

FINANCIAL CONDITION OF REGIONS IN POLAND: 2010 VS. 2019

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ABSTRACT

Motives: To verify the hypothesis stating that the financial condition of Polish regions has deteriorated over the years due to the growing costs of performing the tasks entrusted to these entities.

Aim: To assess the financial condition of regions (voivodships) in Poland and its changes over two deliberately selected years. The study relied on measures constructed based on the values contained in the budgets of the voivodships, which reflect their revenue and expenditure potential, as well as their ability to meet the needs of members of the local government community. The years selected for comparison were 2010 (the year in which quantitative limits on liabilities were uniform for all local government units in Poland and, at the same time, the last year in which the financial data did not affect the value of the individual debt ratio [IWZ] of these units, calculated from 2014) and 2019 (the last year in which the data on local government finances in Poland were not disturbed by, in turn: the effects of the COVID-19 pandemic, the introduction of changes to the tax system referred to as the Polish Deal, the increase in inflation, and the effects of the war in Ukraine).

Results: Polish regions differ considerably in their financial condition. The measures from the two information areas used in the study indicate that this status has changed in the analysed period. The nature of these changes is not uniform. The financial condition of the regions determined on the basis of indicators reflecting their income and expenditure potential has improved (especially in the regions located in the southern, western, and central parts of the country), while it has deteriorated when determined on the basis of indicators reflecting their ability to meet their needs (especially in the smaller regions located in eastern and southern Poland).

Keywords: region, local government finance, financial condition, measures

INTRODUCTION

Local government units (LGUs), reactivated in Poland in 1990, and extended in 1999, are a permanent fixture in the functioning of the public sector and its financial system. They perform public

tasks and to do so use public finances; one of such units is a voivodship (region).

Polish voivodships constitute territorial units of the highest level (regions), of a governmental/local authority nature (Chojnicki & Czyż, 2000). The state administration, which realises policies

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of the government, is represented by voivodes and local organs of central administration, while the local government – by regional (voivodship) parliaments and regional (voivodship) authorities, headed by Marshals (Ignasiak-Szulc & Jaźwiński, 2015). These units play a particular role in the development policy of the country, including its social, economic and spatial aspects, and realise tasks related to: 1) state education and tertiary education, 2) promotion of good health and healthcare, 3) culture, protection and maintenance of historical monuments in the region, 4) social assistance, family support and the system of foster care, 5) pro-family policy, 6) modernisation of rural areas, 7) spatial planning, 8) environmental protection, 9) public transport and the road system, 10) sport and tourism, 11) consumer rights' protection, 12) civil defence, 13) public safety, 14) preventing unemployment and stimulating the local labour market, 15) telecommunication facilities, 16) protection of employee claims in cases of employer insolvency (Act, 1998, art. 14).

The sources of financing of the indicated tasks of the voivodships in Poland are revenues, to which the legislator (Constitution of the Republic of Poland, 1997, art. 167, paragraph 2; Act, 2003, art. 6) includes: own revenues, general subvention and purpose-specific subsidies from the state budget, as well as revenues, coming mainly from credits, loans and the issue of securities.

In both 2010 and 2019 in Poland, the sources of provincial own revenues were: income received by provincial budget units and payments from provincial budget establishments, income from provincial assets, inheritances, bequests and donations to the province, income from fines and penalties, 5.0 per cent of income received for the benefit of the state budget in connection with the implementation of tasks of government administration and other tasks assigned by statute, as well as subsidies from the budgets of other local government units, interest on loans granted by the province, untimely transfer of receivables and funds accumulated on bank accounts (Act, 2003, art. 6). Moreover, in accordance with the statutory provisions, these were also the

shares in state taxes, i.e.: in personal income tax (PIT), from the taxpayers of this tax residing on the territory of the voivodship, and in corporate income tax (CIT), from the taxpayers of this tax residing on the territory of the voivodship. The amount of these shares was in both surveyed years respectively: PIT – 1.6%, CIT – 15.90%.

The subsidy received by voivodships in the analysed years consisted of the following parts: compensatory, regional and educational, and the state budget allocations were intended for: tasks within the scope of government administration, other tasks commissioned by statutes and tasks implemented under agreements concluded with government administration bodies; removal of direct threats to public safety and order, consequences of flood and landslides and effects of other natural disasters; funding or co-financing own tasks, as well as implementation of tasks resulting from international agreements.

In both years analysed, the possibility for voivodships to incur liabilities was regulated by the Public Finance Act (Act, 2009). This act introduced an original approach to limiting the liabilities of local government units in Poland. The individual debt ratio, as it is referred to, started to be calculated only from 2014. However, 2010 was the last year from which financial data from local government budgets did not affect the value of the indicated indicator (it was calculated based on data from the three years preceding the budget year) in 2014.

LITERATURE REVIEW

There are many books on the local government finance system in Poland (the latest ones include: Banaszewska et al., 2023; Szołno-Koguc, 2023). However, rarely any of them is devoted directly to the voivodship's finances. One of the few exceptions is the position of Patrzalek (2019). This literature shows that the sources of financing for voivodships in Poland are: 1) non-repayable national funds, coming from: a) own revenue, which, according to the views expressed in the literature (e.g. Chojna-Duch

& Kornberger-Sokołowska, 1998; Denek et al., 2001; Kosek-Wojnar & Surówka, 2007) are not shares in state taxes (Banaszewska, 2022; Kotlińska, 2009), b) general subvention and c) purpose-specific subsidies from the state budget, 2) non-repayable foreign funds, including subsidies from the EU, as well as 3) financial debt instruments (loans, credits), limited by the personal financial debt ratio (Filipiak, 2018; Wójtowicz, 2017). Many academic articles have been devoted to the several types of these sources of funding for provincial tasks. Far fewer are devoted to the financial condition.

In the literature, the financial condition of an LGU is interpreted as the general state of its finances (for a broad interpretation – cf. Bieniasz & Gołaś, 2015; Kuciński, 2018; Ritonga, 2014; Stanny & Strzelczyk, 2017; Wang et al., 2007; Zawieja-Żurowska & Zimny, 2015), or as the ability of the local authorities to maintain the continuity of providing services and timely repayment of due obligations, and ensure financial equilibrium (a narrow interpretation – cf. Dylewski et al., 2011; Filipiak, 2009; Kopyściński & Rólczyński, 2014; Kotowska, 2016; Natrini & Ritonga, 2017; Wiśniewski, 2011). Authors study this condition, or in fact assess it over a specific period (e.g. Banaszewska, 2016; Głowacka-Wołoszyn, 2017; Kozera, 2018; Standar, 2017), and the focus is on analysing one aspect of the local government's finances (e.g. financial self-reliance) or on determining a single aggregate measure (synthetic indicator/index) consisting of a dozen or so indicators to assess the budgetary situation of these entities (e.g. Alam et al., 2017; Cabaleiro et al., 2012; Kleynhans & Coetsee, 2019), sometimes implementing measures from the corporate finance sector for its purposes, referring to liquidity analysis (Šebestová et al., 2018), as well as other indicators for assessing corporate health (Meyer & Neethling, 2024; Satoła, 2015).

Authors in their studies repeatedly address the determinants of the financial health of local government units, pointing out that it is weakened by an increase in debtors, cash flow problems, rising costs, an unstable revenue system and an increase in short- and long-term debt (Sitishe et al., 2023). At the regional level, it depends on factors such as power

(Daily & Johnson, 1997), environmental management, operational management (Sueyoshi & Goto, 2010), technical performance of operations (Kristensen et al., 2008), the needs reported by the local community, the quality and structure of local public goods and services, labour costs and community wealth (Berne & Schramm, 1986), as well as: the socio-economic environment, the size of the local government unit, its investment attractiveness, or the economic situation at home and abroad (Wang et al., 2007). The financial health of local government units is studied through the prism of the green economy as one of the paths to sustainable development (Dziekański et al., 2022), governance models in the public sector (Padovani et al., 2010), or socio-economic conditions and demographic factors (Alam et al., 2019).

