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The phenomenon of urban sprawl in modern Poland: Causes, effects and remedies¹

Abstract

Objectives: The objective of this article is to identify the reasons for the emergence of urban sprawl in Poland, with particular reference to selected medium-sized cities in the Małopolska voivodeship, located at different distances from Kraków. The second objective of this article is to indicate the awareness of the authorities of these cities of the influence of the core city (Kraków) and their efforts to use this phenomenon for their own developmental goals.

Research Design & Methods: Documents defining the socio-economic development policies of Limanowa, Niepołomic and Nowy Targ were used for the analysis, as well as selected quantitative data indicating the direction and strength of the urban sprawl. An important element of this article is an indication of the consequences of this phenomenon and remedies for public administration of various levels in Poland. The model of gravitational potential was utilised as the research basis.

Contribution / Value Added: As an added value, an attempt should be made to indicate the relation between the values of indicators and the policy of local development (actions of local authorities to eliminate negative effects of the urban sprawl phenomenon).

Implications / Recommendations: Although the urban sprawl phenomenon is involuntary (and ubiquitous), it can be controlled, and the lack of actions to control consequences will make them even more acute. Solutions should be systemic in nature and implemented at the level of central administration in Poland, but the attitude of local authorities is also important. In addition, the influence of Kraków on its functional surroundings has a different strength and character. From the point of view of local authorities, it is important to diagnose strength and character (positive or negative) in order to properly choose the direction of the given city's development policy.

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Introduction

The spread of cities, both controlled and uncontrolled, is a long-standing process in the descriptions of urbanisation. An important issue is the attempt to put theoretical aspects of causes and consequences of urban sprawl phenomenon into examples from practice. So the first part of this article is focused on defining the theoretical framework characteristics of urban sprawl in Poland from the point of view of spatial, social and economic aspects. Then, in the second part, the authors attempt to understand the causes and consequences of this phenomenon. The authors carried out an analysis of local government actions in the context of socio-economic development planning, attempting to address the topic of government awareness concerning the counteracting of urban sprawl. Three medium-sized cities located at different distances from the core city (Kraków), were analysed according to the model of gravitation of potential, the assumptions for which being set out in the text.

The aim of this article is to analyse the causes and effects of urban sprawl, together with an attempt to identify remedies relevant for the Polish public administration system. The Małopolska Voivodship was used here as an example.

Urban sprawl – a review of the literature

One of the important contemporary spatial processes affecting the economic and social sphere is what is described as amorphous urban sprawl. Amorphous urban sprawl (urban sprawl) refers to a draining, uncontrolled by metropolitan authorities, of potential from a metropolitan centre to its surroundings, which do not belong to the city in the administrative sense. This is a negative phenomenon from the viewpoint of the metropolitan authorities, undermining the qualitative potential of the centre, including the financial elements thereof. Numerous examples in literature, as well as research which has been conducted, show that this primarily concerns urbanised areas of strong qualitative potential.

Americans were the first to analyse these phenomena as social, economic, spatial and cultural issues; they have associated the phenomena with the development of the automotive industry and the spread of cars.² Among the American twentieth-century visions of ideal cities, alongside Frank Lloyd Wright's "Broadacre City", the "Roadtown" and "Motopia" projects are worth noting, both subordinate the city to the needs of traffic and extend it almost infinitely along the highways and freeways (Gruen, 1965, p. 181). The importance of the development and promulgation of individual motorisation for the transformation of the American lifestyle, in almost all dimensions of the nature of social interaction, has been and still is the subject of numerous research projects, as are the spatial effects of these processes and their impact on the economy. From the point of view of this discussion it is essential that the popularity of private cars not only long distances to be covered in a relatively short period of time but also revolutionised the sense of time, distance and the definition of "accessibility". One of the most significant changes was the separation of the ability to use the various resources of the city from the status of the inhabitant, which was conducive to a significant increase in the category of "users". Mass arrivals to cities from the suburbs, for work, for educational purposes, for entertainment, cultural participation, etc, have contributed to the development of the phenomenon described as "breathing cities" or "pulsating cities". In addition to the advantages associated with these processes, we may point to a series of negative phenomena described in a report titled "The cost of sprawl".

