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PARTICIPATORY BUDGETING – AN INDICATOR OF SOCIAL ACTIVITY OF RESIDENTS AND A TOOL OF ENVIRONMENTAL PROTECTION IN POLAND: SPATIAL DIVERSITY IN THE EAST/WEST CONFIGURATION

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ABSTRACT: The purpose of the article is to present differentiations in participatory budgeting between Polish communes located in the western, central and eastern part of the country and to discuss the factors that trigger it. We took into account features such as the size of budgets, voter turnout, the total number of selected projects and the number of projects aimed at environmental improvements. The research was conducted in communes of three metropolitan areas: Białystok, Łódź and Poznań. The research was carried out in 51 communes, excluding central cities from the study. The data was obtained from municipal offices and public statistics. Participatory budgets voted in 2017 and implemented in 2018 were analyzed. Projects were classified according to an original typology. There are quite big differences between the eastern and western part of Poland when it comes to the number of implemented participatory budgets and the amount of money allocated for this purpose. This indicates the needs and opportunities for the flow of knowledge and exchange of experiences in this area between individual parts of the country and between particular local governments.

KEY WORDS: commune, participatory budgeting, environmental protection

Introduction

Participatory budgeting is a relatively new tool of local public financial management. The concept and features of participatory budgeting let us perceive it as a tool for the implementation of the rules of sustainable development. The most important of these features are: citizen involvement, the participation of inhabitants in decision making processes, focusing on local problems, and spending public funds on important goals, agreed upon by voting. Participatory budgeting can also be seen as an indicator of public involvement in solving local problems and of the importance that residents attach to environmental issues.

The research problem of this study comes down to the question about the level of diversity in the field of participatory budgeting between communes located in western, central and eastern part of Poland. There are questions about features such as the size of budgets, the number of submitted projects, types of selected undertakings and the role of projects aimed at solving environmental problems. The goals of the article are to present this diversity, and to highlight and discuss factors that cause it.

An overview of the literature

Participatory budgeting is quite a new tool of public finance management in Poland. The first participatory budget in the world was organized in Brazil in 1989 (Shah, 2007, p. 92), in Poland it was in 2011 (Krześ, 2014, p. 99). Consequently, it is possible to find numerous studies showing the analyses of participatory budgeting from the global perspective and relatively little analysis on the Polish scale.

Dias (2014) describes the dynamics of the development of participatory budgeting in different parts of the world. It is significant that processes of participatory budgeting origin from rather poor countries of Latin America (Shah, 2007, p. 92-16). The studies of the conditions and processes of the development of participatory budgeting in European countries were conducted by Sintomer, Röcke and Herzberg (2016). Using the examples of Spain, Italy, France and many other countries, they present different ways of increasing the participation of inhabitants in deciding on the directions of spending public funds. There are a number of studies that present different aspects of participatory budgeting: the creation and evaluation of participatory budgeting and its rules (e.g. Wampler, 2012; Pape, Lerner, 2016; Sgueo, 2016), the conditions and experiences of different countries (e.g. Baiocchi, Lerner, 2007;

He, 2011; McNulty, 2012), regions and cities (Souza, 2001; Zhang, Liao, 2011; Marquetti, Schonewald da Silva, Campbell, 2011).

There are only a few studies in the field of participatory budgeting in Poland due to the short period in which this tool of public finance management has been implemented there. The role of social participation in the shaping of local and regional development in Poland, through the participatory budgeting, is an issue that is quite often raised (Szaja, 2015; Łukowski, 2017; Michalska-Żyła, Brzeziński, 2017). A few works describe some cases of the implementation of participatory budgeting in Polish cities (Dakowska, 2013; Kowalska, 2014; Polko, 2015; Krawczyk, 2016). Bernaciak, Rzeńca and Sobol (2017) compare the participatory budgeting of three cities: Poznan, Lodz and Katowice. They present and try to explain differences between them. Sobol and Rzeńca carry out the comparative studies of the participatory budgeting of small towns in two voivodships (Lower Silesia and Lodzkie) (2018). They point to numerous problems related to the implementation of participatory budgeting in small cities. The most important of them are: insufficient information policy, poor promotion, quite a low level of inhabitants' engagement.

