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DOI: 10.15290/oes.2023.03.113.04

## PUBLIC INVESTMENT AT THE LOCAL LEVEL UNDER CHANGING CONDITIONS OF BUDGETARY ECONOMY IN POLAND<sup>1</sup>

### Summary

*Purpose* – The aim of the article is to identify the scope and directions of changes in the situation of local government budgets and their links with macroeconomic factors, the occurrence of which is associated with the consequences caused by crisis phenomena, as well as to determine the disparity of investment expenditures in local systems in the context of the investment capacity of local government units.

*Research method* – The study applied the method of critical analysis of the literature on the subject, as well as the method of comparative analysis using measures of statistical description in the scope of empirical data collected and own calculations.

*Results* – The consequences of the pandemic crisis phenomena and adverse trends in macroeconomic factors affect the stability of the budgetary economy. It was observed that until 2021, the level of investment expenditures did not decrease, however, negative changes in the structure of expenditure are noticeable in many local government units.

*Originality/value/implications/recommendations* – The analysis of the economic environment indicate the risk of intensification of factors destabilising economic processes. It is necessary to undertake regular analyses with a view to counteracting the further negative changes, in particular in the field of the revenue stability of territorial self-government units, as well as the elimination of excessive spatial diversification of investment capacities on the scale of Poland.

**Keywords:** budgetary economy, public investment, local government, public sector.

**JEL classification:** K21, H34

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<sup>1</sup> Article received on 21.02.2023, accepted on 7.07.2023.

## 1. Introduction

Public investment at the local level can be considered as a factor that characterises the internal economic and social situation of individual public administrative units at the local level from the point of view of public needs and resources, as well as the general characteristics of development processes. This refers to the conditions that define the specificity of individual public administrative units at the local level, which are related to the factors that characterise development processes depending on spatial, environmental, economic or social conditions.

In order to assess the possibility of carrying out public investments, it is important to accurately determine the financial situation, in this case of individual local government units at the local level, which generally results from the principles of financing of these units, established by the legislator. The formal and legal approach to the revenue system of the local government finance sub-sector makes it possible to determine the financial potential of individual units based on the revenue streams that supply their budgets. As a rule, there will be objective differences in the ability to collect budget revenues, resulting from the size of the unit, its socio-economic potential, internal and external relations, including functions performed in relation to the neighbouring area, and other factors.

The changes in the economic situation and in the situation of many enterprises observed from 2020 onwards have contributed to interventionist measures taken by public authorities and to an increase in current expenditure, which may have led to changes in budgetary management at the level of the central government and local governments. Thus, with reference to the title of the paper, the hypothesis has been formulated that the crisis phenomena and the associated changes in macroeconomic factors have led to a deterioration in the ability of local government units in Poland to finance public investment.

In order to verify the above hypothesis, the study used the method of critical analysis of the literature, the method of comparative analysis and methods of time series analysis using measures and selected methods of statistical description. The analysis of empirical data was based on statistical quantities and indicators, aggregating data from local government units of different levels. Due to the differentiation of the statistical population of local government units, the study also applied the cartogram method, using spatial distributions in regional and local terms. In the author's opinion, this made it possible to obtain greater cognitive value in terms of the variability of the intensity of the characteristics studied.

## 2. Budgetary determinants of public investment in the face of crisis phenomena

The performance of public tasks within the budgetary economy of local and regional government units at the local and regional level, as well as at the level of the state budget, is one of the main forms of the presence of the public sector in the processes of the market economy [Kozuń-Cieślak, 2013, pp. 9–14], and therefore, as a part of the economy, it is influenced by macroeconomic determinants. At the level of local government, these determinants, either directly or through economic relations of an indirect nature, influence the volume and structure of the budgets of individual units and, consequently, also the conditions for the implementation of public investments. The literature on the subject emphasises that the basic measure of the development of a local government unit is the increase in the value of fixed assets, which is necessary to improve the provision of public services and create better conditions for living and economic activity, so in view of a significant range of public needs and capital intensity for the increase of these assets, the possibilities for the implementation of public investment projects must be correlated with the financial condition of a given unit [Zawora, Zawora, 2017, pp. 280–283; Zimny, 2008, pp. 45–49].