The most visible urban sprawl can be seen from the 1950s in the North American countries, during intense suburbanisation, changes in patterns

² Interesting from this point of view was the exhibition presented in 1961 at the Museum of Modern Art in New York entitled "ROADS" showing the difference between European and American way of organising urban space. https://www.moma.org/momaorg/shared/pdfs/docs/press_archives/2878/releases/MOMA_1961_0093_91.pdf?2010 [access 21.07.2016].

of living and ways of defining the desired lifestyle among members of the middle class. As Victor Gruen observed, this process involves three main sub-processes:

1. spread;
2. sprawl; and
3. scatterisation.

The metaphor of “spreading” meant covering entire spaces, often of high landscape values, with development often unified but not necessarily matched with local traditions, landscape types, etc. The “sprawl” of a city meant the emergence of unplanned, often chaotic structures “jostling” the city. Urban sprawl has been (and is) closely linked to the development of individual communications, the emergence of hypermarkets and malls on the outskirts and to suburbanisation processes.

“Scatterisation” of urban space was associated with a lack of cohesion, discontinuity of development, and the creation of areas of varying intensity of use, deprived of centres and devoid of characteristic features (Gruen, 1965, p. 63).

The very concept is differently interpreted and defined in the literature regarding the subject, often related to different phenomena. From the point of view of organisation of space, urban sprawl is opposed to the ideal of a “compact city”, but takes on different forms. And so we can talk about spatial “strip development” along roads, “distributed” development lacking co-ordination, and finally about development “jumping” existing barriers. Other definitions of urban sprawl are based on the contrast of multi-functional socio-spatial wholes with mono-functional ones. Finally, urban sprawl can be considered as a step in the way of organising socio-economic processes in space by observing how urban environment changes from very dispersed, disorganised living spaces through more developed areas, where more and more public services, commercial institutions, etc are located, which provide employment, to areas with increasing “density”, with a more complex spatial-social structure, including local centres and jobs (The Scatter Project – Sprawling Cities..., 2005, pp. 7–9).

A compact city is another proposal to solve problems brought by urban sprawl, which was born by seeking better spatial and social solutions to the urbanisation process. The compactness of a city was to be expressed in particular in its physical form, sufficiently focused, so that the residents could meet their needs in a more energy-efficient, environmentally-friendly way by being located near the necessary institutions and services. The followers of the compact city idea emphasise that social cohesion also increases due to this phenomenon. Characteristically, the compact city is also referred to as a neo-traditional city. However, as Michael Neumann observes, in the very essence of a compact city there is a significant paradox: compactness is associated with a greater density of urban planning and with rationality in terms of resource use; however, if a city is to be a livable city, it should be, even partly, more dispersed, leaving some free space that is less heavily developed. Neuman emphasises at the same time that in real cities the characteristic of “friendliness” is not explicitly linked to the way in which space is developed and organised. (Neuman, 2005, pp. 15–17). The absolutisation of only one dimension leads to the false perception of a compact city as a good alternative to a dispersed one.

Uncontrolled urban sprawl has resulted in certain features, such as low population density and low compactness, as well as the lack of important socio-spatial elements, such as central zones or valuable public spaces; it also favoured mono-functionality. The change of development was unstructured and discontinuous, leading to a deepening of spatial chaos. Other urban attributes highlighted by North American authors are the lack of boundaries between the city and suburban areas, the extension of the city beyond the walkable city area, the emergence of a never-ending urban planning area, and spatial, economic and social fragmentation of central parts of the city (Angel. S., Parent, J. & Civco D., 2007, pp. 2–3).

Basically, the pessimistic assessment of this process prevailed; of the process considered to be one of the key drivers of local development.

Some co-occurring factors facilitate the spill-over of the city, including, for example, tax policy. As Bhatta writes, it would be logical for real estate tax and other taxes connected with local development to be higher on the periphery because the costs of developing and building the right infrastructure and the cost of access to public services are higher than in city centres. However, these taxes are usually lower in suburban areas. So developers usually pay only a part of the costs associated with the development of their schemes, which makes development projects seem very inexpensive and encourages further expansion of the city into neighbouring areas (Bhatta, 2010, p. 23).

