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Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
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Introduction

The Department of Regional Economy at the Faculty of Economics, Management and Tourism of Wrocław University of Economics organized yet another scientific conference entitled: “Local and regional economy in theory and practice”. It was already the 23rd conference held on 23-25th September 2015 in “Chata za wsią” hotel in Mysłakowice near Jelenia Góra.

The conference was attended by the representatives of national and international scientific circles, regional and local government structures, and also other entities representing business practice and interested in the problems of local and regional economy, as well as PhD students. Over 80 participants of the conference arrived from over 30 national and foreign scientific centres and institutions to present papers and posters.

The subject matter of the conference covered the following areas: local and regional development, local and regional governance, application of quantitative methods in regional studies, partnership in local and regional development, directions of research in local and regional development, cooperation between academic centres and local government units.

The conference contributed to establishing more extensive and stronger relationships, created within the framework of the constructed platform for the exchange of scientific and practical experiences (the conference has been held cyclically since 1992) at the local, regional, national and international forum. The discussions were focused on the dissemination of research results, the exchange of experiences and the establishment of a discussion forum covering both theoretical and practical aspects of local and regional development. They also resulted in more extensive cooperation between academic centres, local government units as well as research and development centres, including the cross-border ones.

The conference is cyclically attended by the representatives of science from Poland and abroad. So far we have hosted e.g. the research workers representing academic centres from Ukraine, the Czech Republic, Italy, Sweden, Germany, Austria, Denmark, Slovakia and also the representatives of business practice, e.g. city presidents and mayors, village heads, county governors, presidents of regional development agencies or of local enterprises, etc.

As a result of the organized conference, the hereby publication presents the collection of thematically selected articles in English covering the broadly understood problems of local and regional economy. Its authors represent the following scientific centres: Warsaw School of Economics, University of Łódź, Gdańsk University of Technology, Koszalin University of Technology, University of Warmia and Mazury in Olsztyn and Wrocław University of Economics.

We are most grateful to the conference participants for the joint meeting and we do hope for further cooperation.

Elżbieta Sobczak, Andrzej Raszkowski, Andrzej Sztando

Jacek Soltys

Gdańsk University of Technology
e-mail: jacek.soltys@gmail.com

SUB-REGIONAL SERVICE CENTRES IN REALITY AND REGIONAL PLANNING IN POLAND

PODREGIONALNE OŚRODKI OBSŁUGI W SFERZE REALNEJ I PLANOWANIU REGIONALNYM W POLSCE

DOI: 10.15611/pn.2016.431.01

Summary: Sub-regional centres are defined as towns where the services of the sub-regional level are concentrated. In Poland these are such services that can be located in several towns in a voivodeship (region), but not in every capital of a poviat (county). The transformation of civilization has influenced changes in Christaller's model of settlement network, but regularities are still valid. Models derived from Christaller's Central Place Theory have been used not only in describing reality, but also in planning, e.g. in Germany. In Poland, centres established in the spatial development plans for voivodeships are not used as a tool for the localization of services. The issue of sub-regional centres in Poland defined by sets of services has not been researched recently. Also, the role of a hierarchical service model in regional policy has not yet been researched. Thus, the objectives of the presented research were to verify: 1) whether any regularities of a hierarchical model for the localization of services exist at the sub-regional level in Poland, 2) to what extent regional planning in Poland operates according to a hierarchical model of service. Methods of research included: identification and classification of sub-regional centres (apart from metropolitan areas), which were examined on the basis of four kinds of services, and analysis of spatial development plans for voivodeships. Research shows that some towns can be identified as complete or incomplete sub-regional centres (depending on the extent of equipment provided), and that the levels of hierarchical centres established in the regional plans fail to specify whether those centres are in fact service centres.

Keywords: regional planning, regional policy, sub-regional service centres, service location, settlement network.

Sreszczenie: Przez podregionalne ośrodki obsługi rozumie się miasta, w których koncentrują się usługi poziomu podregionalnego, czyli takie, które w Polsce mogą być w kilku miastach województwa, ale nie w każdym mieście powiatowym. Przemiany cywilizacyjne wpłynęły na zmiany w hierarchicznym modelu sieci osadniczej Christallera, ale wiele prawidłowości zachowuje aktualność. Powstaje pytanie, w jakim stopniu prawidłowości nadal dotyczą koncentracji usług w ośrodkach hierarchicznych. Modele pochodne od teorii Christallera wykorzy-

stywane są nie tylko do opisu rzeczywistości, ale i w planowaniu, np. w Niemczech. W Polsce ośrodki ustalane w planach zagospodarowania przestrzennego województw nie są narzędziem lokalizacji usług. Problematyka ośrodków podregionalnych w Polsce definiowanych poprzez zestawy usług nie była współcześnie badana. Nie była też badana rola hierarchicznego modelu obsługi w polityce regionalnej. Zatem celem prezentowanych badań było sprawdzenie: 1) czy prawidłowości hierarchicznego modelu lokalizacji usług nadal są aktualne na poziomie podregionalnym w Polsce, 2) w jakim stopniu planowanie regionalne operuje tu modelem obsługi. Metody badań obejmowały identyfikację i klasyfikację ośrodków podregionalnych poza obszarami metropolitalnymi na podstawie czterech rodzajów usług oraz analizę planów zagospodarowania przestrzennego województw. Badania wykazały, że są miasta, które można nazwać ośrodkami podregionalnymi pełnymi i niepełnymi. Hierarchiczne ośrodki ustalane w planowaniu regionalnym są częściej ośrodkami rozwoju niż obsługi.

Słowa kluczowe: lokalizacja usług, ośrodki obsługi, planowanie regionalne, polityka regionalna, sieć osadnicza, usługi podregionalne.

1. Introduction

Sub-regional centres are defined as cities and towns where sub-regional services are concentrated. Under the Polish administration system due to the economic, technical or organizational indivisibility these services may be located in several towns within a voivodeship (region, province), but not in every capital of a powiat (county).

Services have always had a tendency to concentrate, creating systems of different levels of service centres, which led to a hierarchy of settlement network. The oldest and best-known model of this network has been described in Christaller's Central Place Theory. The transformation of civilization influenced changes in this model [Domański 2006]. New models were formulated, but the conceptual apparatus and the regularities are still valid [Fujita et al. 1999; Zaborowski 2014]. Thus the question appears as to what extent the regularity relates to the concentration of services in hierarchical centres? This question especially concerns post-socialist countries because of systemic changes in the year 1989 and the acquisition of European Union funds, which had influenced the localization of services. This question in particular concerns the sub-regional level in Poland because of administrative changes that occurred twice – first in 1975 and then in 1999.

Settlement network and its hierarchy were studied mainly as growth centres – as the concentration of population, jobs, and economic activities [Krugman 1996; Parr 2002]. Relations existing in connection with the surroundings were studied mainly in terms of commutes and migrations. Connections between the localization of services and the settlement network were studied infrequently, especially concerning specific services.

In Poland, sub-regional growth centres were investigated both in connection with the reform of territorial organization that occurred when some cities lost their status as the capital of a voivodeship [Dziemianowicz (eds.) 2011], and also within

the framework for development of the National Spatial Development Concept 2030 (NSDC) [Korcelli et al. 2010]. Zaborowski [2014] studied the settlement network limited to the regional centres in the NSDC, but questions about the serviced areas considering those centres were left outside the subject of the article. Sub-regional centres were the subject of the research project *Sub-regional growth poles in the context of economic transition, the administrative reform and the knowledge-based economy* [Dziemianowicz et al. (eds.) 2011] in which centres were identified according to several criteria, although service equipment had not been among them. Sokołowski [2005] classified cities and medium-sized towns according to indicators of nodality and centrality, and based on employment. Settlement networks of voivodeships have been studied within the framework for work done on strategies and Spatial Development Plans for Voivodeships (SDPV). Delimitations in the areas serviced by the sub-regional centres were examined by gravity and potential method in Malopolskie and Pomeranian voivodeships [Guzik et al. 2012]. Suchta, Drońska and Celmer [2007] researched the role of big and middle cities in regional development taking into account statistical analysis. Most of the publications concerning research on services focus on the various types of services. Comprehensive research is undertaken less frequently concerning inter alia, equipment services [Ilnicki 2014]. The above review shows that the issue of sub-regional centres in Poland as defined by the actual or desired location of sets of services has not been researched recently.

Models derived from Christaller's Central Place Theory are used not only in describing reality, but also in planning. In Germany, simple criteria of population and distance determine the planning rank of centres and localization of public services [Zaborowski 2014]. It is otherwise in Poland. In some regional plans (SDPV) centres of different levels are not considered service centres, but centres of development. Another question appears here as to whether the rank of towns in the SDPV may affect the location of services. The establishment of sub-regional centres (or their equivalent differently named) in SDPV and the role of a hierarchical service model in both regional policy and urban policy in Poland have not yet been analysed. Therefore, the **objectives** of the presented research are to verify:

1. Whether any regularities of a hierarchical model for the localization of services exist at the sub-regional level in Poland?
2. To what extent Polish regional planning operates according to a service hierarchical model?

Methods of this research included: identification and classification of sub-regional centres on the basis of four kinds of services located in towns, analysis of spatial development plans for voivodeships and interviews with planners. The presented study excludes metropolitan area centres and the capitals of voivodeships.

2. Identification and classification of sub-regional centres

Comparing sets of services located in various towns allowed the author to formulate the following list of typical sub-regional services:

1. Courts of second instance.
2. Universities, academies, colleges or other institutions of higher education including organizational units (subsidiaries, departments) of institutions in another location (in short they will be called colleges).
3. Hospitals of the second reference level, defined according to the decree [Rozporządzenie... 1998] – having more than 9 wards, mostly specialized (this decree is no valid, but it is still a convenient source of information).
4. Multiplexes.
5. Specialized hypermarkets (e.g. with home furnishings, furniture, gardening articles).
6. Cultural, sport and leisure facilities, e.g. arenas and medium-sized halls.
7. Water parks.
8. Schools (some specific).

In the presented research the author took into account the four kinds of services that were easy to identify (numbers 1-4 on the aforementioned list). The number of and particular sets of services formed the basis for identification of sub-regional centres and their grouping into types with a simple classification as seen in Table 1.

Table 1. Sub-regional centres and their types

Type	Name of centre and extent of equipment in services		Number of towns	Population in thousands		
				Minimum	Average	Maximum
1	Complete – fully equipped with the set of all 4 analysed services		16	59	115	230
2	Incomplete – not fully equipped, only 3 services		16	28	65	117
2a	College, hospital of second reference level	Second instance court	8	43	64	111
2b		Multiplex	8	28	65	117
3	Incomplete – not fully equipped, with 2 services		27	17	62	140
3a	College, hospital of second level reference		20	17	49	75
3b	College, multiplex		5	32	62	140
3c	Hospital of second level reference, multiplex		1	63		
3d	College, second instance court		1	48		

Sources: [Lista sądów...; Rozporządzenie... 1998; *Sieci multipleksów*...; Local Data...].

Analysis shows that the concentration of services is too small. If the courts of second instance and the multiplexes in the centres of Type 2 were in the same towns, there would be 24 complete sub-regional centres. Towns with only one kind of analysed service were not classified as sub-regional centres. They included: two towns with multiplexes, nine with hospitals of the second level reference, 76 with colleges (including 45 with only an organisational unit). If the services in these towns

and in the centres of Type 3 were concentrated in towns with other sub-regional services, there would be one more complete sub-regional centre, seven more centres of sub-type 2b and seven more of sub-type 3a.

The population numbers are the most diverse and the highest in Type 1 (nine towns have a population above 100 thousand) and the least diverse with the lowest populations in Type 3a (12 towns have a population below 50 thousand). There are eight towns with a population of 50-100 thousand that were unclassified as sub-regional centres because they had less than two analysed services, with the highest populations in Grudziądz and Jastrzębie Zdrój (90-100 thousand). However, if other sub-regional services were taken into account it would be possible to classify some of them as sub-regional centres (e.g. Grudziądz, Gniezno, Mielec, Tczew). Jastrzębie Zdrój, Żory, Lubin, Tomaszów Mazowiecki are located close to sub-regional centres, so perhaps no other sub-regional service centres are needed.

Equipment provided in services of towns is changing. Multiplexes are appearing and they seem to be a typical sub-regional service. The number of multiplexes and the number of towns provided with them is growing. It can be predicted that those numbers will continue growing, while the number and typical location of second

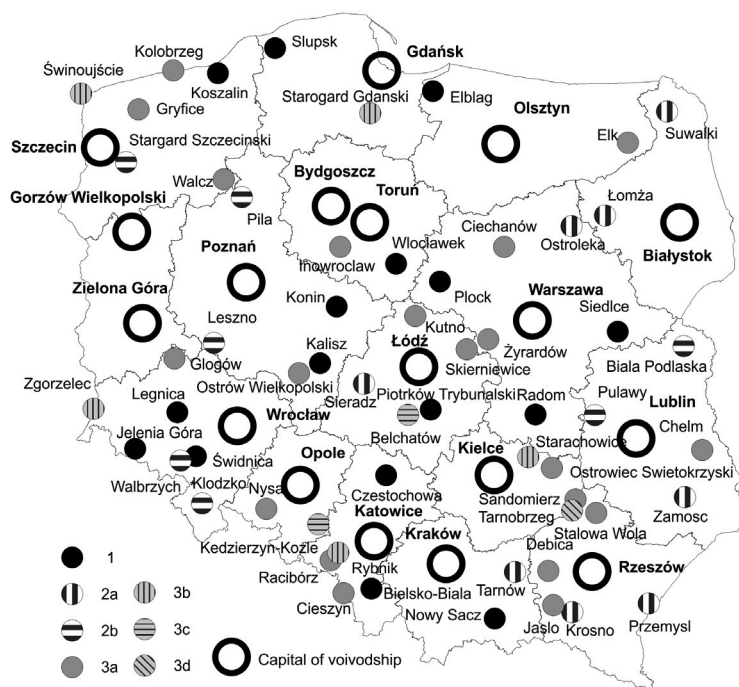


Figure 1. Types of sub-regional centres (described in text)

Sources: [Lista sądów...; Rozporządzenie 1998; Sieci multipleksów...; Local Data...].

instance courts will be stable. As the number of students is decreasing due to changes in the demographic structure, it is possible that some educational institutions, mainly those private ones where students pay tuition, will also collapse.

All towns identified as Type 1 (apart from Świdnica) and all towns of sub-type 2a had been capitals of voivodeships between 1975-1999. Also, half the towns in sub-type 2b (namely Biała Podlaska, Leszno, Piła, Wałbrzych), four towns in sub-type 3a (Chełm, Ciechanów, Elk, Skierniewice) and Tarnobrzeg, which alone comprises sub-type 3d, were also capitals in the past – this is the reason that in these towns there are more sub-regional services than in other towns.

The identified sub-regional centres are located irregularly (Fig. 1). They are more densely located in central, south and south-west Poland, while there is only one complete sub-regional centre located in eastern Poland. The largest area without a sub-regional centre is located in the south-west part of Pomeranian voivodeship. In this area the biggest town is Chojnice, which provides only one kind of analysed service.

3. Centres in regional plans

According to Polish law, regional plans for voivodeships (SDPV) establish the elements of a settlement network, which are variously named (Table 2). These names fail to indicate clearly whether the centres are service centres. Most of the centres are described in plans as centres of services or both services and development, even if they are referred to only as centres of development (for investment, entrepreneurship, innovation, transfer of technology, diffusion of development). Those names come from the National Spatial Development Plan of 1974 and the directions for the spatial planning of new voivodeships legislated in 1975 [Suliga 1976]; and some names were repeated in NSDC [Koncepcja 2011]. Sobolewski [1978] claimed that there was a need to distinguish between development centres and service centres. However, during the next forty years such a distinction was rarely made. It is not clear what the hierarchical level names (supra-regional, regional, local) mean with regard to centres of development, because in many cases the largest relation that exists between the centre and its surrounding is international (if some products are sold abroad), even though the role of the centre in development is local (sometimes sub-regional) as it relates to a commuting range.

In Małopolskie voivodeship, there are lists of services for every level of centre. In most voivodeships there is only general information about services that should be developed. One such service is higher education, despite the fact that the number of students is decreasing demographically. Therefore, most voivodeship centres established by Spatial Development Plans for Voivodeships (SDPV) do not provide a tool for the localization of public services.

Table 2. Settlement nodes apart from metropolitan areas and capitals of voivodeships in spatial development plans for voivodeships

Levels of centres	Voivodeship according to names of settlement nodes	
	Centres of development or pole of growth	Centres (without object)
Supra-regional, regional	Podlaskie ^a , Łódzkie ^a	Wielkopolskie
Regional, sub-regional	Kujawsko-pomorskie ^a , Mazowieckie ^a , Warmińsko-mazurskie ^a	Dolnośląskie
Regional I, II category	Pomorskie ^a	
Regional	Lubuskie, Zachodniopomorskie	Małopolskie, Śląskie
Sub-regional	Podkarpackie	Lubelskie, Opolskie, Świętokrzyskie

^a In Polish: *równoważenia rozwoju*, which is similar to sustainable development or more harmonized development.

Sources: [Plan... 2002; 2003 a, b, c; 2004; 2010 a, b, c, d, e; 2014 a, b, c; 2015; Załącznik... 2012; Zmiana... 2014].

In SDPV there are 66-100¹ sub-regional centres or their differently named equivalents. 56 of them are the same as those that were analysed above in chapter 2.

4. Conclusions

There are towns that can be identified as either complete or incomplete sub-regional centres, depending on whether their typical set of sub-regional services is complete or incomplete. Overall the concentration of services is too small. If more kinds of services were located in the same town, there would be more complete sub-regional centres.

Names of hierarchical centres listed in the regional plans are unclear for interpretation. They are not tools for the localization of services. Spatial Development Plans for Voivodeships should determine two kinds of settlement nodes: centres of services (hierarchical) and centres of development (diverse according to other criteria than hierarchy).

Future research should take into consideration more kinds of services and answer the following questions:

- What factors have contributed to the localization of sub-regional services in Poland in the last 25 years?
- What are the size ranges of areas serviced by sub-regional centres and the population numbers being served in these areas? What are the correlations

¹ In some voivodeships it is difficult to identify the equivalence of sub-regional centres analysed in this paper.

between sets of services, the population of a sub-regional centre, the population of serviced areas and the network ranges of these areas?

International comparative research would be interesting on the role of a model settlement network (defined by sets of services) in regional policy and urban policy.

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Andrzej Raszkowski

Wrocław University of Economics
e-mail: andrzej.raszkowski@ue.wroc.pl

PEST ANALYSIS OF PIECHOWICE MUNICIPALITY – POWER AND FUTURE IMPACT DIRECTION OF ENVIRONMENTAL FACTORS

ANALIZA PEST GMINY MIEJSKIEJ PIECHOWICE – SIŁA I PRZYSZŁY KIERUNEK ODDZIAŁYWANIA CZYNNIKÓW OTOCZENIA

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Summary: PEST analysis represents the commonly used tool supporting the analysis of a given entity macro-environmental changes. Within the framework of the conducted analysis the occurring changes can be observed in a broader perspective, avoiding negative phenomena and taking advantage of the occurring developmental opportunities. The study presents the segmentation of environmental factors exerting an impact on the Municipality development, divided into political, economic, socio-cultural and technological factors. The impact power of particular factors on the Municipality development was also assessed (in a three-level scale) along with the anticipated direction of particular factor development (positive, unchanged, negative) in the perspective till 2026 in terms of its influence on the discussed development. The purpose of the study is to present PEST analysis for Piechowice Municipality, taking into account its potential power and future impact directions of the analysed factors on its development.

Keywords: local development, PEST analysis, macro-environment, Piechowice.

Streszczenie: Analiza PEST jest powszechnie stosowanym narzędziem, które pomaga analizować zmiany w makrootoczeniu danego podmiotu. W ramach przeprowadzonej analizy można dostrzec zachodzące zmiany w szerszej perspektywie, wystrzegać się negatywnych zjawisk oraz wykorzystywać pojawiające się szanse rozwojowe. W opracowaniu dokonano segmentacji czynników otoczenia mających wpływ na rozwój gminy w podziale na czynniki polityczne, ekonomiczne, społeczno-kulturowe i technologiczne. Jednocześnie oceniono siłę oddziaływania poszczególnych czynników na rozwój gminy (w trzystopniowej skali) oraz przewidywany kierunek ukształtowania się danego czynnika (pozytywny, bez zmian, negatywny) w perspektywie do roku 2026 pod względem wpływu na ten rozwój. Celem niniejszego opracowania jest przedstawienie analizy PEST dla gminy miejskiej Piechowice, przy uwzględnieniu potencjalnej siły oraz przyszłych kierunków oddziaływania uwzględnionych czynników na jej rozwój.

Słowa kluczowe: rozwój lokalny, analiza PEST, makrootoczenie, Piechowice.

1. Introduction

PEST analysis represents a widely applied tool, which supports diagnosing changes in the macro-environment of a particular entity. Within the framework of the conducted analysis the ongoing transformations can be approached in a broader perspective, eliminate negative phenomena and take advantage of the occurring developmental opportunities. Moreover, they facilitate comprehending environmental impacts on the development of enterprises, NGOs or local government units.

The discussed analysis can represent an interesting and important component of an organization development strategy, significantly enriching its substance. In cases of economic entities it is applied along with Porter's five forces analysis [Porter 1998; Stimson et al. 2006]. The environment is analysed based on political, economic, socio-cultural and technological perspective by selecting factors which exert the strongest impact or can be of significant influence in the future. It is an expert method in which the authors' knowledge, experience and innovative approach are crucial for its efficiency and accuracy [Olmstead 2002]. At this point it should be added that this method is not widely used with reference to local government units, contrary to the related SWOT analysis.

The process of PEST analysis is usually made up of three stages. The first stage is focused on identifying the most important factors of the particular environmental segments by an organization, which have a crucial impact or can significantly influence its operations. The set of analysed factors depends, to a great extent, on the business profile of the studied entity. In the course of the second stage an organization evaluates the impact made by every factor on its functioning. It should be assessed which factors are currently influencing the analysed entity the most, but also the ones which are likely to influence it in the future. The final step covers defining relationships between an organization and its macro-environment. The anticipated trends, which can influence an organization in the future are assigned to particular factors [Allen 2001; Analoui, Karami 2003]. Basically, the analysis is limited to four environmental segments. The "Environment" oriented factor appears individually in some studies, hence the analysis is referred to using PEEST acronym. Sometimes "Legal" environment is also distinguished – PESTEL acronym. PEST analysis is frequently defined as a typical bird view of business, political, social, technological landscape, in which a given organization is operating. The purpose of this method is e.g. to identify the opportunities ingrained in the environment and to prevent potential threats. [Oblój 2007; Basu 2004; McCabe 2010].

Piechowice is a municipality in Jelenia Góra county (covering part of the Karkonosze Mountains and the Izery Mountains and also a part of Jelenia Góra valley) in Lower Silesia region. The city is situated at the altitude of 360-480 m a.s.l., its administrative border reaches the altitude of 1509 m a.s.l., it borders with the following municipalities: Jelenia Góra, Stara Kamienica, Szklarska Poręba and with the Czech Republic. Piechowice received the city status in 1967 and since the beginning it has been consistently manifested in its urban system (e.g.

the construction of residential areas) and the social one (moving away from its agricultural function for the benefit of industry and service oriented one). The upper, central and lower part of the town is situated along the Kamienna River (which resulted in several destructive floods), whereas the residential areas are located along streams and creeks. The foothill and widespread location is manifested in transport problems resulting in the need to provide bus public transport. The city is situated along the national road no. 3 from Świnoujście to Jakuszyce. The national road crosses the regional one no. 366 from Piechowice to Kowary, which is also the city's representative street (Żymierskiego Street). The function of public roads is also played by county roads. The municipality spreads on a relatively extensive area, i.e. 43,22 km². The population of Piechowice, as at 31st December 2015, amounted to 6234 residents. The observation of population movement confirms that in the recent years its number is maintained at a stable level. The total number of registered unemployed population in Piechowice was 192 persons in 2015, the number of economic entities, in line with REGON (Official Company Register) was 761 (in 2014). Apart from cultural facilities Piechowice also offers the following attractions: Śnieżne Kotły (eng. Snowy Kettles), Wielki Szyszak (Great Helmet), Wodospad Szklarki (Szklarka Waterfall), Bobrowe Skały (Bobrowe Rocks) and Cicha Dolina (Quiet Valley). A well-developed network of hiking trails and bike paths in the city and its surrounding areas (almost 100 km) offers good conditions to practice various forms of tourism all year round [Raszkowski 2010; Raszkowski 2015b; *Strategia Rozwoju...* 2010].

The purpose of the study is to present PEST analysis for Piechowice Municipality, taking into account its potential strengths and the anticipated directions of the identified factors' impact on its development.

