial analysis allows to detect and establish shifts in the scope of the studied phenomena and to formulate hypotheses about their causes (Foltin 1999).

The structure of the paper is derived from the aforementioned objectives. The first part contains considerations regarding the methods used in the own research and the characteristics of the data sources. The second part discusses the results of own research and confronts them with the literature on the subject. The study is finished with a conclusion, which contains the most important results from the conducted analyses.

## **Data sources and research methods**

Financial analysis was used for the needs of this study. One of the types of financial analysis in local government units is the ratio analysis. Ratio analysis of urban municipality budgets is used to determine a synthetic financial condition, verify development decisions and find the urban municipality's efficiency reserves (Rivenbark, Roenigk 2011). The main advantage of using this analysis in the research is the possibility of both assessing the past and formulating conclusions for the future regarding the challenges facing LGUs in the context of financial processes and the effects of social and economic events, including the COVID-19 pandem-

ic. Such analysis can yield quantitative and qualitative conclusions, which may lay the ground for making strategic decisions at local and central level (Medvecká et al. 2017, p. 47–48).

Table 1. Selected indicators for assessing budget revenue and financial condition of Polish urban municipalities

Indicators	Way of counting
Budgetary indicators	
Indicator $W_{B1}$ – share of current revenue in total revenue	$W_{B3} = \frac{Db}{Do}$ , where: <i>Do</i> – total revenue; <i>Db</i> – current revenue (non-property revenue).
Indicator $W_{B2}$ – share of own revenue in total revenue	$W_{B2} = \frac{Dw}{Do}$ , where: <i>Do</i> – total revenue; <i>Dw</i> – own revenue
Indicator $W_{B3}$ – share of operating surplus in total revenue	$W_{B3} = \frac{No}{Do}$ , where: <i>No</i> – operating surplus (positive value of the current result being the difference between current revenue and expenditure); <i>Do</i> – total revenue.
Indicator $W_{B6}$ – share of operating surplus and revenue from sale of assets in total revenue	$W_{B6} = \frac{No + Sm}{Do}$ , where: <i>Do</i> – total revenue; <i>Sm</i> – revenue from sale of property, <i>No</i> – operating surplus.
Indicator $W_{B7}$ – self-financing rate	$W_{B7} = \frac{No + Dm}{Wm}$ , where: <i>Dm</i> – property revenue; <i>No</i> – operating surplus; <i>Wm</i> – property expenditures.
Indicators per capita	
Indicator $W_{L1}$ – current transfers per capita	$W_{L1} = \frac{Tb}{L}$ , where: <i>Tb</i> – current transfers (general subvention and running subsidies); <i>L</i> – number of inhabitants in local government unit.
Indicator $W_{L2}$ – operating surplus per capita	$W_{L2} = \frac{No}{L}$ , where: <i>Tb</i> – current transfers (general subvention and running subsidies); <i>L</i> – number of inhabitants in local government unit.
Indicators for debt liabilities	
Indicator $W_{Z1}$ – share of total liabilities in total revenue	$W_{Z1} = \frac{Zo}{Do}$ , where: <i>Do</i> – total revenue; <i>Zo</i> – debt liabilities.
Indicator $W_{Z3}$ – total burden on revenue with debt management	$W_{Z3} = \frac{O + R}{Do}$ , where: <i>O</i> – interest on credits and loans; <i>R</i> – repayment of capital installments on credits and loans; <i>Do</i> – total revenue.
Indicator $W_{Z5}$ – total burden on own revenue with debt management	$W_{Z5} = \frac{O + R}{Dw}$ , where: <i>Dw</i> – own revenue; <i>O</i> – interest on credits and loans; <i>R</i> – repayment of capital installments on credits and loans.

Source: prepared by the authors based on the Ministry of Finance (2024).

At the local level, it is possible to use index analysis to assess the coverage of expenditure with revenues, the relationship between them, the investment capacity of cities, indebtedness and debt capacity, and to examine financial liquidity (Pilcher 2005). A major aspect of ratio analysis is the assessment of the dynamics of changes in indicators, thanks to which it is possible to measure the urban municipality revenue and financial economy in a different time perspective.