Critical analyses of urban phenomena were linked to the search for both ways to counter their emergence as well as ways to minimise negative spatial or economic or social effects. Thus the ideas of New Urbanism were shaped roughly in the 1970s; the concept of a compact city, a sustainable city, a liveable city, and the concept of “smart urban growth” were all well-liked at the end of the twentieth century. This last concept is usually understood in terms of following a development policy promoting the desired patterns of urban expansion: high intensity of land use (density of urban development); a shaping of habitable environments where walking and cycling are comfortable; well maintained (protected) green zones; development in which mixed forms of land use is assumed; availability of mass transportation; and reduction of road projects for individual vehicle transportation. Typically, smart growth is perceived as the right (i.e. problem-solving) alternative to urban sprawl. However, on the basis of empirical experience one may point out some basic objections to the assumptions and to the policy of smart growth. The point is that, *inter alia*, the consequence of introducing greater intensity of land use may be a decrease in the value of land and buildings when population density increases, as traffic congestion problems occur in parallel, and the risk of crime increases. The social nature of an area may also change: it is no longer a quiet peripheral area, but becomes a district much

busier and noisier, undergoing processes of (over-) commercialisation (Resnik, pp. 1852–1856.) The visions of the development of a smart city, connected with a concept of smart growth, are also worth mentioning. The smart city concept has gained enormous popularity and is also used in contexts different to the classical understanding, just as many decades ago the term *city garden*³ was misused.

Uncontrolled urban sprawl is considered in American literature as a side effect of urban development legislation, the availability of housing loans, etc, but also as an inevitable stage of urban development (the “Inevitability Theory” of sprawl). Urban sprawl is thus perceived as a natural process resulting from social changes (democratisation, increasing openness of society, cultural pluralism) and economic changes (which are related to, *inter alia*, the increase in prosperity) and at the same time it is unmanageable through administrative decisions (Bruegmann, 2005). As Lewyn recognises, the “Inevitability Theory” of sprawl is difficult to confirm and maintain, because a comparison of the US and European countries shows that different urban policies lead to different spatial and socio-economic effects. In European countries the phenomenon of uncontrolled sprawl is much less common. That can be linked to lifestyle differences, ways of meeting one’s daily needs. Europeans walk and use bicycles or public transport much more than people in North America (Lewyn, 2009, pp. 88–89). Also, the assessment (positive or negative) of space management in different countries depends on historical experience, cultural values, the size of the given country, etc. The approach to urban issues is also related to attitudes towards planning – perceived as necessary for more effective problem solving or as a barrier to the actions dictated by market mechanisms.

³ All these concepts are linked together by the idea of finding the rules of a “well-functioning” city (area). The most important element in all these concepts is to emphasise a holistic approach that embraces many different aspects of the functioning of a city.

The phenomena of amorphous urban sprawl are primarily related to citizens of metropolitan centres, and are related to their behaviour, needs, and value systems. The “location” decisions taken by individuals are most rational, though sometimes not entirely conscious. People whose decisions influence the process of uncontrolled urban sprawl can be divided into several groups: rich city dwellers looking for peace and quiet; young people of the metropolis “working their way up”, looking for housing paid for with a mortgage, cheaper than in the centre but at the same time offering good living conditions for their family; new residents coming from non-urbanised areas, who, in a way “for the beginning”, choose more peripheral locations; and finally, different categories of users (e.g. students, people commuting to work, people using specialised services). All these groups want to use the resources of the metropolis, which, in the longer term, involves the need to free up transportation channels. Uncontrolled urban sprawl has a significant impact on living conditions in the affected areas. Generating social spaces is usually a relatively long process of organising, taming, and conferring meanings and values, but as a result of the intensive expansion of new buildings it may be artificially accelerated, resulting in negative phenomena. This involves in particular the disappearance of the existing “socio-petal” space (conducive to interaction, strengthening of bonds and contacts) and its transformation into “socio-fugal” (societally empty, not defined as “mine” or “ours”) (Hall, 1976, pp. 158–159).