The differentiation of Polish regions is well described in the literature. Many studies present characteristic features of particular regions as well as the causes of differences between them (e.g. Jałowiecki, 1996; Gorzelak, 2007; Nowakowska, 2011). Czyż (2012) compares and classifies Polish subregions. A high level of economic development is characteristic of the subregion with the metropolitan area of Poznan. The agglomeration is characterized by the average level and Bialystok metropolitan area by the low level of this feature. The standard of living is indicated as high for the subregion with Poznan agglomeration and average for the subregions with the Lodz and Bialystok metropolitan areas.

There is lack of research that would show the development of participatory budgeting in Poland, especially in the context of various regional conditions. This issue constitutes a research gap, the fulfillment of which was undertaken in the research and presented in this paper.

Research methods

The aim of the research was to identify the diversity in the field of participatory budgeting between communes located in western, central and eastern part of Poland. The research was conducted in the communes of three metropolitan: Poznan (west), Lodz (center) and Bialystok (east). Poznan was selected as the representative of the west of the country; the other choices

were Wrocław and Szczecin. Łódź metropolitan area was chosen from the group of three agglomerations, including also Bydgoszcz and Katowice. The Lublin metropolitan area was selected as the example of eastern Poland (other agglomerations: Białystok and Rzeszów). Unfortunately, it turned out that there is no participatory budgeting in the communes of the Lublin agglomeration. It was necessary to repeat the draw. In the second round, the Białystok agglomeration was drawn.

In the case of the metropolitan areas of Poznań and Białystok, all communes belonging to the poznański and białostocki powiaty (districts) were taken into account. There is a similar situation in terms of administration in both cases – a ring of communes belonging to one powiat surrounds the central city. The names of these powiaty come from the name of the central city – powiat poznański and powiat białostocki, respectively. The situation is slightly different in the case of the Łódź metropolitan area. The central city is adjacent to three powiaty: pabianicki, zgierski and łódzki. In this case, the communes selected by Świaniewicz and Klimska (2005, p. 54) as the communes of the Łódź agglomeration were included in the research. As a result, the research was carried out in 51 communes: 17 belonged to the Poznań metropolitan area, 19 to the Łódź metropolitan area and 15 to the Białystok metropolitan area. The central cities of each of the analyzed spatial units (Poznań, Łódź, Białystok) were excluded from the study, due to their completely different characteristics from other communes.

Participatory budgeting voted in 2017 and implemented in 2018 was taken into account. The lists of projects submitted to the participatory budgets, as well as the data on the size of participatory budgeting in particular units, was obtained from the official municipal websites or directly from municipal offices. The data on the number of inhabitants was obtained from official statistics.

An original typology was adopted for the analysis of the submitted and implemented projects. All projects aimed at protecting or improving the environment were divided into seven categories: green infrastructure, blue infrastructure, nature conservation, air and atmosphere protection, care of domestic animals, waste management, ecological education, noise protection. The projects were classified into individual categories in accordance with their main purpose or with the area in which the most important environmental effects are expected. Having in mind that each of the projects can bring environmental effects in more than one area (specific categories), the principle of qualifying the project to one of the selected areas was accepted.

The results of the research

There are 20 (39%) communes implementing participatory budgeting among 51 analysed. The highest rank of implementation characterized the poznanski powiat – 10 out of 17 communes (more than 58%) implement participatory budgeting. The rate for the Lodz metropolitan area is slightly lower – seven out of 19 (37%) communes apply participatory budgeting here. The smallest value of this indicator is observed in the eastern part of Poland. There are only three (20%) communes which implemented this tool of finance management in the bialostocki powiat (table 1).