One of the drawbacks of financial analysis is that its results are insufficient to become the sole or the main basis for assessing the functioning of local government units and making management decisions. Each time, financial analysis represents the starting point for deepening the analysis also with the external conditions of financial processes. In this context, it was important to compare the crisis caused by the COVID-19 pandemic to the previous financial and economic crisis, and to consider the macroeconomic, legal and political decisions taken at central level. Therefore, these analyses outline further directions of research on the effects of the COVID-19 pandemic – not only with regard to local finances, but also the broadly understood socio-economic standing of Polish urban municipalities (cf. Medvecká et al. 2017, p. 47–48).

The study covered the period of 2010–2022 due to the availability of the relevant data from the Ministry of Finance database. The beginning of the research period was assumed as 2010. During this year, the effects of the crisis conceived in 2007 were felt the most in the public finance sector. They were evident both in the government sub-sector (the 2010 budget year saw a decrease in state budget revenues by nearly 17%) and at the level of local government units.

The territorial scope of research covered Polish urban municipalities. In 2020, there were 302 urban municipalities in Poland from 2,478 of all the lowest-level units of administrative districts. Ratio analysis was used to assess the effects of the COVID-19 on urban municipality budget revenue in Poland. The research used the average values of selected indicators for all urban municipalities in Poland as a measure of changes in budget revenue and financial condition. These indicators were developed by the Ministry of Finance and are used to assess the financial situation of local government units in Poland. The set of several indicators includes: budget indicators, indicators per capita and indicators for debt liabilities. The measures selected for research purposes involve indicators which relate directly or indirectly to budget revenue (Table 1).

## Results

In the first step the budgetary indicators were calculated, followed by the indicators per capita and the indicators for debt liabilities. The results of ratio analysis are presented in Table 2.

Due to the research problem, the most important element from the group of budgetary indicators is WB2 and WB7. Analysis of the level of WB2 showed two trends during the period considered. The indicator of the share of own revenue in total revenue in 2010–2015 exhibited a systematic increase. However, it clearly

Table 2. Average level of indicators describing revenue and their dependence on other budgetary aspects in Polish-urban municipality in 2010–2022

Year	WB1 (%)	WB2 (%)	WB3 (%)	WB6 (%)	WB7 (%)	WL1 (PLN)	WL2 (PLN)	WZ1 (%)	WZ3 (%)	WZ5 (%)
2010	86.7	56.1	3.2	7.1	66.5	1025.9	97.3	32.4	6.1	11.3
2011	87.4	56.2	5.3	8.3	91.9	1042.2	204.2	35.6	7.1	13.2
2012	89.6	57.0	5.4	8.5	106.8	1074.1	196.7	35.5	8.0	14.8
2013	91.4	58.5	6.9	10.1	255.4	1052.7	186.9	33.6	8.5	15.0
2014	91.7	59.2	7.8	10.5	124.8	1122.9	231.4	32.1	5.0	8.6
2015	92.3	59.3	8.4	10.6	156.8	1206.0	281.9	29.6	5.0	8.7
2016	94.5	53.6	8.4	10.9	177.1	1698.3	345.5	23.9	4.3	8.2
2017	94.4	52.5	7.3	9.9	124.6	1888.1	312.3	22.7	3.6	7.1
2018	90.9	52.0	7.2	9.7	90.1	1952.1	341.5	23.9	3.5	6.9
2019	90.4	48.6	6.9	8.6	110.4	2251.3	330.4	23.7	3.8	5.9
2020	88.2	51.2	5.1	6.6	145.0	2538.0	263.2	23.6	3.4	5.9
2021	90.3	50.5	9.7	11.5	165.2	2803.3	558.1	21.7	3.0	4.8
2022	90.1	46.5	5.3	7.6	97.9	2744.2	346.8	21.0	3.7	5.8

Source: prepared by the authors based on the Ministry of Finance (2024).

declined since 2016 except for 2020. This tendency arose from the introduction of nationwide programs in the field of social policy and the transmission of targeted transfers from the state budget for the implementation of these programs. This indicator decreased by 0.7 percentage point (pp) in 2021, compared to 2020; which may indicate the impact of the pandemic on this group of revenue and the effects of previously signaled changes in legal regulations. The largest decline in the analyzed period occurred in 2022 and amounted to as much as 4 pp compared to 2021.