The assessment of financial condition firstly involves determining the level and structure of budget revenues, which fundamentally determine the extent of potential investment activity of municipalities and districts. The ability to undertake investment activity is subsequently determined by the cost of performing current tasks and, in a further assessment, by the availability of external sources of finance. The total investment capacity of local governments depends on the resulting stock of funds accumulated in the budget, which can eventually be used to finance investment activities [Dylewski, 2017, pp. 76–78]. Here, an important role is indicated in terms of shaping the relation between current revenues and expenditures, which determines the development of the operating surplus of the budget. The way in which this surplus is managed, in the form of allocating it directly to the needs of investment financing or using it to cover the costs of servicing the current and future public debt, creates a complete view, which makes it possible to examine the ability of financing investments in the local government unit [Gubernat, 2016, pp. 73–74].

The mechanism of shaping the budgetary situation of public administration units at the local level is characterised by functional interrelations resulting from the solutions adopted with regard to the principles of supplying the budgets of local government units and the state budget, which are established in the appropriate

legislation and impose normative solutions [Szołno-Koguc, 2021, pp. 15–18]. This means that the principles established by the legislator for the implementation of fiscal policy and the distribution and allocation of budget revenues are implemented according to a common scheme, although the detailed solutions take into account the specifics of the type and size of the local government unit at the local level and the occurrence of economic factors available to individual units on their territory.

Therefore, it can be assumed that the implementation of public investments at the level of local government units is affected by objective conditions that may constitute a significant constraint on the ability to undertake investments, especially in a situation of limited budgetary resources. Attention should also be paid to the exogenous factors that may lead to changes in the implementation and financing of public investments at local level, including in particular factors that arise as a result of adverse trends of a crisis nature. Crisis phenomena, which are global in scope but also characterised by non-economic and sudden causes, have occurred relatively frequently over the last two decades. Therefore, it can be concluded that the occurrence of hardly predictable factors of a macroeconomic nature leads to direct changes in the ability of public entities to collect budget revenues and thus affects the investment potential of individual local government units, which was confirmed in studies covering the period of the financial crisis in 2008–2011 [Czyż, 2012, pp. 28–34; Gubernat, 2016, pp. 79–82].

However, in the face of crisis phenomena, it may occur that the established mechanisms of financing the budgets of local government units are insufficient, and it becomes necessary to quickly diagnose financial problems and prepare appropriate the central government's intervention instruments for local government [www 1]. In an unstable macroeconomic environment, the impact of the main factors on the processes of economic development and, consequently, on the provision of financial resources to the budgets of the above-mentioned units is subject to external mechanisms formed outside these units [Zbroińska, 2022, pp. 30–31]. In particular, the interest rates set by the central bank, inflation related to consumer goods and investment works, and changes in the employment should be mentioned.

Financial stability is an important factor for the proper functioning of the local government budgetary economy [Wójtowicz, 2018, pp. 221–223], and in a situation of economic crisis, additional factors appear that are interventionist in nature and are usually generated by the central government administration in order to mitigate the negative impact of the main factors mentioned above. A notable example of direct support for the investment capacity of local governments in

the face of economic turbulence is the Government Local Investment Fund. This instrument was designed to transfer government funds from the Covid-19 Fund to municipalities, districts and cities across Poland for non-refundable support of local investments. In 2020–2021, the Government Local Investment Fund transferred more than PLN 13 billion to the budgets of local government units [www 2]. However, the effects of the measures applied can be assessed ambiguously, as indicated later in the study.

Under the conditions of the pandemic, there was a significant reduction in economic activity, caused by both market factors and factors of an administrative nature, which influenced the cessation or significant limitation of economic activity in many sectors. The closure of the economy, therefore, had to cause effects of a fiscal nature, which affected the revenue situation of most local government units, including those at the local level [Malinowska-Misiąg, 2022, pp. 54–55]. Particularly noticeable in the budgets of municipalities was the decrease in revenue from participation in the personal income tax (PIT), which in 2020–2021 was due to the reduction in employment in the economy, which was particularly severe in smaller enterprises. Administrative restrictions on the mobility and gathering of the population, as well as restrictions on economic activity mainly affected service industries such as restaurants, tourism, hotels, entertainment and trade, where forms of employment based on civil law contracts without notice periods predominate, and therefore the negative tax effect occurs most rapidly [www 3]. For similar administrative and economic reasons as in the case of changes in PIT revenues, the strongest negative changes in budget revenues from corporate income tax (CIT) were expected in large cities, including cities with district rights, where revenues from this tax are an important component of budget revenues.