A method that has enabled a comprehensive and integrated assessment of the financial health of local government units using a single integrated summary indicator is the TOPIS method. This method has been used by many authors in their studies (Głowicka-Wołoszyn & Satoła, 2018; Kozera et al., 2017; Kozera & Głowicka-Wołoszyn, 2016; Miceikienė et al., 2021; Satoła et al., 2019; Vavrek & Pukala, 2019). Other studies use a methodology that considers both financial and socio-economic factors (Zafra-Gómez et al., 2008).

RESEARCH OBJECTIVE AND HYPOTHESIS

The aim of the study is to assess the financial condition of the Polish voivodships and its changes over a selected time interval. In the study, the authors assess the financial condition of the indicated units from the point of view of the general state of their finances, referring to the structure of income, financial independence and the burden on the voivodship budget of the costs of current activities, as well as the ability of the self-governing authorities to satisfy the needs of the members of the self-governing community, referring to the actual pool of funds they can allocate for this purpose.

The years 2010 and 2019 were deliberately chosen for the comparisons. The choice of these years was

dictated by the fact that 2010 was the year in which the quantitative limits on liabilities were uniform for all local government units in Poland, and at the same time the last year from which financial data did not affect the value of the individual debt ratio [IWZ] of these units, calculated from 2014. The second year selected for comparison (2019) was the year in which the voivodships' finances were not "disturbed" by the effects of the COVID-19 pandemic, the introduction of the Polish Deal, rising inflation and the effects of the war in Ukraine.

The hypothesis of the study was that the financial condition of regions (voivodships) in Poland deteriorated in the analysed period as a result of increasing costs of performing tasks imposed on these entities.

The article is a continuation of the authors' earlier research on the financial condition of local government units and refers to a study already published in the "Ekonomista" magazine (anonymously), in which the authors' measures of this condition, calculated in this article, were described in detail.

The study uses the method of critical analysis of the literature, methods of descriptive statistics and the author's method. It was not the intention of the authors to assess the financial condition of voivodships in Poland solely through the prism of their voivodship financial independence, nor to build a single measure for this purpose. The authors' intention was to assess the financial condition of the voivodships using measures (indicators) with different informative value and to show that the conclusions of a survey conducted using them may differ radically. Assessment of the financial condition of local government units is determined by the measures used and the manner of defining the quantities used in them (e.g. own income), which can be interpreted in the context of selected characteristics of the studied entities. The outliers of the individual indicators also are of particular interest and clearly indicate the existing anomalies in the development potential of the country's individual regions.

MATERIALS AND METHODS

The research undertaken for the purposes of this study focused on the assessment of the financial condition of regions in Poland in 2010 and 2019, and its changes in this period. The following three stages involved:

- I stage – analysis of regions in Poland based on selected characteristics (presenting the potential of voivodships), which were used in the next stage as an explanation of the obtained results.
- II stage – calculation of the measures of the regions' financial condition for the selected years.
- III stage – evaluation of the changes in the level of measures of the regions' financial condition in relation to the selected characteristics of these LGUs.

Poland comprises 16 voivodships (regions – NUTS-2, Mazowieckie Voivodship covers the capital region of Warsaw). The analysed group of regions has a total area of 322.6 thousand km² and a population of c. 38 million. The individual regions differ in terms of: a) area (from 9.41 to 35.56 thousand km²), b) population numbers (from 0.98 to 5.42 million), c) population density (from 58 to 366 persons/km²), d) number of local business entities per 1000 inhabitants (from 85 to 158), e) average monthly disposable income per person in household (from PLN 1,471.49 to 2,108.01) and f) share in generating GNP (from 2.0% to 22.8%) (Table 1).

Only in two cases of voivodships (Lubuskie Voivodship and Kujawsko-Pomorskie Voivodship), the official seat of the head of the region is not also the seat of the local authorities of the region.

The average size of region in Poland is 19.54 thousand km², with the average number of populations of 2.40 million. The largest of these, both in terms of size and population is Mazowieckie Voivodship (35.56 thou. km² and over 5.42 million inhabitants), and the smallest is Opolskie Voivodship (9.41 thou. km² and population of around 1 million). Six regions in Poland have an area above the arithmetic average (apart from the Mazowieckie Voivodship, these are the Wielkopolskie, Lubelskie, Warmińsko-Mazurskie, Podlaskie and Dolnośląskie Voivodships).

Table 1. Selected characteristics of voivodships (regions) in Poland in 2010 and 2019

Voivodship (region)	Area (Thou. km ²)	Population (million)		Density of population (persons/km ²)		* Number of business entities (no.)		Average monthly disposable income per person in a household (PLN)		Share in generating GNP (in %)	
		2010	2019	2010	2019	2010	2019	2010	2019	2010	2019
Dolnośląskie (DŚ)	19.95	2.92	2.90	146	145	114	132	1,239.17	1,955.20	8.5	8.3
Kujawsko-Pomorskie (KP)	17.97	2.10	2.07	117	115	89	98	1,158.49	1,770.82	4.5	4.3
Lubelskie (LB)	25.12	2.18	2.11	87	84	75	88	978.49	1,556.76	3.9	3.8
Lubuskie (LU)	13.99	1.02	1.01	73	72	104	116	1,153.06	1,794.12	2.3	2.1
Łódzkie (ŁD)	18.22	2.54	2.45	140	135	91	104	1,178.73	1,809.65	6.1	6.0
Małopolskie (MP)	15.18	3.36	3.41	220	225	99	120	1,107.54	1,773.08	7.6	8.1
Mazowieckie (MZ)	35.56	5.27	5.42	148	153	129	158	1,601.97	2,108.01	21.7	22.8
Opolskie (OP)	9.41	1.02	0.98	108	104	97	105	1,115.73	1,687.29	2.2	2.0
Podkarpackie (PK)	17.85	2.13	2.13	119	119	72	85	907.28	1,471.49	3.9	3.9
Podlaskie (PL)	20.19	1.20	1.18	60	58	76	90	1,103.20	1,741.70	2.3	2.2
Pomorskie (PM)	18.32	2.28	2.34	124	128	114	131	1,243.12	1,859.98	5.7	5.9
Śląskie (ŚL)	12.33	4.63	4.52	376	366	97	107	1,168.42	1,897.39	12.9	12.1
Świętokrzyskie (ŚK)	11.71	1.28	1.23	110	105	85	94	1,026.36	1,626.46	2.6	2.3
Warmińsko-Mazurskie (WM)	24.17	1.45	1.42	60	59	82	93	1,103.39	1,597.18	2.7	2.5
Wielkopolskie (WP)	29.83	3.45	3.50	116	117	109	128	1,125.74	1,806.98	9.4	9.9
Zachodniopomorskie (ZP)	22.91	1.69	1.70	75	74	128	135	1,186.91	1,801.11	3.8	3.7
arithmetic mean – \bar{d}_i	19.54	2.41	2.40	129.94	128.69	97.56	111.5	1,149.85	1,766.08	6.26	6.24
standard deviation – s_{di}	6.62	1.22	1.24	74.42	73.37	17.27	20.23	144.71	152.03	4.96	5.20

* Registered, per 1000 inhabitant

Source: own elaboration based on data from The Local Data Bank (<https://bdl.stat.gov.pl/bdl/dane/podgrup/tablica> – access 29.03.2023).

Population is also higher than the arithmetic average in six regions (apart from the Mazowieckie Voivodship, these are the Śląskie, Wielkopolskie, Małopolskie, Dolnośląskie and Łódzkie Voivodships). The highest population density is found in Śląskie Voivodship (376 persons/km² in 2010, and 366 in 2019), and in Małopolskie Voivodship, whereas the smallest – in Podlaskie Voivodship (60 persons/km² in 2010, and 58 in 2019) and Warmińsko-Mazurskie Voivodship.