The above findings regarding the effects of the crisis on own revenue are also confirmed by the level of the second mentioned indicator, i.e., the self-financing indicator (WB7). In the period considered, the self-financing indicator was characterized by the greatest dynamics compared to other indicators. A level above 100% means that urban municipality could finance their investments from own revenue. Such a situation was observed in the years 2012–2017 and in the years 2019–2021. In 2022, there was a significant decrease in the indicator and it was at the level of 97.91%, which means that own revenues at the disposal of urban municipalities were insufficient to implement investment projects, although the outlays had remained unchanged. The decrease is primarily attributable to a drop in the operating surplus discussed below. It should also be noted that the lower the difference between revenue and running costs, the greater the risk of losing financial liquidity due to excessive debt management costs.

Other important budgetary indicators from the point of view of the problem analyzed are ones that take into account current revenue, i.e., the share of current revenue in total revenue (WB1), the share of the operating surplus in total revenue (WB3), and the share of the operating surplus and revenue from sale of assets in total revenue (WB6). The first of the abovementioned indicators showed

a growing tendency in the first half of the analyzed period (until 2016), and then started to decline from 2017. In 2021, when the first effects of the pandemic on the revenue side of budgets could just be perceived, this indicator increased for the first time since 2016, but it was insignificant and amounted to 2.1 pp. It may have been the result of an increase in targeted subsidies transferred to urban municipalities from the state budget to counteract the COVID-19 pandemic. The second indicator WB3 developed in parallel with WB1. In the years 2010–2015 it was observed its growth, while from 2017 it started to decline systematically (except for 2021). Year 2022 saw the largest decrease in the entire research period, which amounted to 4.4 pp., compared to the previous year. A decrease in the operating surplus level means a decrease in the capacity of local government units to repay liabilities and to finance investment expenditure. In analogy to WB3, the indicator of operating surplus and revenue from the sale of assets to total revenue was shaped similarly (WB6). Its greatest decrease took place in 2022 and amounted to 3.9 pp. The relatively considerable decrease in this indicator stems from the above-discussed decrease in operating surplus, which means that the revenue from the sale of assets will increasingly serve to cover the operating deficit. The evolution of the average values of budgetary indicators relating to revenue in Polish urban municipalities in 2010–2022 is presented in Figure 1.

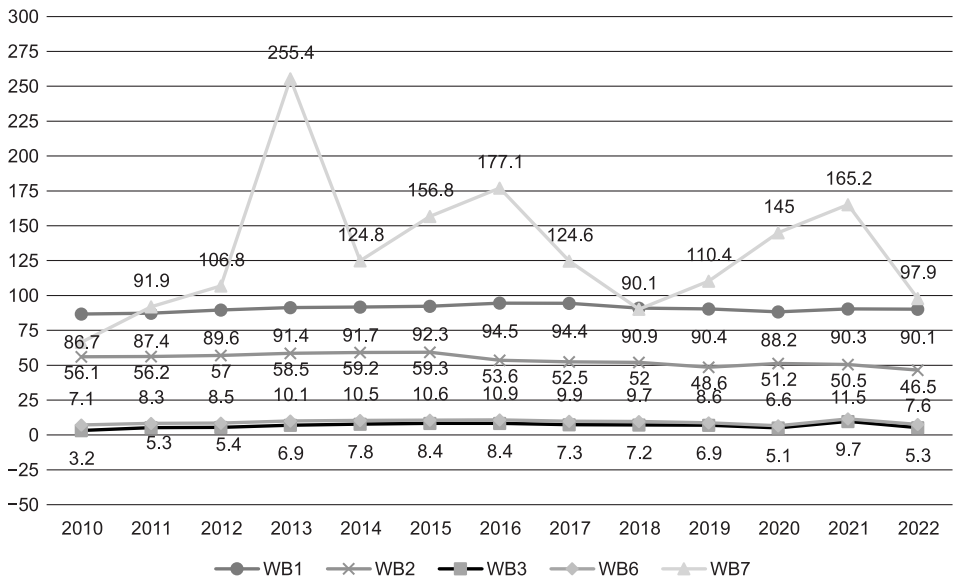


Fig. 1. Average values of budgetary indicators in Polish urban municipalities in 2010–2022 (%)  
 Source: prepared by the authors based on the Ministry of Finance (2024).

Shaping of the level of indicators from the group of indicators per capita (Fig. 2) is to a large extent linked to budgetary indicators: in particular WB3 and WB2.