Material and methods

The authors have developed four research hypotheses. The first hypothesis is as follows: the distance of the analysed cities (i.e. Niepołomice, Limanowa and Nowy Targ) from Kraków affects the intensity, character and direction of the relationship with the core city. Second, distance travelled in minutes and dependent on the transport infrastructure is more important than distance measured in kilometres. Third,

the issue of awareness and aspirations of the authorities of the analysed cities regarding the possibility of using Kraków’s resources or limiting the phenomenon of resource drainage is independent of the distance from the core city. Fourth, the authorities of the cities analysed with regard to the conducted policy of socio-economic development do not make full use of the opportunities arising from the city-core-environment relationship.

The research methods are based on basic quantitative analysis of phenomena that can indicate a cause and effect relationship in the context of ongoing analyses of metropolis-functional surrounding interactions. According to the model of potential gravity the phenomenon of development spill-over is naturally less intense as the distance from the core city increases. This thesis will be confirmed by basic quantitative analyses. Secondly, the strategies of urban development (in Limanowa, Niepołomice and Nowy Targ) will also be analysed as the basic and superior documents defining the most important future directions of socio-economic development. The question is asked how far the authorities of analysed cities in their plans take into account, directly or indirectly, Krakow as a place the “gravitational field” of which interacts with certainty with Limanowa, Niepołomice and Nowy Targ and in this case whether a certain attitude (offensive or defensive) should be adopted. Another important element of the empirical part of this article is analysis of relevant literature and legal acts that enable one to describe the specificity of modern Polish urban sprawl.

One of the important observations made on the basis of the above-mentioned theoretical analysis of urban sprawl is that the city-core has an influence on its surroundings. This has its socio-economic and spatial implications in processes that are detached from public administration (spontaneous, dynamic, free-market) and may also be related to local development policies. In terms of natural processes, the authors believe that the relationship between the location of the city-core and the intensity and

nature of socio-economic and spatial phenomena should be investigated. It is likely the areas near the growth pole are privileged. But equally important is the awareness of local authorities of possible problems or additional development opportunities stemming from the relationship between the city-core and the environment. This awareness should be manifested through an orientation of development policy which responds to natural processes, whether positive or negative.

Therefore an analysis of the socio-economic development directions of three cities (i.e. Niepolomice, Limanowa and Nowy Targ) located different distances from the core city (i.e. Kraków) is presented below. The authors took into account in their reflections the direction, nature and strength of Kraków's influence on the regional environment from the point of view of the above-mentioned assumptions, the most important of which is the idea of urban sprawl. In the next part, an attempt was made to evaluate the causes and effects of urban sprawl on the example of the selected cities in Małopolska. In the following empirical analysis only some of the elements described in the theoretical part were considered, due to technical limitations as well as the availability and comparability of the planning documents of the three analysed cities. In view of these constraints it was decided to analyse the basic, most important planning documents (development strategies), whose vision and the strategy goals, set the intentions for the direction of the community's development, and the tools for achieving the social, economic and spatial goals. In these places in strategy papers the authors will look for awareness of the opportunity of using Kraków as a development pole, the potential of which is "spread" to the surrounding area, or Kraków as a perpetrator of "defective" development, the impact of which requires corrective actions. The worst situation would be a lack of awareness of city authorities about how the metropolis affects them.

These cities in Małopolska were selected because this region is characterised by fragmentation of ownership structure. The specific "egoistic"

mentality of narrowing the notion of "common good" to the immediate environment is also significant here. The natural pole of development is Kraków. Cities with relatively similar demographic potential (cities defined as medium-sized), located different distances from Kraków, were selected for analysis of urban sprawl. An important element of the analysis was planning documents defining directions of socio-economic and spatial development. From the research point of view the awareness of Kraków's presence and its strong impact on economic competitiveness and the desire to use that potential for local purposes would be the key. For this reason, the most important parts of the documents were those that indicate the direction of development: the trees of the objectives along with the other elements of projection divisions were analysed.