On average, across all regions, there were nearly 98 business entities registered per 1,000 inhabitants in 2010 and just over 111 in 2019. The largest number was in: Mazowieckie Voivodship (129 and 158, respectively), Zachodniopomorskie Voivodship and Dolnośląskie Voivodship, and the smallest in the

Podkarpackie Voivodship (72 and 85, respectively), Lubelskie Voivodship and Podlaskie Voivodship. The highest average monthly disposable income per person in a household was recorded in Mazowieckie Voivodship, Zachodniopomorskie Voivodship, and Dolnośląskie Voivodship, and the lowest in Podkarpackie Voivodship and Lubelskie Voivodship.

The average share of voivodships in the creation of total GPD was 6.26% in 2010, and 6.24% in 2019. The largest contribution to the creation of GDP was made by Mazowieckie Voivodship (21.7% in 2010 and 22.8% in 2019) and Śląskie Voivodship, and the lowest was noted in Opolskie Voivodship (2.2% in 2010 and 2.0% in 2019) and Podlaskie Voivodship. Both in 2010 and 2019, the share of five voivodships in generating GDP was higher than the arithmetic

average (apart from Mazowieckie Voivodship and Śląskie Voivodship, this applies also to Wielkopolskie Voivodship, Dolnośląskie Voivodship and Małopolskie Voivodship).

In summary, it should be stated that in the analysed years, the highest development potential was characteristic for the Mazowieckie, Dolnośląskie, Małopolskie, Wielkopolskie and Śląskie voivodships, respectively. These are voivodships with large urban agglomerations, forming developed functional areas with the surrounding units.

For the purposes of the analysis, six measures of the financial condition of regions were calculated, namely:

- a. three measures related to their financial results – standard measures:
 - **IIS** (in Polish: **WSD**), i.e. the indicator of the income structure, defining (**variant I** – constitutional approach to own revenue, **variant II** – approach to own revenue in line with the concept of financial independence of an LGU),
 - **ISE** (in Polish: **WSW**), i.e. the indicator of the structure of expenditure, defining the share of current expenditure in total expenditure (the analyses did not take into account the share of investment expenditure in the total expenditure of voivodships due to the variability of their occurrence in budgets in individual years, which is related, among others, to with the needs in this area and the scale of their refinancing from EU funds),
 - **IDC** (in Polish: **WOW**), i.e. an indicator determining the burden of current expenses on debt servicing costs;
- b. three indicators reflecting the level of the satisfaction of needs of members of the local community – the authors' own measures (formulas for calculating the indicated measures – Kotlińska et al., 2022):
 - **OFFE** (in Polish: **DWWE**), specifying the pool of own revenues (**variant I** and **variant II**, analogically as in IIS above), that remains at the disposal of local government authorities to finance flexible expenses for own tasks (these are

expenses for own tasks after eliminating fixed expenses in the form of: debt servicing costs, labour costs and obligatory subsidies),

- **CFEO** (in Polish: **WBEDW**), allowing to determine what level of current flexible expenses is financed with income for own tasks,
- **IFFE** (in Polish: **NDWWE**), specifying what part of financially independent income constitutes funds intended to finance fixed expenses in the form of: debt service costs, labour costs, obligatory subsidies, and other comparable items.

The value of the author's indicators is presented in percentages, with higher values (closest to 100%), in the authors' opinion, indicating greater financial possibilities of implementing the tasks of the analysed local government units. In the study, in relation to one of the measures, a negative value is presented only for illustration purposes. The aim of this presentation is to indicate the scale of dependence of regions' income on transfers from the state budget (the study indicates a drastic lack of own income).

To calculate the indicators of the regions' financial condition, the study used the processed and aggregated series of their budgets as:

1. income from their share in the state taxes;
2. income from general subvention;
3. income from subsidies for own tasks;
4. own income;
5. total income;
6. current expenditure constitution labour costs (salaries and salary derivatives);
7. current expenses for debt servicing;
8. current expenses in the form of subsidies;
9. total current expenses.

The data were obtained from the official statistics of The Local Data Bank (BDL) at the Statistics Poland (GUS) and the Ministry of Finance.

For the purposes of this study, the indicators of the financial condition of regions were classified into four typological groups (Table 2). The interval boundaries were set based on arithmetic mean (\bar{d}_i) and standard deviation (s_{di}) of the individual measures (Zeliaś, 2000).

Table 2. Classes of the examined objects and the criterion of division

Group	Criterion of division	Level of the indicator
I	$d_i \geq \bar{d}_i + s_{di}$	very high
II	$\bar{d}_i \leq d_i < \bar{d}_i + s_{di}$	high
III	$\bar{d}_i - s_{di} \leq d_i < \bar{d}_i$	low
IV	$d_i < \bar{d}_i - s_{di}$	very low

Source: own study based on (Zeliaś, 2000).

RESULTS

In accordance with the assumed procedure, based on the obtained values of the individual indicators, the authors conducted a comparative analysis of voivodships in Poland in terms of their financial condition. Figures 1 to 4 present the values of standard indicators used to assess the financial condition of LGUs by the Ministry of Finance, such as IIS (two variants), ISE and IDC.

In 2010, the average value of the indicator of the share of own revenue in general revenues (IIS – variant I) was 40.44%, and in 2019 it rose to 52.85% (Fig. 1). The highest positive value of deviation from the average measure was noted in 2010 in Mazowieckie Voivodship, while the lowest in Podkarpackie Voivodship (by 71.48% and -51.69%, respectively).

In 2019, the highest positive deviation from the average level of the indicator was noted in Mazowieckie Voivodship, while the lowest in Podlaskie Voivodship (respectively by 59.97% and -63.51%). Only in 1 out of the 16 voivodships, the value of the indicator IIS-variant I decreased in 2019 in relation to 2010 (Podlaskie Voivodship). The change in value between the examined years demonstrates an improvement in their financial condition, resulting from their increased independence in expenditure (an increase in independence of expenditure).

The regularities observed in the case of the value of the measure in question (including shares in state taxes as own revenue) correspond to the previously presented potential of the voivodships, seen through the prism of the number of populations, the number of registered businesses, the average monthly disposable income per person in the household and the voivodship’s share in GDP creation.

In 2010, the average value of the indicator of the share of own revenue in the general revenues (IIS – variant II) was 6.05%, and in 2019 increased to 5.76% (Fig. 2). The highest positive deviation from the average value of the measure was recorded in 2010 in Świętokrzyskie Voivodship, while the lowest in Kujawsko-Pomorskie Voivodship (respectively

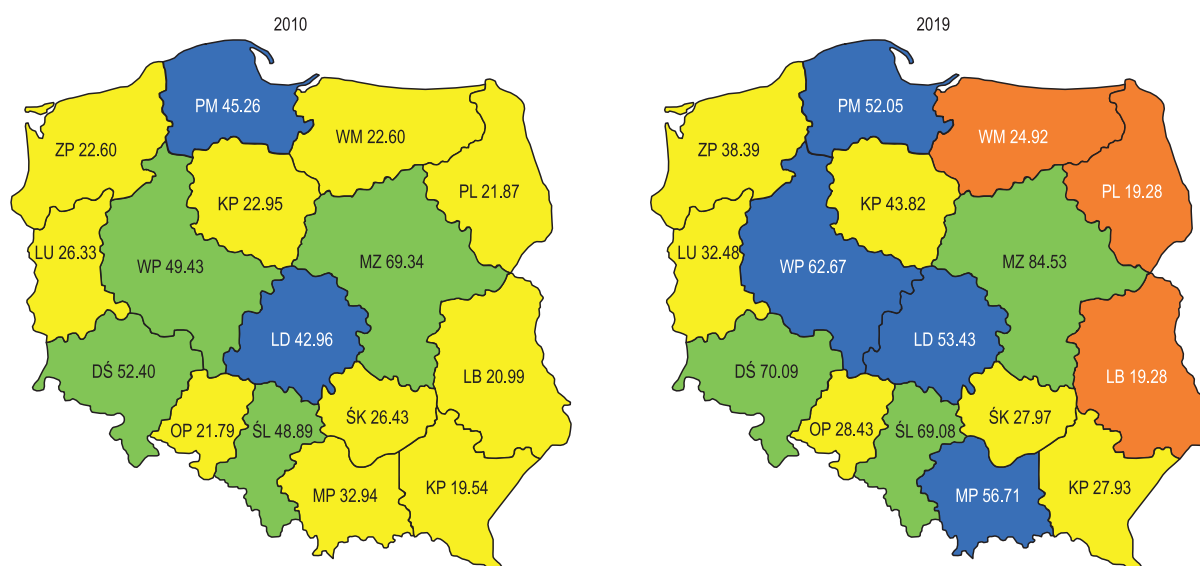


Fig. 1. Share of own revenues of voivodship in the total revenues (IIS – variant I) in 2010 and 2019 (in %) Source: own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 06.03.2023).