2. PEST analysis of Piechowice Municipality

The presented PEST analysis was developed in the course of expert work while preparing the Strategy of Piechowice Municipality Development for the period 2015-2026 [Raszkowski 2015b]. The analysis itself was based, to a great extent, on the materials provided by the town hall (desk research), the available public statistics, creative brain drain, surveys, study visits and the conducted strategic workshops in the period July-December 2015. Therefore, the final results were influenced by the involvement of municipality residents, representatives of local authorities, entrepreneurs, NGOs and the town hall staff.

The table below demonstrates the segmentation of environmental factors having an impact on the development of Piechowice Municipality divided into political, economic, socio-cultural and technological factors. Simultaneously, the impact power of particular factors on municipality development was assessed (in a three-stage scale) and also the anticipated direction for a particular factor formation (positive ↑, no change →, negative ↓) in the perspective till 2016, in terms of impact exerted on this development.

Table 1. PEST analysis of Piechowice Municipality, main results

Political factors	Impact power on the Municipality development (3-high, 2-average, 1-low)	Forecast direction of factor influence on the Municipality development
Political stability	2	↑
Distribution of European Union structural funds	2	↑
Disagreements between policy makers	2	→
International cooperation	1	↑
Support for regional development	2	→
Tax law	2	↑
Level of decentralization	2	→
Employment law	2	↑
Trade restrictions and tariffs	1	→
Environmental regulations	2	↑
Public administration quality	2	↑
Public private partnership development	1	↑
Possibility of opening and running businesses	3	→
Competitive tendering process	2	↑
Intellectual property protection	1	→
Economic factors	Impact power on the Municipality development (3-high, 2-average, 1-low)	Forecast direction of factor influence on the Municipality development
State of the economy	3	↑
Dynamics of economic growth	3	→
State of public finances	2	↑
Development of the tourism industry	2	↑
Domestic and international economic trends	2	↓
Impact and level of foreign investments	2	↑
Geographical location	3	→
Economic cooperation between Poland and Germany	2	→
Economic cooperation with the Czech Republic	2	↑
Competition by other territorial units	2	↑
Quality of central economic policy	2	→
Average income level	3	→
Impact of globalization	1	→
Labour costs	3	↓
Rate of unemployment	3	↓
Interest rates	1	→
Inflation rate	2	→
Taxation	2	↑
Exchange rates	2	↓

Table 1, cont.

Banking system quality	2	→
Credit accessibility	3	↓
Social security and pension systems	2	→
Socio-cultural factors	Impact power on the Municipality development (3-high, 2-average, 1-low)	Forecast direction of factor influence on the Municipality development
Role of men and women in society	2	↑
Skilled worker immigration	3	→
Immigration of unskilled workers	2	→
Ecological awareness		
Division of wealth in society	1	→
Social inequalities	2	→
Human capital development	2	→
Worker mobility	2	↑
Lifestyle trends	2	↓
Regional creativity	1	↑
Socio-cultural changes	1	↑
Consumer buying mechanism	2	↓
Business ethics	1	↑
Overall people's levels of aspiration	2	↑
Development of Non-Governmental Organizations	2	↑
Influence of media on society	2	↓
Events for society	2	↓
Health and safety	3	↑
Funds for health and social care	3	→
Population growth rate	2	↑
Population ageing	3	↑
Local identity	1	↑
Technological factors	Impact power on the Municipality development (3-high, 2-average, 1-low)	Forecast direction of factor influence on the Municipality development
Transport (technical) infrastructure development	3	→
Funds for Research & Development projects	2	↑
Rate of technological change	1	→
Automation	2	↓
Social media development	2	↑
Innovation development	2	↑
Recent technological developments	1	↑
Access to modern technologies	2	↑
Telework development	1	↑

Source: author's compilation.

Due to the expert nature of the tool used the presented list of indicators should be approached as an open one. PEST analysis can be subject to modifications, redefinitions and changes of particular factors within the framework of further research or the development of subsequent strategic documents by the municipality. The current form of the conducted analysis should be referred to as the starting point, as the first one performed for Piechowice Municipality.

The possibility of starting and running a business was considered as the biggest impact factor in the segment of political ones. The key to such a choice was an assumption that simplifications for future and current entrepreneurs depend on political decisions at the central level. Among factors of average impact power, but of an anticipated increased importance, the following can be listed: access to the European Union structural funds, tax law, labour law, environmental regulations or the quality of public administration. Particular attention should be paid to an effective use of the EU funds in the coming years, as they can influence the municipality development in many areas (e.g. complex revitalization of urban space, projects counteracting unemployment and social exclusion, funds for NGOs' projects). International cooperation was listed among the current examples of low impact factors, however, in this case an upward trend is expected.

The overall state of economy was identified among important economic factors presenting an upward trend. The examples of other high impact factors were as follows: the dynamics of economic growth, average income level, labour costs, unemployment rate, the availability of credits. As it can be inferred, the municipality development is strongly dependent on the general economic situation in the country and in the region. In this situation the potential high sensitivity of the city to macroeconomic changes is negative. Attention should also be paid to the average current and the potential upward trend of tourism sector development, the inflow of direct foreign investments or the economic exchange with the Czech Republic. The level of interest rates and the influence of globalization on municipality development were recognized as the lowest impact factors.

In the segment of socio-cultural factors experienced by the municipality the strongest impact is exerted by health and safety, population aging (upward trend) and economic immigration of qualified workers, but also the resources for health and social care. In general, the problems related to the system of social benefits and care remain important for the municipality residents. The factor with anticipated upward trend related to the general level of human aspirations is an interesting one. It may prove the awareness of combining one's own aspirations with the overall socio-economic level of the municipality [Diamond 2012]. The lowest impact factor is associated with e.g. socio-cultural changes, business ethics or regional creativity. Based on the existing analyses it can be concluded that the users of Piechowice local space concentrate on their everyday duties as well as their health and material situation. They are less interested in national or global processes and trends.

In the last analysed segment of technological factors the primary focus was on the overall transport infrastructure development. Having considered the geographic

location of Piechowice it definitely represents the factor which stimulates socio-economic growth. The development of social media, access to modern technologies and the funds for research and development projects (anticipated upward trends) are also worth emphasizing. Teleworking is not perceived as the high impact factor, however, the growing importance of this factor is expected.

At this point it should be noted that SWOT analysis was also created in the course of the above-mentioned expert work while preparing the Strategy of Piechowice Municipality Development for the period 2015-2026, which is basically a supplementary method for PEST analysis [Kotler et al. 2009]. In this case the results of PEST analysis provide a starting point for presenting both opportunities and threats constituting the core component of SWOT analysis (apart from internal strengths and weaknesses).

Among the major threats of Piechowice Municipality the following were diagnosed, e.g.: high unemployment rate in Jelenia Góra county, competition from other local governments, economic immigration, educational offer unadjusted to labour market requirements, insufficient involvement of the state government in solving local government problems and imposing the growing number of tasks on local governments without adequate financial support. Moreover, unclear legislation, disproportions in socio-economic development of particular Lower Silesian local governments, population aging, natural disasters (mainly floods), problems in cooperation with other self-governments, high tax burden of enterprises and natural persons, high bureaucracy level of public institutions, economic crises and low level of specialist health care were identified as the existing threats faced by Piechowice Municipality.

Taking advantage of the EU funds, tourism development (the Karkonosze Mountains potential, agritourism, local products), the development of local entrepreneurship, the functioning of Jelenia Góra Agglomeration [*Strategia Zintegrowanych...* 2015], location advantages (cooperation with the Czech Republic, Germany), the potential offered by the Karkonosze National Park, cooperation with other local governments and the growing importance of NGO sector [Raszkowski 2015a] are listed as the development opportunities of Piechowice Municipality. Additionally, the following opportunities were also identified: railway connection Jelenia Góra-Piechowice-Szklarska Poręba, the proximity of higher education institutions (Jelenia Góra), the increasing job oriented mobility of population, higher educational aspirations, the growing interest in healthy lifestyle, the developing regional transport infrastructure and the development potential of mountain resorts (Szklarska Poręba, Karpacz) in the Karkonosze Mountains.

3. Conclusions

To sum up the above presented discussion it should be emphasized that the conducted PEST analysis was used to develop the tree of strategic and operational objectives for the strategy of Piechowice development. Apart from the above-mentioned analysis the socio-economic diagnosis, the trees of municipality development problems, SWAT analysis, survey report or the suggested development scenarios were also used. Among the strategic objectives the following were listed: the development of tourism and entrepreneurship, higher quality of the local job market, improved condition of technical infrastructure, municipal space revitalization, human capital development, improvement of natural environment, higher level of public safety and strengthening the municipality brand. Higher life quality of Piechowice Municipality was defined as the horizontal objective.

The periods favourable for stimulating socio-economic growth of the municipality are expected in the coming years. Among major reasons underlying this positive forecast the following are included: the EU funds to be obtained, progressing economic stability in the country or more intense activity of the local community. The development of PEST analysis for Piechowice, apart from its cognitive values, can also function as a significant incentive. Its development process engaged entities and individuals indirectly or directly responsible for the discussed municipality development.

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Andrzej Sztando

Wrocław University of Economics
e-mail: andrzej.sztando@ue.wroc.pl

BARRIERS IN STRATEGIC GOVERNANCE OF LOCAL DEVELOPMENT IN POLAND AT THE BEGINNING OF THE 21ST CENTURY

BARIERY ZARZĄDZANIA STRATEGICZNEGO ROZWOJEM LOKALNYM W POLSCE NA POCZĄTKU XXI WIEKU

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Summary: The article discusses barriers in strategic governance of local development characteristic for Polish local governments, i.e. municipalities, which occurred within the first 15 years of the XXI century. These barriers were identified in the period 2000-2015 by means of using the qualitative field research method, in the process of research and implementation as well as research and development projects' execution, directly and indirectly related to the conceptualization, application and assessment of development strategies for Polish municipalities. The introduction to the article presents the reasons, origins, purpose, method, techniques and the course of conducted research. Next the concept of local development perceived from two perspectives, a local and supra-local one, as well as their governance concept and strategic approach to such governance, are discussed. The core part of the article is devoted to presenting the identified barriers in strategic governance of local development and also their sources. The article is concluded by providing recommendations regarding the continuation of research covering these barriers and the instruments of their reduction.

Keywords: local development, public governance, strategic governance, strategic governance of local development, municipality, Poland.

Streszczenie: Artykuł prezentuje bariery zarządzania strategicznego rozwojem lokalnym charakterystyczne dla polskich samorządów lokalnych, czyli gmin, występujące w nich w pierwszych 15 latach XXI wieku. Bariery te zostały zidentyfikowane metodą jakościowych badań terenowych, prowadzonych w latach 2000-2015, podczas realizacji projektów badawczo-wdrożeniowych i naukowo-badawczych związanych z konceptualizacją, aplikacją i ewaluacją strategii rozwoju polskich gmin. We wstępnej części artykułu zaprezentowano przesłanki, genezę, cel, metodę, techniki i przebieg badań. Następnie omówiono pojęcie rozwoju lokalnego, postrzeganego w dwóch perspektywach: lokalnej i ponadlokalnej, a także pojęcia zarządzania nim i strategicznego podejścia do tego zarządzania. Główną część arty-

kułu poświęcono prezentacji zidentyfikowanych barier. Artykuł kończą zalecenia w zakresie kontynuacji badań nad tymi barierami i instrumentami ich redukcji.

Słowa kluczowe: rozwój lokalny, zarządzanie publiczne, zarządzanie strategiczne, zarządzanie strategiczne rozwojem lokalnym, gmina, Polska.

1. Introduction

In accordance with the Constitution of the Republic of Poland, apart from the state government also territorial self-governments participate in the execution of public authority [Constitution... 1997, Art. 16, item 2]. It consists of self-government units: 16 voivodeships (regional government), 314 counties (sub-regional government) and also 2478 municipalities (local government), out of which 66 additionally exercise county tasks (as of 1st January 2015). They carry out numerous obligatory public tasks, i.e. the statutory ones assigned to them, as well as the optional ones, i.e. not reserved for other authorities. Therefore their importance in Polish economic growth and its socio-economic development is significant and presents the increasing tendency. The continued GDP growth in Poland since 1992, in spite of the European and global crisis, remains, to a great extent, the result of such activities.

Due to the above-mentioned characteristics public governance, executed by the authorities of Polish local government units, is the subject of numerous national and international research projects. Complex approach to such governance, represented by strategic governance, also remains within the area of research interest. It appeared in Polish local governments soon after their transformational reactivation¹ in 1990, and today the majority of them are familiar with, at least, its basic ideas.

In Poland the application of municipal strategic governance was subject to many analyses, foresights and guidelines. Among the noteworthy examples the studies by the following authors can be listed: J. Biniecki, J. Bober, R. Brol, H. Gawroński, M. Goleń, K. Heffner, A. Jewtuchowicz, A. Klasik, W. Kłosowski, J. Kot, J. Koziński, F. Kuźnik, E. Nowińska, A. Noworól, A. Sekuła, J. Sołtys, P. Swianiewicz, B. Szczupak, A. Szlaska, J. Warda, A.P. Wiatrak, L. Wojtasiewicz, E. Wysocka, M. Ziółkowski². They constitute a part of an international trend in publications, covering the problems of strategic governance carried out by local governments, represented by the studies of such authors as: R. Backoff, N. Ben-Elia, J. Carr-West, I. Caulfield, K.L. Choo, Ch. Collinge, R. Crew, G. Daley,

¹ It refers to the transformation of Polish socio-economic system from the socialist to democratic and market one, which was initiated in 1989.

² E.g.: [Biniecki, Szczupak 2004; Bober 2006; Brol 2013; Domański 2000; Gawroński 2010; Heffner 2008; Jewtuchowicz 1995; Klasik, Kuźnik 1998; Kłosowski, Warda 2001; Kot 2001; Nowińska 1997; Noworól 2007; Sekuła 2003; Sołtys 2008; Swianiewicz 2011; Szlaska 2007; Wiatrak 2011; Wojtasiewicz 1999; Wysocka, Koziński 1998; Ziółkowski 2015].

S. Denicolai, L.G. Gordon, G.P. Green, C. Flora, J.L. Flora, S. Leach, F. Naschold, B. Nylehn, V. Pina, T.H. Poister, A. Rodríguez-Pose, F.E. Schmidt, G. Schöler, J. Schultz, G.D. Streib, S. Tijnstra, L. Torres, C. Walther, B. Wechsler, A. Yetano, A. Zucchella³. A lot of foreign publications were used as the source of models followed in the initial years of Polish municipal strategic governance and primarily referred to its first phase, i.e. planning. The focus on potential advantages offered by strategic governance is the common component of all the above-mentioned publications. It is indicated that strategic governance enables, facilitates or improves as follows:

- the identification of key development problems and potentials of a municipality,
- the identification of its key developmental opportunities and threats,
- the conceptualization of optimal behaviors of local government, community and business against the above-mentioned determinants, as well as supports identifying the target approaches of a municipality towards its environment,
- the selection of and the concept of executors and also the limited means for the projects recognized as the most important for local development,
- the coordination of such projects in time and space,
- the integration of the crucial part of local community around the vision and the specific plans of local development, as well as joint actions for its benefit,
- the initiation, conceptualization and taking advantage of the existing and strategic partnerships with public and private entities,
- the assessment of local growth stimulating activities and their improvement.

It is emphasized that the ultimate effect of application of strategic governance not only stimulates, but sometimes even determines the processes of local development.

2. Research indications

In spite of the abundant subject literature and high popularity of strategic planning, strategic governance, in its full dimension, is present only in some Polish municipalities. The following symptoms confirm its absence, or only partial presence, and also its defects⁴ – the characteristics, attitudes and behaviors of local authorities, as well as higher level administration staff:

- low level of knowledge of local development and the described governance,
- skeptical attitude towards strategic planning and influencing long-term, own, crucial activities in accordance with the strategy of development,
- insufficient workload, means and timeframe invested in strategic planning, the organization of strategy implementation and also its assessment,

³ E.g.: [Backoff et al. 1993; Carr-West 2010; Caulfield, Schultz 1989; Choo 1992; Daley, Naschold 1999; Denicolai, Zucchella 2005; Gordon 1993; Green et al. 1990; Leach, Collinge 1998; Nylehn 1996; Pina et al. 2011; Poister, Streib 2005; Rodríguez-Pose, Tijnstra 2010].

⁴ The results of the author's research covering some of these symptoms are presented in: [Sztando 2008; 2013A; 2013B].

- acceptance or lack of recognition for the imperfections of the carried out municipal development strategy,
- exercising tactical and operational municipal governance in isolation from the decisions included in the municipal development strategy,
- refraining from the assessment of strategy or performing an incorrect assessment as a result of modifying its criteria and methods, in order to demonstrate the achievement of strategic goals or justify failure in achieving them,
- approaching a municipal development strategy primarily as an instrument for gaining power, meeting formal requirements to obtain the EU funds or the expression of useless type of fashion followed by the local governments,
- the absence of formally adopted strategy of municipal development,
- long-term acceptance or ignorance that the formally binding strategy of municipal development has become extensively outdated.

The reasons underlying problems occurring in the strategic governance of local development result from the factors which have a significant and, at the same time, negative impact on the processes of such governance. Therefore, these factors can be referred to as its barriers, which were observed in the course of the research described below. The results of scientific repositories penetration indicate that they are rarely mentioned in the subject literature. Therefore, it was adopted that the conducted research results in the discussed area can extend the existing knowledge about the actual situation of Polish, municipal strategic governance. It was also assumed that the new knowledge in this matter can be applied in removing or, at least, reducing them in relation to both, an individual municipality by its local authorities, and in the national dimension by the state government, which shall have an indirect impact on the stimulation of local and supra-local development processes. Moreover, it was adopted that it can also turn out useful in these countries where the development policy decentralization, based on local government, is either planned, currently under progress or has recently taken place. It mainly refers to post-socialist countries, and primarily to Ukraine which finds itself at the threshold of systemic local government reforms. Some of these barriers have originated in the previous political system or present a contemporary, secondary effect of an old, centralized approach to the policy of development. Therefore they can also be present in other countries characterized by the socio-economic evolution path, similar to the Polish one. The purpose of this article is to present the discussed barriers identified in the research of local development governance conducted by Polish local authorities.

3. The origins, purpose, method, techniques and the course of research

Starting from 1996 the author has been carrying out numerous, research and implementation, as well as research and development projects related to the conceptualization, application and evaluation of Polish local development strategies.

It was associated with an ongoing and close contact with the individuals playing crucial roles in municipal strategic governance, i.e. local authorities and their personnel playing top administrative functions. It also meant numerous and direct contact with the problems of strategic governance of local development and the factors causing them, i.e. objective barriers. As a result, since 2000 the author has taken advantage of this situation and performed the systematized research, making their identification and classification one of the research objectives. Starting from 2010 the author had an additional opportunity to perform the above-mentioned research, i.e. play the function of a decision-making body member in one of the counties. The total number of 61 municipalities in the entire country was covered by the research⁵. This article presents the results obtained till 2015, i.e. covers the period 2000-2015.

The method of qualitative field research was applied in relation to the purpose and determinants of the research. Its essence is a systematized observation of the object of the study in the place and at the time in which it occurs and develops. Complexity remains its main characteristics and thus this particular method offers an opportunity to discover all, or at least the majority of the researched subject subtleties. It is considered particularly useful in analyzing the actual ideas, attitudes, relations, roles and activities performed by individual persons and their small groups, which are difficult to capture in a survey, not reflected in documents and not monitored by the public statistics. It offers high research accuracy and, hence, can be applied as the first method in analyzing categories, difficult to generalize, which are still insufficiently recognized, i.e. in exploring research [Kostera 2003, p. 25] and the identified barriers were considered as such categories.

The method of qualitative research applies both to neutral and non-neutral techniques. The first of them consists in conducting observations of which the observed are unaware and in which the observer does not influence them or their activities in any way. In case of the latter such knowledge or impact occurs. The author's direct participation in the above-mentioned projects ruled out the neutral observation techniques, which was therefore decisive about the application of the participant observation technique as the basic one and determining the researcher's open participation in the observed processes. This technique, however, just like every non-neutral one, has a disadvantage of the observer's inevitable impact on

⁵ The research covered the following municipalities: Biała Podlaska, Bielawa, Bogatynia, Bolków, Chocianów, Długołęka, Dobromierz, Drelów, Dzierżoniów, Grębocice, Janowice Wielkie, Jelenia Góra, Jeżów Sudecki, Karpacz, Konin, Kowary, Łądek, Łądek-Zdrój, Leszno, Lubawka, Łomazy, Maków Mazowiecki, Mały Płock, Marciszów, Mysłakowice, Nowogrodziec, Orchowo, Osiecznica, Ostrowite, Piechowice, Pieńsk, Piszczac, Płock, Podgórzyn, Polkowice, Powidz, Przemków, Puławy, Radków, Radwanice, Rokitno, Rudna, Stara Kamienica, Starachowice, Stronie Śląskie, Słupca m., Słupca w., Strzałkowo, Sulików, Szklarska Poręba, Świerzawa, Tomaszów Lubelski, Urzędów, Wąganiec, Wądroże Wielkie, Węgliniec, Wojcieszków, Wronki, Zagórów, Zgorzelec (urban municipality), Zgorzelec (rural municipality).

the monitored processes and thus the risk of a different perception of the course of events than the one which would have taken place if such impact had not occurred. The observed members of local authorities and management were informed that the research observations would be conducted along with the project work which, though rarely aroused their interest was not objected. There is also no record of any changes in their behaviors resulting from having been informed about the above-mentioned fact. Moreover, the advantage of the discussed technique is an opportunity to observe both processes and objects in their natural environment. Therefore, barriers were identified where they actually occurred and in the situations in which they were revealed. Thus, they were recorded as they actually occurred, rather than as presented by the authorities experiencing them or even co-creating them. It is also worth emphasizing that organizing nonparticipant observations would be very difficult to carry out. It would inevitably be associated with the reduced confidence in the observer and result in an incomplete picture of the existing barriers and therefore different from the actual reality. The long-term participation in strategic governance allowed, however, arranging a different situation. It also resulted in good and lasting personal relations with the observed individuals, which had a positive impact on the scope and accuracy of the observations made. Furthermore, it facilitated the application of the second, supplementary technique included in the qualitative field research methods, i.e. the technique of qualitative interviews. These interviews were applied to collect additional in-depth information about some analyzed barriers, i.e. the ones which, at the time of conducting an interview, were the subject matter of their biggest interest or involvement. The conducted observations as well as interviews were anonymous.

Supplementary sketches and notes were primarily used as the research tools. The first were made in the course of various meetings of the individuals playing key roles in the development strategy construction and implementation processes, and also during the author's own work on such strategies. The latter were performed later and supported by the author's opinions about the observed facts. Yet another tool used took the form of both audio and audiovisual records of some of such meetings. Finally, the author prepared reports about the decisions made during the crucial meetings. In case of qualitative interviews the focus was on conversations with the respondents. The notes documenting such meetings were prepared after they took place.

20 interviews were conducted, whereas the observations were made during:

- 64 trainings held prior to the strategies construction or the organization of their implementation systems, in which the total of 1200 people took part;
- 103 strategic workshops in which the total of 2100 people participated, including the local authorities;
- about 190 working meetings with the local authorities, including about 90 meetings of municipal council commissions discussing development strategies and their implementation or the results of their assessment;

- 64 sessions of municipal councils during which development strategies and their implementation reports were discussed and adopted.

The collected research materials were processed using cause and effect analysis and logical reduction.

4. Strategic governance of local development

4.1. Local development and its perception perspectives

The discussion of identified barriers occurring in the strategic governance of local development requires this concept to be defined beforehand. It has to start with defining the category of local development, since despite its being used in publications, the media, daily activities of public administration and everyday language, it still happens to be understood incorrectly or incompletely. This category is of dual nature and therefore should be perceived jointly in the two below-mentioned ways. The postulate of joint perception means that adopting one of the variants does not represent the method to comprehend the essence of local development, but rather the acceptance for both, along with noticing how they supplement each other to become a unity.

The first way of local development perception can be referred to as the local one. It consists in approaching it in terms of the desirable, positive quantitative, qualitative and structural transformations of the characteristics typical for the local socio-territorial composition, which constitutes the collection of its unique economic, spatial and cultural qualities, where the public component expresses its own needs and the hierarchy of values. In simplified terms, this composition is most often identified with a municipality. The purpose of local development approached in this way comes down to higher quality of life experienced by the local community as a result of meeting its needs, along with the simultaneous generation of values useful for the environment of the municipality. Its other characteristics are as follows: strong, consensual reliance on endogenous factors, self-sustaining, long-term and planning oriented nature, subjectivity of local community in defining its directions and ensuring it, the absence of supra-local unification and compliance with the idea of integrated order. Many definitions express the above described perception of local development. The definition by L. Wojtasiewicz can serve as an example, since according to it the concept of local development means complex qualitative transformations occurring in a particular area and manifested by its residents' standard of living and the functioning of economic entities located in this area [Wojtasiewicz 1990, p. 38]. The analogous, local perspective of local development is also presented by R. Brol, who claims that local development covers harmonized and systematic activities of local community, local authorities and other entities functioning in a municipality, focused on creating new and improving its existing usability, establishing favorable conditions for local economy and ensuring

spatial and ecological order [Brol 1998, p. 11]. Yet another example of such a local approach to local development is the definition presented by H.R. Marques. In his opinion local development represents the process of local space actors' mobilization, accompanied by innovations and aimed at achieving harmonious changes in sustainable development, and also focused on creating more opportunities to be available for population, on stimulating economic growth, the protection of natural resources and social equality [Marques 2011, p. 4].