As an example to check the widespread nature of urban sprawl, the authors decided to analyse the case of Kraków and cities in Małopolskie Voivodship. The regularities of the spatial distribution of the cities of Małopolskie Voivodship were assessed, and to be more precise a question was posed: does the value of the cities' qualitative potential has a decreasing character in relation to the distance from the core city. If it is assumed that a metropolitan area consists of a metropolis and a functionally connected hinterland, one might say that the size of the metropolitan area depends on the metropolitan centre's potential. The bigger it is, the more forcefully it spills onto the environment in the natural process. The task of regional authorities is to strengthen the involuntary process of metropolitan-regional environment interaction, striving for development and increased competitiveness and cohesion of metropolitan areas. The greater the quality potential of a metropolis, according to the theory of gravity potential, the greater the area of positive influence of the metropolis on the surroundings.⁴

⁴ The model of gravitational potential "borrowed" by economists from astronomy relates to the metropolitan centre and its surroundings. The basic assumption is that

The boundaries of functional metropolitan area⁵ are found where the direct connection to the core city ends. How should “direct links” be understood? That is primarily due to the customary (everyday) use of the functional hinterland and metropolitan resources by a significant part of the non-metropolitan society. The endogenic potential of the metropolis and the distance from the core city, or, more precisely, the length of the journey to or from the metropolitan centre, is decisive for the permanent, natural impact of the metropolitan centre. Wherever is the point where it becomes too far to commute to work, school, university or a specialised cultural/health/commercial centre, there lies the border of a functional metropolitan area.

Results and discussion

Urban sprawl in Poland in the 21st century

Urban sprawl is multi-dimensional and requires an interdisciplinary approach. The causes and consequences of this economic, spatial and social phenomenon can be easily identified. Below the authors have analysed the causes and effects of this division. Taking into account the specifics of uncontrolled urban sprawl in Poland, social factors predominate. The dream of having one’s own home with a garden, impossible to realise for many years, makes that the most popular form of housing, although it should be pointed out that in the suburbs we can also find blocks of flats, characteristic of urban space, which is

the metropolis acts positively on its immediate surroundings, but the force and direction of this effect is decreasing in relation to distance. There is an “inflection point” beyond which the metropolis begins to negatively affect the environment by “draining” its potential, particularly human capital.

⁵ A metropolitan area, similarly to region, can be perceived as a territory artificially delimited by an administrative decision, (which was connected with a bill of the “Metropolitan act”) or, functionally, economically delimited by the analysis of the direct connections between a core city and its hinterland.

related to the costs of different types of housing. One of the features of 21st century Poland is the growing social polarisation, the increasing diversity in different spheres of life, starting from the level of affluence, through access to various privileges, to opportunities for a socio-economic position that is adequate to one’s needs. Growing regional differences, especially in the metropolitan-periphery perspective, should also be pointed out. One must also mention cultural differences, including those ethnic and religious. (*Jedna Polska? Dawne i nowe różnicowania społeczne*, 2007). The growing wealthy layers of society seek new opportunities to satisfy their aspirations and, to a certain extent, suburbanisation processes are linked to these new social expectations. For a long period of the People’s Republic of Poland, for many circles the impossibility of deciding on many spheres of their life was so bad that in the new conditions after 1989 the sense of justice became an important element of quality of life, and the pursuit of its achievement was relatively common. This desire also translated into the choice of living environment. There are new lifestyles, often related to health care, physical fitness and social relationships. From this point of view, non-urban or even rural areas have become more attractive, especially since the development of individual motor vehicles and private bus routes; out-of-town housing does not necessarily mean that the use of metropolitan resources is out of the question. In addition, the development of new information technologies has made possible both remote work and extended cultural participation or social interaction without physical presence at a certain place. In this sense, it has become possible to realise the vision of Howard’s garden city, based on the idea of combining the benefits of living in the countryside and in the city within the space of the suburbs. The attractiveness of suburban space was also associated with changes in the functioning of rural areas, which in a sense became “less rural” in a traditional (and even stereotypical) sense (Podedworna, 2006, pp. 227–228).