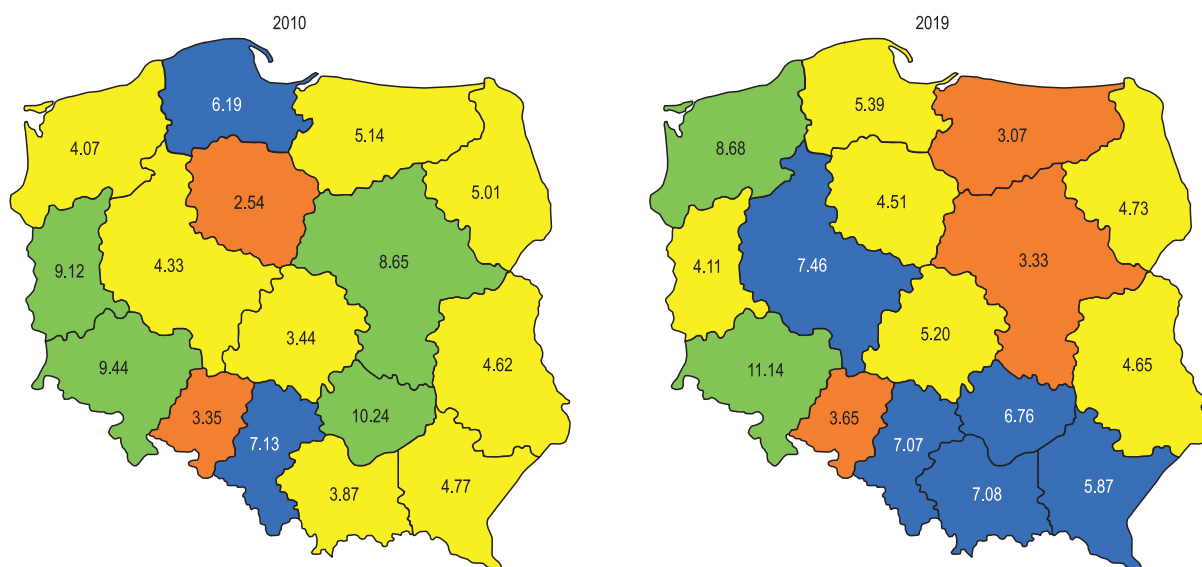


Fig. 2. Share of own revenues of voivodships in the total revenues (IIS – variant II) in 2010 and 2019 (in %) *Source:* own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 06.03.2023).

by 69.32% and -57.97%), where – in line with these deviations – there were observed the highest and the lowest values of the analysed indicator. In turn, in 2019 the highest positive value of deviation from the average level of the measure was noted in Dolnośląskie Voivodship, while the lowest in Warmińsko-Mazurskie Voivodship (respectively by 93.51%, and -46.60%). In general, in 8 out of 16 voivodships, the values of indicator IIS – variant II decreased in 2019 compared to 2010 (i.e. Kujawsko-Pomorskie Voivodship, Lubuskie Voivodship, Mazowieckie Voivodship, Podlaskie Voivodship, Pomorskie Voivodship, Śląskie Voivodship, Świętokrzyskie Voivodship, Warmińsko-Mazurskie Voivodship). The change in the values of this indicator between the analysed years (*in minus* in half of the regions) points to large significance in the regional budgets of revenues of a transfer nature, and thus the worsening of their financial condition from the viewpoint of revenue independence.

These observations are confirmed by the increasing disposable income of households in the provinces and the share of individual provinces in the creation of GDP (falling for provinces with low levels of income from state tax shares).

Current expenditure dominated the structure of total expenditure (ISE) of regions both in 2010 and 2019 (see Fig. 3). The average value of the share of current expenditure in total expenditure in 2010 amounted to 61.02% and in 2019 62.08%. The highest positive value of deviation from the average level of the measure was recorded in 2010 in Mazowieckie Voivodship, and the lowest in Zachodniopomorskie Voivodship (respectively by 33.01% and -17.56%). In these voivodships, in line with the deviations, there were observed the highest and the lowest values of the analysed indicator. In turn, the highest positive value of deviation from the average level of the measure was noted in 2019 in Śląskie Voivodship, and the lowest in Podlaskie Voivodship (respectively by 17.83% and -41.56%). In general, in 5 out of the 16 regions the value of indicator ISE decreased in 2019 compared to 2010 (i.e. Lubelskie Voivodship, Mazowieckie Voivodship, Podlaskie Voivodship, Pomorskie Voivodship, Świętokrzyskie Voivodship). The largest drop was noted in Mazowieckie Voivodship, and the smallest in Pomorskie (respectively by -41.91% and 6.61%). The decrease in the value of this indicator is a sign of a reduction in the growth in the budgets of most provinces of property expenditure, including investment expenditure.

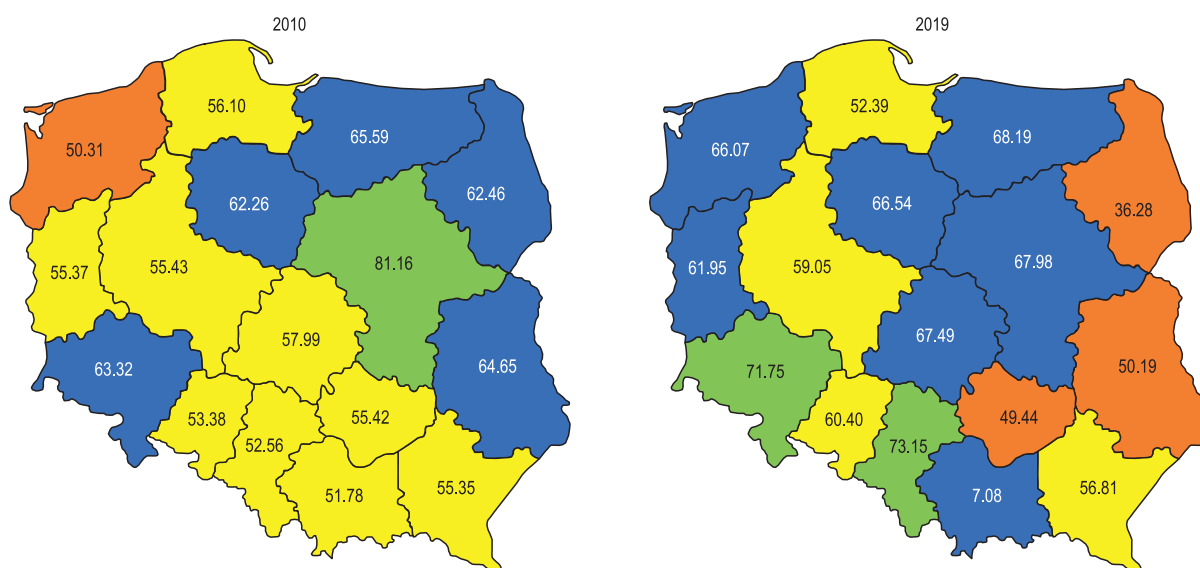


Fig. 3. Share of current expenditure of voivodships in the total expenditure (ISE) in 2010 and 2019 (in %) *Source:* own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 06.03.2023).