The second way of local development perception is of supra-local nature. Such an approach means its conceptualization and identification in the scale of supra-local systems, i.e. regions, countries, unions of countries (e.g. the EU) and also in the global scale. In the supra-local perspective it is perceived as such structural transformations of the listed supra-local systems, as well as relations between these structures and their environment, which remain, to a great extent, the effect of local development processes occurring in the local systems they remain a part of. It is, however, not only about the processes of many local systems (municipalities in Poland) and their effects to be aggregated in supra-local, simple "sums". It primarily refers to the existing and new, supra-local and thus regional, state and global development processes to be stimulated, protected and intensified as a result of network interactions present within the local systems, as well as between them and other supra-local entities (e.g. countries, companies, organizations). In generalized and simplified terms, local development, in its supra-local perspective, refers to the transformation of local development processes into supra-local development processes. The purpose of local development approached in this way is a higher standard of living experienced by regional, national or still differently delimited societies, i.e. supra-local communities of people. Therefore, in such a perspective local development is understood as one of the most important, modern ideas of a contemporary state development, including its regions and interstate communities, as the partial alternative for the uniformed development model, created by large economic entities operating in liberal conditions of an imperfect market. It is considered partial, since it is based on the optimality consensus of combining supra-local concepts of local development with the *stricte* supra-local concepts and processes, such as spatial concertation of capital, the development of corporations, unification, international division of work, globalization, etc. Local development in supra-local perspective is, thus, perceived also as an object of supra-local authorities' activities creating, from their levels, adequate conditions for initiating and stimulating local development processes and their transformation into supra-local development processes. The manner in which local development is perceived from a supra-local level appears e.g. in the final part of the definition presented by R. Rezsóhazy. In his opinion local development can be defined as a harmonious and systematic activity conducted in a local community with the participation of those interested in it, the results of which serve meeting social needs of the local population and result in an overall progress [Rezsóhazy 1988]. A similar approach is presented by I. Pietrzyk, according to which local development

means counteracting extreme liberalism and the reconciliation of entrepreneurship and solidarity among people, solving market defects and imperfect information, setting public initiatives free and taking advantage of the entire local potential for development, thus concentrating local actors around their “own” development program and obtaining such synergic effects which strengthen the overall growth dynamics [Pietrzyk 1997, pp. 89-90].

4.2. Local development governance

Management is defined as an effective usage of resources to achieve the set objectives. Management, as a science and as practical activity, originates from the output of identification, creation and verification of managerial operations, determinants and desires for success in economic activities. Such operations remain within the framework of its traditional and, in a way, fundamental domain. However, in the course of the recent several decades it was extended by the new domains. One of them referred to the activities performed by public authorities which is nowadays usually named public governance. This different name was introduced to better reflect the essence of such governance consisting in stimulating rather than determining changes in the objects of governance and in multidimensionality of these changes. In the systematics of sciences, not only the Polish one, it is a sub-discipline of management science, however, in practice there is a set of the best practices to be followed by public authorities at different levels, with its origins not only in general management, but also in many other areas of knowledge analyzing social, economic and environmental processes. Initially public governance was referred, and still is, to individual public institutions which were supposed to achieve certain objectives. The recent approaches also refer them to groups of such institutions which create a given system or a set, homogenous enough in its functions and structure that is also described as an organization aiming at something. Such approaches were and are justified in some situations. However, for some time recently the category of management, both in theory and practice, has been ceasing to be the sole domain of commercial activities, but also of the organizations establishing coherent systems. In different contexts management is more and more often combined with a society and its organized activities having other than economic incentives and apart from that also with space and natural environment, including processes occurring within their framework. For this reason the concept of public governance is currently also used in terms of activities undertaken with reference to structures and phenomena characterized by a low level of closure, related to entities constituting the elements of organizational networks characterized not only by the difficult to define clearly but also fluctuating boundaries. It refers to structures and phenomena which are on many occasions significantly different, in various aspects, from the organizations and processes occurring in them, even the non-profit ones. The term governance is also used nowadays in expressing efforts to achieve collective objectives, strictly

based not only on economic rationality, but also that of public choice, incorporating e.g. economic, ecological, scientific or even religious rationality.

This trend covers the categories of local and supra-local governance of local development. First of them refers to local development in a local perspective, i.e. to a defined, multidimensional process occurring in a municipal scale, the participants of which are local enterprises, public institutions, non-governmental organizations, elements of ecosystems, natural and other persons, and not just to a municipality understood as a set of organizations creating a municipal institutional system. It means taking advantage of this institutional system to stimulate transformations of the local system structures, mutual relationships between them and with their environment, so that they represent local development. Analogous, supra-local management of local development refers to local development perceived in a supra-local perspective, i.e. transformations of supra-local systems' structures, as well as the relationships between these structures and their environment, as direct and indirect effects of local development processes occurring in local systems which they are a part of. Moreover, it means taking advantage of supra-local institutional systems to establish supra-local conditions for local development, perceived in a local perspective, for the purposes of interventional stimulation of its processes and the transformation of local development processes into supra-local development ones.

4.3. Strategic approach to local development governance

Strategic management is the reaction of science and real life practice to the need for carrying out such activities by various organizations, which in the changing, uncertain and frequently unfavorable environment can provide the possibility for identifying and achieving goals in a satisfactory manner. It is assumed that strategic management evolved in the sphere of business in the mid-19th century, but the researchers trace its origins outside this sphere and much earlier, even in the ancient times. In the recent decades it has been adopted on the grounds of public governance and, therefore, nowadays constitutes one of its most important ideas, research areas and objects for practical application, and due to the previously described reasons, most often defined as strategic governance.

Despite the fact that local development strategies are quite often prepared and officially adopted not only by Polish municipalities, the concept of municipal strategic governance of local development is rarely used and defined in the subject literature [see e.g.: Klasik, Kuźnik (eds.) 2001; Ziółkowski, Goleń 2003; Strojny 2008; Denicolai, Zucchella 2005; Worrall 1994]. Such concepts as “strategic governance (management) of municipal development” and “strategic governance (management) of a municipality” are more often defined, but here the emphasis is placed on the stages of strategic approach, or a holistic approach to governance of a municipality, representing a multi-entity municipal organization⁶, rather than

⁶ Polish municipalities function based on various entities (e.g. schools, municipal services companies, municipal water and sewage companies, social welfare centers, municipal culture centers, sports

on structural transformations and local system relationships which constitute local development perceived from a local perspective. The essence of municipal strategic governance of local development is, however, the complex impact of the municipal authorities on these structures and relationships in accordance with the rationality of strategic operations (in line with the stages of strategic approach) and by means of entities belonging to the municipality, but ensuring that changes of these structures and relationships have the characteristics of local development, perceived from the local perspective. They can also be defined as a strategic composition of diversified activities carried out by the local authorities and focused on the local system (Polish municipality), as well as its environment, undertaken in accordance with the characteristics of local development in a local perspective, to ensure its efficient achievement in the real life practice.

The literature does not offer definitions of strategic approach to governance of local development in the supra-local perspective of its perception. Nevertheless, such a concept can be identified analogously as it has been done above. Supra-local strategic governance of local development can be defined as the complex impact of supra-local authorities on the structures and relationships present in local (municipal) systems constructing a supra-local one (a region, a state, an international organization, e.g. the European Union), implemented in accordance with the rationality of strategic operations (in line with the stages of strategic approach) and by means of entities belonging to supra-local government or the state, in order to create and boost the processes of local development, perceived in a local perspective, and also their transformation in supra-local development processes. The plans entitled as regional or national strategies of local development have not been prepared in Poland as yet, but numerous supra-local strategic plans include a lot of contents referring to the creation of local development processes from a supra-local level⁷. Therefore, a strategic approach to local development governance in a supra-local perspective of its perception is not just a theoretical concept – it is, indeed, reflected in the real life practice.

5. The identified barriers

Local and supra-local strategic governance of local development implies the need for distinguishing two major sets of barriers characteristic for such governance and based on the criterion of its subject. The first set includes strategic governance barriers of local development carried out by the local authorities. Attention should be paid to the fact that they represent not only local barriers, since not all of them have their source in the characteristics of a local system or local entities creating its

and leisure centers, industry and technology parks) constituting their ownership or co-ownership and usually taking the form of a budgetary entity or a commercial company.

⁷ The examples of such plans are as follows: development strategies of Polish regions and the National Strategy of Regional Development 2010-2020: Regions, Cities, Rural Areas.

development. Some of them are exogenous i.e. of supra-local origin. The second set covers strategic governance barriers for local development carried out by regional authorities, state government and the authorities of international organizations. All barriers listed in this set are the supra-local ones. As it has already been emphasized, the conducted research focused on the identification of barriers covered by the first set. Therefore they will constitute the subject matter of further discussion. Based on the similarity criterion they were divided into several groups which are presented below.

The first group of barriers, identified in the course of research covered the **barriers resulting from the theory and practice mismatch, i.e. in other words, methodological barriers**. This term was used to specify the disadvantages of some concepts of strategic governance of local development consisting in their maladjustment to the possibilities and needs of Polish municipalities. Such concepts are reached by local authorities through scientific studies, popular science and didactic publications, as well as trainings. They are also addressed to them by means of strategic plans prepared by hired consultants. The authors of such concepts are frequently not inspired by the idea of teleological and functional perception of methods, techniques and instruments of the discussed governance, since they are primarily motivated by gaining their high theoretical value. Furthermore, this value is obtained only after such methods, techniques and instruments are applied, whereas high complexity remains their main characteristics. The initial effects result in mistakes and failures experienced by the municipal authorities in terms of strategic governance application or even giving it up. The secondary effect, paradoxically, instead of overcoming it, in fact, strengthens the maladjustment of these theoretical concepts to actual intellectual, financial or time resources at the disposal of the local government structures, both currently and in the foreseeable future. In the course of research it was particularly visible in municipalities presenting a small socio-economic potential, where local government administration was made up of several dozens of people highly overloaded with rendering direct obligatory services for the residents, as well as reporting for supra-local supervision entities. The examples of concepts, usually impossible to apply in such municipalities, are the concepts of strategic diagnoses and analyses focused on the detailed, prospective recognition of municipal internal and external environment and also determining its multidimensional position in numerous external frames of reference. Yet another example takes the form of the multithreaded, scenario type and, at the same time, cyclical strategic programming concepts. One more example are the concepts of an ongoing, in-depth monitoring of a municipality and its environment carried out along with the advanced assessment of the effects resulting from the activities implemented by the local authorities.

The second group of barriers includes **legal barriers**. They refer to the imperfections of Polish local government legal system constructed by the state authorities, which restrict the strategic governance of local development carried out

by the municipal authorities. Among this type of barriers certain subgroups can be distinguished. The first of them covers legal regulations referring to the redistribution of budget revenues and earning these revenues by a municipality itself. Such regulations result in the financial weakness suffered by some of them and reduce this part of budget expenditure which can be independently formed by the municipal authorities. It significantly limits the spectrum of the available strategic choices to be made, as well as shifts the optics of perception by the local governments of their role from governing towards administrating. The law extensively restricting, in the general opinion, the indebtedness of municipalities is an example of such a regulation [The Public Finance... 2009, Art. 243]. It significantly impedes, and in some municipalities makes it impossible, to collect the means constituting their own contribution, indispensable to obtain the funds from the EU necessary for the strategically crucial investments. The second subgroup of the discussed barriers' type consists of regulations referring to the provision of municipal services. These regulations impose standardized strategies for such a services provision on the municipal authorities, whereas their own systemic concepts, in this respect, would be significantly or completely different and, as it can be inferred, frequently much better. The amendment to the Act on maintaining cleanliness and order in municipalities passed on 1st January 2012 [The Law on maintaining cleanliness... 2013], which introduced revolutionary changes in municipal waste management, can serve as an example. The third subgroup of the discussed barriers covers regulations related to spatial management. Some of the spatial law provisions significantly impede the local authorities in implementing crucial spatial management changes, whereas spatial structure development remains one of the most important components in strategic governance. It refers e.g. to the provisions allowing for long-term blocking of land property to be used for the purposes of public investments by natural persons and enterprises, as well as depriving municipalities of architectural powers for the benefit of counties. The fourth subgroup includes the provisions referring to the obligatory, type rather than task oriented arrangement of budget expenditure. The construction of the core financial instrument for local development governance, in accordance of the "type philosophy", remains in the opposition to the strategic way of thinking following the category of objectives and tasks aimed at their achievement. It does undermine the incentives for strategic governance.

Another group covers the **cooperation barriers**. One of the success factors in the construction and implementation of local development strategy is the establishment of cooperation relations between the local government and the strategic cooperation partners such as enterprises, NGOs, trade unions, other local governments and state government administration units. Strategic cooperation can result in the achievement of such local development goals which are not feasible, either partly or entirely, in the way of autonomous activities. It allows not only for combining the available resources, but most of all for obtaining the economies of scale and the synergic effects, as well as the necessary compromises. Having considered the

number of potential partners and the scope of the potential development goals, the joint achievement of which is possible and founded, the true, lasting and resulting in significant effects strategic partnerships remain relatively rare in the reality of Polish communes. It mainly refers to partnerships other than inter-local governmental ones. The basic cooperation barrier is the environment perception by potential partners only from the perspective of individual, narrowly approached interests. The adverb “narrowly” expresses the existence of the second cooperation barrier related to the first one. It is the lack of awareness of the potential partners about the possible to accomplish, mutual benefits, which often are of an indirect nature and become noticeable in a long-term perspective, but the broadly understood value of which can be much larger than the savings made as a result of refraining from such cooperation.

Yet another group of barriers can be referred to as the **barriers of public participation**. The recognition of local community as the major beneficiary of local development implies assigning it with the role of a community participating in governing this development. Public participation should occur, in particular, at the stage of forming the strategy of local development. In Polish, but not only Polish practice, such participation is most often carried out as public consultations. They are conducted in the form of surveys addressed to the municipality residents and the management of local enterprises in order to collect and analyse their opinions, also supported by strategic workshops. The latter take the form of meetings involving local leaders representing local social and professional clusters, including local authorities and representatives of higher level authorities, aimed at the joint evaluation of the municipal strategic situation, conceptualization of its desirable development path (strategic objectives) and planning activities ensuring that the municipal structures follow this path (strategic tasks). Therefore, apart from other factors, the success of strategic planning depends on the input made by the community into the local development strategy and specifically its value, i.e. its accuracy in a particular strategic situation, its substantive scope, compliance with reality, innovation, ingenuity and also quantity. Human capital shortage is the first barrier reducing this input. It is easily noticeable in these municipalities which struggle with the liquidation of many local enterprises and public entities, with social pauperization and social pathologies, as well as negative migration, especially among young, enterprising and publicly active people. In the environment where knowledge, skills, creativity, cultural taste, the scope of immaterial environment perception (in all its aspects), intelligence (in all its spheres), the desire for personal development, as well as creativity and reflexivity of local community present, in general terms, a relatively low level, its collaborative input in the development strategy content remains most often quite small. The second participation barrier results from the shortage of positive elements of local social capital. They are noticeable in all types of Polish municipalities, including the ones featuring high development level. Insufficient mutual trust, respect and readiness for joint cooperation of local community members result in the fact that some of them do not get involved in strategic planning, even if they are individually invited

to do so by the municipal authorities. Those, however, who take part in it, due to the absence of the above-mentioned elements of social capital are less capable of exchanging knowledge and other information, conceptualizing common goals and tasks and also resigning from particularisms and concluding compromises. Negative elements of local social capital have similar impacts and can be referred to as the third participation barrier. Local corruption, coteries or local variants of xenophobia discourage the local community to get involved in collaborative planning and reduce the value of its effects, thus making the strategy a tool in the hands of just a part of residents or entrepreneurs in safeguarding their interests.

Another identified type of barriers is represented by **information barriers**. They cover the limitations in accessing data used in the process of a strategy conceptualization and application. Polish municipal strategic diagnoses, the strategy implementation monitoring and its evaluations are based on the data originating from such sources as public statistics, monographs, registers and records, as well as the prepared earlier internal and external diagnostic and planning documents. The scope of data collected in this way, however, is frequently incomplete and hence some of the phenomena and processes, including the most problematic ones, remain disregarded. It reduces the accuracy of the municipal strategic situation assessment and internal activities evaluation which, in consequence, increases the number of strategic decisions other than the optimal ones. Among information barriers the first one to be listed is the information access barrier to the system of state public statistics. It provides data about municipalities to a lesser extent than in case of counties and regions, even though they are collected by this system. Another barrier is the fact that the discussed system does not provide many characteristics of the economic entities employing 9 or fewer workers, e.g. the actual number of workers they employ. It has a negative impact on the strategic governance of local development in the municipalities the economy of which is mainly influenced by such enterprises. It sometimes also happens that the data originating from the above listed sources are significantly outdated, since at the moment of their first provision they illustrate the situation being already a year old. It results from the long data collecting, processing and statistical information publication cycle. It also happens that the requirement of statistical confidentiality constitutes a barrier here. It makes the situation assessment especially difficult in the municipalities where economy is dominated by one large enterprise.

The **barriers resulting from following certain patterns** were also identified. They refer to behaviours of other public entities and the messages they send discourage local authorities to take a strategic approach to local development. During the recent two decades many development strategies of Polish municipalities, as well as counties and regions, were not carried out at all or implemented only in the part which, in the opinion of many authority members, would have been executed anyway, without any strategic planning in place. Therefore, as the resolutions taken by the decision making bodies of local government, they were put aside for years

and left unimplemented in the current functioning of the executive bodies (village heads, mayors, city presidents). They were neither the subject of implementation, nor evaluation, or current monitoring. Such situations resulted not only from the simple abandoning to implement them, but often also from a low substantive level of a particular strategy, questioning the merits and possibilities of its implementation. They also remained the effect of assuming, prior to the planning process, that the strategy would mainly play the role of an attachment to the application for granting financial support from the EU funds, allocated within the framework of programmes addressed to the local government beneficiaries. Such phenomena, occurring in some local governments, were and still are subject to observations of other local government authorities. As a result, some members of these authorities present the persisting opinion that the local development strategy represents a document which is good to have purely for image purpose, or should exist to meet the above-mentioned formal requirement. Automatically, their inclination towards not only correct strategy construction, but also the sole idea of strategic approach to governance of local development, was reduced. Incorrect patterns were also provided by the supra-local partners of local governments. The implementation of the Integrated Operational Programme for Regional Development (IOPRD) by the state and regional authorities can serve as an example in this case. It was one of the six operational programmes aimed at the realization of the National Development Programme in the period 2004-2006. Within the framework of IOPRD the financial means were distributed for the development oriented, strategically important projects to be carried out by the municipal local governments. One of the requirements to be met by the beneficiaries was attaching a special Local Development Plan (LDP) to an application for the financial support to be allocated to a particular project. The required LDP structure indicated that it was supposed to play the function of a strategic instrument to be used in the local development governance. However, in the process of the attached LDPs verification no attention was paid to the fact whether their content was capable of playing this particular function. It was only evaluated if it was composed of the required parts, if the project name, the financing of which was applied for, was provided and whether the amount and the project execution period were the same as those stated in the application. The majority of LDPs were, therefore, characterized by a relatively low quality and the idea of preparing planning instruments for local development governance and applying them in practice was partially devaluated in the local governments' environment.

The next barrier is related to the **substantive support barriers**. The first of them refers to the low level of services rendered for the benefit of local governments by the consulting entities. Some of the companies, operating on the consulting services market, provide services for Polish local governments related to the strategic planning of local development, even though their permanent employees, or more often temporarily hired subcontractors, present neither sufficient knowledge nor experience in this matter. It does happen that the content of development strategies,

prepared based on the consulting services, is the repetition of strategic governance or management handbooks and regional or national development plans. It also happens that they represent, to a great extent, a copy of the strategies developed by other local governments. Their dominating part is frequently devoted to diagnostics, whereas the planning and implementation parts remain unacceptably generalized, unclear and incomplete. In the course of the performed observations, the mistakes made by companies presenting a well-established or even internationally recognized reputation, were noticed, probably resulting from exceeding the potential span of control by the responsible persons, who are simultaneously involved in numerous planning projects for many local governments. For example, they suggested solutions for one municipality based on the strategic analysis results of another one. Low quality of consulting support is strictly connected with the low level of outlays allocated by the local authorities to such support. It is easy to observe in the municipalities where budget revenues cannot cover the costs of meeting the primary needs experienced by the local community and the local companies. The willingness of such municipal authorities to increase expenditure on proper strategic planning, i.e. on surveys, strategic workshops, diagnoses, foresights, or finally the development of a strategy itself, persists, in general terms, on a low level. It is still lower in terms of the funds allocated to the organization of a strategy implementation, i.e. for example on trainings, software or evaluation. Therefore, the lowest offered price is used as the only or primary criterion in the process of an entity selection which is supposed to support the local government in the construction of a development strategy, or provide any other service related to strategic governance. As a result, agreements are often concluded with those tenderers whose service is not only the cheapest, but also the narrowest in scope and of the poorest quality. Low level of Polish universities involvement in the practical strategic governance of local development should also be included among the barriers of substantive support. The research devoted to strategic governance, conducted by the public authorities is obviously carried out, but the practical involvement of universities in the creation of local development strategies remains a rarity. Even less frequent is their participation in the organization of a strategy implementation and assessment. Limited interest of scientific circles in the real life practice of strategic governance, related to local development, is also reflected in the above discussed methodological barriers.

Personnel barriers represent still another type of obstacles in the strategic governance of local development in Poland. The first of them refers to a small group of workers, at the disposal of a given local government, who represent at least basic knowledge and experience in the area of strategic governance. In some municipal administration structures the cases of such personnel absence were also observed. Similarly to other barriers, it mainly takes place in the municipalities characterized by the lowest socio-economic potential. Personnel barriers result not only from insufficient qualification of administration employees, but also their relatively small number. An extensive burden with current tasks makes it impossible to assign such

staff to additional workload resulting from the application of strategic governance and expecting them to complete adequate trainings or postgraduate studies. Personnel barriers are related to the above discussed poor financial situation of some municipalities, however, it is not the only reason. Their sources should also be sought in universities offering courses educating future local government personnel. Their graduates do not acquire sufficient knowledge in the area of strategic governance performed by a local government. Recruitment procedures, used by the municipal local government, must not be ignored either. It does happen that the individuals whose education is not related to a local government functioning, even indirectly, are employed in the local government administration structures.

The final group of barriers is represented by the **barriers for local development strategic governance resulting from personal qualities of the local authorities** i.e. the individual traits of those playing the role of members of the decision making and executive bodies in local governments. The first of such barriers is related to the already discussed personnel barriers, however, its separate specification results from the fact that the members of decision making bodies do not constitute the personnel of municipal administration. Many of them are unaware of the problems related to strategic governance of local development, e.g. not only in terms of governance processes themselves, but also the potential advantages to be achieved, for both a municipality and for themselves. The second barrier of the discussed type takes the form of distrust in long-term plans. It usually has its source in negative experiences related to long-term planning performed prior to the systemic transformation in Poland, i.e. before 1989. The socialist plans were frequently implemented in disagreement with the adopted guidelines and, even more often, they did not comply with the local communities' needs. Their implementation used to be solely superficial or fragmentary. They also played political functions and carried out supra-local objectives, ignoring the opinion of local communities. Risk aversion to the negative assessment of future governance processes remains yet another barrier. Adopting a strategy and providing it for the public is equivalent to specifying the criteria which can be applied in later verification of the local authorities' effectiveness. Some Polish local government representatives refuse to take up this risk. One more barrier also takes the form of risk aversion towards the negative assessment of governance processes, the ones which took place in the past, or the current ones. Any strategy construction requires open public consultations. Public criticism of local authorities is possible in their course, which is sometimes presented in the local media. The limited inclination towards delegating the decision-making competencies in strategic matters is also included among the observed barriers of the described type. As it has already been mentioned, one of the key strategic planning characteristics is the participation of partners in making decisions about the directions of future municipal development. It means the need for giving up some powers, in terms of defining the local development goals, and determining the specific projects aimed at their achievement. Some of the local government members do not recognize such an idea

or accept it to a very limited extent. They are of the opinion that partners are not capable of bringing any added value to planning processes, or have such a strong sense of power that they desire is to maintain either all or at least the majority of the resulting prerogatives. The barrier related to personal qualities of local government members also takes the form of their tendency for instigating the politically motivated conflicts. Polish local government practice shows their relatively frequent occurrence. They often result from deep differences in the presented worldviews and visions about the future, as well as the simple struggle to win voters, deprived from any significant justification. The conducted research also revealed the related contestation of the planning achievements accomplished by the former authorities. The strategic plans inherited from the previous local government were rejected by the new one after the elections, not only due to the lack of acceptance for their content, but mainly as a result of the ambitions to develop its own and new ones, thus strengthening its own publicity. It was also observed that the local development strategy was approached as the instrument in an election campaign. Its construction process remains the object of interest of the local community and, hence, also the media coverage. Therefore, some local government representatives, driven by the motivation to use this situation for their own popularity in the coming elections start strategic planning in the final phase of their term of office. At the same time, they organize it in the way to reflect the expectations of all voters in such a strategy and achieve the biggest media coverage. Thus, they do not develop an optimal strategy with the choice option as its essence, but the list of wishes impossible to carry out in the assumed period of time and using the available means.