By observing the kind of entrepreneurial initiatives developed in suburban areas, we can notice a specific “pursuit” of aspirations – a variety of specialised services are created, places to meet needs in a more tailored way. The populations living in these areas are increasingly characterised by high levels of social and intellectual capital, which creates demand for both more specialised opportunities for meeting the needs of leisure and for valuable workplaces requiring high-level skills and competences. This situation assists the transfer of various types of entrepreneurial activity outside the city borders. However, it should be pointed out that real living conditions in suburban areas do not meet these high expectations. It is also connected with the fact that Poland is in a period of “acute crisis” of spatial planning, so it is difficult to perform important tasks: reconciling the interests of different groups of residents and users of different areas and providing a platform for reconciling different developmental, economic, social and environmental goals (Radziejowski, 2002, pp. 20).

When pointing to the economic dimension of urban sprawl, the limited understanding of the issue of territorial competitiveness by local government units should be emphasised. Territorial authorities rarely plan development in an integrated, networked way, i.e. one that counts on the synergy effect. Competitiveness, literally, in the case of local development means in practice neighbouring communities “snatching potential from each other”, which, in turn, creates extremely favourable conditions for attracting more residents and entrepreneurs. In such a case, municipalities become, in some ways, the partners of the developers and the residents who build houses, the construction of which, due to the lack of complex solutions, often leads to the devastation of landscape and a reduction of the functional potential of an area.

Entrepreneurship is the driving force behind local development. Human and cultural resources, adaptive infrastructure of a certain quality, the supply of knowledge and innovation, the quality

of public services, the state of the environment, the quality and accessibility of space, and the state of public finances are prerequisites for its development. It is obvious that these phenomena are interdependent and create, favourable or unfavourable, conditioning syndromes. On the other hand, the outflow of businesses and people outside city borders means less income from income tax and corporate income tax to the municipal treasury. In addition, the outflow of companies works, in a certain way, as a “snowball” effect, i.e. with informed decisions being made under the influence of competition decisions – location of similar, competitive companies in one place due to the prestige of the place.

The threat to metropolitan centres slows down the development of local economies for a variety of reasons: people living in metropolitan areas are less likely to use the resources of the centre connected with the sphere of services, especially the basic ones. A space for services is developed on the periphery of cities to serve the residents of a functional environment. It is also possible for unemployment for increase in core cities due to the fact that companies which move outside of those cities are more likely to hire people from peripheral areas, who live closer to such workplaces and have lower financial expectations. The problem is the scale of the phenomenon, which can cause disturbances in the structure of a labour market. This in turn will have influence on the economic and social potential of the city.

Investment opportunities for Polish developers exceed the boundaries of single plots and enter larger areas. The market – including the housing market – is increasingly demanding. Twenty percent of the price of an apartment is derived from the attractiveness of the view from the window. There is a growing group of potential customers who can afford better homes and no longer want to do everything by themselves. They want to “get in on the act” but not to think about where to obtain water and electricity from. They do not want to think about snow removal or septic tanks. They are looking for an offer featuring not only

an apartment or a house with a garden, but also proximity to services, attractive public space, and greenery that encourages recreation. They are increasingly demanding ecological certificates for buildings and land development and guarantees that neither a junkyard nor an incinerator will be built in the neighbourhood next year. Responding to new demands, developers need to go out on the market with these complex offers. There is growing awareness among them about the role of a local plan. They are looking for areas where a plan is in force and not – as in the past – for places where there is no plan yet; to date, with the land development conditions in hand, one could build whatever one wanted. So, just like about a hundred years ago in New York,⁶ now developers are starting to demand planning from local governments.

Negative consequences of amorphic urban sprawl in Poland

Amorphous urban sprawl creates and strengthens various spatial, economic and social dysfunctions. They are interrelated and create self-aggravating syndromes of unfavourable features characterising socio-spatial wholes. They can cause maldevelopment (bad, defective development) in all three areas (in the economy, social life and urban space).