This is confirmed by the values of another presented measure (share of debt service expenditures in current expenditures), indicating at the same time the readiness of voivodships to take on further investment challenges co-financed from EU funds.

The presented observations on changes in the value of the analysed indicator correspond to the data contained in Table 1, concerning the number and density of population in individual voivodships. A decrease in current expenditure in the total expenditure in the budgets of the voivodships correlated with an increase in the number of inhabitants in some of them may indicate forward-looking, pro-development activities of the self-governments of the analysed self-governmental units, aimed at improving their communication accessibility and increasing their investment attractiveness.

The burden imposed on current expenditure by the cost of debt servicing in regions (IDC) decreased in the period between the analysed years (Fig. 4). In 2010 such expenditures amounted on average to 1.50%, while the highest positive value of a deviation from the average level of the measure was observed in Opolskie Voivodship (93.65%), and the lowest in Świętokrzyskie Voivodship (-100%). In 2019, the average level of the analysed indicator was 1.22%; the highest positive

value of deviation from the average was recorded for Lubelskie Voivodship, and the lowest for Małopolskie Voivodship (respectively by 154.52% and -58.34%). In general, in 8 out of the 16 regions the value of indicator IDC in 2019 decreased compared to 2010 (Kujawsko-Pomorskie Voivodship, Lubuskie Voivodship, Łódzkie Voivodship, Małopolskie Voivodship, Mazowieckie Voivodship, Opolskie Voivodship, Podkarpackie Voivodship, Pomorskie Voivodship), while the largest drop was observed in the following voivodships: Małopolskie Voivodship, Mazowieckie Voivodship and Opolskie Voivodship (by -61.63%, 59.91% and 59.73%, respectively). The value of the analysed indicator points to the decreasing financial burden in the budgets of regions on debt servicing (as they were preparing to obtain loans in the subsequent periods), and thus an improvement in their financial condition (more funds available to finance other expenditure).

The highlighted observations are confirmed by data shown in Table 3, referring to the budget results of regions in Poland in the analysed years. In their budgets were dominated by budgetary surplus and debt in relation to GNP which was lower than in 2010. Undoubtedly, this situation was influenced by the act introduced in Poland in 2014,

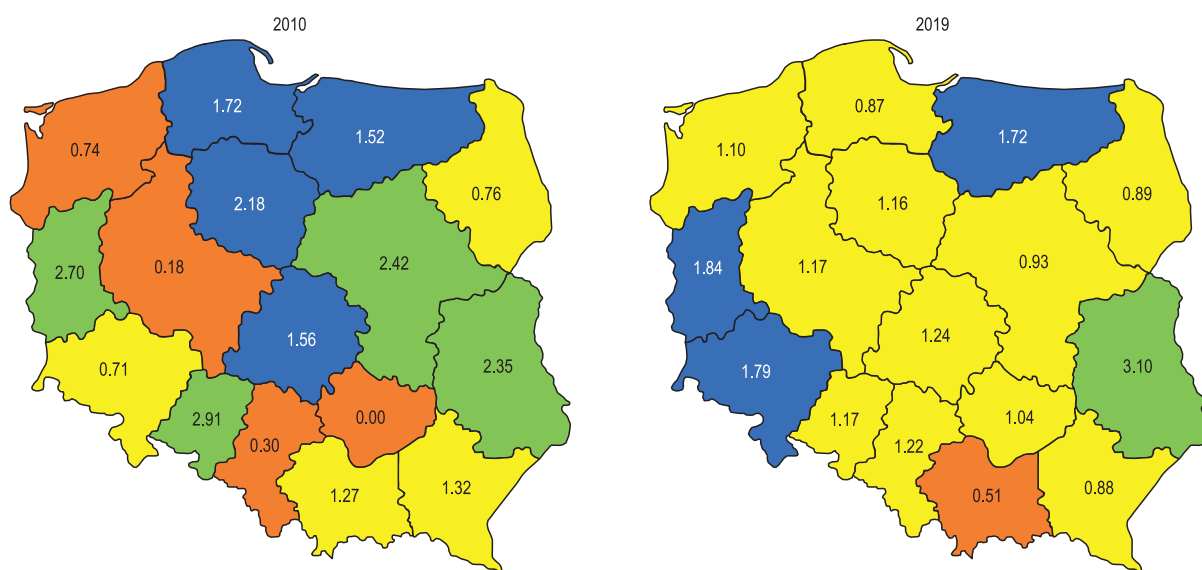


Fig. 4. Share of expenditure on debt servicing in the current expenditure of voivodships (IDC) in 2010 and 2019 (in %) *Source:* own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 06.03.2023).

regulating the construction of an individual indicator of indebtedness of LGUs (in Polish: IWZ), and decisive for the possibilities of LGUs to resort to using debt securities, as well as legally excluding their use in cases of co-funding investment projects with EU funds (Act, 2009, art. 243). The sum of deficits and surpluses in the voivodship budgets in 2010 and 2019, respectively, indicates a completely different financial condition in these units. It is worth adding that in 2010 only one voivodship recorded a surplus.

Table 3. Budget results and debts of voivodships in 2010 and 2019

Specification	2010	2019
Budget results (in billion PLN)	-1.141	0.379
Number of voivodships with a surplus in their annual budget	1	11
Number of voivodships with a deficit in their annual budget	15	5
Debts of voivodships (in billion PLN)	4.291	5.986
Debt of voivodships/GNP (in %)	0.30	0.26

Source: own elaboration based on data of the Ministry of Finance (reports on the execution of the state budget for the period from 1 Jan to 31 Dec 2010, and for the period from 1 Jan to 31 Dec 2019) (https://mf-arch2.mf.gov.pl/documents/764034/1093714/ljst_sprawozdanie2010.pdf and <https://www.gov.pl/web/finanse/sprawozdanie-roczne-za-2019-rok> – access 06.03.2023).

The changes in the values of the presented ministerial measures (2019/2010) are shown in Table 4. The data clearly indicate that in the regions' budgets: 1) increased revenues from the share in state taxes (this was confirmed by the change in the values of indicator IIS – variant I and II), in those regions where the number of economic entities and the average monthly disposable income per person in the household have increased (so not the provinces along the eastern border). The highest increase was observed in the Kujawsko-Pomorskie Voivodship (by 90.9% for IIS – variant I) and Zachodniopomorskie Voivodship (by 113.17% for IIS – variant II). In turn, the largest decrease was recorded in Podlaskie Voivodship (by 11.8% for IIS – variant I) and Mazowieckie Voivodship (by 61.46% for IIS – variant II), 2) decreased the burden of current expenditure on the local budgets, in favour of property expenditures (the largest decrease in Podlaskie Voivodship (by 41.9%), and the increase in Śląskie Voivodship (by 39.2%)) and 3) the burden of debt service costs on current expenditure fell in most voivodships (not just one region), which shows the regions' growing readiness for the next period of investment and to use EU budget funds for this purpose (the largest decrease in Mazowieckie Voivodship (by 61.6%).

Table 4. Rate of growth in values of standard measures of the financial condition of voivodships in Poland (2019/2010, in %)

Voivodship (region)	IIS		ISE	IDC
	variant I	variant II		
Dolnośląskie (DŚ)	33.8	17.99	13.3	152.3
Kujawsko-Pomorskie (KP)	90.9	77.23	6.9	-46.5
Lubelskie (LB)	17.8	0.58	-22.4	32.0
Lubuskie (LU)	23.1	-54.94	11.9	-31.9
Łódzkie (ŁD)	22.0	50.84	16.4	-20.7
Małopolskie (MP)	72.1	82.85	34.5	-59.9
Mazowieckie (MZ)	21.9	-61.46	-16.2	-61.6
Opolskie (OP)	30.4	8.88	13.1	-59.7
Podkarpackie (PK)	43.0	23.16	2.6	-33.5
Podlaskie (PL)	-11.8	-5.76	-41.9	17.4
Pomorskie (PM)	15.0	-12.88	-6.6	-49.6
Śląskie (ŚL)	41.3	-0.86	39.2	304.9
Świętokrzyskie (ŚK)	5.8	-33.96	-10.8	0.0
Warmińsko-Mazurskie (WM)	10.2	-40.24	4.0	13.4
Wielkopolskie (WP)	26.8	72.16	6.5	565.6
Zachodniopomorskie (ZP)	69.8	113,17	31.3	49.5
Arithmetic mean – \bar{d}_i	32.02	14.80	5.11	48.23
Standard deviation – s_{di}	26.58	52.05	21.14	167.53

Source: own elaboration based on data from The Local Data Bank (<https://bdl.stat.gov.pl/bdl/dane/podgrup/tablica> – access 29.03.2023).