The former is related to the operating surplus per capita (WL2). In the years 2010–2022 it was characterized by high volatility. From 2016, the level of this indicator was above PLN 300, while in 2020 it dropped to PLN 263.2. The following year it increased again to 558.1, and then dropped sharply in 2022. This was the largest decrease in the whole period considered, amounting to 37%. As for indicator WL1 its increase was recorded throughout the analyzed period, except for 2013, when it decreased slightly. The highest growth of WL1 took place in 2020 compared to the previous year and it amounted to more than 11%. Growth of the analyzed indicator resulted mainly from the increase in revenue from educational subsidies (by 8.5% for all local government units) and compensatory transfers by 6%. Among subsidy revenues, mainly subsidies for tasks commissioned in the field of government administration and statutory tasks increased – specifically by 43.3% for all local government units (Nelicki 2020). In 2021, this indicator increased again (by 9.5%), while in 2022 it decreased slightly (by 2.2%).

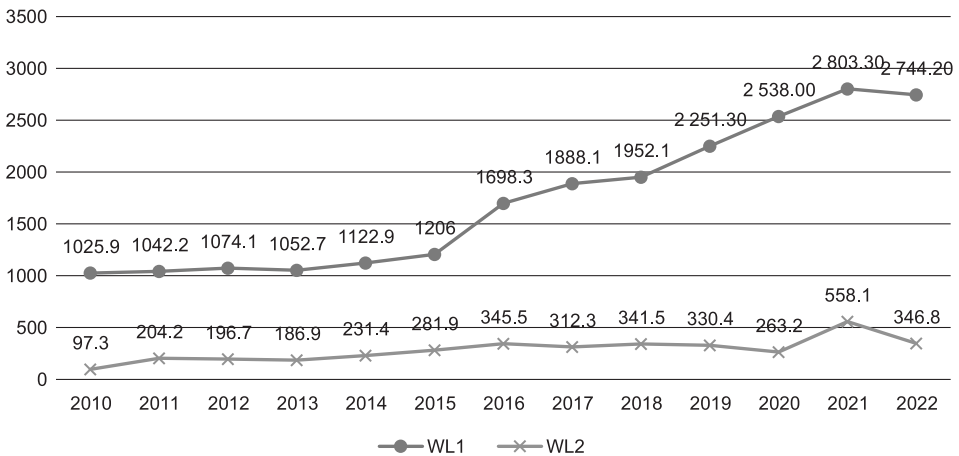


Fig. 2. Average values of indicators per capita in Polish urban municipalities in 2010–2022 (PLN)

Source: prepared by the authors based on the Ministry of Finance (2024).

The last analyzed group, i.e., indicators for debt liabilities, is also related to total revenue. The former, i.e., the indicator of the share of total liabilities in total revenue (WZ1) followed a downward trend for most of the analyzed period (2012–2017) (Fig. 3).

In the years 2011 and 2018, WZ1 increased. The last years of the research period was characterized by an increase in the indebtedness of local governments. The root cause was only indirectly related to the crisis caused by the COVID-19 pandemic and the decrease in budget revenues. As a consequence, in many cases it meant the necessity to incur liabilities, e.g., in order to finance commenced investments. At the same time, local government units, operating in crisis conditions, largely reduced expenses by pursuing a prudent budget policy, which consequently prevented an increase in the examined indicator (Fig. 3).



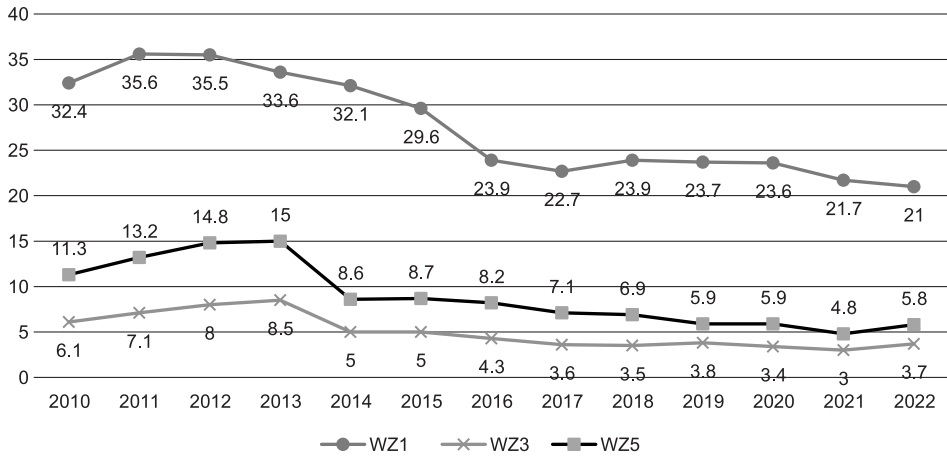


Fig. 3. Average values of indicators for debt liabilities in Polish urban municipalities in 2010–2022 (%)

Source: prepared by the authors based on the Ministry of Finance (2024).