The effects of unco-ordinated development around cities, considered in spatial terms, are manifested by lowering the investment accessibility of suburban areas. This is a paradox, because on the one hand there is a growing number of access roads and more technical infrastructure piped to dispersed buildings, but at the same time the texture of this network is so finely grained that it blocks or limits the opportunities for delimiting corridors for large linear investments (main roads, expressways and motorways). For the same reasons,

planning locations for investments of strategic importance to a city (e.g. airports, technology parks and photovoltaic power stations) is limited. In addition to these direct negative consequences, the attractiveness, and thus the price, of land impaired by urban sprawl also falls. That is due to the change in passive exposure, the “view from the window”, and is particularly noticeable in areas of exceptional landscapes, e.g. on the edge of legally protected areas such as national parks and landscape parks. The widening of the disharmonious landscape and undesirable views, as a result of unco-ordinated development, is usually accompanied by increased air and acoustic pollution.

Because of the above-mentioned attitudes towards space, and especially the lack of sense of its value, the practice of wasteful spatial resource management (in terms of size, attractiveness and accessibility) has spread in Poland. As a result, this has led to low quality urban environments that are unable to cope with competition (Kochanowska & Kochanowski, 2000, pp. 50–51). New urban areas are created rather by accidental and not as a result of a long-term social policy, but rather as a result of the interplay between the interests of different actors, often without adequate infrastructural facilities and without field reserves (Lisowski & Grochowski, 2008, p. 250).

In the economic sense, urban sprawl is induced and strengthened by the process of metropolisation, so it is primarily concerned with economically strong cities and their functional areas. Metropolisation leads to polarisation of global spaces and the creation of places more or less privileged in terms of development opportunities. Contemporary metropolitan centres are defined by the prism of qualitative criteria, thus indicating the presence of higher order functions contributing to development. Metropolitan centres have the capacity to autonomously produce quality potential. The generated potential from different areas first meets the needs of the local market, but is rarely consumed by the entire metropolis itself. What is referred to as a surplus of potential arise, which is exchanged with other similar centres.

⁶ In 1916, at the initiative of merchants from Fifth Avenue, the New York City zoning plan was introduced for the first time, which meant the zoning of development.

This mechanism promotes direct metropolis-to-metropolis connections. The transportation channels make metropolises “hubs” for the flow of goods, services, information, capital, and people. However, even if it is not the intention of the city authorities to develop their surroundings, there is an involuntary and spontaneous diffusion of qualitative potential and increased importance of metropolitan areas. In the literature on this subject one can find various opinions on the issue of the future importance of metropolitan areas. There are two main approaches based on concepts of territorial development. In one of them the metropolitan area loses its importance with the simultaneous dynamic development of metropolitan centres, and in the other approach metropolitan areas will harmonise relationships with metropolitan centres.

Metropolitan centres are less interested in co-operating with their surroundings, as the surroundings cannot offer a metropolis any valuable objects in exchange, and the intensive process of exchange of goods, services, financial capital, information and/or people takes place between two similar, high-ranked entities. In many cases the constant, the natural impact of the metropolitan centre on the environment, determines the distance from the core city, or, more precisely, the time it takes to reach the metropolitan centre. To date this impact has been associated with revitalising the immediate metropolitan surroundings (functional surroundings) or the drainage of the potential from peripheral areas of the regions.

Urban sprawl stems, from spatial and market processes as well as from controllable operations, primarily involving the creation of conditions by metropolitan municipalities to attract external capital. What is equally important is that the decisions taken by subjects (entities) on leaving a metropolis and functioning in the wider metropolitan area can be both conscious, rational, market character as well as of unconscious and non-market character. It depends on the motives for making decisions on moving to the metropolis. Incentives and expectations are, in turn, related to the characteristics of entities and individuals who decide to change

their place of residence or investing. The most aware and rational, of course, are companies, whose businesses consists of the biggest simplification of maximising financial benefits and minimising costs. It can therefore be concluded that the rational actions of companies are a field to demonstrate the dexterity and creativity of municipalities located around a core city. From a certain point of view, it is about reducing operating costs, but it is important that this does not take place at the expense of the quality of the manufactured goods or services provided, as well as the limitation of the activity from the point of view of production capacity and access to external markets. Therefore, rural communities compete with each other, creating conditions for attracting external capital.