In 2020–2021, it can be noted that not only the Covid-19 pandemic, which led to pressure to increase budgetary expenditure in the area of health care and support for local businesses and residents [Stasiowski, 2021, pp. 21–29], but also the enactment of changes to the law on the reduction of PIT rates from 18% to 17% and the introduction of “zero PIT” for persons under 26 years of age [Zbroińska, 2022, pp. 35–37], could have a significant impact on the budgetary situation of local government. Already at that time, there were opinions about the threat of large deficits in local budgets and the persistence of such a situation. However, as Kostyk-Siekierska [2021, pp. 33–34] points out, local government units in total recorded a budget surplus of PLN 5.6 billion in 2020, while in 2018 a deficit of PLN 7.5 billion was recorded in this scope. The reasons for this situation can be found, among others, in the intervention of the aforementioned Government Local Investment Fund, which significantly changed the volume of

budget revenues in some municipalities, although, as Malinowska-Misiąg [2022, pp. 58–61] concludes, it is difficult to determine whether this had a sustainable impact on public investment effects or rather caused problems with the management of the transferred funds.

Slightly different conditions applied to tax revenues set and collected directly by local government units at the local level, the mechanism of calculation of which is not directly affected by macroeconomic factors [Kańduła, Śmiechowicz, 2016, pp. 736–741]. In the structure of municipal budget revenues, especially urban municipalities, a significant item is the real estate tax [Poniatowicz, 2011, pp. 641–644]. On the one hand, lower revenues from this tax may lead to destabilisation of budgets. On the other hand, social expectations pointed to the need to protect taxpayers, who are members of the local community, and this could be achieved by local authorities by taking advantage of the solutions introduced under the so-called anti-crisis shield in terms of exemption or postponing the payment of this tax over time [www 4, pp. 15–17].

A decrease in the volume of own revenue not only affects the current situation of the local authority in question, but also leads to changes in the creditworthiness and the overall ability to finance investments [Poniatowicz, Jastrzębska, 2021, pp. 163–165]. However, a decrease in revenue is associated with the risk of a reduction in the volume or even a lack of the operating surplus, which consequently leads to a reduction in the ability to finance investments [Łubina, 2021, pp. 112–115]. The budgetary situation of local government units may therefore vary and, in individual units, the volume of revenues may be characterised by different levels of dynamics of change, having their background in the local socio-economic situation.

### 3. Results of the empirical studies

The empirical study included various territorial cross-sections and the resulting levels of aggregation of statistical data and own calculations. The results of the analyses were presented on a national basis, by province and by district area. Within the framework of the conducted research, it was established that in the years 2018–2021, the income of the budgets of local government units in Poland in general was characterised by a clear increase. Despite the occurrence of crisis phenomena and a slowdown in economic growth caused by a number of factors related to counteracting the Covid-19 pandemic, the income of the aforementioned group of entities in 2020 in comparison with 2019 was higher by 9.5%. A similar situation was observed in the particular groups of local government entities.

TABLE 1

Revenues of local government budgets in Poland in 2018–2021 (in PLN bn)