6. Final remarks

The purpose of this article was to present, identified in the research, barriers of local development strategic governance conducted by Polish local authorities. Nevertheless, this presentation should not result in the conclusion that their effect is giving up strategic governance of local development by Polish municipalities, or just its superficial execution. In spite of the fact that in many municipalities they result in either failure or disadvantages of such management, still Polish local government practice offers examples of their effective elimination or absence in certain municipalities. In the course of the conducted observations the examples of advanced strategic governance of local development, initiated immediately after the transformational reactivation of municipalities in 1990, were recorded. Polkowice municipality can serve as an example, the authorities of which as one of the first in the country adopted the strategy of local development and are currently carrying out an extended, effective system of strategic governance, based on the experiences gained in the process of developing and implementing as many as six consecutive strategies of this kind. The strategic governance of local development, effectively overcoming the discussed barriers, was also recorded in Bogatynia, Grębocice, Nowogrodziec and other municipalities.

Moreover, the above presentation of barriers does not exhaust all aspects of the studied problem. Future research can identify more of them. Such studies should, however, be primarily focused on determining precisely their prevalence and the intensity of negative impacts on objective governance. They should also cover in-depth analyses of the sources responsible for such barriers, the identification of mechanisms underlying their negative impacts, as well as designing and practical verification of the instruments applied in public policies, carried out by the authorities at different levels, which shall either eliminate or reduce the discussed barriers. It is also necessary to analyse the experiences of other countries and their local governments, which could be used for these purposes in Poland. The advantages obtained as a result of such research and implementation activities will definitely remain considerable and, what is more, they will be revealed not only in various local areas, but also in different supra-local dimensions.

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Jacek Welc

Wrocław University of Economics
e-mail: jacek.welc@ue.wroc.pl

REVERSION TOWARD THE MEAN OF REGIONAL ECONOMIC GROWTH – A POLISH EXPERIENCE

REWERSJA DO ŚREDNIEJ REGIONALNEGO WZROSTU GOSPODARCZEGO – DOŚWIADCZENIA POLSKIE

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Summary: Individual regions of a single country may show significant differences in the pace of their economic growth. This phenomenon is well documented in abundant research studies based on data from developed economies, according to which the regional business cycles are featured by considerable inter-regional dispersion. However, the empirical studies have also found that many economic variables show strong tendency to revert toward the mean in the long run. In the case of regional economic growth it would mean that regions which in a given period experience above-average (below-average) growth, in the following years tend to show significantly slower (faster) relative growth (as compared to the country as a whole). Although mean-reversion is well documented for many economic variables in developed economies, it is much less explored in the case of emerging markets. This paper explores the phenomenon of reversion toward the mean in the case of real GDP-per-capita (GDP) growth of sixteen administrative voivodeships of Poland in 2001-2013 years. The research has confirmed that the relative pace of economic growth of individual regions of Poland shows discernible tendencies of mean-reversion.

Keywords: regional economic growth, mean-reversion.

Summary: Liczne badania wskazują, że charakterystyczną cechą wielu zmiennych mikro- i makroekonomicznych jest ich długookresowa rewersja w kierunku poziomów przeciętnych dla całej gospodarki. W przypadku regionalnego wzrostu gospodarczego oznacza to, że regiony kraju, które w danym okresie notują ponadprzeciętnie wysoki (niski) wzrost gospodarczy, w kolejnych okresach wykazują tendencję do wolniejszego (szybszego) relatywnego tempa wzrostu. W artykule zbadano zjawisko rewersji do średniej wzrostu gospodarczego szesnastu polskich województw w trzynastoletnim okresie obejmującym lata 2001-2013. Badanie potwierdziło, że relatywne tempo wzrostu gospodarczego poszczególnych regionów Polski wykazuje dostrzegalne tendencje rewersji do średniej.

Keywords: regionalny wzrost gospodarczy, rewersja do średniej.

1. Introduction

Individual regions of a single country may show significant differences in a pace of their economic growth. This phenomenon is well documented in abundant research studies based on data from developed economies, according to which the regional business cycles are featured by considerable inter-regional dispersion [Parker 1997; Mitchell, Carlson 2003; Wakerly et al. 2004; Wall, Zoega 2004; Gerlach-Kristen 2009; Crone 2006; Wall 2007].

However, the empirical studies also found that many economic variables show strong tendency to revert toward the mean in the long run. In the case of regional economic growth it would mean that regions which in a given period experience above-average (below-average) growth, in the following years tend to show significantly slower (faster) relative growth (as compared to the country as a whole).

Although mean-reversion is well documented for many economic variables in developed economies, it is much less explored in the case of emerging markets. The previous research confirmed the presence of mean-reversion in the case of stability of regional economic growth of the EU regions [Welc 2011]. However, the authors of this paper are not aware of any empirical study related to mean-reversion of economic growth among Polish regions. This paper explores the phenomenon of reversion toward the mean in the case of real GDP-per-capita (GDP) growth of sixteen administrative voivodeships of Poland in 2001-2013 years. Thus, the purpose of this research is to evaluate the pace with which the intra-regional differences in the economic growth of Polish regions tend to disappear (or at least to narrow).

The remainder of the paper is organized as follows. In the next section we describe the data and research method used in the study. Then the section that presents the empirical results follows. The paper closes with concluding comments.

2. Data and research method

In this research the annual data regarding the growth of GDP-per-capita (GDP) of sixteen Polish voivodeships between 2001 and 2013 have been used. The underlying statistical data were extracted from Eurostat database (for regions identified at the NUTS 2 level).

The only analyzed variable was the regional annual growth of real GDP-per-capita defined as follows:

$$GDPG_t = \frac{GDP_t - GDP_{t-1}}{GDP_{t-1}}, \quad (1)$$

where: $GDPG_t$ – growth of GDP-per-capita in a given voivodeship in year t ,
 GDP_t – GDP-per-capita of a given voivodeship in year t .

The summary statistics of the data used are presented in the table below.

Table 1. Summary statistics computer for real GDP-per-capita growth of sixteen Polish voivodeships in 2001-2013

Year	Arithmetic mean	Median	Standard deviation	Coefficient of variation	Max. in a sample	Min. in a sample
2001	1.6%	2.1%	1.8%	112.0%	5.88%	−1.30%
2002	5.5%	5.4%	1.3%	24.0%	7.37%	3.00%
2003	2.5%	2.7%	1.5%	59.8%	4.44%	−1.05%
2004	8.2%	7.2%	2.8%	34.9%	16.05%	5.26%
2005	4.9%	5.4%	1.9%	38.3%	7.23%	1.63%
2006	6.4%	5.9%	1.7%	26.3%	10.92%	4.65%
2007	11.4%	10.7%	1.4%	12.5%	13.86%	9.78%
2008	2.9%	3.1%	1.9%	65.1%	6.42%	−0.81%
2009	1.4%	1.3%	2.0%	141.1%	4.65%	−1.72%
2010	8.0%	7.8%	1.6%	19.9%	12.10%	6.14%
2011	6.2%	6.1%	1.2%	19.7%	8.03%	4.48%
2012	4.1%	4.2%	1.2%	28.6%	6.25%	2.36%
2013	3.1%	3.3%	1.1%	37.3%	4.96%	0.77%

Source: Eurostat; author's calculations.

As may be seen, the investigated sample is characterized by significant diversity of GDP growth, both in cross-sectional dimension (between individual regions within the individual years) as well as in time-series dimension (between individual years). There were as many as four years when some regions enjoyed relatively fast economic growth (above 5% y/y) while others fell into recession (negative GDP growth). The coefficients of variation computed for all the years are double-digit or three-digit, which confirms that there exists significant inter-regional diversity in terms of GDP-per-capita growth.

The whole sample under investigation was divided into nine moving sub-samples. Each sub-sample comprised five years. The first sub-sample embraced the period between 2001 and 2005, the second one embraced 2002-2006 period, etc. The last sub-sample embraced the period between 2009 and 2013. For each of the sub-samples the visual inspection of the reversion toward the mean of economic growth was conducted.

In the case of the first sub-sample all sixteen voivodeships were sorted in order of decreasing GDP-per-capita growth in the first year, which is 2001 (from the region with the fastest growth to the one with the slowest growth in 2001). The GDP growth data computed for the individual voivodeships were then normalized with the following formula:

$$NGDPG_t^i = GDPG_t^i - MedianGDPG_t^n, \quad (2)$$

where: $NGDPG_t^i$ – normalized growth of GDP-per-capita of i -th region in year t , $GDPG_t^i$ – growth of GDP-per-capita of i -th region in year t (as defined by formula 1), $Median\ GDPG_t^n$ – median growth of GDP-per-capita of all sixteen voivodeships in year t , $n = 16$ – number of voivodeships.

Then the sorted regions were divided into four quartiles so that the first quartile embraced four voivodeships with the fastest normalized GDP-per-capita growth in 2001 and the last quartile embraced four regions with the slowest normalized economic growth in 2001. For each of four quartiles constructed in this way the median normalized GDP-per-capita growth in 2001 was computed. The median normalized GDP growth rates for individual quartiles were calculated as the medians of all four observations of individual normalized GDP growth rates of regions included within the given quartile.

Then, for the same quartiles, the median normalized GDP-per-capita growth in the following four years (i.e. 2002-2005) was computed. Analogous computations were made for the remaining eight sub-samples (comprising 2002-2006, 2003-2007, 2004-2008, 2005-2009, 2006-2010, 2007-2011, 2008-2012 and 2009-2013 periods). The results obtained from all nine rolling sub-samples were averaged in order to obtain the findings which are more representative for long-term processes. The results from individual sub-samples may be distorted by some factors specific for a given period. For example, the sub-sample for years 2003-2007 covers the period of fast economic growth, while the sub-sample for years 2007-2011 covers the period of world economic crisis. Although individual sub-samples may be biased by these specific factors, these biases tend to smooth out when the results are averaged. Thanks to this, the final results capture only the long-term patterns.

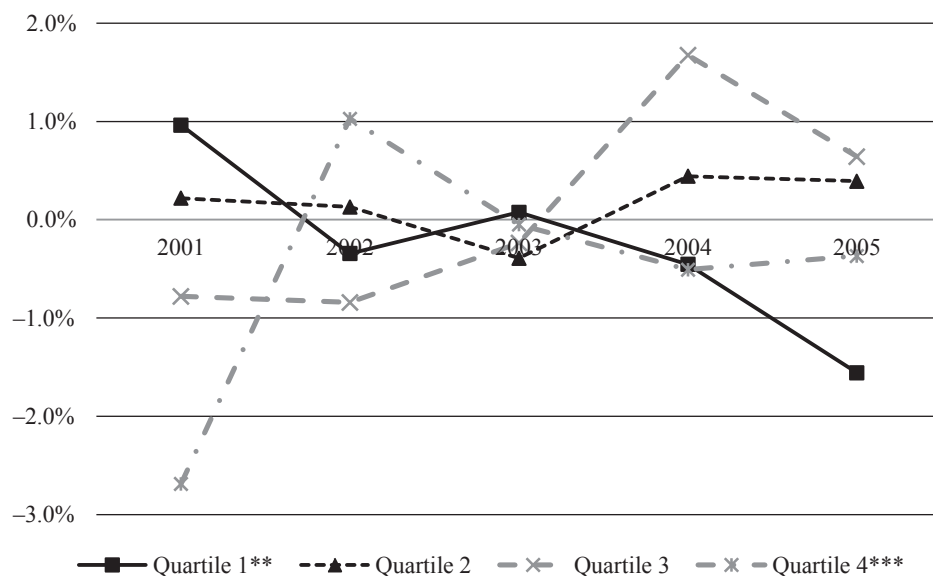
The research method described above enables visual inspection of the behaviour of regional economic growth in five-year windows. It enables observation of the paths of the decrease / increase of the relative GDP-per-capita growth in the quartiles with the fastest / slowest GDP growth in a given year (period t) in four years following the t -th year.

3. Results

Figure 1 presents the phenomenon of reversion toward the mean in the case of regional GDP-per-capita growth in the first sub-sample (comprising 2001-2005 period). The figure shows the medians of normalized economic growth in four quartiles formed on the basis of the data for 2001 year.

As can be seen, there was quite a strong tendency of reversion toward the mean of GDP-per-capita growth in the period under investigation in the case of two extreme quartiles. Particularly, voivodeships with the fastest GDP growth in 2001 (Quartile 1) were those with negative (or close to zero) normalized growth rates in the following four years (2002-2005). In contrast, regions with the slowest

economic growth in 2001 (Quartile 4) were those with the above-average growth in the following four years.



* normalized GDP-per-capita growth as computed in accordance to formulas (1) and (2), ** four voivodeships (25%) with the fastest GDP-per-capita growth in 2001, *** four voivodeships (25%) with the slowest GDP-per-capita growth in 2001.

2001 is the year for which the initial sort of all the regions is made.

Figure 1. Medians of normalized GDP-per-capita growth rates* in four quartiles of regions in 2001-2005 sub-sample

Source: Eurostat; author's calculations.

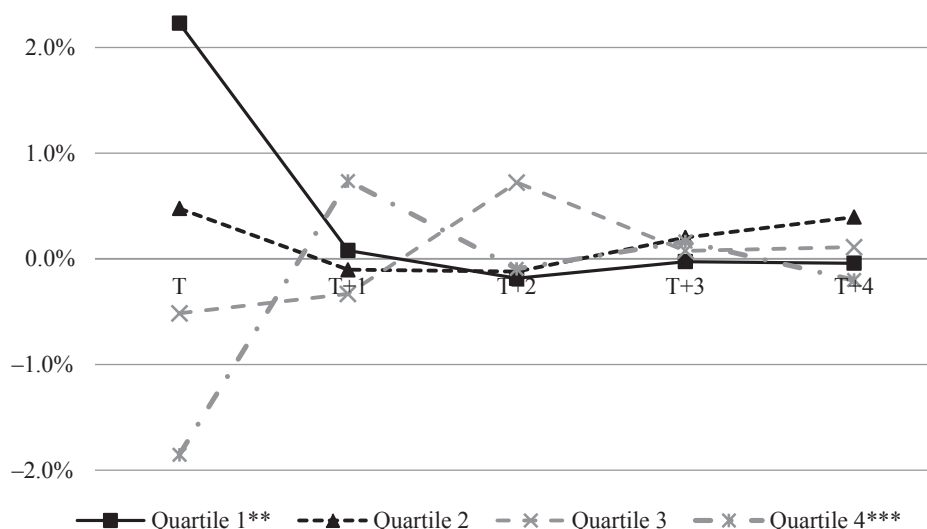
Analogous computations were conducted for the remaining eight rolling sub-samples. However, due to the space limitations the detailed results for the individual sub-samples are not presented here. Instead, in Table 2 as well as in Figure 2 the averages obtained for all nine sub-samples are presented.

The data shown in Table 2 and in Figure 2 present the averaged numbers for all nine sub-samples. For example, the value for the first quartile in year T (equalling 2.23%), where T is the year for which the sort of all the companies is made, constitutes the arithmetic mean of the nine medians of normalized GDP-per-capita growth rates obtained for the first quartile in the first year of all nine sub-samples. This number (equalling 2.23%) means that the median GDP-per-capita growth in the group of four voivodeships with the fastest growth in any given year is on average about 2.23 percentage points higher than the median GDP-per-capita growth for all sixteen voivodeships in the same year. Analogously, the value for the first quartile in period

Table 2. Averaged* medians of normalized GDP-per-capita growth rates in four quartiles of regions in all nine rolling sub-samples

Quartiles of regions	Period				
	T**	T+1	T+2	T+3	T+4
Quartile 1***	2.23%	0.08%	-0.18%	-0.03%	-0.04%
Quartile 2	0.48%	-0.10%	-0.12%	0.20%	0.40%
Quartile 3	-0.52%	-0.33%	0.72%	0.08%	0.11%
Quartile 4****	-1.85%	0.74%	-0.09%	0.16%	-0.20%

* each number in the table is the arithmetic mean from the nine values taken from the nine rolling sub-samples for a given quartile and for a given period, ** T means the sorting period (the year in which the voivodeships are sorted and grouped into four quartiles); periods from T+1 to T+4 are the following years, *** four voivodeships with the fastest GDP-per-capita growth in the sorting period (i.e. in year T), **** four voivodeships with the slowest GDP-per-capita growth in the sorting period (i.e. in year T).



* each number on the chart is the arithmetic mean from the nine values taken from the nine rolling sub-samples for a given quartile and for a given period, *** four voivodeships with the fastest GDP-per-capita growth in the sorting period (i.e. in year T), **** four voivodeships with the slowest GDP-per-capita growth in the sorting period (i.e. in year T).

Figure 2. Averaged medians of normalized GDP-per-capita growth rates* in four quartiles of regions in all nine rolling sub-samples

Source: Eurostat; author's calculations.

T+1 (equalling 0.08%), where T+1 is the year following the year for which the sort of all the regions is made, constitutes the arithmetic mean of the nine medians of normalized GDP-per-capita growth rates obtained for the first quartile in the second

year of all nine sub-samples. This number (equalling 0.08%) means that the median GDP-per-capita growth in the group of four regions with the fastest growth in period T, which in period T is on average about 2.23 percentage points higher than the median growth for all the voivodeships, in the following year (i.e. T+1) is on average 0.8 percentage points higher than the median growth in the group of all the regions.

As can be seen, the 2001-2013 period was characterized by a significant reversion toward the mean of GDP-per-capita growth rates of sixteen Polish voivodeships. In the years under investigation the median normalized GDP-per-capita growth in the first quartile in period T averaged 2.23%. That means that the median growth in the first quartile exceeded the median growth among all the regions by about 2.23 percentage points, on average. However, in the following year (T+1) such regions tended to report growth only slightly faster than average (by 0.08 percentage points) and in the further years (T+2 to T+5) they suffered from below-average growth of GDP-per-capita.

The strong mean-reversion is evident also in the case of the last quartile. In the years under investigation the median normalized GDP-per-capita growth in the fourth quartile in period T averaged -1.85%. That means that the median growth among slowest-growing voivodeships lagged behind the median growth among all the regions by about 1.85 percentage points, on average. However, in the following year (T+1) such regions tended to catch up with their economic growth and to report growth rates which exceed the country-wide median by 0.74 percentage points, on average.

4. Conclusions

The research presented in this paper was based on the data concerning GDP-per-capita growth rates of sixteen Polish voivodeships in 2001-2013 years. The findings corroborated that relative regional economic growth tends to revert toward the mean. This mean-reversion is evident in the case of extremely fast-growing and extremely slow-growing regions. It means that voivodeships characterized by relatively fast / slow economic growth in any year, usually experience below-average/above-average relative growth in the following years.

The obtained findings are of relevance for both corporate management as well as regional economic policy (including public finance management). This is so because the fast pace of mean-reversion of regional economic growth, if not adequately factored into decision making models and processes, may entail poor economic decisions. For example, if relatively fast/slow past growth of a particular region of a given country is over-extrapolated (by corporate managers) too far into the future, then their business decisions may be biased by, for instance, over-investing in the regions with above-average past growth while under-investing in the areas which are seemingly and temporarily lagging behind. Similarly, if mean-reversion of economic

growth is not fully understood by policymakers, it may result in overly optimistic/essimistic forecasts of local tax revenues in those regions or municipalities, which at the moment grow relatively fast/slowly.

However, this study has some relevant limitations. First of all, the period covered by the research is pretty short and embraces only few incomplete business cycles. During the years under investigation Polish economy did not experience any single year of recession (i.e. decline of gross domestic product). This means that the results can be somewhat biased. In particular, it is likely that the obtained estimates overstate the true pace of the mean-reversion, particularly in the case of regions with below-average economic growth. It is important qualification because in the case of recession (especially the deep, prolonged and unforeseen one) the higher share of Polish regions could fall into more structural and “stubborn” economic problems and that could significantly change the empirical estimates of their reversion toward the mean.

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Marek Goleń

Warsaw School of Economics
Department of Local Government Economy and Financing
e-mail: marek.golen@sgh.waw.pl

CROSS SUBSIDIZATION IN POLISH MUNICIPAL WASTE MANAGEMENT FEES

SUBSYDIOWANIE SKROŚNE W RAMACH STOSOWANYCH W POLSCE OPŁAT ZA ZAGOSPODAROWANIE ODPADÓW KOMUNALNYCH

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Summary: The article presents the results of surveys conducted in municipalities which relate to cross subsidization of municipal waste management costs under the new system of municipal waste management operating in Poland from July 1, 2013 to June 30, 2014. It was found that the introduced fees were not common and that at least 20% of system costs were financed by entities that did not generate these costs. The article also identifies, without identifying the scale of the issue, the areas of potential cross subsidization within the charging system disparities with respect to the cost shaping factors, as well as within tariff groups that can be created by municipalities under the regulations in force. The conclusions present recommendations designed to reduce the scale of the problem.

Keywords: municipal waste, fees, cross subsidization.

Streszczenie: Artykuł przedstawia wyniki badań ankietowych gmin, które dotyczyły subsydiowania skrośnego kosztów gospodarowania odpadami komunalnymi w warunkach nowego systemu finansowania gospodarki odpadami komunalnymi w Polsce działającego od 1 lipca 2013 r. do 30 czerwca 2014 r. W wyniku analiz stwierdzono, że wprowadzone opłaty nie mają powszechnego charakteru i przynajmniej 20% kosztów systemu finansowanych jest przez podmioty, które kosztów tych nie generują. W artykule zidentyfikowano ponadto, bez określenia skali zjawiska, obszary potencjalnego subsydiowania skrośnego w obrębie dysproporcji systemu naliczania opłat względem czynników kształtowania kosztów, a także w obrębie grup taryfowych, które gminy mogą tworzyć w ramach obowiązujących przepisów. W tekście przedstawiono rekomendacje zmierzające do zmniejszenia skali problemu.

Słowa kluczowe: odpady komunalne, opłaty, subsydiowanie skrośne.

1. Introduction

Cross subsidization of the municipal waste management costs in the Polish legal environment takes place at three (and in some municipalities – at four) independent levels with different intensity of the issue in each of these levels that overlap each other, at times causing serious injustices related to charging the costs to various social groups. Despite the expected universality of the fee, there is a serious problem, namely: part of property owners hide the basis for calculation of the fee partially or, less frequently, in whole. The first level of cross subsidization is the scope of the basis of all fees which, in general, is not declared by property owners and, in addition, gets out of control of authorities entitled to collect the fees. For reasons of simplification this level will be referred to as *non-declared fees*. Its presence causes two effects in the area of cross subsidization. If the fees recovered from paying entities are sufficient for a municipality to cover all costs related to the system, then these paying entities cover the costs generated by non-paying entities. If there is a shortfall of the fees in a municipality, we are faced with the need to subsidize part of the system costs from other sources such as unspecified taxes, which at the same time does not rule out the effects of the first kind that are usually present in the described situation.

The second area of cross subsidization with exactly the same effects as the first one is called *fees not collected*, i.e. declared by property owners, but not paid to the municipal budget for various reasons. While municipalities have the legal instruments to enforce these fees, they are not always applied. First of all, sometimes it is just not possible to collect the fees due to the difficult financial situation of certain social groups, and secondly, sometimes local authorities do not collect the fees because of the fear of losing support in the elections.

The public discussion on cross subsidization is dominated by the problem of the third level of cross subsidization, namely: breaking the balance between the amount of the fees and the costs generated in the system by various entities that produce waste (*imbalance between the fees and generated costs*). The new financing rules concerning municipal waste management result in introducing cross subsidization to the system, because not only the amount of waste produced by the population but also the overall costs generated by individual properties are not proportionate to any of the charging practices for residential properties listed in the Act [Ustawa z dnia 1 lipca 2011].

The fourth area of cross subsidization applies to some municipalities that voluntarily decided to extend the municipal waste management system not only to waste generated in residential properties but also to waste from nonresidential properties. These municipalities are required by law to make two *tariff groups* of recipients of services related to municipal waste management (residential and nonresidential properties), each of which must have separate charging rules.

The purpose of this article is to theoretically organize the issue of “fairness” of the fees under the current legal conditions in Poland for financing the costs of municipal waste management, but also to contribute to the discussion on the possibilities of reducing cross subsidization of costs related to municipal waste management in Poland. This article also aims at presenting the results of surveys related to fee collection (which is one aspect of the cross subsidization issue) that were conducted in municipalities on the occasion of tests carried out for the Polish Ministry of Environment aimed at establishing maximum possible statutory fees required by the Polish Constitution.