Table 1. Communes of the analyzed spatial units, its budget income and participatory budgeting

Commune	Participatory budgeting [PLN, 2017]	Budget income [PLN, 2016]	Budget per capita income [PLN, 2016]	Share of participatory budgeting in budget income [%]	Turnout
Poznanski powiat					
Buk		49,891,379.57	3,992.91		
Czerwonak	908,400.00	108,685,203.01	3,959.39	0.84	0.00*
Dopiewo	150,000.00	106,562,782.51	4,147.70	0.14	10.37
Kleszczewo		37,028,397.02	4,629.71		
Komorniki	500,000.00	123,952,313.92	4,403.44	0.40	5.95
Kostrzyn	245,000.00	61,517,600.28	3,399.70	0.40	0.00*
Kórnik	700,000.00	138,747,290.75	5,157.70	0.50	26.97
Luboń	250,000.00	106,961,329.47	3,379.18	0.23	19.24
Mosina	947,923.00	116,119,559.15	3,589.48	0.82	4.40
Murowana Goślina		61,012,786.63	3,627.40		
Pobiedziska		77,687,228.16	4,002.23		
Puszczykowo	100,000.00	38,287,961.15	3,950.06	0.26	5.66
Rokietnica		59,830,740.00	3,539.23		
Stęszew		61,122,362.83	4,071.30		
Suchy Las		121,449,628.08	7,102.32		
Swarzędz	1,500,000.00	207,062,584.55	4,163.99	0.72	14.33
Tarnowo Podgórne	50,000.00	184,487,646.12	7,047.43	0.03	8.59
Average value		97,670,987.84	4,362.54	0.43	11.94

Commune	Participatory budgeting [PLN, 2017]	Budget income [PLN, 2016]	Budget per capita income [PLN, 2016]	Share of participatory budgeting in budget income [%]	Turnout
Lodz metropolitan area					
Aleksandrów Łódzki	1,000,000.00	110,648,268.68	3,518.79	0.90	9.18
Andrespol		47,043,213.21	3,443.61		
Brójce		24,956,489.55	3,829.44		
Dłutów		16,955,718.72	3,712.66		
Dobroń		27,589,292.67	3,605.03		
Głowno (urban)	150,000.00	44,459,835.22	3,082.78	0.34	12.56
Koluszki	100,000.00	90,907,773.63	3,845.67	0.11	n/a
Konstantynów Łódzki	400,000.00	63,912,546.80	3,548.13	0.63	21.43
Ksawerów		34,191,184.15	4,449.66		
Nowosolna		22,680,876.79	4,676.47		
Ozorków (urban)	333,000.00	69,690,885.10	3,540.30	0.48	8.90
Pabianice (urban)	1,000,000.00	216,414,003.78	3,287.82	0.46	7.20
Pabianice (rural)		36,433,271.08	5,033.61		
Poświętne		13,084,234.92	3,782.66		
Rzgów		50,890,655.95	4,997.61		
Stryków		67,743,386.23	5,391.44		
Tuszyn		49,219,077.51	3,991.17		
Zgierz (urban)	800,000.00	197,213,771.39	3,478.81	0.41	n/a
Zgierz (rural)		49,974,238.75	3,576.74		
Average value		64,947,827.59	3,936.44	0.47	11.85
Białostocki powiat					
Choroszcz	150,000.00	48,225,326.53	3,222.11	0.31	22.10
Czarna Białostocka		36,923,018.86	3,213.49		
Dobrzyniewo Duże		33,102,234.39	3,621.29		
Gródek		20,979,484.60	3,974.89		
Juchnowiec Kościelny		62,511,633.71	3,892.87		
Lutomiernik		28,578,656.71	3,440.31		
Łąpy		74,919,130.54	3,394.31		

Commune	Participatory budgeting [PLN, 2017]	Budget income [PLN, 2016]	Budget per capita income [PLN, 2016]	Share of participatory budgeting in budget income [%]	Turnout
Michałow		29,436,865.93	4,390.94		
Supraśl	2,976,814.65	52,032,269.92	3,466.74	5.72	24.01
Suraz		8,640,872.78	4,355.28		
Turośl Kościelna		23,946,005.00	3,864.75		
Tykocin		24,082,955.08	3,840.37		
Wasilków	160,000.00	52,966,755.99	3,235.60	0.30	8.17
Zabłudów		33,651,799.41	3,642.36		
Zawady		10,133,926.06	3,666.40		
Average value		36,008,729.03	3,681.45	2.11	18.09

* Due to the small number of projects – implementation without voting

Source: author's own work based on data taken from municipality offices.