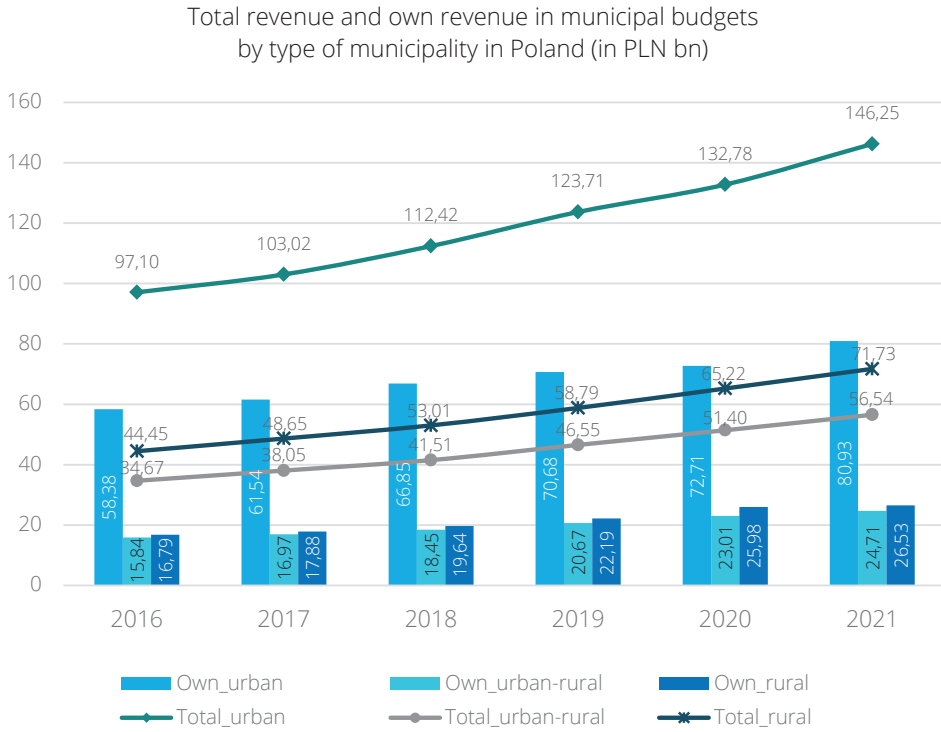
Specification	2018	2019	2020	2021
Local government total	251.85	278.51	304.93	333.41
Provinces	16.95	18.75	20.96	22.83
Districts	27.96	30.70	34.57	36.05
Municipalities	206.93	229.06	249.40	274.53
<b>of which:</b>				
agricultural tax	1.48	1.54	1.62	1.65
tax on real estate	22.62	23.30	24.22	26.12
local shares in PIT	43.64	48.09	47.14	53.16
local shares in CIT	3.24	3.65	3.79	4.72
EU funds and payments	10.11	11.61	10.76	8.61

Source: author's own elaboration based on: [www 5].

In municipalities and districts, total budget revenues showed an upward trend, with an increase of 8.9% in the first case and 12% in the second. Also in 2021, an increase in budget revenues was recorded in comparison to 2020, at that time it amounted to 9.3% for the total local government sector in Poland, while for municipalities and districts it was 10.1% and 4.3% respectively. The increase in revenues of municipal budgets also appeared in 2021 as compared to 2020, although the values of the growth indicators were already slightly lower here. Undoubtedly, this was a consequence of the deteriorating economic situation, which had a direct impact on the changes in tax revenues and the subsequent supply within the framework of the redistribution of state budget revenues to local government units.

In the revenue structure of municipalities, it is important to note the continued growth of the main components of own revenue, i.e. tax on real estate and agricultural tax, throughout the period under review. However, the growth rate of the above revenue categories fluctuated, with a noticeable slowdown in growth in the case of the agricultural tax in 2021, while revenue from the tax on real estate rose even faster in 2021 than in the preceding years. A graphic illustration of the changes in the level of total revenue and own revenue in municipal budgets, with a breakdown by type of units, is shown in Chart 1.

CHART 1



Source: author's own elaboration based on: [www 5].

The results of the research presented in Chart 1 are sufficient to confirm that in all types of municipalities there was an increase in total revenue and own revenue during the period under study. In 2020, urban municipalities recorded a marked slowdown in the growth rate of total revenue and, to a greater extent, own revenue, as compared to the previous year, while already in 2021 the growth rate of both revenue categories was again significantly higher. In urban-rural and rural municipalities, the growth rate of total revenue as compared to the previous year remained high in 2020 and in 2021, whereas a noticeably slower growth rate of own revenue occurred in these groups of municipalities only in 2021.

The presented results of the study of the revenue situation of self-government units at the local level indicate that, in general, the levels of revenue of the budgets of various types of municipalities and the revenue of districts remained stable. On the other hand, significant variations and fluctuations appeared in some revenue categories, including a particularly alarming decrease in the growth dynamics of own revenue. As mentioned, in the context of the investment capacity of muni-



icipalities and districts, it is the volume and stability of own revenues that strongly affect the ability to finance new investments and use external repayable sources of financing for development projects. In the complement to the revenue situation characterised above, it is therefore essential to undertake an analysis of the budgetary situation in terms of expenditures of local government units.