Based on the values of the standard measures presented in 2019, it can be concluded that the financial health of the regions in Poland has clearly improved compared to 2010. The question that arises here is whether similar conclusions will be possible to draw when examining the financial condition of regions in Poland using measures that reflect the level of satisfaction of the needs of voivodship residents.

The data presented in Figures 5 and 6, showing the values of the OFFE indicator (variants I and II), suggest that the regions' own income was not sufficient to cover flexible expenses related to the implementation of their own tasks. It is worth adding that these tasks at the regional level are of a different nature than at the local level as already indicated. In their case, the burden of responsibility lies with spatial development and regional development, the source of financing of which largely comes

from funds from the EU budget (due to the more incidental than permanent nature of obtaining these funds – as already mentioned – they were omitted in the assessment of the financial condition regions in Poland in the analysed years.

In 2010, the average value of indicator OFFE (variant I) remained at the level of 29.96%, while in 2019 it increased up to 30.74%. In the first and second years of the analysis, the highest positive value of a deviation from the average level of the measure was noted in Mazowieckie Voivodship (92.04% and 89.05%, respectively). The largest negative value of a deviation from the average level in 2010 was observed for Opolskie Voivodship (-76.14%), and in 2019 – Lubuskie Voivodship (-49.85%). Due to the above, the greatest amount of own revenue (in its constitutional understanding) allocated for financing flexible expenditure was available in Mazowieckie Voivodship

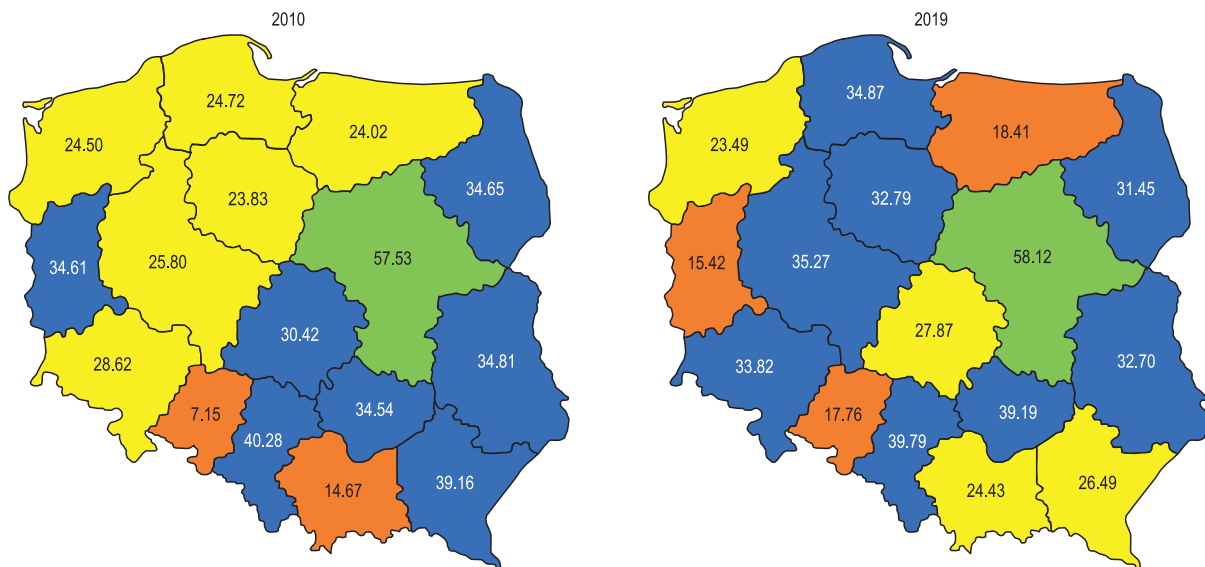


Fig. 5. Indicator OFFE (variant I) for voivodships in 2010 and 2019 (in %)
 Source: own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 05.01.2023).

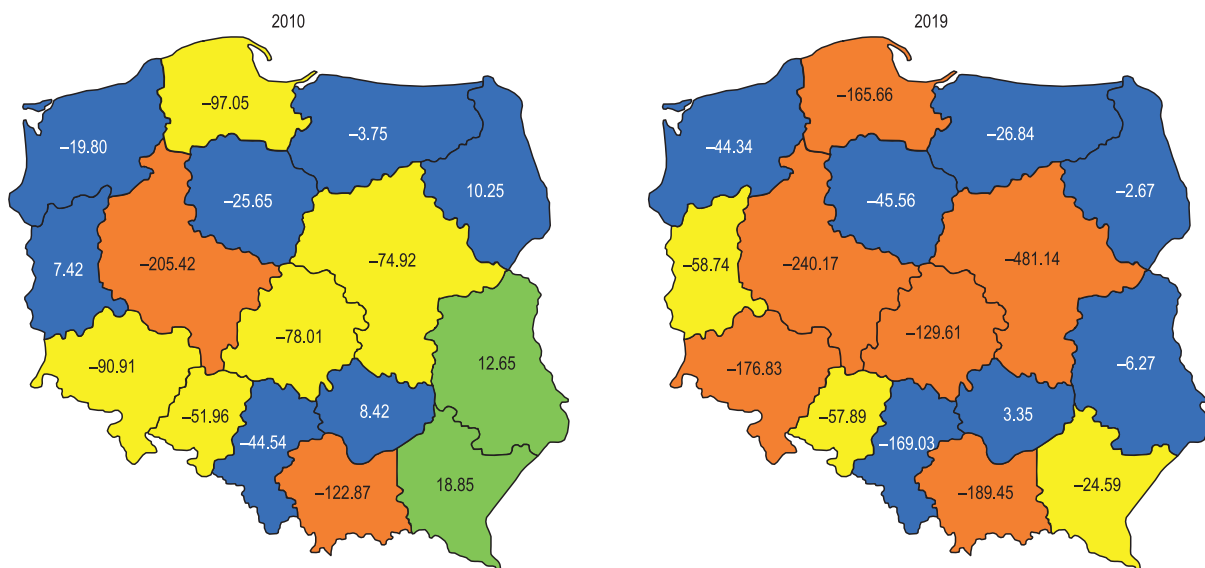


Fig. 6. Indicator OFFE (variant II) for voivodships in 2010 and 2019 (in %)
 Source: own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 05.01.2023).

(respectively 57.53% in 2010, and 58.12% in 2019), while the smallest in 2010, to the Opolskie Voivodship local authorities (7.15%), while in 2019 – Lubuskie Voivodship (15.42%). In the period from 2010 to 2019, half of the regions noted a drop in the value of this measure (deterioration of the financial condition),

which was most visible in Lubuskie Voivodship (by 55.46%), and least in Śląskie Voivodship (by 1.21%).