The indicator for total burden on revenue with debt management (WZ3) and for total burden on own revenue with debt management (WZ5) are related to the previously discussed debt indicator (Fig. 3). These indicators had a similar trend in the research period. In the initial years of the analyzed period (2010–2013), they increased. It could be observed that during the period considered, three significant drops in their level can be noticed. The first drop took place in 2014, the second in 2017 and the third in 2021, when both indicators were at their lowest level over the whole period analyzed. It should be noted that this situation was influenced by several factors molding the economic situation in pandemic period in Poland.

## Discussion

The study indicates that the COVID-19 pandemic influences the formation of indicators that constitute the basis for the assessment of the financial standing of local government units. This stems from the dependence of the level of local government units' revenue on the economic situation. The first step is to stress the impact of the economic situation on own revenue, which is the numerator in the WB2 indicator. The economic growth rate is reflected in particular in the level of these revenues in urban municipalities, due to the relatively high share of tax revenue and a high share of own revenue in total revenue. This phenomenon is connected to the "marketization of economy" in municipalities, i.e., a strong dependence of the revenue of urban municipal budgets on the income of individuals and enterprises (Willszak 2010). As a result, one can observe an increase in the financial capacity of urban municipalities in the condition of economic revival, and a weakening at a time of crisis.

In the years 2020–2021, compared to 2019, the share of own revenues in total revenues decrease (Fig. 4), which may indicate the impact of the pandemic on this group of revenue and the effects of previously signaled changes in legal regulations. Similar trends concerning a decrease of the analyzed index were also visible in the previous financial crisis (Poniatowicz 2014). Research under this heading shows that the decrease in the share of own revenues varies depending on the type of local government units and, in particular, that it has affected units more financially independent of transfers from the state budget. In the light of the findings of the study, the impact of the COVID-19 crisis on regional and local governments (2021), which covered 33 units from 22 countries in Europe, Asia and Africa, cities and regions saw a 5% increase in expenditure and a decrease in revenue of around 10%. The most evident decrease was recorded in the case of local tax and fee revenue (22% on average), followed by property revenue (18%). On the other hand, transfers from the state budget were lower by about 8%. These results are consistent with the above research outcomes in terms of own revenues of Polish urban municipalities. Padovani et al. arrived at similar conclusions (2021, p. 404). The authors indicate that in the event of a crisis caused by a pandemic, the reaction of municipalities depends on their size, the degree of financial dependence on government transfers, and the ability to accumulate own revenues. But ironically, financially independent municipalities may be more affected by the crisis than municipalities with less independence since the former have no impact on revenue by increasing fees and taxes during the crisis. Municipalities that are financially dependent on current transfers may be less affected by the crisis thanks to their increase.

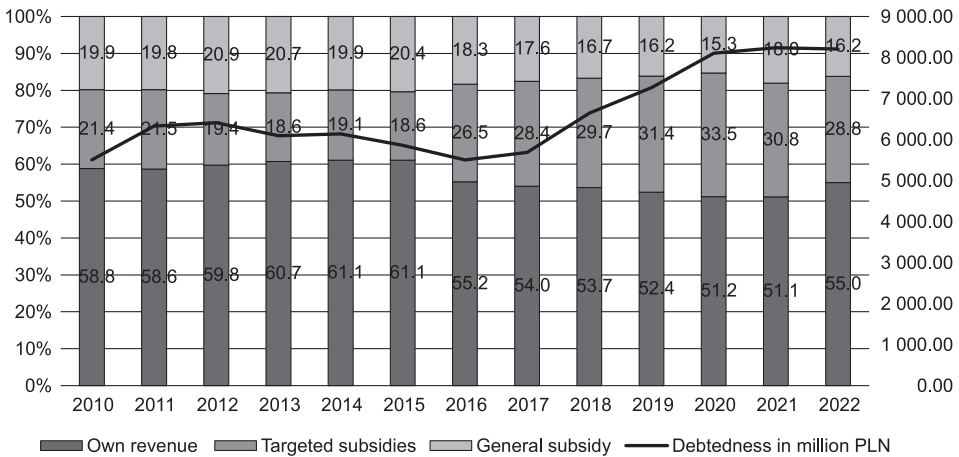


Fig. 4. Revenue structure (%) and debt of urban municipalities (million PLN) in Poland in 2010–2022

Source: prepared by the authors based on the Ministry of Finance (2011–2023).