The budgetary expenditure situation at the level of local government units was shaped by the necessity to assign a high priority to, among other things, pandemic prevention tasks, and partly even by the necessity to release public financial transfers that would not normally be expended. As can be seen from the data presented in Table 2, budgetary expenditure in general was on an upward trend, although between 2019 and 2021, the rate of increase was clearly slowing down. A noticeable decline in the volume of expenditure in municipalities and districts on a national scale emerged in 2020, as well as a decrease in the share of investment expenditure in the total expenditure of budgets was recorded. A further lowering of the examined investment expenditure share indicator continued in 2021 at both levels of local government, although then the volumes of investment expenditure of both municipalities and districts began to increase again.

TABLE 2  
Selected local government budgetary expenditures and indicators  
in Poland in 2018–2021

Specification	2018	2019	2020	2021
Local government total (PLN bn)	259.39	280.21	299.24	315.97
Province (PLN bn)	16.58	18.38	19.71	20.80
Districts (PLN bn)	28.66	29.63	32.31	34.17
<b>of which:</b>				
investment expenditure (PLN bn)	5.93	5.22	5.20	5.32
real value of investment, adjusted by the price index of construction and assembly production (PLN bn)	5.77	5.04	5.07	5.11
dynamics index of real value of investment (in %)	144.5	87.3	100.5	100.7
share of investment expenditure in total expenditure (%)	20.7	17.6	16.1	15.6

Specification	2018	2019	2020	2021
current expenditure (PLN bn)	22.67	24.34	27.03	28.75
share of current expenditure in total expenditure (%)	79.1	82.1	83.6	84.1
Municipalities (PLN bn)	214.15	232.20	247.22	260.99
<b>of which:</b>				
investment expenditure (PLN bn)	39.47	37.09	34.77	35.68
real value of investment, adjusted by the price index of construction and assembly production (PLN bn)	38.43	35.84	33.89	34.24
dynamics index of real value of investment (in%)	151.8	93.2	94.6	101.0
share of investment expenditure in total expenditure (%)	18.4	16.0	14.1	13.7
current expenditure (PLN bn)	173.20	193.41	210.74	222.09
share of current expenditure in total expenditure (%)	80.9	83.3	85.2	85.1

Source: author's own elaboration based on: [www 5 and www 8].

The relatively lowest budgetary expenditure at the local level was recorded in the districts. Between 2018 and 2021, expenditure increased steadily, with current expenditure being the main component of total district expenditure. This is characteristic not only of the districts, but also of other local government units, due to the various obligatory current tasks in the field of public services. Investment expenditure in the districts between 2018 and 2021 remained rather stable and reached a total of PLN 5.32 billion in 2021.

In terms of the volume of budgetary expenditure, the most significant position is held by municipalities, whose total expenditure accounts for almost 82.6% of the budgetary expenditure of all local self-government units in Poland. Under their budgetary economy, municipalities expended a total of PLN 214.2 billion in 2018. Subsequent years recorded a continuous and fairly stable increase in budgetary expenditure, which reached PLN 261.0 billion in 2021. It is therefore evident that, despite the crisis phenomena and the emerging slowdown in the pace of economic development, as a result of the negative impact of factors of a mac-

roeconomic nature, budgetary expenditures of municipalities have maintained an upward trend. Between 2018 and 2021, these expenditures increased by PLN 46.8 billion, which accounted for 21.9%. In the internal structure of municipal budgetary expenditure, current expenditure was also the main component. Between 2018 and 2021, a growth of PLN 48.9 billion was observed in this group of expenditures, which represented an increase of 28.2%. Meanwhile, a decline of PLN 3.8 billion was recorded in investment expenditure, which represents a decrease of 9.6% in 2021 compared to 2017. A clear trend towards a decrease in the volume of investment expenditure and in the value of the indicator of its share in total budgetary expenditure was recorded throughout the period analysed.