In 2010, the average value of indicator **OFFE (variant II)** was -47.33%, while in 2019 this fell to -113.46%. In the first analysed year, the highest positive value of deviation from the average level of the measure was noted in Wielkopolskie Voivodship, while

the largest negative one in Podkarpackie Voivodship (334.0% and -139.83%, respectively). In 2019, the highest positive deviation from the average level of the measure was noted in Mazowieckie Voivodship, while the largest negative one in Świętokrzyskie Voivodship (324.06% and -102.96%, respectively). The largest pool of own revenues characterised by financial independence in financing flexible expenditure on own tasks in 2010 was noted for Podkarpackie Voivodship (18.85%), while in 2019 – Świętokrzyskie Voivodship (3.35%), which is not surprising bearing in mind the low dependence of revenues of these regions on their share in the state tax revenue. The highest deficiency in these funds was experienced in 2010 by the local authorities in Wielkopolskie Voivodship, and in 2019 by Mazowieckie Voivodship (-205.42% and -481.14%, respectively). In 2019, in comparison to 2010, all regions felt a deterioration of their financial condition in this respect, the most affected was Lubuskie Voivodship (a drop by 891.99%), and the least – Wielkopolskie Voivodship (16.92%). With reference to the data in Table 1, it is important to emphasise the possible effect of the indicated change on the development of population and population density in the individual voivodships (a marked decline in Lubuskie Voivodship).

In 2010, the average value of indicator **CCEO** (Fig. 7) amounted to 35.90%, while in 2019 it dropped to 24.71%. The highest positive value of a deviation from the average value of this measure was recorded for Mazowieckie Voivodship (70.13% in 2010, and 36.16% in 2019), while the largest negative one in 2010 for Śląskie Voivodship (-9.74%), and in 2019 – Dolnośląskie Voivodship (-13.86%). The highest level of financing current flexible expenditure with the revenue allocated to voivodships' own tasks in both years under study was recorded for Mazowieckie Voivodship (61.08% in 2010 and 33.65% in 2019), whereas the lowest level of the indicator in 2010 was calculated for Śląskie Voivodship (18.05%), and in 2019 – Dolnośląskie Voivodship (21.29%). From 2010 to 2019, many regions noted a drop in value of this indicator, which was most visible in Dolnośląskie Voivodship (by 55.02%), and least in Wielkopolskie Voivodship (by 2.36%). Only two voivodships, Śląskie Voivodship and Warmińsko-Mazurskie Voivodship, noted its growth (by 21.94% and 3.64%, respectively).

Taking into consideration the obtained categories of values of the analysed indicator, it should be stated that both in 2010 and 2019, many voivodships in Poland recorded low values of the examined indicator. This means that in budgets of a predominant number

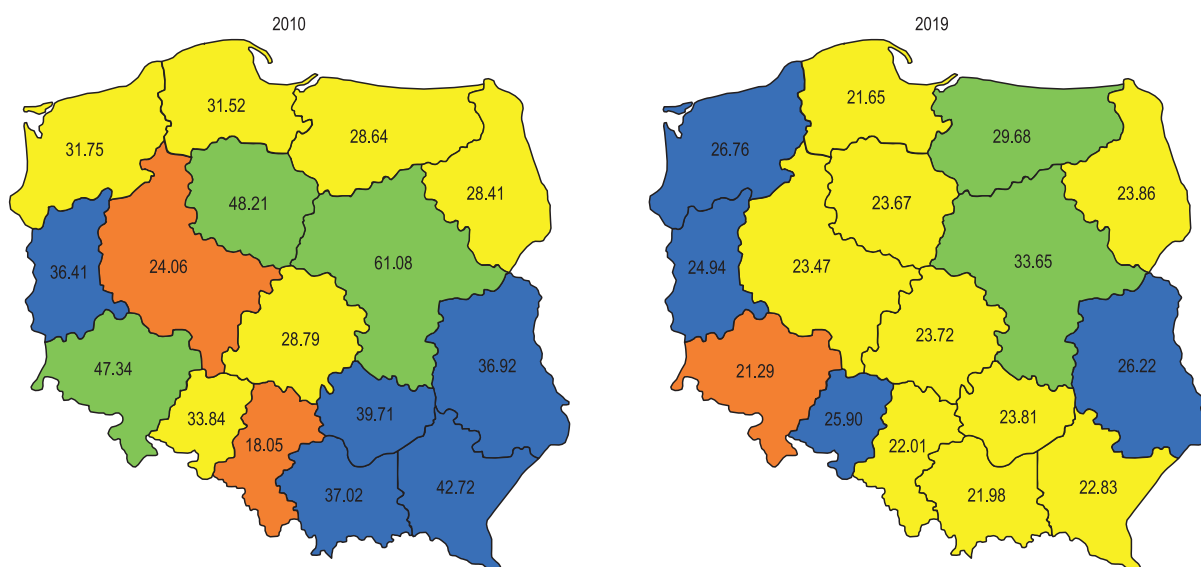


Fig. 7. Indicator CCEO for voivodships in 2010 and 2019 (in %)
 Source: own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 05.01.2023).

of these local government units, current expenditure connected with long-term obligation agreements and other obligatory repayments constituted very notable amounts, which enabled to satisfy the needs of members of the local community at an appropriate level. Importantly, the situation in this respect clearly deteriorated, which reflects the worsening financial condition of the regions in Poland.

In 2010, the average value of indicator IFFE (Fig. 8) was at 43.99%, and in 2019 rose to 49.88%. In the first year under study, the highest positive value of deviation from the average level of the measure was recorded for Śląskie Voivodship (50.07%), and the largest negative one for Kujawsko-Pomorskie Voivodship (-31.79%). In turn, in the other examined year, the highest positive value of a deviation from that measure was observed for Dolnośląskie Voivodship (28.74%), whilst the largest negative one for Podlaskie Voivodship (-37.75%). In 2019, compared to 2010, the value of the indicator increased for most of regions (this does not apply to: Lubelskie Voivodship, Podlaskie Voivodship, Śląskie Voivodship and Warmińsko-Mazurskie Voivodship), which means that their local authorities had smaller possibilities of deciding freely about the directions of their expenditure on own tasks.

The highest percentage of funds allocated for financing fixed costs (debt servicing, labour, obligatory subsidies, and others) in the revenues of LGUs demonstrating financial independence in 2010 was in respect of budgets of the following voivodships: Śląskie Voivodship (66.02%), and in 2019 – Dolnośląskie Voivodship (64.22%). The lowest level of the indicator in 2010 was for Kujawsko-Pomorskie Voivodship (30.01%), and in 2019 – Podlaskie Voivodship (31.05%).

Changes in the values of the authors' own indicators (for 2019/2010) are presented in Table 5. For the OFFE indicator, the highest increase was observed in Opolskie Voivodship (by 148.39% for variant I) and Warmińsko-Mazurskie Voivodship (by 615.73% for variant II). In turn, the largest decrease in the OFFE index was recorded in Lubuskie Voivodship (by 55.45% for variant I and by 891.64% for variant II). For the CFEO indicator, the only increase was observed in Warmińsko-Mazurskie Voivodship (by 3.63%), and the largest decrease in Dolnośląskie Voivodship (by 55.03%). For the IFFE indicator, the largest increase was observed in Kujawsko-Pomorskie Voivodship (by 95.07%), and the largest decrease in Podlaskie Voivodship (by 36.28%). These changes indicate that from the viewpoint of these measures, the financial