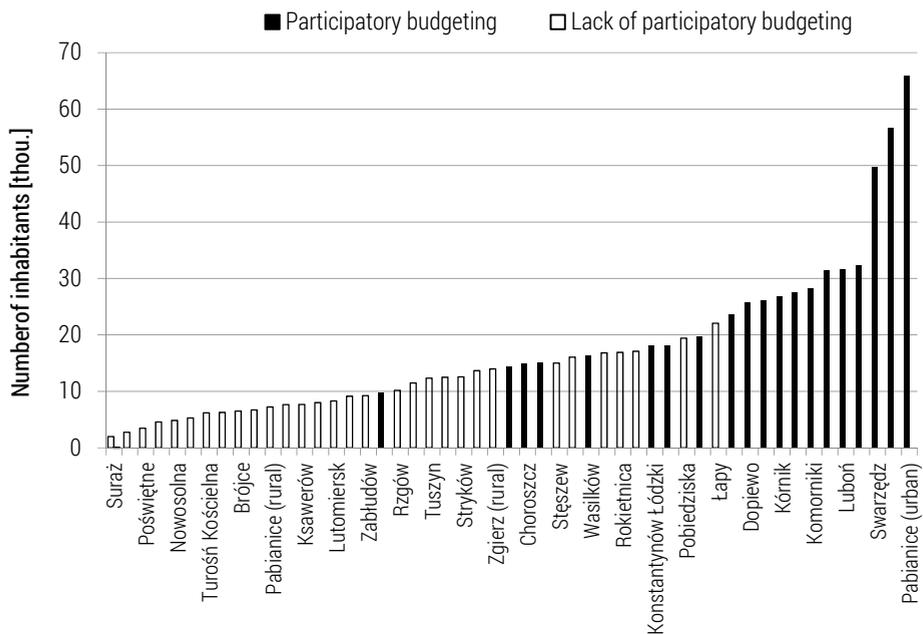


Figure 1. Communes implementing participatory budgeting according to the number of inhabitants

Source: author's own work based on data taken from www.bdl.stat.gov.pl [15-05-2018].

Participatory budgeting is primarily implemented by communes with a large number of inhabitants. The border population from which the municipalities applied this kind of budget in the audited period was 20,000 residents. Only a few municipalities with a smaller number of inhabitants take up the challenge of implementing participatory budgeting. We observe this trend in the communes located in all areas of Poland under analysis (figure 1).

The situation is similar when it comes to the value of commune budget incomes. Participatory budgeting is implemented primarily by communes with a higher level of income. In this case, the border value of income is 100 million PLN. All communes under analysis with income higher than this value have implemented participatory budgeting. On the other hand, there is not a single commune implementing participatory budgeting the income of which is less than 38 million PLN.

What is interesting is the relation between the implementation of participatory budgeting and the size of communes' budgets per capita. In the case of western communes (the poznanski powiat) these two factors are not related. Participatory budgeting is implemented both by communes with a high level of per capita income and those with the low level (figure 2).