The crisis phenomena and the related macroeconomic changes concerning, i.a., the level of base interest rates and inflation had an impact on the conditions in which public expenditure was implemented, also at the level of municipalities and districts. Having taken into account the price index of construction and assembly production [www.8], it is easy to see that the real value of investments, after considering price changes, was below the established expenditure in nominal terms. In the municipalities, the real value of investment expenditures declined in 2019 and 2020 in relation to the preceding years at a rate of 5–6% per year. In the districts, a clear decrease occurred only in 2019, reaching a level of almost 13%. The slight increase in the real value of investment, recorded in 2021, in both municipalities and districts did not exceed 1%. Thus, the instability of macroeconomic conditions had a clear impact on the slowdown of public investment spending during the period under review.

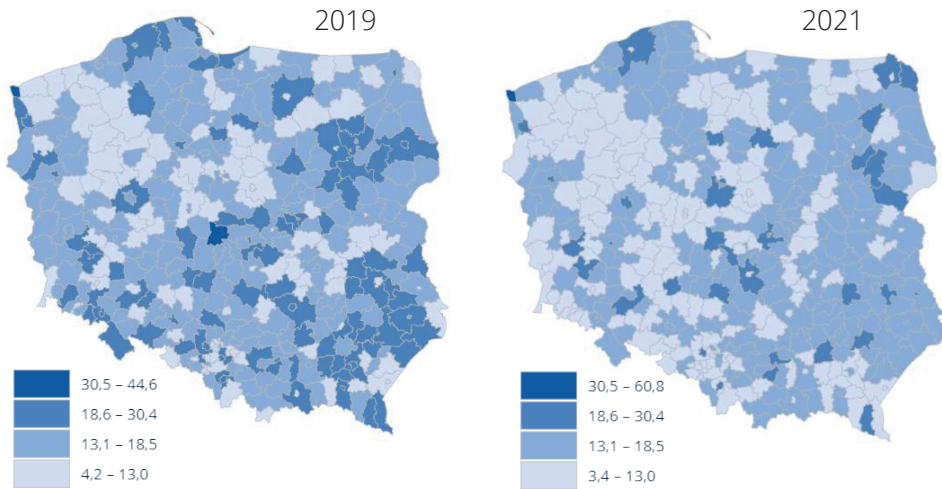
The analysis of the spatial differentiation of budget expenditures directed at the implementation of investment tasks of local self-government units was made on the basis of the indicator of the share of investment expenditures in total budgetary expenditures, separately for municipalities and districts, aggregated in the territorial arrangement of administrative units at the district level. Chart 2 presents the shares of investment expenditures in total budget expenditures of municipalities, aggregated by district, in 2019 and 2021. The shares presented varied, with the lowest levels recorded in 2019 in north-western Poland and some areas of the Warmińsko-Mazurskie province, as well as the Mazowieckie and Lubelskie provinces. Low levels of expenditure were also recorded in some areas of the districts of the Śląskie, Świętokrzyskie, Opolskie and Dolnośląskie provinces.

In 2021, the share of municipalities' investment expenditure, examined in the adopted aggregation, has decreased in most cases. A greater number of district areas recorded indicator levels between 3.4% and 13.0%. The lowest indicators

were recorded in the West Pomeranian province, as well as in the Wielkopolskie, Warmińsko-Mazurskie, Pomorskie, Łódzkie, Śląskie, Podkarpackie and Małopolskie provinces. This means that, compared to 2019, the investment financing situation has worsened in most of the regions surveyed. There was a relative improvement in the Łódzkie and Mazowieckie provinces and partly in the Podlaskie province, where the share of the above investment expenditure was significantly higher.

CHART 2

Share of investment expenditure in total expenditure of municipal budgets aggregated by district in Poland in 2019 and 2021 (in %)