2. Non-declared fees

The survey addressed to all 2479 municipalities in Poland included a question about the number of municipality residents according to declarations on the amount of the fee. 1999 municipalities answered the question (80.6%). These data were compared with official data of *GUS* (Central Statistical Office) related to the number of people living in municipalities as of December 31, 2013. According to the data of *GUS*, the municipalities that answered to the above-mentioned question had 31,8 million inhabitants, while property owners reported only 26,9 million people in declarations on the amount of the fees. On the basis of the answers and after summing up the data it can be said that approximately 15.4% of the population is missing in the system of payment for municipal waste management, and there is a minor group of municipalities that report there are more people who declare payments than in the official data of *GUS* related to the number of inhabitants. After rejecting extremely unreliable survey results¹, most likely resulting from errors made by the respondents while filling out the questionnaires, the percentage of “missing people” is reduced to approximately 14%.

The results of the analyses show, only on the basis of the research on the first cross financing area, that the new payment system is not common and that the scale of cross subsidization is significant. However, only on the basis of the questionnaires it is difficult to determine the scale of the waste management cross financing costs due to the diverse nature of the fees (different charging methods and different fee levels). To illustrate the scale of the problem let us assume that the fees are uniform in all municipalities throughout the country (fixed fee calculated according to the number of inhabitants) and that the system balances to zero in the case of declared (and collected in 100%) fees. An additional 14% of the population generating costs proportional to its level results in the necessity to use 14% higher fees than in the case of universal fees. When calculating in the opposite direction, the introduction of universal fees could reduce current rates by approximately 12.9%.

¹ Over 30% more payers in relation to residents (6 municipalities) and over 80% less payers in relation to residents (17 municipalities).

The problem of people missing in the system of payment for waste management in particular affects municipalities whose population is subject to considerable fluctuations. Frequent changes in population size in individual municipalities are associated with tourism (gainful, religious, leisure, recreational, medical, etc.). Whatever the reason for local seasonal changes in population size is, the system is designed only partially and rather theoretically to limit the scale of cross subsidization of the costs generated by the population remaining temporarily on the municipality territory, because these changes are not registered at all and should be registered while taking into consideration individual properties. A large but unspecified portion of the waste stream from tourists moves in the system by means of residential properties (mainly private) and street bins, thereby increasing the scale of the problem. An attempt was made to measure the phenomenon as part of the survey, but due to a very small sample the analyses are not suitable for scientific presentation.

3. Fees not collected

The examination of fees collection in total (i.e. regardless of whether a municipality took over the responsibilities of nonresidential property owners in terms of municipal waste management) was based on 3 questions. 2 of them were related to the total annual amount of fees declared by property owners: the first as of July 1, 2013 (the new payment system enters into force), the second as of June 30, 2014 (after the year of tightening the system). The third question concerned the fees that were received by municipalities between the above mentioned dates. Numerous errors involving an order of magnitude (confusing units with thousands) significantly hinder the full analysis of the problem based on absolute values, but it is possible to create relative meters. For each of the 1854 municipalities that gave non-zero answers to all 3 questions the following meters were calculated: the relation between the fees declared after one year of the system operation and the fees declared upon entry of the new rules (1); relation between the fees collected in the first year of system operation and the fees declared as of July 1, 2013 (2); and relation between the fees collected in the year of system operation and the fees declared as of June, 2014 (3). Table 1 presents the results of the calculations.

The analysis of the (3) indicator provides the most important conclusions related to the area of cross subsidization. On one hand we can see 20% of municipalities that report more collected fees than declared fees, but on the other hand we have 30% of municipalities that collect less than 90% of declared fees. On the basis of the median and internal average it should be noted that the collection rates in the year after the year of the new system operation were at least a few percent lower than the perfect rate. Let us assume that recoverability is 95% (i.e. 5% of fees will never be collected), thereby changing the assumptions of the part 3 of the article – in such case we have fees higher not by 14% but by about 20% in relation to the ideal

Table 1. Selected rates of empirical distribution of waste management fees recoverability during the period from July 1, 2013 to June 30, 2014 in 1854 municipalities in Poland

	Quantiles of the k order									Internal average*
	k = 0.1	k = 0.2	k = 0.3	k = 0.4	k = 0.5 (median)	k = 0.6	k = 0.7	k = 0.8	k = 0.9	
(1)	0.97	1.00	1.01	1.06	1.26	1.92	2.00	2.10	2.61	1.50
(2)	0.85	0.91	0.96	1.01	1.32	1.76	1.88	2.00	2.50	1.43
(3)	0.77	0.85	0.89	0.91	0.93	0.95	0.98	1.00	1.10	0.93

* Internal average calculated on the basis of 80% of cases after rejecting 20% of extreme values.

Source: own development based on surveys.

financial integrity of the system. Counting in the opposite direction, tightening the system could bring a decline of applicable fees by even 16.5%.

4. Imbalance between the fees and generated costs

The costs of waste management depend on many different variables. In particular we have to include: the amount of waste (in terms of both weight and volume), the frequency of waste collection, disposal methods, the degree of residential buildings dispersion. In addition, there are numerous side factors shaping the total costs of the system, but discussing and calculating them is not the purpose of this article. What is important here is the fact that these costs do not depend directly on any charging factors listed in Polish law (population number, number of households, surface area of apartments, the amount of water consumed) and it is not changed even by the legal possibility of applying hybrid methods, i.e. those that include several of the above mentioned factors at the same time and in various combinations, which constitute premises for determining the costs.

The most common charging method used in Poland is the method based on the number of inhabitants used by 1469 municipalities, which is approximately 70% of all municipalities participating in the survey of the Ministry of Environment carried out at the beginning of 2013. The second most common method is the method based on the number of households that formally occur 422 times in the database (i.e. approximately 20% of all cases). However, it should be noted that most of the municipalities in this group use diversification of the fees depending on the number of people in each household, and only 73 municipalities in that group charge the fees according to a uniform method based on the number of households. The remaining 349 municipalities use their informal hybrid methods, i.e. they determine the size class of households and charge the fees on the basis of not only the number of households but also on the basis of the number of residents living in individual

households. Combined methods (a hybrid of at least two of the four methods allowed under the law) were declared formally by 200 municipalities (approx. 9.5%), which, along with municipalities declaring the method based on the number of households but in their class size, gives 549 municipalities (approx. 26% of all municipalities participating in the survey). The other two methods, i.e. the method based on the amount of water consumed (19 municipalities) and on the surface area of apartments (only 4 municipalities) are used rarely and therefore they will be omitted in further analysis.

As demonstrated by scientific studies conducted both in Poland and in other Member States of the European Union, the amount of waste produced in a household is not fixed relative to the number of persons in this household as the logic of the fees charged on the basis of the number of households regardless of their size would require. It is also not directly proportional to the number of persons in a household, which should be expected in the system of headage payments. Therefore the two above mentioned charging methods do not fulfil the conditions of fairness from the point of view of waste processing costs (the “polluter pays principle”), and they completely disregard logistical costs by entering the next cross subsidization area into the system.

Of particular interest in terms of fairness are the results of Austrian researchers [Lebersorger, Beigl 2011], who, after 12 years of examining 500 municipalities in Styria, Austria, developed a general formula describing the amount of municipal waste produced. This formula is not useful in Poland and therefore will not be quoted. Slightly more useful can be Lebersorger’s and Beigl’s results related to specific quantities of municipal waste according to the size of households, which are shown in Table 2.

Table 2. The amount of municipal waste according to the size of households

The number of persons in a household	1	2	3	4	5	6	7	8	9	10
The amount of waste generated by a household (kg/year)	557	887	1060	1125	1119	1069	993	904	810	716

Source: own elaboration on the basis of [Sobolak et al. 2013].

Similar results were reached also by other researchers, for example in Ireland [Dennison, Dodd, Whelan 1996], but also in the Polish conditions [Steinhoff-Wrześniewska, Strzelczyk 2012] and [Strzelczyk 2013]. So far, these are the best Polish sources related to the amount of waste according to the size of households, but due to the fact that a small number of households was covered by the research, the data are not sufficient to derive a mathematical model describing the size of the waste stream, not to mention describing the costs of municipal waste management. Nevertheless, they provide rationale to accept Austrian and Irish studies as a basis

to recommend the tariff system for the Polish municipalities that should recommend the establishment of fees based on the number of households in two size classes: single-person households and multi-person households (variability in the amount of waste generated in multi-person households is relatively small).

The use of such a tariff system merely reduces the scale of cross subsidization, because in the case of abandoning the fees charged according to the amount of people, multi-person households reduce the scale of single-person cross subsidization, and in the case of abandoning the fees charged to households without distinguishing their sizes, single-person households reduce cross subsidization of multi-person households. Eliminating cross subsidization is much more complicated, if at all possible. The scale of the phenomenon can be reduced by taking into account such factors differing the costs generated by individual properties as: the amount of waste collected, the frequency of waste collection, the degree of dispersal of residence. It is not fully possible under the law as it stands. Although [the Act of July 1, 2011] allow municipalities to vary the rates of the fees depending on *the density of population in the municipality and the distance from the place of municipal waste disposal, (...) collecting waste from rural or urban area, as well as the type of buildings*, the application of these rules in the Polish conditions is rather marginal, and the previous studies found isolated cases of this type. This is most likely due to the egalitarian social expectations and the lack of specific or customary legal regulations. The lack of legal opportunities to differentiate the fees depending on the amount of waste and frequency of waste collection results in cross subsidization of property owners who:

- produce above-average quantities of waste,
- are served with greater frequency,
- are more dispersed (especially in the case of low-rise buildings),
- by the owners of properties of the opposite characteristics. Determining the scale of the problem requires in-depth research and analyses.

5. Tariff groups

The provisions cited in part five [Ustawa z dnia 1 lipca 2011...] allow municipalities to establish tariff groups, however, due to the lack of research on the universality of applying these provisions, in this part of the article we will focus only on nonresidential properties. They constitute – for municipalities which take owners' responsibilities in terms of municipal waste management – a mandatory tariff group distinct from residential property owners. The fees for this tariff group are calculated according to separate rules on the basis of the volume of waste and the types of containers with which a nonresidential property is equipped.

This situation may cause local authorities to partially pass the costs of one tariff group to other depending on the needs and social possibilities, because the provisions governing the methods of determining the proportion of the fees focus on financing the fees wholly from the municipal system and not from individual tariff

groups. Allocation of the costs generated by individual tariff groups is not possible in most cases, because only a few municipalities in Poland introduced a precise system of registering the waste stream according to single loading actions of single containers assigned to specific properties, and even a smaller group of municipalities can take full advantage of these systems. That is why determining the scale of cross subsidization in this area also requires in-depth research and analyses in the future.

6. Conclusions

The analysis of the issue showed that the new system of financing municipal waste management in Poland is not widespread and that at least 20% of the current costs is financed from sources not related to the waste management system or by means of excessive charges imposed on the system users who pay their fees to the budgets of municipalities. The issue of investment costs was not analysed – under the law they were completely pushed out of the area of fees, increasing the scope of cross subsidization.

The situation can be improved by means of tightening fees execution, also through the establishment of legal instruments to verify the actual charging basis by municipalities, through the selection of a scientific and reasonable charging system by municipalities, by extending the legal possibilities of optional charging practices according to the cost shaping factors, and by taking into account the depreciation costs of waste management infrastructure fixed assets.

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Grzegorz Maśloch

Warsaw School of Economics
e-mail: gmaslo@sgh.waw.pl

THE IMPORTANCE OF RENEWABLE ENERGY SOURCES FOR SUSTAINABLE DEVELOPMENT OF POLISH REGIONS

ZNACZENIE ODNAWIALNYCH ŹRÓDEŁ ENERGII DLA ZRÓWNOWAŻONEGO ROZWOJU REGIONÓW POLSKI

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Summary: Energy policy plays a key role in the European Union and has a significant impact on the socio-economic development of regions. EU energy policy has been focused on efforts to reduce energy consumption and to increase energy efficiency and wider use of renewable energy sources. In recent years, the share of renewable-energy sources has significantly increased in the total Polish energy balance. The aim of the article will be to analyze the impact of capabilities of renewable energy sources in Polish regions along with potential benefits of applying them.

Keywords: renewable energy sources, sustainable development, regions, EU.

Streszczenie: Energetyka odnawialna staje się coraz ważniejszym czynnikiem wpływającym w istotny sposób na możliwości rozwoju społeczno-gospodarczego regionów, zwłaszcza w aspekcie ochrony środowiska, wykorzystania lokalnych zasobów, wzrostu innowacyjności gospodarki oraz poprawy jakości życia ludności. Dlatego też celem artykułu jest omówienie wpływu energetyki odnawialnej na rozwój polskich regionów.

Słowa kluczowe: odnawialne źródła energii, rozwój zrównoważony, regiony, UE.

1. Introduction

Progressing socio-economic development processes frequently cause significant and irreversible changes in the natural environment. Problems related to environmental degradation and disruption of the concept of sustainable development are also largely connected with Polish regions. One of the major factors influencing both the state of the natural environment, as well as the level of economic development and the

quality of life, are sources and methods of manufacture utilized in the production of thermal and electrical energy. In Poland, renewable resources remain a completely unused source of green energy; effectively applied, they could, on the one hand, help improve the state of the natural environment, as well as – through the positive impact on the economy and the job market – become an important factor favorably influencing the quality of life. Therefore, in the article an analysis was conducted of the influence and importance of renewable energy resources in the sustainable development of the Polish regions along with potential benefits of applying them.

The paper includes a literature review to summarize recent knowledge regarding the essence and objectives of the concept of sustainable development. Additionally, we used data available from the strategic documents and reports to describe the potential and perspectives of the development of renewable energy resources in Poland, and their influence on the regional economy.

2. The essence and objectives of the concept of sustainable development

Sustainable socio-economic development is one of the greatest challenges in the contemporary world. The basic assumption of sustainable development is conducting activities in particular sectors of the economy and social life, so that the resources and values of the natural environment are preserved in a way which ensures permanent possibilities of using them, both by current and future generations, with simultaneous preservation of the functioning of environmental processes and natural biodiversity on the level of the landscape, ecosystem, species, and genes [II Polityka... 2001]. Therefore, in the process of fulfilling current needs of the individual, one must take into consideration the needs of future generations; moreover, efforts to increase the quality of life should entail efforts to ensure equal distribution of the growing prosperity. As a result, one cannot overlook the analysis of conditions of sustainable development in the categories of inter- and intragenerational justice:

- intragenerational justice (consisting in efforts to fulfill the basic needs, protect health and life, and fulfill intellectual needs, etc.),
- intergenerational justice (consisting in preserving the natural capital for future generations by means of the economical use of the available natural resources) [Kiełczewski 2009].

Within the economy of sustainable development one may distinguish three equal areas (ecological, economic, and social) [Bosselmann 2016]. The essence of sustainable development is not balancing the relationship between particular dimensions, but selecting the degree of sustainability. The degree of sustainability determines the focus on environmental protection and the desire to preserve the natural capital in relation to the needs of the economy and society [Purvis 2004; Dizdaroglu, Yigitcanlar, Dawes 2010].

The scope of penetration, complementarity, or exclusion between the abovementioned dimensions depends on the structure of entities taking actions, the accepted procedures, or the ecological knowledge and awareness of the members of a given community. In spite of all the shortcomings and controversies surrounding the idea of sustainable development, one needs to strive to balance and rationally use the possessed resources in order to ensure the sustainable development of the present and future generations. The problems are especially important in the European Union, where matters connected with environmental protection or the rational use of resources are among the priorities of European policies, and have been contained in documents defining the strategic directions in the development of the Union. They are reflected in, among others, works by the European Commission, which set three priorities in the document *Europe 2020. A strategy for smart, sustainable and inclusive growth*:

- smart growth (development of a knowledge- and innovation-based economy),
- sustainable growth (promoting an economy using resources more effectively, and being more eco-friendly and more competitive),
- inclusive growth (promoting an economy with a high level of employment, ensuring social and territorial cohesion) [Europa 2010].

The abovementioned assumptions have been reflected in Polish legislation, according to which Poland should pursue the idea of sustainable development in its activities. It is preordained by, among others, Art. 5 of the Polish Constitution, which refers to the principle of sustainable development, according to which “the Republic of Poland watches over the independence and inviolability of its territory, ensures freedom, human and citizenship rights, and security of its residents, protects the national legacy and provides environmental protection, following the principle of sustainable development”. Moreover, reference to the concept of sustainable development is made in Art. 74, in terms of ecological security and the principle of environmental protection and justice between generations [Konstytucja Rzeczypospolitej Polskiej, Art. 74]:

- public authorities pursue a policy that ensures the current and future generations ecological security;
- environmental protection is the responsibility of public authorities;
- everyone has a right to access information about the state and protection of the environment;
- public authorities support the residents’ activities for the purpose of protecting and improving the state of the environment.

Reference to sustainable development is also found in many other legal acts. One should at least mention the Act of 27 April 2001 on the Right to Environmental Protection, which states that “environmental protection should take place in accordance with the principle of sustainable development,” or the Act of 27 March 2003 on Spatial Planning and Management, which accepts sustainable development

as a basis for the actions [Ustawa z dnia 27 kwietnia 2001]. In the implementation of the objectives of sustainable development an important role is played by particular regions, including territorial self-government units functioning within them, which have a significant influence on the shaping of local and regional development. It is also their actions and decisions that influence the shape and directions of socio-economic policies.

3. The potential and perspectives of the development of renewable energy resources in Poland, and their influence on the regional economy

The use of renewable energy resources is one of the key actions within the energy policy of both the European Union and Poland, being part of the development of the innovative economy utilizing local and regional resources, climate protection, energy security, and environmental protection.

The need to develop investments in renewable energy is determined by, among others, the accepted international public obligations connected with changes in energy production and environmental protection. Art. 194 of the Treaty on the Functioning of the European Union introduces a specific legal basis in the field of energy by reason of competences shared between the EU and its member states. Numerous objectives have been set for the states, the implementation of which will be necessary to implement the energy policy:

- guaranteeing the supply of electricity to Europe,
- ensuring that the prices of energy do not hinder competitiveness of Europe,
- protecting environment, especially prevention of climate change,
- developing of energy networks.

At the same time, the member states have complete freedom in investing in energy resources of their choice; however, they must take into consideration the European objectives connected with renewable energy resources.

Therefore, it is clear that Poland, as a member state, has committed itself to pursuing energy policies remaining in accordance with the European Union's strategy, which is based on the constant growth of the share of energy produced by means of renewable resources. The main obligations in the field of using renewable energy resources include implementation of the provisions of the "3×20%" package, according to which by 2020 the economy of the European Union is to reduce the emissions of greenhouse gases by 20% in relation to 1990, reduce energy consumption by 20% in relation to prognoses for the EU in 2020, and increase the share of renewable energy resources in total energy consumption in the EU by 20%. An increase in the use of renewable energy resources in transport to 10% is also assumed.

These obligations have been mentioned in the strategic document *Polityka energetyczna Polski do 2030 roku* [Polityka energetyczna... 2009]. As given in the abovementioned document, “the development of renewable energy production is of great significance in the implementation of the basic aims of energy policy.”

Poland is a country with great potential in terms of renewable energy resources. The possibilities of using those resources in particular areas of the country are varied. The size of renewable energy resources depends on a number of factors, among which the most important are natural conditions, and the state of agriculture and forestry [Paska, Sałek, Surma 2009].

While analyzing the greatest potential renewable energy resources, one must note that among the available renewable resources in the country, wind energy production is characterized by its significant potential for development (especially in the provinces of West Pomerania, Pomerania, Wielkopolska, Kujawy-Pomerania, and Podlasie). Small wind power stations also have great potential in provinces with less potential for building large wind farms (that is Małopolska, Mazovia, Podkarpacie, or Lublin). The use of the potential of solar energy production would require installation of about 14.7 million sq. M. of solar collectors by 2020. The greatest potential in this field is found in the following provinces: Mazovia, Silesia, Małopolska, and Wielkopolska. The smallest potential in terms of the possibility of acquiring solar energy is, on the other hand, found in Lubuskie, Opole, Świętokrzyskie, and Podlasie. In Poland, also the potential of solid biomass production at permanent plantations is still poorly used. The largest potential in terms of biomass production is present in Lublin, Mazovia, and Podkarpacie. The least favorable conditions for the development of renewable energy production on the basis of biomass production in a given area are found in Opole and Lubuskie. The leading position in the total potential of the technical use of agricultural biogas is occupied by Mazovia and Wielkopolska, as well as Warmia-Masuria, Podlasie, and Kujawy-Pomerania [Krajowy... 2015; Programowanie... 2014; REmap... 2015].

The qualitative assessment of the potential of renewable energy resources for particular regions against the background of the planned increase in the use of the market potential of RER in the years 2014-2020, and the path of the development of RER technologies for the purpose of producing heat and electricity in Poland by 2020 have been presented in Tables 1 and 2.

As the research and the analyses show, Poland has enormous potential and great possibilities of using renewable energy resources. The potential is “the result of the favorable geographical and climatic location of Poland, the large area of the country (diversity of geographical and climatic zones, possibility of ‘collecting’ dispersed energy resources from the vast area), its forms of spatial development (with the dominance of the agricultural use of space, favorable to RER), and its relatively low population density” [Określenie... 2011].

Table 1. Qualitative summary of the assessments and potential of RER for particular regions against the background of the planned increase in the use of the market potential of RER in Poland in the years 2014-2020

Description	Wind power	Small wind energy production	Thermal solar energy	Photovoltaics	Agricultural biogas	Biomass from energy crops	Biomass—straw	Forest biomass	Deep geothermal energy	Shallow geothermal energy	Water power
Lower Silesian	o	o	o	–	–	o	o	–	o	o	o
Kuyavian-Pomeranian	x	o	o	–	x	o	x	–	–	o	o
Lublin	–	x	o	–	o	o	x	–	–	o	–
Lubusz	o	o	o	–	–	–	–	–	–	o	–
Łódź	o	x	o	–	o	o	o	–	x	o	–
Lesser Poland	–	x	x	–	–	o	–	–	o	o	–
Mazovian	o	x	x	–	x	o	o	–	–	o	–
Opole	–	o	–	–	–	–	x	–	o	o	–
Podkarpackie	o	x	o	–	–	o	o	–	–	o	o
Podlaskie	x	o	–	–	x	o	–	–	–	o	–
Pomeranian	x	o	o	–	o	o	x	–	–	o	–
Silesian	–	x	x	–	–	o	o	–	–	o	–
Świętokrzyskie	–	x	–	–	–	o	o	–	–	o	–
Warmian-Masurian	o	o	o	–	x	o	o	–	–	o	–
Greater Poland	x	x	x	–	x	o	x	–	x	o	–
West Pomeranian	x	o	o	–	o	o	o	–	x	o	–
Planned increase in the use of resources in the years 2014-2020 in Poland – according to the NACE (ktoe)	750	37	392	0.09	384	812			112	87	48
Participation of RER technologies in the increase in energy production and potential use planned by the NACE (2014-2020) (in %)	19	1	13	0	12	28		0	4	3	2

Key: insignificant potential: –, significant potential: o, very significant potential: x.

Sources: [Określenie... 2011].

Table 2. Paths of the development of RER technologies for the production of heat and electricity in Poland by 2020 (ktoe)

Description	2015	2016	2017	2018	2019	2020
Solid biomass	3996	4118	4250	4361	4594	4636
Solar energy	176	258	324	406	441	506
Biogas	231	275	320	364	408	453
Deep geothermal energy	57	70	86	105	107	178
Heat pumps	72	85	99	114	130	148
Onshore wind farms	634	735	822	929	1018	1132
Biomass, biogas, biofluids	851	890	947	1003	1113	1223
Offshore wind farms	0	0	0	0	0	129
Small wind power stations	15	20	26	34	40	47
Hydroelectric power stations >10 MW	119	119	119	119	119	151
Hydroelectric power stations –10 MW	54	55	57	58	60	61
Hydroelectric power stations <10 MW	37	38	39	40	42	43
Photovoltaics	0.17	0.17	0.17	0.26	0.26	0.26

Sources: [Określenie... 2011].

4. Socio-economic conditions for the development of the Polish regions in terms of using renewable energy resources

The implementation of energy policy in the regions is possible because of properly selected and adapted instruments, which allow local and regional authorities to affect public utility units, as well as businesses and residents. The influence of particular instruments on the socio-economic development of a given region is varied, and visible with different degrees of intensity. In view of their nature and specific characteristics, the instruments of the energy policy of particular territorial self-government units can be divided into [Maśloch 2008]:

- legal and administrative instruments (ordinances, administrative decisions),
- financial instruments (incomes, expenses),
- information and organizational instruments (development strategies, development plans, information campaigns, promotional campaigns, educational campaigns),
- investment projects (energy investments in the infrastructure managed by territorial and regional self-government units, investments made by municipal companies, investments in cooperation with other entities).