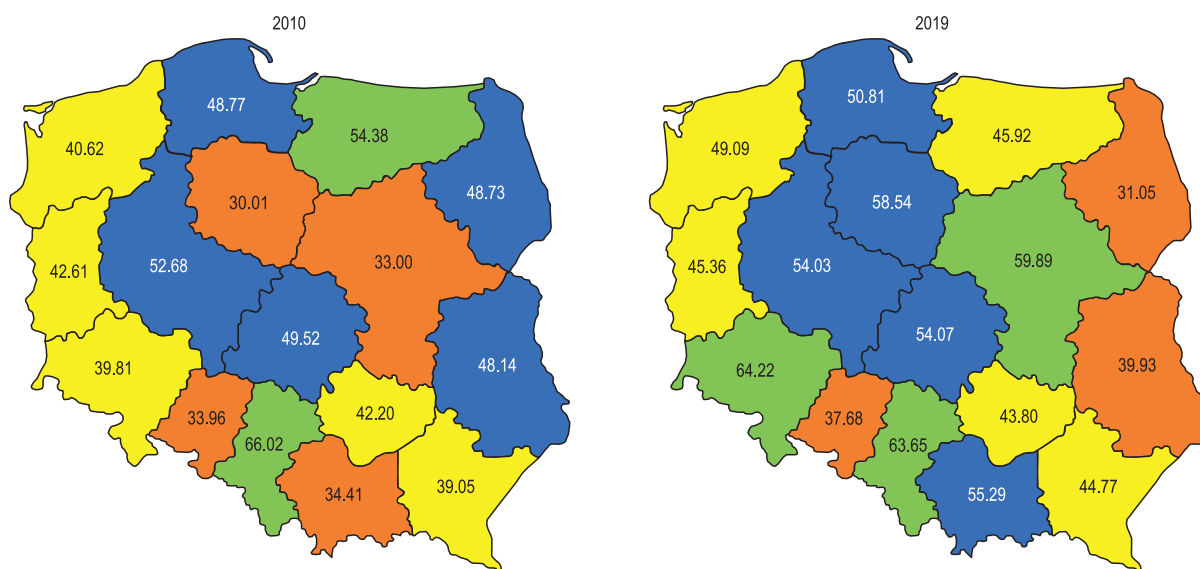


Fig. 8. Indicator IFFE for voivodships in 2010 and 2019 (in %)

Source: own elaboration based on data from The Local Data Bank (www.stat.gov.pl – access 05.01.2023).

Table 5. Rate of growth in the authors' own measures of the financial conditions of voivodships in Poland (2019/2010, in %)

Voivodship (region)	OFFE		CFEO	IFFE
	variant I	variant II		
Dolnośląskie (DŚ)	18.17	94.51	-55.03	61.32
Kujawsko-Pomorskie (KP)	37.60	77.62	-50.90	95.07
Lubelskie (LB)	-6.06	-149.57	-28.98	-17.05
Lubuskie (LU)	-55.45	-891.64	-31.50	6.45
Łódzkie (ŁD)	-8.38	66.15	-17.61	9.19
Małopolskie (MP)	66.53	54.19	-40.63	60.68
Mazowieckie (MZ)	1.03	542.21	-44.91	81.48
Opolskie (OP)	148.39	11.41	-23.46	10.95
Podkarpackie (PK)	-32.35	-230.45	-46.56	14.65
Podlaskie (PL)	-9.24	-126.05	-16.02	-36.28
Pomorskie (PM)	41.06	70.70	-31.31	4.18
Śląskie (ŚL)	-1.22	279.50	21.94	-3.59
Świętokrzyskie (ŚK)	13.43	-60.21	-40.04	3.79
Warmińsko-Mazurskie (WM)	-23.36	615.73	3.63	-15.56
Wielkopolskie (WP)	36.71	16.92	-2.45	2.56
Zachodniopomorskie (ZP)	-4.12	123.94	-15.72	20.85
Arithmetic mean – \bar{d}_i	13.92	30.93	-26.22	18.67
Standard deviation – s_{di}	45.54	322.97	20.51	35.65

Source: own elaboration based on data from The Local Data Bank (<https://bdl.stat.gov.pl/bdl/dane/podgrup/tablica> – access 11.02.2023).

condition of voivodships deteriorated, thus decreasing the possibilities of satisfying the needs of members of the local communities in the studied regions in Poland.

CONCLUSIONS

Voivodships (regions) appeared on the map of the administrative division and in the local government structure of Poland in 1999. Their area, population numbers and sources of revenue, as well as the number of economic entities and the kind of the conducted business activity, result in a greatly diversified share of regions in the creation of GNP in Poland, and are also reflected in the amount of financial resources accumulated in the regional budgets and directions of their expenditure, and thus also – their financial condition.

Regions in Poland are greatly diversified in terms of the size of their area (dominated by two large LGUs – Mazowieckie Voivodship and Wielkopolskie Voivodship – located in central and western Poland), and between 2010 and 2019 most of them recorded a drop in the population numbers (with the exception of: Małopolskie Voivodship, Mazowieckie Voivodship, Pomorskie Voivodship, Wielkopolskie Voivodship and Zachodniopomorskie Voivodship). Instead, the number of businesses registered with them increased over the period. Nevertheless, there are still fewest of them in the eastern regions of Poland (Podlaskie Voivodship, Lubelskie Voivodship, Podkarpackie Voivodship), where the dominating form of economic activity is agriculture. The analysed LGUs also differ as to the degree of the attractiveness of places of residence and of conducting business activity, which further exacerbates the disparities in their socio-economic

development, which also translate into the financial capabilities of the local government.

Based on the measures from both groups applied in the study, it can be stated that regions in Poland can be characterised by the different level of their financial condition. Over the studied period, i.e. between 2010 and 2019, the level of this condition has changed. The type of this change is different if the information value of the calculated measures is considered.

Therefore, based on the values of indicators from the first group (standard measures), it can be stated that the condition of the regions in Poland in 2019 improved compared to 2010, in those located in southern, western, and central parts of the country, as:

- these regions had a larger amount of their own revenue, which the legislator includes shares of state taxes;
- the share of current expenditures in total expenditures decreased in their budgets, which may indicate that the voivodships are financing more development needs and implementing investment projects, co-financed with EU funds (exemption from IWZ – Act, 2009, art. 243);
- there was a decrease in the burden of cost of servicing debt of the region in the current expenditure (the cost of debt servicing was stabilized at just above 1%), which may indicate that most of the voivodships have already serviced their existing debts, with any new debt service to follow in subsequent years.

In turn, the authors' own measures applied to the calculation of the financial condition of the regions in Poland indicate that their condition deteriorated in the period under study, especially in the smaller regions located in eastern and southern Poland, as:

- the level of the flexible current expenditure financed from the revenue allocated for their own tasks decreased, which means a greater burden for these LGUs budgets by the current expenditure linked with long-term credit agreements and other obligatory payments, and consequently, a lesser possibility for satisfying the needs of members of the local community;
- the level of own revenues, related to the level of financial independence of LGUs was insufficient

for financing their flexible expenditure on their own tasks;

- the level of funding for rigid expenditure has increased, making it less able to meet the needs of members of the local authority community in the regions.

RECOMMENDATIONS

According to the authors:

1. Some of the regions in Poland are clearly “weaker” than others (lower income potential and worse financial condition, which is confirmed by the conducted research), which indicates the need to start a discussion in the country about changing the administrative division of Poland at the regional level, to create regions that are optimal in terms of their sustainable development.
2. It is necessary to continue research on the assessment of the financial condition of local government units, including voivodships in Poland using various measures and methods, including those used in this study, covering:
 - a. the past period in which local government finances were affected by external and internal shocks such as the COVID-19 pandemic, the war in Ukraine, and changes in the tax system known as the Polish Deal, as these effects translated into both the income and expenditure potential of these units and their ability to meet the needs of members of local government communities;
 - b. the following years, in order to examine the effects of the planned reform of the system of revenues of local government units in Poland, the assumptions of which are to come into force at the beginning of 2025 and consist in: (a) an increase in revenues of local government units from state taxes with a decrease in the rate of calculation of these shares (in the case of voivodships – a decrease in PIT from 1.6% to 0.145%, and in CIT from 14.75% to 2.58%), but an increase in the basis for their calculation (shares will be related to taxable revenues, and

not, as before, to the tax paid), (b) a change in the method of calculation and construction of the general subvention (the new one is to take into account the spending needs of individual local governments, which will be the sum of the needs of: environmental, compensatory, educational and developmental needs) (Draft, 2024) – according to the authors, the planned changes can be seen as the government’s response to the disproportions in the ability to meet the spending needs of local government units signalled by the scientific community, including the authors, as well as practitioners;

3. It is necessary to constantly monitor the financial condition of self-government entities, including regions, as the legislator’s tendency is to assign more tasks to these entities without ensuring an adequate pool of financial resources for their implementation.

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