Studies on the impact of the crisis on LGU revenue were also conducted by Satoia (2015) and Auerbach et al. (2020), whose results confirm the above ob-

servations. Satola (2015) demonstrated that in the situation of a downturn, the share of own revenue in total revenue in urban centers was characterized by a downward trend. This means that it is highly sensitive to shifts in the economic growth rate of urban municipality revenue. It is also noteworthy that the results of the cited author's research on the shaping of other budgetary indicators are in line with the results presented by Maj-Serwatka & Wichowska (2023). Based on the research results of the cited authors it can be concluded that in larger urban centers, the effects of the pandemic crisis were more severe. This was due to the greater ability of large municipalities to collect their own revenue and greater financial independence from government transfers than in smaller territorial units. In small municipalities, the effects of the crisis were less felt thanks to increased external transfers from the state budget. The impact of the crisis on the financial situation of local government units was also studied by Czajkowski (2020), who pointed to a decreased level of own revenue, the scale of which will depend on the mechanisms of combating COVID-19 and the duration of the pandemic.

This issue was also addressed by Sienkiewicz & Kuć-Czajkowska (2022) who analyzed the legal, organizational and socio-economic effects of the pandemic in the area of local government units. The authors pointed out the need to provide the LGU with financial resources enabling the implementation of tasks at an appropriate level. They identified legislation on local government revenues as one of the main problems, which is based too much on transfers from the central budget.

In the case of the second group of revenues, i.e., external revenues, it should be noted that the increase in transfers from the state budget applied to a lesser extent to urban municipalities (Fig. 4) and was especially visible in local government units with low tax revenue (Krawczyk 2021). Consequently, the effects of the crisis are particularly dramatic for urban municipalities, because they have the most noticeable decrease in own (tax) revenue, and at the same time transfer revenues are increasingly directed to entities with lower financial potential. Increased financial resources transferred to local government units were largely aimed at helping individuals to counteract the effects of the COVID-19. These regularities are also confirmed by the OECD studies (2020). Transfer funds were allocated by LGUs, inter alia, to: increased expenditure on the implementation of social and public services and supporting local entrepreneurship, subsidies for entities carrying out health protection activities, disinfection of public spaces, and other social assistance services (The impact of the COVID-19... 2021).

In 2020, the decline in the own revenues of Polish urban municipalities was accompanied by an increase in debt (Fig. 4). As emphasized by budget practitioners from the largest Polish urban municipalities – due to the depletion of budget revenue (resulting from a.o. tax changes, especially in personal income tax), it was necessary to incur new liabilities in order to finance previously undertaken long-term investments. To a lesser extent, self-governments sought to use the provisions on indebtedness of local governments, relaxed as a result of the pandemic, aimed at, inter alia, facilitating the implementation of their tasks during the epidemic and providing momentum to investments (Cieślak-Wróblewska

2021). Among other things, derogations from the balanced budget amendment in the current part were relaxed. Planning and implementing the budget in 2020, local government units could exceed the ratio of balancing current revenue and expenses by: 1) loss in the entity's revenue resulting from the COVID-19; 2) current expenses incurred to carry out tasks related to counteracting COVID-19 in the part in which they were financed with property or revenue. Another major change concerned liberalization of the debt rule. Exclusion from the debt repayment limit covered liabilities from loans, credits, and bond issues incurred in 2020, due to the entity's loss of revenue resulting from the COVID-19 up to the amount equivalent to the loss in revenue (Ministry of Finance, 2020). Such an exclusion is long-term and the repayment of these liabilities will remain beyond the limit for the entire duration of the obligation (Kostyk-Siekierska 2021). Changes in legal regulations were an important factor that influenced actions taken at the local government level. According to Glinka (2021, p. 62), the policy of urban municipalities was more effective due to the support of the central government administration, but at the same time there were concerns about limiting the autonomy of local government. It should also be underlined those similar measures were introduced in connection with the previous economic crisis in other European Union countries. By way of example, these measures consisted in the state covering the costs of local governments' debt management related to an investment (Austria) or a VAT refund on local government investments (France) (Swianiewicz & Łukomska 2020).