Potential benefits within the concept of sustainable development that a region can obtain as part of its development- and RER-oriented energy policy include the following:

- development of an innovative economy in the region, using modern technologies of processing renewable energy resources, and using production and services for this purpose,
- environmental protection (reduced carbon dioxide emissions through an effective reduction in greenhouse gas emissions, etc.),
- creation of new jobs (jobs usually do not appear in large, centralized industrial centers, but in rural areas, and are dispersed in nature. The Ministry of Economy predicts that employment in the renewable energy resources sector may amount to about 90,000 people in 2020, which can be contrasted with the number of about 160,000 people employed in the energy sector in 2010) [Paska, Surma 2013],
- development of decentralized renewable energy production, which is connected with changes in the direction of cash flows for payments for energy. In case of the use of fossil fuels, the resources flow outside the region, contributing to the transfer of resources to other settlement units (e.g. regions that have coal mines within their areas). A region investing in renewable energy resources in this way increases its income base,
- emergence of new businesses (production and system support), and an increase in the residents' economic activity,
- cultivation of agricultural renewable resources (energy crops), which allows the capital to be brought to agricultural areas. Moreover, cultivation of energy crops helps use untilld land. In this respect, there are great reserves, as the majority of agricultural areas are not cultivated at all, and – in view of the progressing negative demographic changes and the increasing agricultural productivity per hectare – the tendency is likely to strengthen in the next years,
- creating and promoting an environmentally conscious image of the region,
- increasing the local and regional energy security by means of becoming independent from external suppliers of fossil fuels and increasing the diversity of energy-generating products,
- influence on the reduction in energy costs connected with the protection of the health of the region's residents by means of improving the state of the natural environment,
- ensuring future generations access to non-renewable energy resources, according to the principle of sustainable development.

However, the main difficulties and problems connected with the need to develop renewable energy resources in the region include:

- lack of political will to introduce changes and act in accordance with resolutions related to energy and climate,
- lack of will and social acceptance for investments in renewable energy resources (especially in regions with a mining tradition),
- lack of adequate financial resources for the purpose of making the investments.

5. Conclusions

The dynamic economic, social, and political changes in Polish energy production create completely new chances for particular regions. The increased interest in RER gives regional economies brand new opportunities in terms of implementing the principles of sustainable development.

Renewable energy, being one of the fastest developing sectors of the economy, poses a number of challenges to the Polish regions; the challenges should be accepted, so that the regions can grow. The increased use of renewable energy resources carries a greater degree of independence from imported energy. Promoting the use of RER allows for an increase in the diversity of energy resources, and creation of conditions for the development of distributed energy production based on locally available resources. Renewable energy production usually takes the form of small production units situated close to the client, which allows for an increase in the local energy security, and a reduction in transmission losses. Renewable energy production is characterized by low or nonexistent pollution emissions, which ensures positive ecological effects. Moreover, the development of renewable energy production contributes to the growth of less developed regions, rich in renewable energy resources [Polityka energetyczna... 2009].

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Andrzej Raszkowski

Wrocław University of Economics
e-mail: andrzej.raszkowski@ue.wroc.pl

THE ASSESSMENT OF DZIERŻONIÓW CITY SELECTED FUNCTIONAL AREAS IN THE EYES OF ENTREPRENEURS – A RESEARCH REPORT

OCENA WYBRANYCH OBSZARÓW FUNKCJONALNYCH MIASTA DZIERŻONIÓW W OCZACH PRZEDSIĘBIORCÓW – RAPORT Z BADAŃ

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Summary: Entrepreneurship and entrepreneurs themselves represent, beyond doubt, one of the crucial components affecting the functioning of Dzierżoniów. It should be emphasized that all surveyed entrepreneurs are in favour of the city development. This phenomenon is based on the principle of mutual relationships, i.e. the better the city functioning, the better the conditions for running a business experienced by entrepreneurs; on the other hand, the more active are the entrepreneurs, the more they support the city development (e.g. jobs, taxes). The study is based on surveys commissioned by the Town Hall in Dzierżoniów over the period of July-August 2013, which also covered entrepreneurs (48 entities). The above-mentioned research process remained one of the stages in developing the new Strategy of Local Sustainable Development for Dzierżoniów in the period 2014-2020. The purpose of the study is to present and assess the selected functional areas of Dzierżoniów City (geographic environment, economy, technical infrastructure, social infrastructure, city management) based on the opinions of entrepreneurs.

Keywords: local development, entrepreneurship, Dzierżoniów, the strategy of territorial development.

Streszczenie: Przedsiębiorczość i sami przedsiębiorcy są niewątpliwie jednym z ważniejszych elementów funkcjonowania Dzierżoniowa. Należy podkreślić, że wszystkim badanym przedsiębiorcom zależy na rozwoju miasta. Zjawisko to opiera się na zasadzie wzajemnych powiązań – im lepiej funkcjonuje miasto, tym lepsze warunki do prowadzenia biznesu mają przedsiębiorcy, z drugiej strony, im przedsiębiorcy są bardziej aktywni, tym bardziej wspierają rozwój miasta (m.in. miejsca pracy, podatki). Opracowanie powstało w oparciu o badania ankietowe, które przeprowadzone zostały na zlecenie Urzędu Miasta w Dzierżoniowie w okresie lipiec-sierpień 2013 r. i objęły swoim zasięgiem m.in. przedsiębiorców (48 podmiotów). Wspomniany proces badawczy był jednym z etapów tworzenia nowej Strategii Zrównoważonego Rozwoju Lokalnego Dzierżoniowa na lata 2014-2020. Celem niniejsze-

go opracowania jest przedstawienie oraz ocena wybranych obszarów funkcjonalnych miasta Dzierżoniów (środowisko geograficzne, gospodarka, infrastruktura techniczna, infrastruktura społeczna, zarządzanie miastem) w opinii przedsiębiorców.

Słowa kluczowe: rozwój lokalny, przedsiębiorczość, Dzierżoniów, strategia rozwoju terytorialnego.

1. Introduction

The business sector, entrepreneurs, but also residents, NGOs, local authorities represent an important link and act as the creators of local development processes. The pro-developmental evaluations and suggestions, voiced by the above-mentioned communities, constitute a valuable source of information for the entities responsible and involved in the development of local space.

One of the key developmental scenarios for Dzierżoniów assumes an extensive implementation of the potential ingrained in local entrepreneurs. The scenario for the city of entrepreneurs seems a natural direction and a continuation of the development path which has been followed by Dzierżoniów so far [*Strategia...* 2003; *Strategia...* 2009]. The socio-economic growth, based on the developed service sector and SME sector activities should, to a great extent, minimize the diagnosed developmental problem, i.e. the relatively high level of unemployment in the city. Supporting entrepreneurs, cooperation and partnership shall result in a larger number of innovative projects and investments carried out in the city, which naturally ensure the competitive advantage against other territorial units. The perception of Dzierżoniów as the city of entrepreneurship will also influence its brand and facilitate the promotion processes of the city itself [Raszkowski 2014; Kotler et al. 1999] and the economic entities functioning in it. The continuous improvement of business customer service level and the quality of provided services in the area of local government administration remain the essential components of the discussed processes. Moreover, one of the strategic objectives, included in the city development strategy is supporting the sector of small and medium enterprises. Among the operational goals the following were listed: support for SME sector, support for the operations carried out by the business environment institutions, support for Dzierżoniów subzone of the Wałbrzych Special Economic Zone "INVEST-PARK", preparing and adapting investment areas, promoting the city investment offer.

The presented study was prepared based on the surveys commissioned by the Town Hall in Dzierżoniów in the period July-August 2013 and covered, based on a random selection, the following groups of respondents: city residents (442 persons), entrepreneurs (48 entities), NGO representatives (non-governmental organizations) (32 organizations), Town Hall employees, subordinate units and companies subsidized by Dzierżoniów City Municipality (203 persons). A survey questionnaire constituted the research tool. All interviewers participating in the

project were adequately trained in terms of organizational and substantial issues. The above-mentioned research process remained one on the stages in developing the new Sustainable Local Development Strategy of Dzierżoniów for the period 2014-2020 [Raszkowski 2013a]¹. The responses provided by Dzierżoniów's entrepreneurs will be analysed later in the study. Due to their limited scope the survey results will provide an illustrative material which can turn out helpful for the local authorities and other environments participating in the city development processes in order to undertake activities in response to the voiced demand and the existing problems. Furthermore, they can support establishing partnership relations, the consensus between local authorities and other local scene actors as a logical component of the local development strategy effective functioning [Blair, Carroll 2009; Klasik 2002].

Dzierżoniów City (urban commune) is located in south-eastern part of Lower Silesian region in Dzierżoniów County. The other territorial government units are as follows: Bielawa, Pieszyce, Piława Górna (urban commune), Niemcza (urban-rural commune), Dzierżoniów, Łagiewniki (rural commune). The city is situated in Dzierżoniów Valley, upon the Piława River, at the distance of approx. 60 km from Wrocław, the capital of Lower Silesia region. Nearby Dzierżoniów there are the Owl Mountains, Kiełczyńskie Hills and Ślęza Massif, which altogether result in higher tourist potential of the city. Dzierżoniów municipality is adjacent to the municipalities of Pieszyce, Bielawa and the rural commune of Dzierżoniów. The city covers the area of 20.07 km². In terms of its transport system it can be assumed that the city is relatively well connected with larger urban centres in the region (Wrocław, Wałbrzych, Świdnica) and with A4 motorway. Dzierżoniów is also the largest city in the county, the seat of the Town Hall, the Rural Commune Office of Dzierżoniów and the County Office. It plays the role of a natural administration and service centre in a local and sub-regional (county) scale. The number of recorded permanent residents, as at 1st January 2014, amounted to 33,372 residents [Raszkowski 2013b; Raszkowski 2013c].

The purpose of this study is to present and evaluate the selected functional areas of Dzierżoniów City (geographical environment, economy, technical infrastructure, social infrastructure, city governance) in the opinion of entrepreneurs. Additionally, the article provides both conclusions and recommendations.

2. The results and analysis of survey studies

The presented results remain the component of a report constituting an integral part of Sustainable Local Development Strategy of Dzierżoniów for the period 2014-2020. The information collected in the report, apart from providing support for the

¹ Detailed information regarding the analysis of respondents' structure in particular groups (residents, entrepreneurs, NGO representatives, Town Hall employees) and survey questionnaires are provided in the study: [Raszkowski 2013a].

process of the city strategy development, also presents the knowledge compendium about the developmental preferences and the assessment of the city condition in the eyes of e.g. entrepreneurs. In terms of methodological issues, if in some questions the responses do not sum up to 100%, it means that a part of respondents have not provided all answers. These cases are sporadic and do not have an impact on the overall results and conclusions to be put forward on their basis.

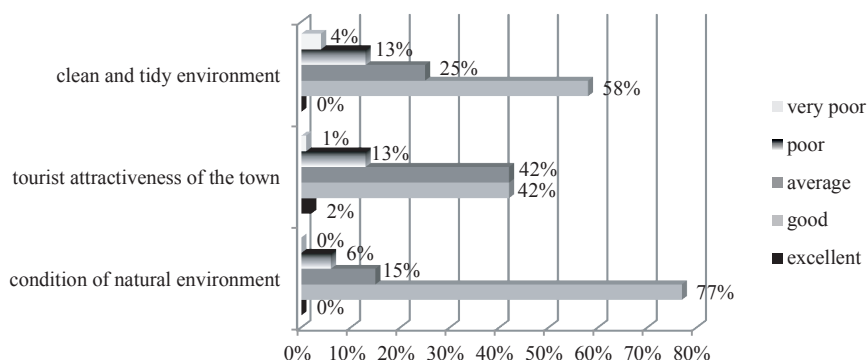


Figure 1. Geographical environment – evaluation of functional area

Source: author's compilation based on the conducted surveys.

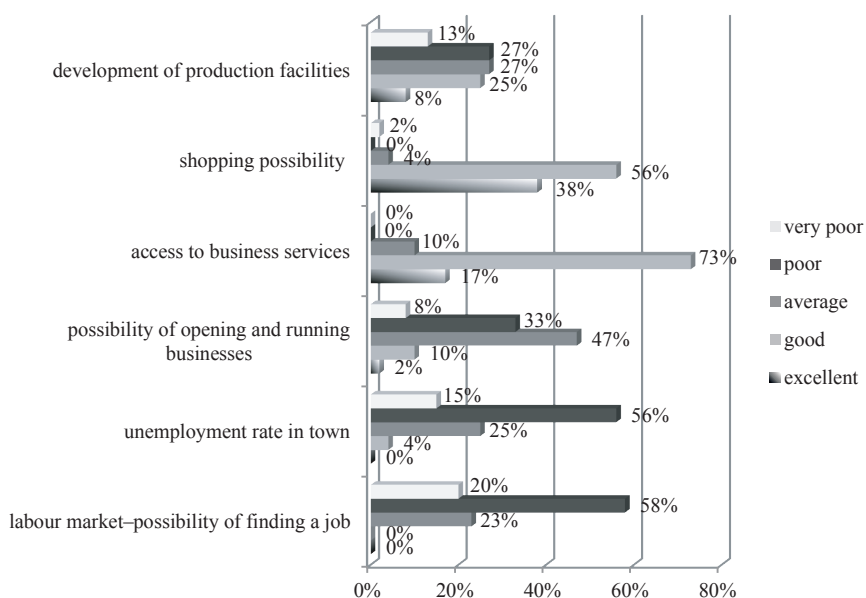


Figure 2. Economy – evaluation of functional area

Source: author's compilation based on the conducted surveys.

Supporting entrepreneurship is a part of an effective local space management process. Local authorities frequently emphasize the significance of this sphere for the city functioning and its development. In this context it is absolutely clear that all surveyed entrepreneurs do care about the city development. This phenomenon can be based on the principle of mutual relationships. Better functioning and development of the city is manifested by better conditions for running a business. In turn, active entrepreneurs support the city development (e.g. jobs offered, taxes paid). Furthermore, high percentage of entrepreneurs claims that Dzierżoniów has developed in the recent years.

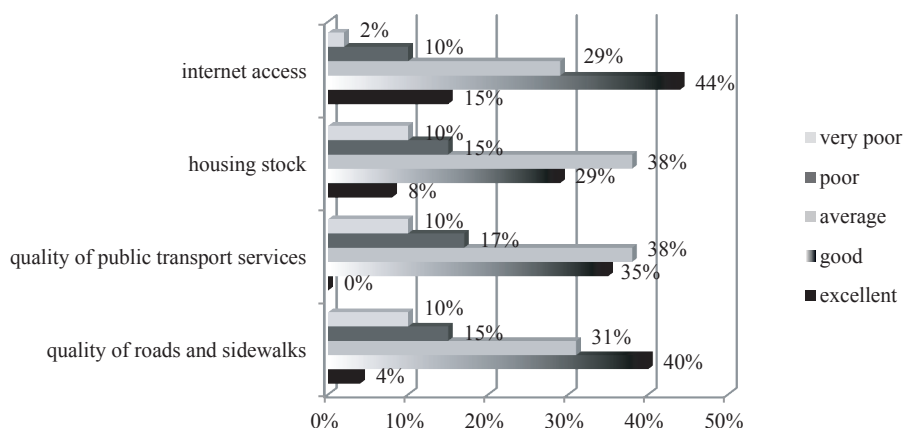


Figure 3. Technical infrastructure – evaluation of functional area

Source: author's compilation based on the conducted surveys.

In terms of the geographical environment functional area the entrepreneurs evaluated the condition of natural environment as best (77% positive indications) and also cleanliness and order in the city (58%). Tourism oriented values offered by the city also received a relatively positive evaluation from the entrepreneurs (44% positive indications against 14% negative ones).

In the context of the city economy assessment, so important for entrepreneurs, the possibilities for doing shopping were very highly evaluated (94% positive indications), as well as the access to useful services in the city (90%). Local job market and unemployment rate, 78% and 71% negative indications respectively, were evaluated by the business sphere representatives as definitely the worst. It is quite interesting since these are the entrepreneurs themselves who co-create such indicators. The development of manufacturing plants in the city received 33% positive indications against 40% negative ones. As far as the possibility of opening and running a business is concerned, the respective indications were 12% and 41%.

The strongest component of the city technical infrastructure in the opinion of entrepreneurs, which is an important information, was the Internet access (59% positive indications) and, equally important, the quality of roads and sidewalks (44%). In general terms, in case of each category positive responses outweighed the negative ones, the majority of which were provided with reference to the city transport functioning (27%).

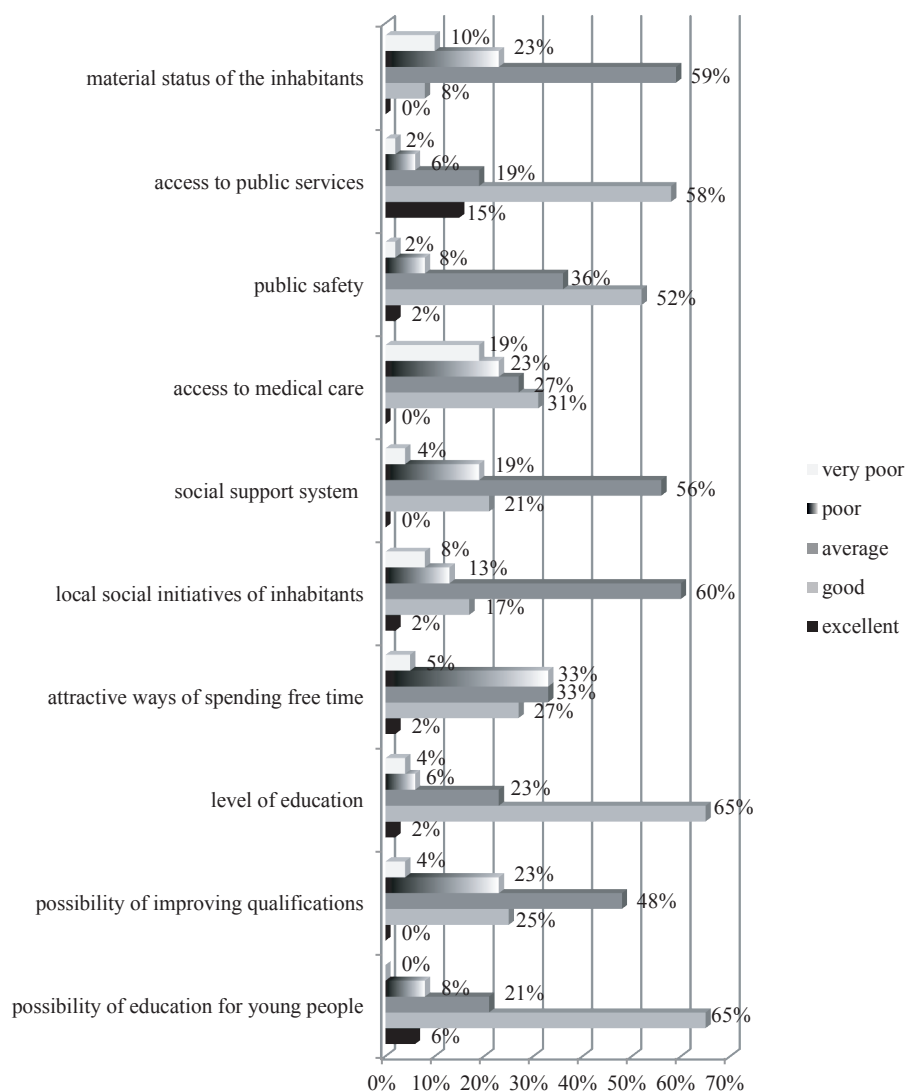


Figure 4. Social infrastructure – evaluation of functional area

Source: author's compilation based on the conducted surveys.

In case of social infrastructure assessment the best results were recorded for public services, educational opportunities for children and teenagers and the level of education, 73%, 71% and 67% respectively. The worst evaluated spheres were: access to medical services in the city (42% negative indications) and the possibilities of spending free time in an attractive way (38%). The functional area of city governance received favourable opinions. High levels of positive responses were recorded in case of the Town Hall functioning (69%) and the activities performed by the city authorities (63%).

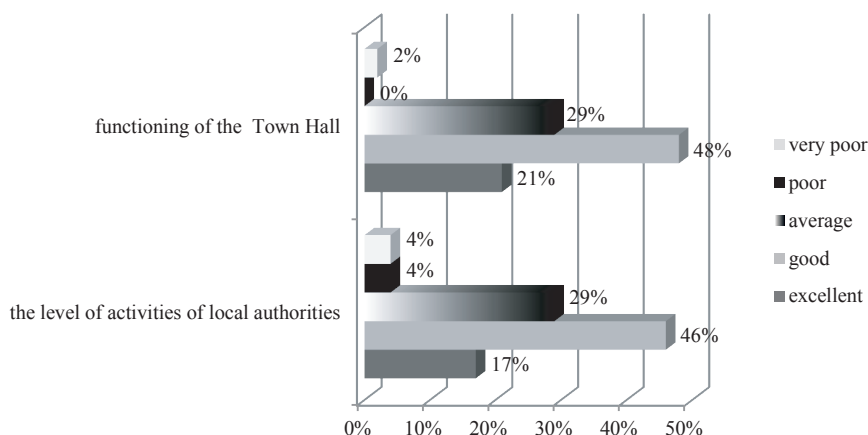


Figure 5. City management – evaluation of functional area

Source: author's compilation based on the conducted surveys.

Within the framework of the conducted research entrepreneurs were also asked about the most important tasks to be carried out in Dzierżoniów within the time span till 2020. In their opinion it should be the city priority to provide new jobs, with particular emphasis on active forms for counteracting unemployment. Next in line was the improvement of road infrastructure (a city ring road). The subsequent tasks to be implemented are related to better management of urban parks and playgrounds. The need for better support to be provided for the entire SME sector (subsidies) was indicated and also for the entrepreneurs functioning within the framework of Wałbrzych Special Economic Zone “INVEST-PARK” (subzone of Dzierżoniów, Lower Silesia region). The surveyed entrepreneurs also identified the need for renovating some of the buildings in the city.

3. Final remarks and conclusions

Within the framework of final remarks an attempt can be taken to provide selected conclusions and recommendations based on the presented research results covering Dzierżoniów:

- local authorities should strengthen their cooperation with entrepreneurs in the coming years. Among the areas of potential cooperation the following can be listed: joint investment projects, adjusting the city educational offer to the existing demand and job market requirements, the system of trainings offered for the potential employees [Grossman, Holzer 2016], projects within the framework of complex revitalization activities (in the social, economic, spatial and functional, environmental and also technical spheres) [Wityczne... 2015];
- effective realization of developmental goals in cooperation with entrepreneurs depends on the broad spectrum of factors, which include e.g. an effective governance process [Cohen et al. 2008], a partnership oriented dialogue, the selection of adequate tasks in the defined period of time, precise monitoring, the availability of financing sources, participation of all city communities, working out a public consensus (based on consultations and education) for the benefit of the city development directions;
- business environment representatives notice many strengths of Dzierżoniów, such as: public safety, sport and recreation offer, housing resources, cultural and entertainment offer or the city tourist potential. Moreover, they have indicated the developed commercial network and the diversified local market of entrepreneurship;
- among the existing weaknesses entrepreneurs point to the unemployment rate, opportunities for professional development, the network of access roads to the city. The big number of large retail stores and difficulties in the development of small trade are problematic in the opinion of entrepreneurs;
- the evaluation process of the city development strategy, covered by the conducted research and constituting its supplementary component should be performed effectively and periodically. Based on the subsequent evaluation reports it will be possible to decide, with a relatively high degree of probability, whether the problems identified by the surveyed entrepreneurs were solved or minimized. Furthermore, it is essential to assess the situation of the business sector in the city and in this respect the following factors can be subject to evaluation: the number of companies, the approach of the closed companies to the newly opened ones, financial situation, employment level, average remuneration value, expenditure on research and development, the number of filed patents for inventions, utility model, trade mark and industrial design.

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Marcelina Zapotoczna

University of Warmia and Mazury in Olsztyn
e-mail: imz@uwm.edu.pl

Joanna Cymerman

Koszalin University of Technology
e-mail: jcymerman@wilsig.tu.koszalin.pl

EFFECT OF PROPERTY TAX ON VOIVODESHIP CAPITAL RESIDENTS' HOUSING MARKET DECISIONS

WPŁYW POLITYKI PODATKOWEJ MIAST WOJEWÓDZKICH W ZAKRESIE PODATKU OD NIERUCHOMOŚCI NA DECYZJE ZAKUPOWE NA RYNKU NIERUCHOMOŚCI MIESZKANIOWYCH

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Summary: The paper investigates the issue of property tax in the context of housing stock in voivodeship (province) capitals. Its main purpose is to assess the effect of property tax policies implemented by voivodeship authorities in 2009-2014 on the buyers'/owners' decisions concerning the size of a residential property. This objective is reached in four stages: 1) the outline of a role of property tax in local budgets; 2) the review of property tax policies; 3) the characteristics of dwelling conditions and related spending; 4) the analysis and assessment of the relation between property tax policies and the average usable floor area of flats in the existing and newly built housing stock in voivodship capitals. The study results reveal that property tax policies had an insignificant effect on the buyers' decisions in terms of the property size.