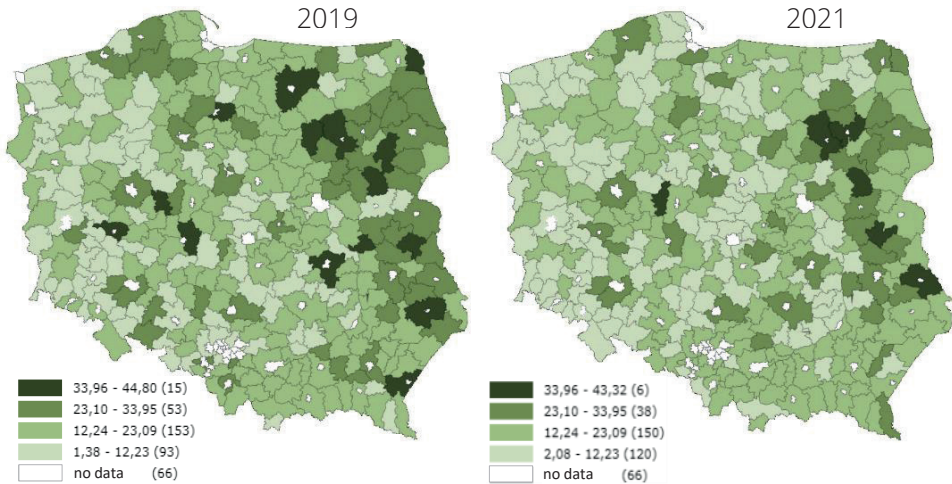


Source: author's own elaboration based on: [www 6].

In the case of district investment expenditure, a deterioration was also recorded. As can be noted from the graphic illustration in Chart 3, in 2021, compared to 2019, there was an increase in the number of districts where the share of investment expenditure in the total expenditure of district budgets was the lowest, increasing from 93 units to 120 units, while at the same time there was a decrease in the number of districts where the relatively highest share of the above mentioned expenditure category was registered. In 2019, 15 of the district units of local government with the highest level of the indicator (i.e. above the value of 33.9%) were recorded, while in 2021 only 6 units were included in this group.

CHART 3

Share of investment expenditure in total expenditure of district budgets in Poland in 2019 and 2021 (in %)



Source: author's own elaboration based on: [www 7].

The observed changes clearly indicate that over the years 2019–2021, the scope of investment expenditure in the background of the total budgetary expenditure of the districts was reduced. The worsening of the situation in terms of the indicator examined was recorded particularly in districts located in the western and northern parts of the country. In the eastern and south-eastern parts of Poland, a relatively high level of the indicator was maintained in some districts, but at the same time there were some changes in the structure of districts with the highest share of investment expenditure in total expenditure.

#### 4. Conclusions

The results of the research indicate that until 2021 the budgetary situation of local government units at the local level in Poland in nominal terms remained relatively stable. With the observed changes in economic factors, mainly related to the implications of the Covid-19 pandemic, the level of revenues continued an increasing trend, but disturbances were observed in the stability of the streams of certain types of revenues, as well as in the ratio of current expenditures to revenues. The instruments of intervention applied by the central government sector in the sphere of local government budget revenues played a positive role in the short

term, but were not enough to compensate for the unfavourable phenomena. It is also pointed out that they tend to exacerbate the inequality of financial support and do not guarantee systemic consolidation of the stability of budget financing and investment capabilities, as assessed in at least a medium-term perspective.

The results of the analyses show that there are still differences in the level of budget revenues of various types of local government units, which affects the ability of these units to perform public investments. Although the level of investment expenditure did not decrease or fluctuate slightly over the period analysed, there were unfavourable changes in the structure of expenditures, where the current expenditure part was becoming gradually more significant. Between 2019 and 2021, a decrease in the number of units characterised by a high ratio of investment expenditure to total budget expenditure was observed for grouped municipalities and in the case of districts, leading to the conclusion that the investment capacity of local government units at the local level has been reduced. In the case of both municipalities and districts, along with factors of a structural nature and macroeconomic factors derived from crisis phenomena, the possibilities of undertaking investments were significantly affected by one-off, irregular inflows of external funds in the form of dedicated subsidies, transferred from the central government level to spatially dispersed local government units.

The above results of the research allow us to confirm the research hypothesis presented at the beginning of the paper. Moreover, future analyses, which will include full statistical data for 2022 and also take into account additional factors destabilising economic processes, are expected to reveal further adverse changes in total budgetary expenditure of both districts and municipalities. The analysis of the economic environment indicates that economic and social factors related to the war in Ukraine may have a significant negative impact on the development processes of local government units at the local level. The observed changes in the macroeconomic factors determining the expected increase in the volume of current expenditure entail an increased risk of deterioration of both the investment capacity of local government units and the conditions for financing development processes at the local level.

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