The decrease in own revenue and the increase in debt resulted in changes in the level of the indicator for total burden on revenue with debt management (WZ3) and indicator for total burden on own revenue with debt management (WZ5). The low level of both of these indicators from 2020 was influenced by several factors molding the economic situation in Poland and resulting from the pandemic. One of these factors was the policy of low interest rates, which favored borrowers and the very low value of the zloty. At the beginning of the pandemic, self-governments made use of the option of debt conversion by replacing the existing loans (with a higher interest rate) with ones with a lower interest rate (Cieślak-Wróblewska 2021). Consequently, despite the increase in the level of debt, it often allowed to reduce the costs of debt management (Krawczyk 2021). It was also possible thanks to introducing the aforementioned changes in the law. In 2022 these costs rose again, which was a consequence of monetary policy and interest rate increases. Thus, both indebtedness and debt management costs increased (OECD 2020). This problem was also analyzed by Osiatyński (2021), who drew attention to the threats to sustainability of public finances. Therefore, it is necessary to share the view of Owsiak (2009) that the financial situation of local government units in crisis conditions is largely related to the financial policy of the state aimed at the economic and social sphere, implemented both by the monetary and fiscal authorities.

Szewczuk (2009) pointed out that the behavior of municipalities and their strategies for managing public funds in the face of crisis are varied and reflect the complexity of real projects in response to the symptoms of economic and

financial crisis. The main challenge boils down to, inter alia, introducing the necessary adjustments to the implemented strategies for action and to select effective financial instruments that would allow the greatest possible reduction of the negative implications of the economic and financial crisis.

## Conclusions

The health crisis triggered by the COVID-19 carried both economic and social implications. Its effects were particularly damaging for public finances, including the finances of local government units. It should also be emphasized that the impact of the crisis on local regions and areas varied across different countries, which results from the specificity of this crisis and the restrictions and limitations introduced in the functioning of communities and the economy in response to it. Moreover, its effects have overlapped with the existing problems of local government finance deriving from the previous economic crisis and the change in the legal and financial conditions of local government functioning initiated before the pandemic. As a result, local government units were faced with a decline in revenues, accompanied by an increase in expenditure, which resulted in higher budgetary deficits and increased indebtedness.

The conducted analyses show a shift in the urban municipality revenue structure in Poland, which is the effect of a decreased share of own revenue, especially tax revenue, and an increase in the share of transfer revenue (Fig. 4). This was due to three factors. Two of them were directly related to the COVID-19 pandemic, i.e. 1) reduction in tax revenue (mainly from shares in PIT) as a result of the lockdown and the economic crisis; 2) options of support for local governments in the form of increasing transfer revenue. The third factor that contributed to the decline in own revenue are changes unrelated to the pandemic. These include, for example, changes in personal income tax or changes in the "Family 500+" programme. This led in turn to a deterioration of the financial situation of the more financially independent urban municipalities, which suffered greater revenue losses and received less support in the form of transfers than entities with lower revenue potential. Therefore, there is no reason to reject the hypothesis that the COVID-19-induced crisis has caused changes in the structure of budget revenues of urban municipalities.

To sum up this article, it must be emphasized that the key financial challenges for urban municipalities during the COVID-19 crisis relate to the health of local and national economies. The pandemic has not only left us with an increase in liabilities, but it has also exposed other challenges, such as revenue volatility and the particular responsibility of urban municipalities in Poland for financing socio-economic policy areas.

Analysis of LGUs' financial standing in terms of budget indicators per capita and for debt liabilities shows three trends: 1) decreasing financial independence (especially in the revenue sphere), which in the urban municipalities setting results from a decrease in own revenue; 2) a decrease in operating surplus, which

means that entities have a smaller capacity to repay their liabilities and finance investment-related expenditure, and 3) increase of indebtedness. Moreover, the deteriorating macroeconomic indicators, especially those related to high inflation, have a negative impact on the financial standing of local government units. Furthermore, the actions initiated under the monetary policy, consisting in an increase in interest rates, had an impact on the finances of local government units.