Keywords: real property tax, living conditions, multidimensional comparative analysis.

Streszczenie: Publikację poświęcono problematyce podatku od nieruchomości w miastach wojewódzkich w kontekście zasobów mieszkaniowych. Celem głównym jest ocena wpływu prowadzonej przez miasta wojewódzkie w latach 2009-2014 polityki w zakresie podatku od nieruchomości mieszkaniowych na decyzje nabywców/posiadaczy własnego „m” dotyczące wielkości posiadanego mieszkania. Cel główny osiągnięto w czterech etapach: 1) przybliżając znaczenie wpływów z podatku od nieruchomości w budżetach badanych miast; 2) omawiając politykę podatkową w zakresie podatku od nieruchomości; 3) charakteryzując warunki oraz wydatki mieszkaniowe; 4) poddając analizie i dokonując oceny zależności pomiędzy polityką podatkową w zakresie podatku od nieruchomości a prze-

ciętną powierzchnią użytkową mieszkania w zasobach mieszkaniowych oraz oddawanych do użytkowania w poszczególnych miastach. Wyniki badań wskazują, że polityka podatkowa w omawianym zakresie miała nieznaczny wpływ na decyzje nabywców dotyczące wielkości kupowanego mieszkania.

Słowa kluczowe: podatek od nieruchomości mieszkaniowych, warunki mieszkaniowe, miasta wojewódzkie.

1. Introduction

The problem of residential property taxing is a vital issue in the state and local government policies aimed at encouraging sustainable development. The importance of this problem is founded on two main factors. First of all, the residential property plays a vital social role as it meets basic, constitutionally guaranteed¹ human needs. Secondly, similarly to the remaining types of real property (commercial, industrial, agricultural, forest or special purpose), the residential property has plenty of economic functions, such as capital investment, economic (strong bonds between residential properties and other industries), or fiscal function (feeding the national and local budgets with revenue from taxes and fees) [Kucharska-Stasiak 2006]. Just like in many countries that respect the idea of local governments, in Poland, besides the state being the national housing strategy regulator, it is the *gmina* (the elementary local government unit) that is the leading actor of the housing policy aimed at satisfying the community housing needs within the framework of its responsibilities as stated in the Act of 21 June, 2001 on the protection of tenants' rights, municipal housing reserves and on the change of the Civil Code [Act of 21 June...]. One of the instruments of the local government housing policy is the local tax policy with its main component being the property tax levied according to the provisions of the Local Tax and Fee Act of 12 January 1991 [Local Tax...]. The existing Polish property tax depends on the property size², i.e. it is chargeable on the land plot size or floor area of buildings or their parts in square meters³. The property tax rates for land and buildings or their parts are set annually by *gmina* councils in way of relevant resolutions. However, the rates cannot exceed the ceiling values announced every year by the Ministry of Finance in the Monitor Polski RP [Borszowski 2011]. When deciding the rates of

¹ See more in: Constitution of the Republic of Poland of April 2, 1997, Dz.U. No 78, item 483 as amended, art. 75.

² Apart of property tax systems based on the size criterion, the countries in Central and Eastern Europe have adopted the systems based on the property value (*ad valorem*, *cadastral duty*) that are also used in Western Europe, Canada, Australia and New Zealand. See more: [McCluskey, Bell 2008, p. 8; Głuszcak, Marona 2015, pp. 90-91].

³ As stated in the Acts on income tax, it is only in the case of buildings used for business activity purposes that the tax is based on the value used to calculate the depreciation write-downs.

a residential property tax, apart from the fiscal issues (i.e. maximising their budget revenues), the local authorities also have to take into consideration some social issues (housing as a staple, the local government's responsibility to support its residents' pursue to obtain and maintain their own home). By giving up the ceiling rates, on the one hand they deprive themselves of some part of revenue, but on the other hand, they make the local area more attractive for potential residents, which in the longer perspective translates to the development of local economy and contributes to increased revenue coming from other sources, mainly in a form of a local income tax, a tax on civil law transactions, perpetual usufruct fees, etc.

The paper analyses the property tax related income policies implemented by voivodeship capitals between 2009-2014, with a particular focus on annual rates of taxes on the usable area of residential buildings and land. The main purpose of this study is to assess the effect that property tax rates adopted in voivodeship capitals have on the residential property buyers'/owners' decisions concerning the size of their homes. The correlations among the examined variables are identified by means of the Spearman correlation coefficient. The correlation is examined with the use of the multidimensional comparative analysis, which allows for distinguishing groups with similar dwelling conditions categorised according to the average usable floor area in the existing housing stock or in the ones to be completed over the subsequent years of this analysis. The study is based on statistical data coming from the Central Statistical Office (www.stat.gov.pl) and the Eurostat, as well as on data published on BIP websites of individual voivodeship capitals (www.bip.gov.pl), including the resolutions on local property taxes adopted in 2009-2014.

2. Property tax revenue in budgets of voivodeship capitals

In the majority of Polish *gminas* the property tax, being the basic local tax, is a principal source of their own revenue. According to the GUS, in the period of 2009-2014 the property tax revenues in voivodeship capitals grew from PLN 3.267 billion in 2009 to PLN 4.513 billion in 2014, which meant the 38% rise in comparison to 2009. With regard to the volume of property tax revenue in 2009-2014, Kraków was a leading city with PLN 5.860 billion, which constituted over 25% of the total revenue reported by 16 voivodship capitals under this analysis. Łódź was ranked the second with the revenue of PLN 2.280 billion (10% of the total), followed by Warszawa with PLN 2.091 billion (9% of the total). The lowest property tax revenue was reported by Kielce (PLN 428.5 million) and Bydgoszcz (PLN 325 million).

The average proportion of tax property revenues in the cities' own revenue was 18.43%. In individual *gminas* its average annual values varied from 11% in Warszawa, 13% in Wrocław and 16% in Kraków to 21% in Gdańsk, 22% in Bydgoszcz and 23% in Rzeszów. Over the period of study the property tax revenue per capita grew from PLN 434.33 in 2009 to PLN 595.12 in 2014, meaning the rise by 37%. The city enjoying the highest revenue per capita was Gdańsk with PLN 828.03 in 2014

and the annual average over the six-year period at PLN 680.55. It was followed by Katowice (PLN 523.33 per capita) and Poznań (PLN 587.65 per capita). The lowest property tax revenue per capita was recorded in Lublin (PLN 437.13) and Białystok (PLN 414.84).

3. Residential property tax policies in voivodeship capitals

Local authorities have a broad range of competencies at their disposal to create their tax policies with regard to residential property. As stated in the Local Tax and Fee Act, as a part of their financial autonomy *gminas* have been granted competencies in three areas: 1) the capacity to set their tax rates within the brackets announced annually by the Ministry of Finance, 2) the capacity to gradate tax rates depending on the property location, type of building, its technical condition and age, 3) the capacity to grant tax exemptions relating to property tax. Additionally, the executing authorities (a head of a *gmina*, town mayor or city president) are competent to: 1) set the amount of tax payable by individuals by way of a decision, 2) remit, spread taxes into instalments and defer tax payments [Kornberger-Sokołowska 2001; Miszczuk 2009].

The conducted analysis reveals that residential tax policies implemented by the local governments of 16 voivodeship capitals between 2009 and 2014 varied considerably. The lowest rates of tax on land designated for housing investments were set in Olsztyn and Rzeszów at the level below 50% of ceiling rates (47% and 49%, respectively). However, in Olsztyn a clearly upward trend was observed: from PLN 0.10 in 2009 to PLN 0.31 in 2014, which meant the 210% rise. On the other hand, in Rzeszów the local authorities were rather reluctant to increase the tax rates, rising them by 16% from PLN 0.19 in 2009 to 0.22 in 2014. Other cities with more liberal property tax rates included Opole, Zielona Góra and Kraków. In contrast, Poznań and Łódź set their property tax rates at the highest possible level: PLN 0.37 in 2009 and PLN 0.46 in 2014. Warszawa, being the third city in the ranking, adopted the ceiling rates between 2010-2014, raising them from 81% in 2009. Gdańsk, which was ranked the fourth city, followed the similar policy. When analysing the property tax policies in the voivodeship capitals, it should be concluded that with the passage of time the disproportions among the cities in terms of the applied property tax rates were gradually decreasing (Fig. 1).

When looking at the tax rates on residential buildings and their parts one can observe considerably smaller differences among the cities. Three cities, Gdańsk, Poznań and Warszawa, used the ceiling rates throughout the whole analysed period of time. The group of cities using tax rates approximating the maximum level included Łódź, Białystok, Szczecin and Bydgoszcz. The lowest rate at 62% was reported by Zielona Góra, followed by Opole with the average of 82% of the ceiling rates. Other cities that adopted relatively low tax rates were Rzeszów, Kielce, Olsztyn and

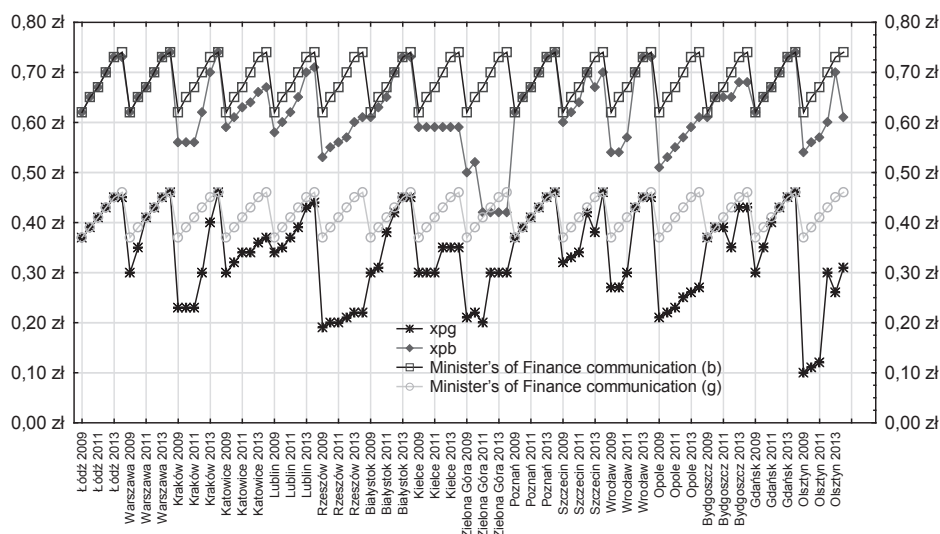


Figure 1. Property tax rates for land designated for housing purposes and for residential buildings (or their parts) in voivodeship capitals in 2009-2014

Source: own study on the basis of BIP data processed by means of *Statistica 12 of StatSoft. Inc firm.*

Kraków. In contrast to the housing development land, in this respect the disparities among the voivodeship capitals were gradually increasing.

4. Housing conditions in voivodeship capitals

As it has been mentioned in the Introduction to this paper, Article 75 of the Polish Constitution imposes an obligation on the State to create the housing policy that meets the housing needs of all the citizens. Furthermore, the duty to provide for housing needs is transferred onto gminas as stated in the Local Government Act (Article 7.1 Dziennik Ustaw of 2015, item 1484). Therefore, it is not the role of the State to build homes for its citizens, but to create conditions that will make it possible for households (families) to obtain housing according to their financial capacity and preferences. The role of housing in the daily lives of families has been indicated by researchers dealing with the housing markets [Bryx 2001; Łaszek 2006; Nykiel 2011; Zapotoczna, Cymerman 2014], who underline its increasing importance in the household incomes, often being a vital part of their debt. In practice it means that the availability of housing as a staple, i.e. the good that is fundamental for human functioning but at the same time acquired at a very high cost, has been limited by people's financial capacity. Hence, due to its capital intensity it has become a major stimulator for households to economise as well as a generator of home loans [Łaszek

et al. 2009; Zapotoczna, Ostrowska-Dankiewicz 2011]. Undoubtedly, the ownership of a residential property and the mechanisms ruling the housing market impose the additional burden on households incurring the real costs of this ownership, thus affecting people's housing decisions regarding the property size. What is more, the changes in the mentality and lifestyles of the Polish families result in the increase in the number of households that are professionally mobile and for whom housing mobility and the housing maintenance costs have become a priority.

According to the research objective of this study, housing conditions in the voivodeship capitals are compared in terms of the average usable floor area (u.f.a) in the existing housing stock, the average u.f.a. in the stock being put into operation as well as regarding the occupancy ratios.

The analysis of data published by the GUS reveals that the average u.f.a. of housing units in the housing stock of individual cities was changing over the period of 2009-2014. The only exception was Wrocław where the average usable floor area increased by 11.2 m² (from 60.2 m² in 2009 to 71.4 m² in 2010) but remained stable over the subsequent years (Fig. 2). It is important note that according to the GUS the housing unit means both a flat and a family house⁴.

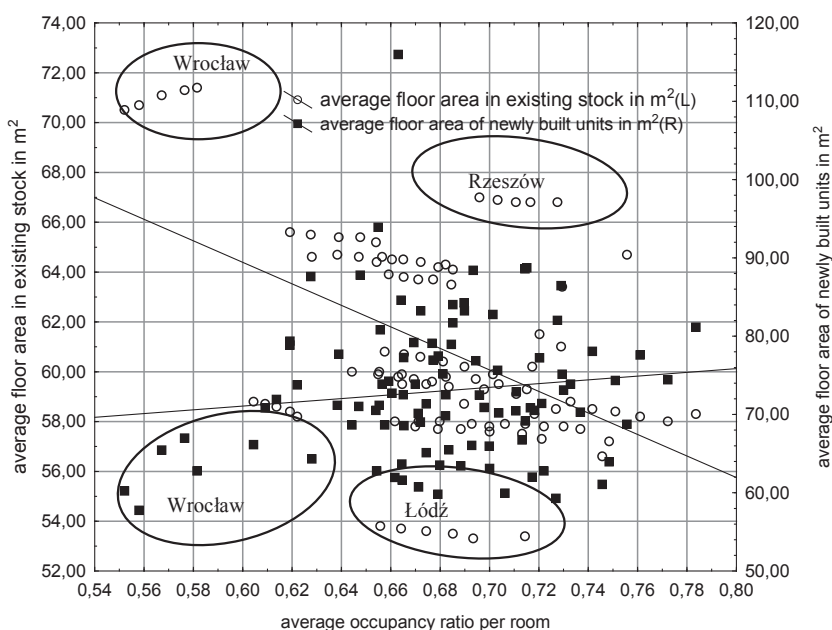


Figure 2. Relationship between the average floor area of the existing and newly built housing stock and their occupancy ratios

Source: own study based on the GUS data processed by means of *Statistica 12 of StatSoft. Inc firm.*

⁴ GUS regarded as separate those residential units where a kitchen, bathroom or WC were not shared with other families.

The newly built housing units were much larger than the existing ones, but a simultaneous downsizing trend was seen. Wrocław was the only city where new flats were smaller – in 2013 their average floor area shrank by 13.0 m², followed by a further decrease by 10.31 m² in 2014 (Fig. 2).

The best housing conditions were observed in Wrocław, both in terms of the average u.f.a. and the occupancy ratio⁵. Wrocław stood out with its lowest ratio and its most significant improvement in this respect from 0.72 in 2009 to 0.55 in 2014. It is worth noting that all the voivodeship capitals saw the decrease in the occupancy ratios. In 2014 only in three cities, i.e. Kielce, Bydgoszcz and Rzeszów, that index exceeded 0.7, which means that with regard to the occupancy ratios the majority of voivodeship capitals met the European standards.

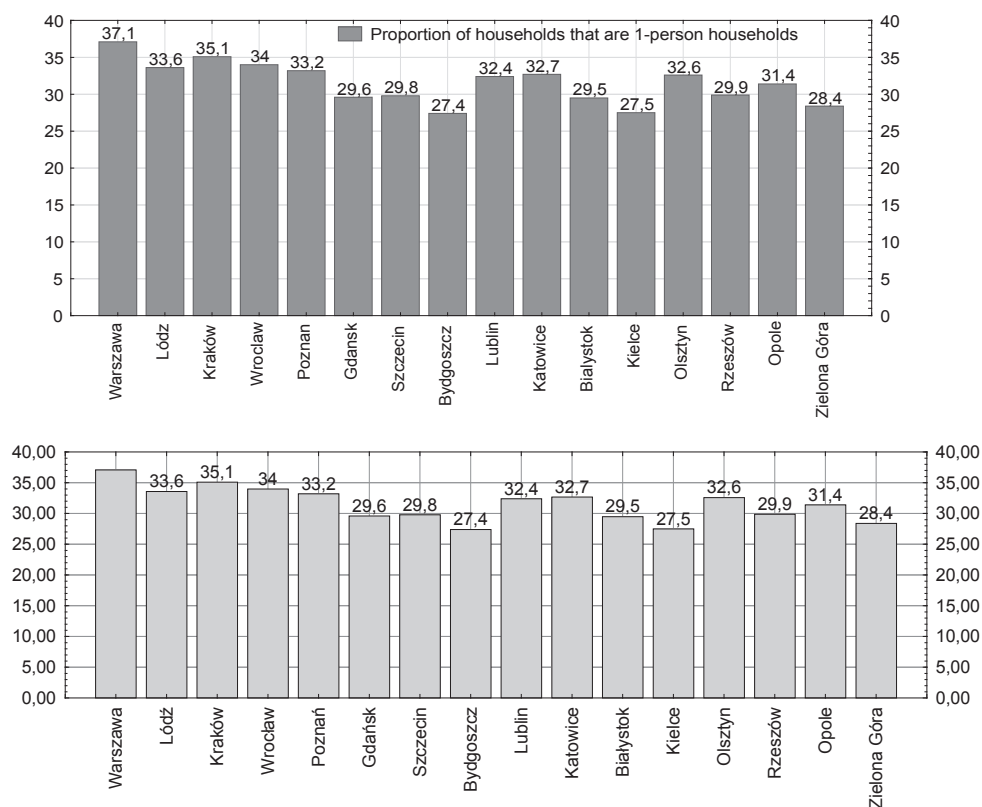


Figure 3. Proportion of households that were 1-person households in 2011

Source: own study based on the Eurostat data processed by means of *Statistica 12 of StatSoft. Inc firm.*

⁵ Occupancy ratio means an average number of tenants per 1 room.

An interesting situation was observed on the residential property market in Łódź. Over the period of study the average u.f.a. of handed over housing units was shrinking (from 88.57 m² in 2009 to 80.82 m² in 2014). Despite that downsizing trend, the usable floor area of the new flats was still considerably larger than in the remaining voivodeship capitals. The largest discrepancies occurred in comparison to Kielce (of 21.55 m²), Kraków (21.05 m²), Wrocław (20.63 m²) and Bydgoszcz (20.88 m²). It should also be pointed out that in the period of this study the existing housing stock in Łódź had the smallest average u.f.a. and the one of the highest occupancy ratios (0.66) in Poland.

The Eurostat data reveal that the considerable majority of Poles are the owners of flats they live in (83.5% in 2014, i.e. by 13.4 pp more than the European Union average). For the purpose of housing need forecasts it has been assumed that every household should occupy a separate housing unit. Therefore, it is beyond any doubt that the growing number of one-person households will have a great effect on the housing demand. Figure 3 shows the percentage of one-person households in the total number of Polish households in 2011.

Every household makes its housing decisions basing on its future income flows. Therefore such decisions are strongly determined by the proportion of housing maintenance costs in family budgets. In 2009-2014 these costs were the second largest expenditure in the Polish family budgets. The average household's monthly costs of maintenance and utilities per person were: in 2009 – PLN188.03, in 2010 – PLN199.88, in 2011 – PLN 210.34, in 2012 – PLN 213.77, in 2013 – PLN 220.56,

Table 1. The average monthly disposable income and the average monthly expenditure on housing in the voivodeship capitals in 2014

Specification	Cities with population of:		
	100-199 thousand	200-499 thousand	500 and more thousand
	Rzeszów, Kielce, Zielona Góra, Opole, Olsztyn	Katowice, Lublin, Białystok, Szczecin, Bydgoszcz, Gdańsk	Łódź, Warszawa, Kraków, Poznań, Wrocław
Average monthly disposable income in PLN per person in a household	1444.05	1583.08	2046.04
Average monthly discretionary income per person in a household	1386.58	1530.29	1974.58
Average monthly expenditure in PLN for housing maintenance and utilities per person in a household	246.85	262.69	318.25

Source: own study on the basis of the GUS publications: [*Sytuacja gospodarstw...*; *Budżety gospodarstw...*].

in 2014 – PLN 216.73 [*Budżety gospodarstw...*]. According to the GUS data, in 2014 Polish households spent on their housing maintenance 20.1% of the average monthly expenditure per person [*Sytuacja gospodarstw...*]. The average monthly disposable income and the average monthly expenditure on housing in 2014 are shown in Table 1.

For the sake of comparison it is worth adding that more than one third of Greeks (36.9%) and less than one fifth of Danes (18.9%), Germans (16.4%), Dutch (15.7%), Romanians (15.4%), Bulgarians (14.3%) and Hungarians (12.7%) spend over 40% of their equivalent discretionary income on housing. The lowest percentage of households spending more than 40% of their equivalent discretionary income on housing was reported in Malta, Cyprus, Ireland, Finland, France, Luxemburg and Slovenia (where the proportion was smaller than 6%) [ec.europa.eu].

The burden of housing costs on household budgets is determined by many factors, such as: the type of ownership, the size and structure of a household, the size of a housing unit, fixtures and fittings or the economical use of utilities. One of the related costs is the residential property tax which varies locally. Further in the paper the question will be discussed whether the housing decisions concerning the size of housing units made by the residents of voivodeship capitals are affected by the rate of the local residential property tax.

5. Identification of statistical relationship between residential property tax and housing decisions in terms of a property usable floor area

Taking into consideration local character of housing property markets and the structure of a residential property tax, i.e. its reliance on local council decisions and on the usable area of residential property or land, the authors of the present study focus on the identification of the effect of the annual residential property rates set by the city councils in the voivodeship capitals between 2009 and 2014 for residential buildings (X_{PB}), on the average usable floor area of housing units in the existing housing stock (X_{PMZ}) and the average usable floor area of newly built housing units (X_{PMB}).

The relationships between the variables (X_{PB}/X_{PG} and X_{PMB}/X_{PMZ}) are visualised by means of spread plots (Fig. 4). The weakness of the correlation between the analysed variables is indicated by the position of points corresponding to individual values of the two variables. The points form an irregular data cloud.

The analysis of the spread plots for X_{PB}/X_{PG} and X_{PMB}/X_{PMZ} reveals the outliers of Łódź and Wrocław. Between 2009 and 2013 the city council of Łódź set the local property tax on residential buildings and land at the ceiling values. Additionally, as it has been mentioned above, the local housing stock consisted of housing units with the lowest average usable floor area. The analysis results indicate that the decision to set annual property tax at the highest possible rate X_{PG} had no effect on the size of newly built housing units, as in 2009-2014 they were the largest in Poland. The

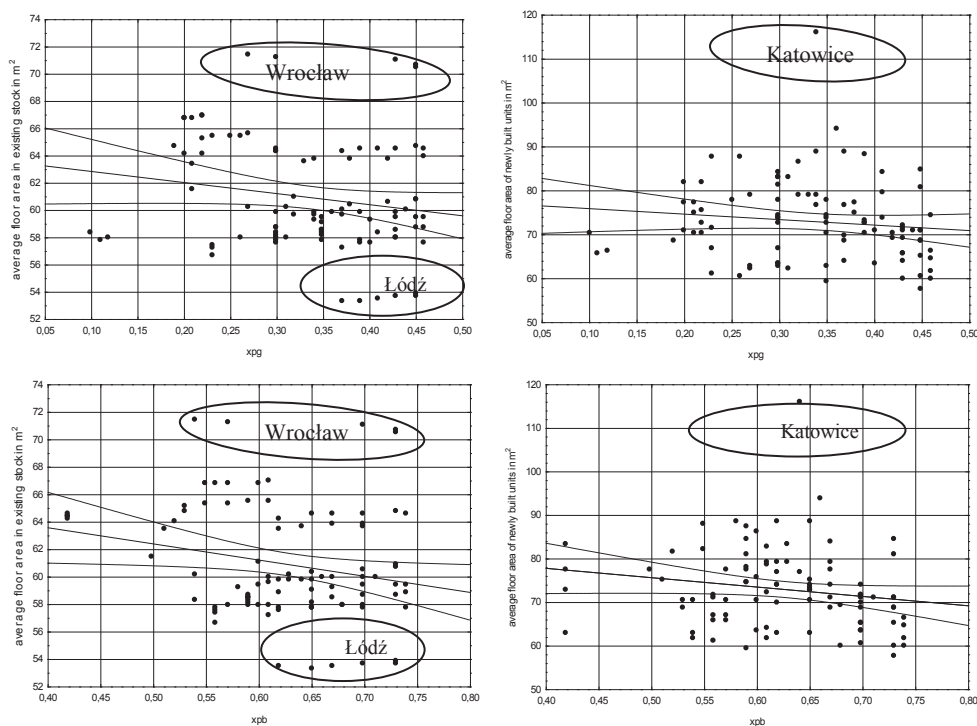


Figure 4. Spread of dependency between residential property tax rates for residential buildings (X_{PB}) and land (X_{PG}), and average usable floor area of housing units in existing housing stock (X_{PMZ}) or average usable floor area of newly built housing units (X_{PMB}) in voivodeship capitals in 2009-2014

Source: own study conducted by means of *Statistica 12* of *StatSoft, Inc* firm.

second outlier was Wrocław where the local tax policy was based on gradual raising of the annual property tax rates until they reached the ceiling values in 2012 and 2013. This particular policy could have had an effect on the shrinking u.f.a of newly built housing units. That change seems to be of particular importance because the newly built and handed over housing units were smaller than the ones in the existing stock. On the other hand, the housing units in Wrocław were the largest in Poland.