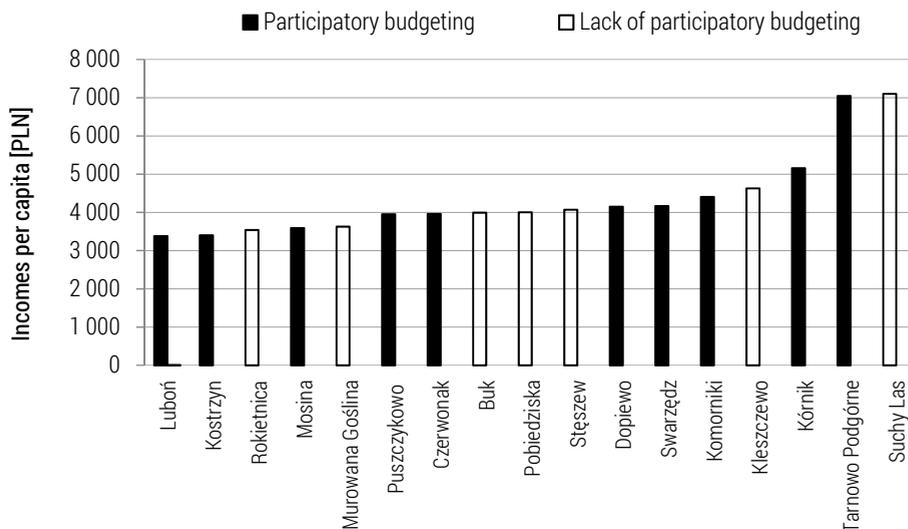


Figure 2. Communes of the poznanski powiat implementing participatory budgeting according to the value of per capita income

Source: author's own work based on data taken from municipality offices.

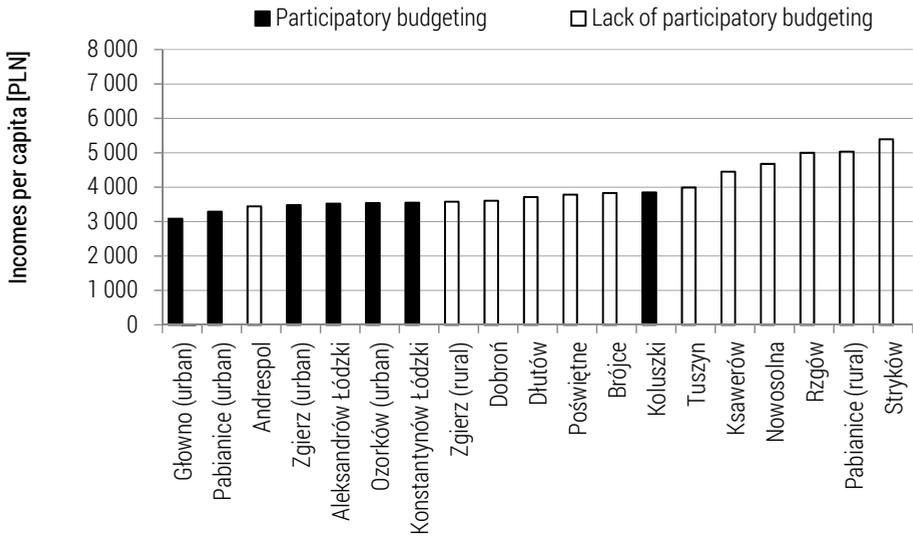


Figure 3. Communes of Lodz agglomeration implementing participatory budgeting according to the value of per capita income

Source: author's own work based on data taken from municipality offices.