It means that given the current macroeconomic situation and the implemented financial policy, in the near future the financial issues of local government units will increase in connection with the growing costs of implementing public tasks, high level of indebtedness, and high level of costs of debt management. It appears thus that following the introduction of legal regulations, which resulted in the reduction of LGU own revenue during the crisis, it is necessary to introduce solutions aimed at providing financial support to local authorities and to implement deregulatory solutions guaranteeing greater flexibility of operation in crisis. It is made all the more vital that this led to believe that the challenges exacerbated or triggered by the pandemic can be expected to become more severe once the health emergency has passed.

Lastly, it is worth noting that the ratio analysis, due to its quantitative nature, does not take into account all the factors that determine the financial standing of local government units and therefore it represents merely a starting point for further in-depth analyses. For the theoretical aspect, considerations regarding the effectiveness of actions taken in response to the crisis at the local government level depending on the level of decentralization and the scope of independence seem to be interesting. It may well be contemplated how local government units should create local financial policy in the scope of own revenue at a time of crisis. It is also worth verifying the formulated conclusions based on international research by examining the experiences of other countries. Looking at the problem of financing the tasks of local government units from a slightly different standpoint, it is also worth attempting to define the financial consequences that stem from the challenge of accepting refugees from areas affected by an armed conflict. It must be underlined that it is a huge challenge, not only on the operational level, but also in financial terms, and it came at a time when urban municipalities are struggling with the effects of the financial crisis caused by the COVID-19 pandemic.

## **Acknowledgments**

The publication was written as a result of the author's internship in Department of Public Finance, College of Economics, Finance, and Law, Cracow University of Economics, co-financed by the European Union under the European Social Fund (Operational Program Knowledge Education Development), carried out in the project Development Program at the University of Warmia and Mazury in Olsztyn (POWR.03.05. 00-00-Z310/17).

This project has been financed by the Minister of Education and Science within the “Regional Initiative of Excellence” Programme for 2019–2022. Project no.: 021/RID/2018/19. Total financing: 11 897 131,40 PLN.

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## Wpływ kryzysu finansowego na dochody gmin miejskich w Polsce – doświadczenia pandemii COVID-19

**Zarys treści:** Pandemia COVID-19 wywołała poważne konsekwencje dla gospodarki, a w szczególności dla sektora finansów publicznych zarówno na poziomie rządowym, jak i samorządowym. Skutki kryzysu spowodowanego pandemią były odczuwalne zwłaszcza przez jednostki samorządu terytorialnego (JST), które odpowiedzialne są za realizację większości zadań publicznych na poziomie lokalnym. W konsekwencji zwiększa się rola planowania budżetowego i szczególnego znaczenia nabiera racjonalizacja wydatków publicznych w odpowiedzi na zmniejszające się dochody. Artykuł wpisuje się w dyskusję na temat konsekwencji kryzysu wywołanego przez COVID-19. Sformułowano w nim dwa cele badawcze. Pierwszym była ocena skutków kryzysu wywołanego pandemią COVID-19 dla dochodów budżetowych i kondycji finansowej polskich gmin miejskich. Drugim była identyfikacja zmian w strukturze dochodów budżetów gmin miejskich w Polsce, będących konsekwencją pandemii. Na potrzeby badania wykorzystano analizę wskaźnikową budżetów gmin miejskich, która pozwala na syntetyczne określenie kondycji finansowej oraz weryfikację decyzji rozwojowych. Cel badania zrealizowano, analizując dynamikę wskaźników charakteryzujących dochody budżetów gmin miejskich w Polsce. Zakres badań obejmował lata 2010–2022. Wyniki i sformułowane praktyczne rekomendacje stanowią uzupełnienie badań nad skutkami pandemii COVID-19 dla finansów publicznych, a w szczególności JST. Analizy wskazują na zmianę struktury dochodów gmin miejskich w Polsce, co jest efektem zmniejszenia udziału dochodów własnych, zwłaszcza podatkowych, oraz wzrostu udziału dochodów transferowych. Wynikało to z trzech czynników. Dwa z nich były bezpośrednio związane z pandemią, tj.: 1) zmniejszenie dochodów podatkowych (przede wszystkim z udziałów w PIT) w wy-



niku lockdownu i kryzysu gospodarczego; 2) formy wsparcia dla samorządów w postaci zwiększenia dochodów transferowych. Trzeci czynnik, który wpłynął na spadek dochodów własnych, to zmiany przepisów prawnych pozostające bez związku z pandemią (np. zmiany w PIT czy w programie „Rodzina 500+”).

**Słowa kluczowe:** pandemia COVID-19, dochody gmin, gminy miejskie, kryzys finansowy