Despite the fact that the study has revealed poor correlation between X_{PB} and X_{PMB} , this information is a signal for the actors on the residential property market. Rising costs of home maintenance related with the property tax (today this rise is directly proportional) have a limited impact on the buyers' decisions concerning the size of a property. Nevertheless, the implementation of the *ad valorem* tax will undoubtedly result in the increased role of tax regulations in the Poles' housing decisions.

The spread plots for the variables X_{PB}/X_{PG} and X_{PMB} show a significant increase in the average u.f.a. of housing property handed over in Katowice in 2012, but that seems to be an incidental case.

The computed Spearman correlation coefficient indicates a statistically significant correlation between the variables X_{PB} and X_{PMB} , but the power of this correlation is weak (-0.202). Yet, taking into consideration the number of cases introduced to the model, it can be regarded as satisfactory. The negative value of the coefficient shows that the increase in property taxes on residential buildings (X_{PB}) will induce shrinking in size of newly built housing units (X_{PMB}). This stands in contrast with the correlation between X_{PB} and X_{PMZ} . The value of the Spearman correlation coefficient for X_{PB} and X_{PMZ} reveals the lack of statistical correlation between the observed variables (-0.162). The obtained values of the Spearman correlation coefficients are shown in Table 2. The calculations are made for the materiality level at 0.05.

Table 2. Values of Spearman correlation coefficients for analysed variables

Variable	X_{PMZ} (average usable floor area of units in the housing stock)	X_{PMB} (average usable floor area of newly built housing units)
X_{PG} (annual property tax rate for residential buildings set by city councils)	-0.162	-0.202

Source: own study conducted by means of *Statistica 12* of StatSoft. Inc firm.

In order to make full use of the information provided by the variables in this study as well as to perform a more complex analysis of the effect of residential property tax policies implemented by voivodeship capitals in 2009-2014 on the buyer's decisions in terms of the purchased residential property size, the authors of this paper apply a multidimensional statistical *k-means* analysis. This type of analysis belongs to a group of non-hierarchical methods and is the most common clustering method used in the taxonomic practice [Stanisz 2007]. It consists in partitioning the objects into *k-clusters* in order to minimise the variability among the clusters [Stanisz 2007], which allows for selecting a group of cities that are the most similar with regard to the variables adopted in the study, and the least similar to the objects (cities) classified to the other groups. The *k-means* clustering is performed by means of *Statistica 12*. The results of the clustering of voivodeship capitals in 2009-2014 are shown in Table 3. The clustering uses the sets of variables: 1) X_{PB} and X_{PMB} and 2) X_{PB} and X_{PMZ} . The analysis identifies three characteristic clusters. The variance analysis reveals that throughout all the analysed years the variables responsible for the membership in the cluster are X_{PMZ} or X_{PMB} .

The obtained results of clustering X_{PB} and X_{PMZ} allow for the conclusion that in the cities from Cluster I the average u.f.a. of units in the existing housing stock was the smallest (from 53.3 m² to 58.0 m²). Cluster III contains the cities with the largest average u.f.a. (from 63,4 m² to 71,4 m²). The results of clustering the objects for the variables X_{PB} and X_{PMB} are similar – the best variable of membership in a given cluster is the average usable floor area of newly built housing units (X_{PMB}). Three

Table 3. Elements of voivodeship capital clusters

Clustering for variables X_{PB} and X_{PMZ}		
Clusters	Objects in a given cluster	Cluster membership criteria
Cluster I	Łódź (2009-2014), Warszawa (2009), Kraków (2009-2014), Kielce (2010), Bydgoszcz (2009-2014), Olsztyn (2010-2014)	X_{PMZ}
Cluster II	Warszawa (2010-2014), Katowice (2009-2014), Lublin (2009-2014), Białystok (2009-2014), Kielce (2009, 2011-2014), Zielona Góra (2009), Szczecin (2009), Wrocław (2009), Gdańsk (2009-2014), Olsztyn (2009)	
Cluster III	Rzeszów (2009-2014), Zielona Góra (2010-2014), Poznań (2009-2014), Szczecin (2010-2014), Wrocław (2010-2014), Opole (2009-2014)	
Clustering for variables X_{PB} and X_{PMB}		
Cluster I	Katowice (2012)	X_{PMB}
Cluster II	Łódź (2012), Warszawa (2012-2014), Kraków (2009-2014), Katowice (2014), Lublin (2010, 2012-2014), Rzeszów (2009, 2011, 2012-2014), Białystok (2012-2014), Kielce (2014), Zielona Góra (2013-2014), Poznań (2009, 2010, 2012-2014), Szczecin (2012), Wrocław (2009-2014), Opole (20100), Bydgoszcz (2009-2014), Gdańsk (2010-2014), Olsztyn (2009-2014)	
Cluster III	Łódź (2009-2011, 2013-2014), Warszawa (2009-2011), Katowice (2009-2011, 2013), Lublin (2009, 2011), Rzeszów (2010, 2013), Białystok (2009-2011), Kielce (2009-2013), Zielona Góra (2009-2012), Poznań (2011), Szczecin (2009-2011, 2013-2014), Opole (2009, 2011-2014), Gdańsk (2009)	

Source: own study conducted by means of *Statistica 12 of StatSoft. Inc firm.*

clusters of highly varying size are distinguished. Cluster I contains only one city, i.e. Katowice (2012) with the average u.f.a. of newly built units at 115.95 m². Cluster II contains the cities where the average u.f.a. of newly built units varied from 57 m² to 70.7 m², while Cluster III consists of the cities with the newly built unit size ranged from 73.75 m² to 93.9 m².

6. Conclusions

One of the principal tasks imposed by the Polish Constitution on public authorities is their responsibility to implement policies that address the citizens' housing needs. Special role in meeting these needs has been given to *gminas* whose task is not only to manage their local housing stock, but also to create favourable conditions for the development of different forms of housing. *Gminas* can influence local

property markets with their tax policies in way of setting annual residential property tax rates. Due to a particular role of housing in human lives, the local government tax policies should convey an incentive effect, thus supporting the growth of local housing markets and, consequently, the local socio-economic development. On the other hand, too strict tax policy can become a burden for and a brake on local property markets, the more so that the property tax is regarded as the factor that most effectively creates local development policies.

The analysis of the tax policies implemented by voivodeship capitals over the period of 2009-2014 reveals a clear upward trend in the annual residential property tax rates. The trend was the consequence of not only the ceiling rates set by the Ministry of Finance in that period, but also of the city councils' decisions to gradually bring those taxes nearer the maximum values. Stricter tax policies were announced by those cities where over the last 20 years the housing conditions, measured with the number of housing units per 1000 residents, had ameliorated the most. The positive aspect of the improved housing conditions in the surveyed cities was the decreased occupancy ratio.

The results of statistical analyses indicate the negative correlation between the local annual property tax rates on residential buildings (X_{PB}) implemented by local governments over the period of 2009-2014 and the average usable floor area of newly built housing units (X_{PMB}). However, such a correlation does not occur between the local annual property tax rates on residential buildings (X_{PB}) and the average usable floor area in the existing housing stock (X_{PMB}).

The study results allow for the conclusion that the tax policies implemented by city councils in 2009-2014 regarding annual rates of tax on residential property had an insignificant effect on the buyers' decisions concerning the size of the purchased property. The residential property tax burden must be implemented at the rate and up to the level that do not have a negative effect on the local residents' pursue to satisfy their housing needs. Also, the potential revenue from the property tax could be used for financing infrastructural investments, thus improving the living conditions in the cities.

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Magdalena Wiśniewska

University of Łódź

Faculty of Management, Department of City and Regional Management

e-mail: magdalena.wisniewska@uni.lodz.pl

THE SUITABILITY OF LIVING LAB CONCEPT IN THE IMPLEMENTATION OF MUNICIPAL PROJECTS

PRZYDATNOŚĆ KONCEPCJI LIVING LAB W REALIZACJI PROJEKTÓW KOMUNALNYCH

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Summary: Living Lab is a new concept of innovations development. It requires *inter alia* maximum involvement of final users and other stakeholders in the whole innovative process. It can be useful in terms of implementation of innovative solutions in local communities. Local communities nowadays face new challenges related to public services as their needs are transformed over time. There are several areas of determinants which influence the need to implement new solutions in local government tasks. In accordance with Living Lab concept, the development of novelties in local communities should be prepared as the answer for stakeholders needs and with their involvement in the development process. This corresponds with modern trends in public management. Living Lab concept has many advantages but also limitations. Such issues should be taken into consideration when deciding about its implementation. This paper outlines circumstances of Living Lab concept implementation on the basis of literature studies and practical experience gained by the author.

Keywords: Living Lab, innovations, local government, citizensourcing, participatory management, open innovation.

Streszczenie: Living Lab jest nową koncepcją rozwoju innowacji. Wymaga ona między innymi maksymalnego zaangażowania w całym procesie innowacyjnym użytkowników końcowych, a także innych interesariuszy opracowywanych rozwiązań. Koncepcja może być przydatna we wdrażaniu innowacyjnych rozwiązań w społecznościach lokalnych. Społeczności te stoją dziś w obliczu nowych wyzwań związanych z usługami publicznymi, między innymi z uwagi na fakt, iż ich lokalne zbiorowe potrzeby ulegają transformacji w miarę upływu czasu. Istnieje kilka obszarów uwarunkowań, które wpływają na konieczność wprowadzenia nowych rozwiązań w sferze spraw publicznych na poziomie samorządów lokalnych, co zostało przedstawione w artykule. Zgodnie z koncepcją Living Lab rozwój nowości w społecznościach lokalnych powinien stanowić odpowiedź na potrzeby ich interesariuszy oraz zagwarantować ich udział w procesie rozwoju rozwiązania. Takie podejście zgodne jest z nowoczesnymi trendami w zarządzaniu publicznym. Koncepcja Living Lab ma wiele zalet, ale

cechują ją także ograniczenia. Te aspekty powinny być uwzględnione przy podejmowaniu decyzji o realizacji takiego przedsięwzięcia. W artykule przedstawiono uwarunkowania realizacji koncepcji Living Lab na podstawie badań literaturowych i doświadczeń praktycznych zdobytych przez autora.

Słowa kluczowe: Living Lab, innowacje, samorząd lokalny, *citizensourcing*, zarządzanie partycypacyjne, *open innovation*.

1. Introduction

Local communities nowadays face new challenges related to public services. For the effective discharge of public duties, it is necessary to understand the needs of the recipients of these public goods or services. The better those needs are satisfied, the more efficiently public funds are spent. The needs of local communities, however, are transformed over time. Sometimes it turns out that a community demonstrates new needs sometimes requiring immediate solutions, and at other times not fully conscious. It may also happen that the present way to meet the known needs does not fit the new circumstances. People's lifestyles, model family, livelihood, communication models etc. change over time. Such circumstances make the public authority unable to perform its tasks in accordance with the demand of its customers. There is a need to develop new solutions. It is important in this situation to recognize the conditions of optimal implementation of these novelties in the distant, not quite recognized future. Innovations in local government are of importance as they [Mulgan, Albury 2003]:

- improve performance and increase public value,
- are able to respond to the expectations of citizens and adapt to the needs of users,
- increase service efficiency and minimize costs.

The paper is based on literature studies and experiences of researchers from the Department of City and Regional Management, Faculty of Management, University of Lodz who participated in the project "Systemic support for management processes in local government units" in years 2012-2015. The project was co-financed by the European Union from the European Social Fund. The project included the task called "The development of innovative solutions in the field of public governance", where one of the approaches was to apply the assumptions of the Living Lab concept for the purpose of problem-solving in 16 local government units. This allowed, on the one hand, to test the suitability of the concept of the Living Lab for Polish communes, and, on the other hand, to identify factors of effective implementation of this participatory approach to management in self-governments.

The paper aims to present Living Lab concept and the main determinants of its implementation for the purpose of Polish communes in the light of the desk research and practical experience of the author.

2. Demand for innovation in municipalities

It is not the aim of the article to analyze all possible approaches for identification of innovation needs of local governments. Thus in this part, only PEST analysis is going to be presented. Nevertheless, the literature proposes also other methods in the subject of identification of demand for innovation, like for example strategic foresight [e.g. Habegger 2010] or technology audit [e.g. Burgelman et al. 2004].

For the analysis of the conditions affecting the need for innovative solution, PEST analysis seems to be worth considering [Osborne, Brown 2012; Stawasz, Wiśniewska 2015]. PEST analysis refers to the four areas surrounding the organization: i) political (P), ii) economic (E), iii) social (S), iv) technological (T). As Brown and Osborne indicate [Osborne, Brown 2012], by analyzing these spheres of municipalities surrounding, it is possible to discern the trends occurring in the environment that contribute to or may affect the need for changes in the area of public tasks. This analysis may be particularly useful in situations where a municipality is not facing any specific, current, urgent challenge, but is looking to optimize its activity, anticipating some phenomena that in the near future would oblige it to make changes or upgrades.

Therefore with respect to the political environment, the change of the approach to public service has to be taken into consideration, and so the transition to the model of social engagement, the issue of governance as a new approach to public services as well as the need for a new political dimension of the introduction of market mechanisms for the operation of public organizations. Political factors also contain a context of the European Union (EU), its policies and the possibility of using means of EU funds, but also globalization as a source of change, together with regionalization as a trend in the conduct of the policy. Finally, variability and dynamics in general and national and international influence can generate changes at local government level.

When it comes to economic factors, PEST analysis in the context of innovation in the public sphere should consider the following issues: the general economic situation, potential changes in the public finances, marketization of public services, the cost factor of public tasks and the ability to meet the needs of local communities at relevant quantitative and qualitative level.

Among the social factors, the following elements are worth considering: aging population of citizens, social inclusion, the emergence of new social needs and new forms of already known needs as well as sustainable development in relation to meeting social needs.

Technological aspects analyzed in PEST approach can be divided into “hard” – including the structure and equipment of the organization (information technologies, new organizational solutions, new technologies in the provision of services) and “soft” – referring to the processes and ability to provide public goods and services (competence, including education, the sphere of responsibility of public authorities, professionalization of the public service).

3. Living Lab concept

Living Lab is a concept assuming the involvement of end-users in different phases of the innovative process: discovering the needs, their prototyping, validation and improvement [Lama, Oigin 2006].

The development of the concept of Living Lab has provided different perspectives on its essence [Bergvall-Kareborn, Stahlbrost 2009]. Thus the Living Lab is sometimes defined as i) environment [Ballon et al. 2005; Schaffers et al. 2007], ii) methodology [Eriksson et al. 2006], iii) system [CoreLabs 2007]. These perspectives are not in conflict with each other. They are mutually complementary points of view. Understanding them allows better recognition of the specific nature of the concept and gives a chance for its more efficient usage.

Looking at the concept from an environmental perspective, we must recognize that creating the proper environment, an atmosphere of cooperation, integration of the community along with related facilities and necessary equipment is the foreground.

The following key components of the Living Lab environment can be identified [CoreLabs 2007]:

1. User.
2. Environment of application.
3. Technology and infrastructure.
4. The organization and methods.
5. Partners.

Users are the key component of the Living Lab approach. End users of the novelty are at the same time its founders, contributors, testers and validators. As regards the environment of application of the final solution, it should be the same with the environment of its creation. This means that the process of discovering new ideas, their development, testing, prototyping etc. cannot take place in an artificial laboratory. In the concept of Living Lab it is necessary to ensure the real conditions which allow the creation of new products that will work in these conditions, when it is already implemented for everyday use. Information and communication technologies play an important role in communication facilitating and cooperation within the framework of Living Lab between partners and stakeholders of the project. It is about creating optimal conditions for the effective communication of ideas, their rapid assessment, confrontation, and exchange of experience. The concept of Living Lab is certainly challenging and requires a proper organization, and methods of collaboration. It should, however, be borne in mind that the novelty of this approach and its founding cause that one methodology not be simply copied in different conditions. But certainly one can draw experience from already accomplished initiatives. The cooperation of partners and their specific point of view as well as their knowledge can improve the standards of developed solutions, bringing them closer to perfect solutions. It should be remembered that in addition to end users of the developed novelty, also other important entities (stakeholders) should be involved.

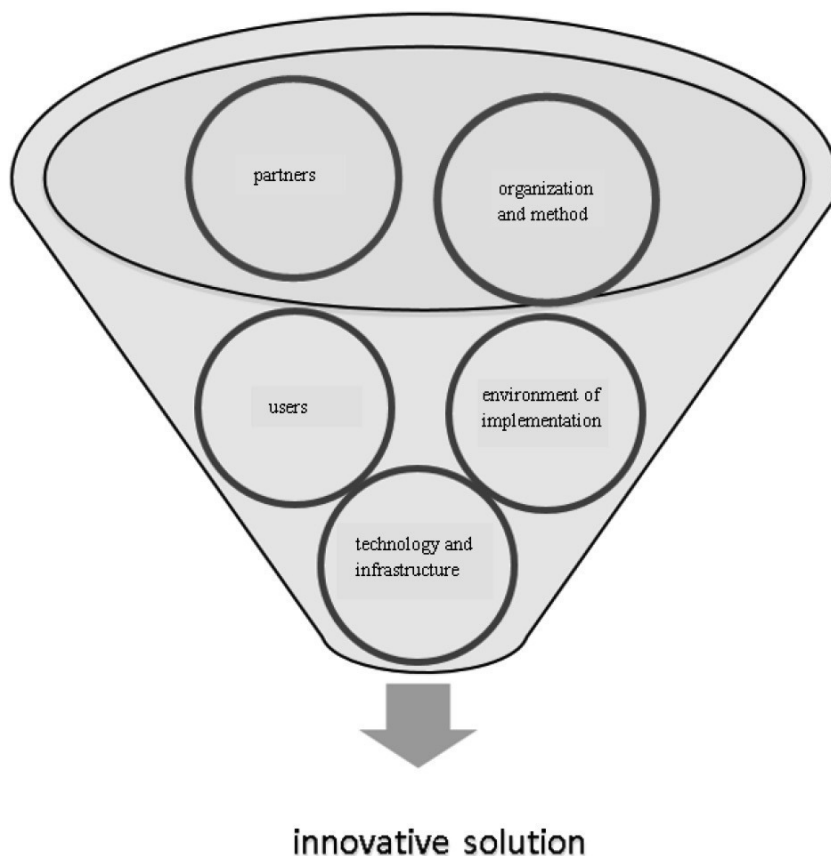


Figure 1. Key components of the Living Lab concept

Source: own elaboration based on [CoreLabs 2007].

Methodological perspective for understanding the concept of Living Lab highlights the importance of processes occurring during such projects, like data exchange processes and user engagement methods. Five principles of Living Lab concept should be pointed out here [CoreLabs 2007]:

1. Continuity.
2. Openness.
3. Realism.
4. Empowerment of users.
5. Spontaneity.

The postulate of continuity is especially important in establishing relations of cooperation between partners of the project. Since Living Lab requires joining various interest groups, strengthening close relations between them takes time. To make this process effective it must be continuous. What is more, people when

engage in some ideas, want to be appreciated – not just in a material way, but through interaction, taking their points of view into consideration. When there is no answer to someone's action, this person becomes demotivated. The requirement of openness refers to the effort to take into account the multiplicity of perspectives and gathering the right amount of power to achieve rapid progress of the project. Openness also means to consider as many perspectives as possible, mainly from end users. The need for realism is related to the expected outcome – a product or service has to be generated under real conditions of its use. Environment of conducting Living Lab project must therefore be at the same time the environment of real usage of the developed innovative ideas. This feature of the Living Lab concept distinguishes it from other concept of innovation development. Empowerment of users is crucial for driving the innovation process in the intended direction which has to be based on the needs of the people. The effectiveness of the concept is based on creativity of the users, therefore it is important to motivate and involve users in the innovation process. The spontaneity of action is associated with the cycle of creating innovation and the necessity of registration, collection and analysis of spontaneous reactions of users at each stage of creating a new solution. All reactions should be taken into consideration, especially those spontaneous – to ensure the effectiveness and suitability of the generated novelties.

The concept of Living Lab is not the only one in the sphere of development, testing and validation of innovation. What distinguishes this concept is the high degree of participation of different groups of actors and multiplicity of contexts taken into account (not always planned, which results from the spontaneous nature of the Living Lab). It should, however, be borne in mind that the active involvement of users in the Living Lab concept does not exhaust its objectives. The involvement of as broad group of stakeholders as possible is necessary.

“Stakeholders” means the people, groups, institutions that are interested in the functioning of an organization. The involvement of the widest possible group of stakeholders increases the chance to create optimal solutions by addressing the multiplicity of points of view. It allows for a reduction of the technological and business risk. The challenge is to reconcile the interests of different groups. It should also be noted that the involvement of many people and institutions must be carried out in such a way as not to interfere with the implementation of the project and to allow the fulfillment of the other objectives of the Living Lab concept such as spontaneity or continuity.

4. Advantages and limitations of Living Lab concept implementation in Polish municipalities – findings from practical experiences

The experience gained from the implementation of the project entitled “Systemic support for management processes in local government units” realized in the years

2012-2015 allows to identify some significant advantages and limitations in the use of Living Lab concept to the management of local affairs.

Today's local communities, including the entities taking part in the above mentioned project, are becoming increasingly aware of the mechanisms that cause a certain degree of satisfaction of their needs. The principle of subsidiarity underlying the self-government causes the responsibility of the local authorities for local communities. However, individual residents and other entities currently operating in the municipality claim for co-decision in choosing directions and ways of spending municipal budget or fees. The politicization of public authorities and conservative nature of the municipal offices (which lack the executive management) causes dissatisfaction of the residents. Among the residents are also entrepreneurs, people accustomed to quite another dynamism, a different motivation, aware of the opportunities other than bureaucratic activities. In the municipalities there are also active non-governmental organizations, which often know best the specifics of the phenomena for which they work. They are sometimes struck by the inefficiency of public authorities in some areas. These and other stakeholders can and should be involved in decision taking by local governments. In developed countries there is a long tradition of civil society. In the Polish reality, this process is still developing [e.g. Wiśniewska 2014]. There is no long tradition of direct involvement of citizens in public life. It seems that the same phenomena are conducive to the development of social media and universal access to information, especially via the Internet. Living Lab concept is one possible to be used when involving stakeholders in deciding in public matters. It is used in implementing new solutions. A lot of advantages but also limitations can be assigned to it. The advantages of Living Lab approach identified through experience gained in the project realization, are as follows [Stawasz 2015]:

- inclusion of citizens in decision-taking regarding the development of living conditions, which results in better satisfaction of the needs,
- increased knowledge (including hidden) about the municipality,
- increased community interest in public affairs,
- building local identity of small communities,
- more flexible decision-making process,
- building a platform of understanding between authorities and stakeholders,
- increasing the transparency of government, bottom-up decision process,
- realization of projects most suited to the needs of stakeholders,
- preventing the implementation of failed actions from public funds,
- increased efficiency of operations,
- promoting the ideas of partnership and cooperation,
- changing social attitudes.
- increased credibility of authorities,
- stakeholder responsibility for the effects of projects.

As regards the limitations of the concept, it is possible to find [Stawasz 2015]:

- extension of the decision-making process,

- possibility of a strong stakeholders lobby,
- blur of the responsibility for a project,
- increased costs of administration and management.

Above mentioned attributes of Living Lab concept should be taken into consideration when deciding about its implementation. Such a decision should depend on a particular problem to be solved. Local government should also evaluate effectiveness of this solution in comparison with a traditional problem solving path.

5. Conclusions

Living Lab is a new concept useful in elaborating innovations. It has many advantages, but also some limitations. Nevertheless it can be implemented when a local government seeks new solutions for satisfying community needs and a traditional model of decision taking turns out to be ineffective. There is always a question about the relations of costs and effects of involvement in this approach. The Living Lab concept generates costs and consumes time, but it can lead to a better quality of life. Therefore an ex-ante analysis as well as good preparation and effective communication process are important.

It cannot be said, however, that the Living Lab concept is widely used in the development of Polish territorial units and experiences of the author require further verification on the basis of the possible future Living Lab implementations.

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