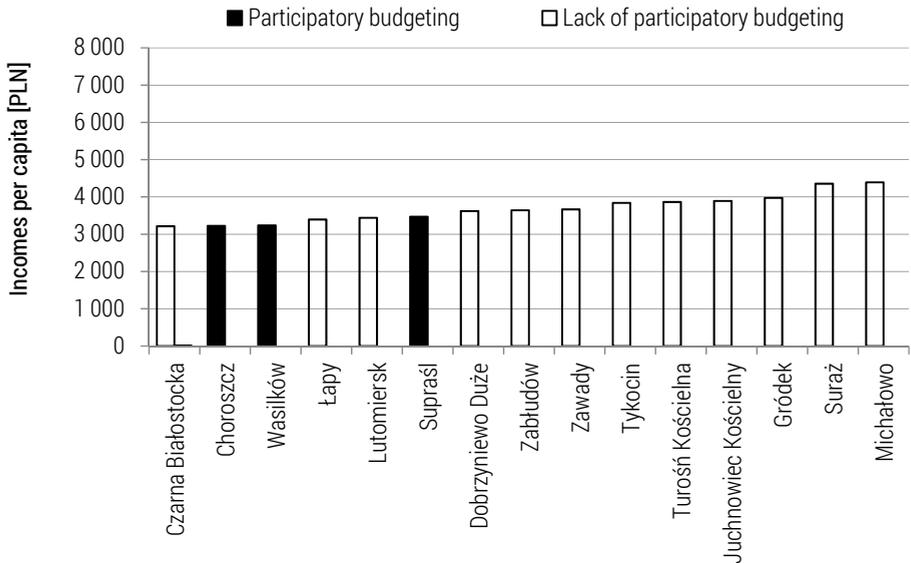


Figure 4. Communes of the bialostocki powiat implementing participatory budgeting according to the value of per capita income

Source: author's own work based on data taken from municipal offices.

In turn, in the case of the other two spatial units, certain regularity is noticeable – the communes with the lower level of income realize participatory budgeting per capita. There is not a single commune with income higher than 4,000 PLN per capita that implement participatory budgeting in the Lodz metropolitan area (figure 3).

The same relation is observed in the bialostocki powiat – three out of five communes with the lowest per capita income implement participatory budgeting (figure 4). No communes with income higher than 3,500 PLN do the same.

As regards the type of projects, one can find differences between the participatory budgets of the communes in the western, central and eastern Poland. At the stage of the submission of projects, the poznański powiat is characterized by the highest share of green projects (24.32%). It is almost twice bigger than in the other analyzed units (table 2).

Table 2. Green projects submitted to participatory budgeting

Specification	Poznański powiat	Lodz metropolitan area	Białostocki powiat
Number of submitted projects	148	168	23
Number of submitted green projects	36	23	3
Share of green projects [%]	24.32	13.69	13.04

Source: author's own work based on data taken from municipality offices.

Table 3. Types of submitted green projects

Specification	Poznański powiat	Lodz metropolitan area	Białostocki powiat
Green infrastructure	14	7	0
Blue infrastructure	3	2	3
Nature conservation	2	2	0
Air and atmosphere protection	15	10	0
Care of domestic animals	3	2	0
Waste management	1	1	0
Ecological education	0	1	0
Noise protection	0	0	0

Source: author's own work based on data taken from municipal offices.

Two types of projects dominate in the poznanski powiat and the Lodz metropolitan area: projects related to green infrastructure and those concerning air and atmosphere protection. All projects submitted in the bialostocki powiat are connected with blue infrastructure (table 3).

The share of green projects in the selected projects is lower than in the submitted projects. There is not big difference in this regard in the poznanski powiat. The difference in the Lodz metropolitan area should be considered significant. None of the submitted green projects was selected in the bialostocki powiat (table 4).

Table 4. Green projects selected in participatory budgeting

Specification	Poznanski powiat	Lodz metropolitan area	Bialostocki powiat
Number of selected projects	67	59	6
Number of selected green projects	16	6	0
Share of green projects [%]	23.88	10.17	0.00

Source: author's own work based on data taken from municipality offices.

Green infrastructure and air and atmosphere protection projects are the most often selected types of projects both in the poznanski powiat and in the Lodz metropolitan area (table 5).

Table 5. Types of selected green projects

Specification	Poznanski powiat	Lodz agglomeration	Bialostocki powiat
Green infrastructure	6	1	0
Blue infrastructure	1	0	0
Nature conservation	2	0	0
Air and atmosphere protection	4	4	0
Care of domestic animals	3	0	0
Waste management	0	0	0
Ecological education	0	1	0
Noise protection	0	0	0

Source: author's own work based on data taken from municipal offices.

Communes of the bialostocki powiat achieve the highest average value of turnout (18.9%). Communes of other units exhibit a significantly lower aver-

age value: the Lodz metropolitan area – 11.85% and the poznanski powiat – 11.20% (figure 5).

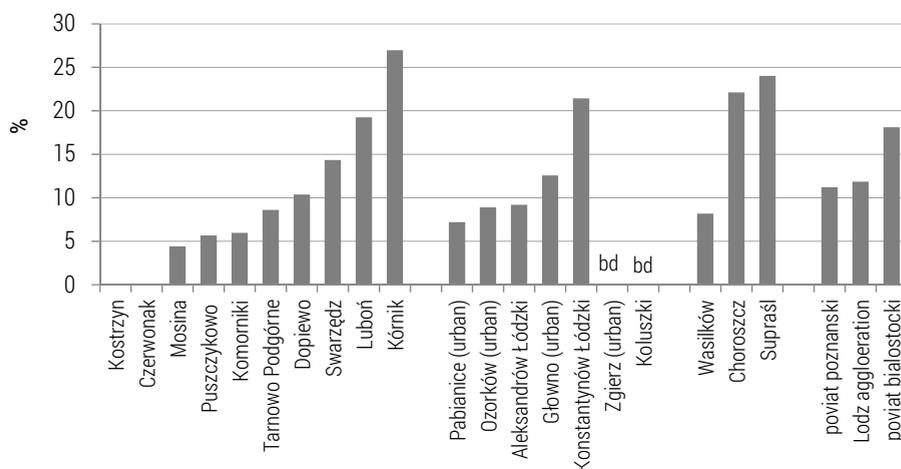


Figure 5. Voter turnout in the communes of the analyzed spatial units

Source: author's own work based on data taken from municipal offices.

Conclusions

Participatory budgeting as a tool of public finance management is implemented by larger spatial units (communes) in terms of their size measured by the number of inhabitants and the size of the budget. If we wanted to build the model of a commune implementing participatory budgeting, the borderline elements would be 20,000 of inhabitants and 100 million PLN of budget income. There is very high probability that the municipalities exceeding these values implement participatory budgeting.

When analyzing the participatory budgeting of communes in different parts of Poland, one can notice significant differences between them. The most important of them are:

- greater popularity of this form of public finance management in the western and central parts of Poland in comparison to the east of the country,
- the lack of relation between the size of per capita income and the tendency to implement participatory budgeting in the communes of the western part of Poland and a greater tendency to implement the budget by communes with a lower level of per capita income in the central and eastern part of the country,
- a relatively big share of green projects in the participatory budgeting of the communes of the western and central part and a small share of these

projects in the participatory budgeting of the communes of the eastern part.

The dependencies identified and presented above could be explained by several factors:

- Participatory budgeting origin from economically weaker states and cities (e.g. Porto Alegre, Brazil; Ciudad Guayana, Venezuela; Montevideo, Uruguay) (Shah, 2007, p. 93; Czyż, 2012, p. 226). By analogy, one can assume the tendency to implement this tool by relatively poorer spatial units.
- A lower level of the implementation of participatory budgeting by the communes of the eastern part of Poland results from the spatial characteristics of this part of the country – fewer communes that would meet the identified boundary conditions related to the number of inhabitants and the size of the budget.
- Spatial conditions should also explain the fact that communes in the east of Poland are less interested in green projects than those located in the central and western part of the country. Areas of the poznanski powiat and the Lodz metropolitan area are much more urbanized than the bialostocki powiat. As a result, the natural environment has undergone significant transformation here. Residents demand improvements to the environment, which is reflected in the projects submitted and selected in participatory budgeting. In the bialostocki powiat, where the environment has been less affected, inhabitants do not voice such demands. Residents are interested in other types of projects, the ones that raise the level of social and economic development. High interest in this area is reflected in the largest turnout among the surveyed units.

The conducted research is of a pilot nature. Including them in the future of a larger commune group would enable analysis using statistical tools. In turn, if the research is repeated in the following years, it will be possible to observe the dynamics of trends in the area of the implementation of participatory budgeting by Polish communes. These are the recommended directions of further research in this area.

The contribution of the authors

Arnold **Bernaciak** – 80% (conception), 60% (literature review), 20% (acquisition of data), 50% (analysis and interpretation of data).

Filip **Kopczyński** – 20% (conception), 40% (literature review), 80% (acquisition of data), 50% (analysis and interpretation of data).

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