However, there is a dilemma associated with the development strategies adopted by municipalities. On the one hand, it is about the answer to the question of whether local authorities are aware of the dangers that may be the results of actions based on apparently rational premises such as “facilitating investment”, “cutting red tape”, “cutting down on chronic procedures” and “the need to construct housing” (Wyganowski, 2012).

As a result of a lack of planning, unclear law and existing legal loopholes, the existence of strong pressure groups, these (by the way sensible) goals cannot be achieved and the actions taken are counterproductive, as they result in hindrances to investment and threats to the financial stability of communities due to the enormous burden connected with the engagement of absurdly large areas for investment purposes (Raport o ekonomicznych stratach i społecznych kosztach..., 2013).

In the context of considering the effects of uncontrolled urban sprawl, other problems related to the functioning of public administration should also be pointed out. First and foremost, there is a lack of clear and effective channels of communication between different levels of management and decision-making bodies. This is one of the reasons for the lack of ability to co-ordinate planning activities and to analyse the reasons for decision-

making, and the various elements that contribute to effective implementation of such.

As well as the lack of a “vertical” co-ordination, there is also the problem of working out and applying methods for reconciling at least three types of planning which occurring at the level of municipalities, i.e. socio-economic development, spatial planning and financial planning. Each of these planning processes has its assumptions, its own priorities, its own time perspective and a certain “end product” (in the form of strategic plans, studies of conditions and directions of spatial development, together with spatial planning and budgets, and a multi-annual financial projection) containing a certain intentions with reference to the desired directions of development. In the model approach, the strategic plan should be the core document setting out the goals, and the two other documents should refer to it. If, by convention, the strategic plan answers the question “What?” (and at least partially “How?”), the spatial development plan answers the question “Where?” and the budget and financial plan answers the questions “For how much?” and “From where to get it?”. Unfortunately, in practice, these documents are drawn up by specialists in different fields, using different languages and guided by different rules and procedures. It is rare for these documents to be created in a dialogue. What is more, it is not just about different rules stemming from the specifics of the given institution, or the procedures of the institutions in which the above-mentioned documents are produced. Other elements of organisational culture are also important, such as the hierarchy of values, focusing on dialogue or confrontation, the perception of the importance and urgency of certain individual and collective needs. These irregularities in development planning processes are results of essentially two reasons: the lack of social bridging capital⁷ of entities

⁷ Social bridging capital is understood here as a resource of norms, values, connections, etc, enabling co-operation between different types of entities, using different procedures, ways of operating, defining efficiency in different ways, etc.

drawing up the above-mentioned documents and from insufficient fulfilment of the role of a co-ordinator (sometimes a mediator, an arbitrator and/or a manager) by the executive body, which stems from various reasons (lack of willpower, lack of competence, lack of awareness, etc).

Similarly, in the ways of perceiving social life, defining a well-functioning spatio-social entity, or adopting a certain vision of a human being as a social actor, his/her needs and aspirations (decision-making), there is no awareness of the specific social positioning of that active entity. Indeed, by making choices, by accepting certain criteria, by fulfilling their own needs, when entering into social interactions people are influenced not only by their immediate socio-spatial environment but also by many different structures, wider and narrower socio-cultural circles, which play different social roles. These and other determinants should be taken into account both at the spatial and socio-economic planning levels and at the level of decision-making and implementation.

Synthetic characterisation of the development potential of Niepołomice, Nowy Targ and Limanowa

The three analysed cities differ in population, the largest, Nowy Targ, has 32,658 residents, Limanowa 15,078, and Niepołomice 10,985 (all data given here is for 2014). The most favourable demographic trends are found in Niepołomice: constant population growth, and growth in the working age population. It is important to note the changes in the social situations of the three cities, with the old age index showing the ratio between the number of elderly people and the number of children and adolescents: the higher the value of this index, the greater the prevalence of people of post-working age. The analysed cities of Malopolskie Voivodship have different values of this index (see fig. 1). Its level reflects the processes taking place in individual cities – the favourable age structure in Niepołomice is due to the significant influx of new residents,

including from Kraków, and the presence of new developments, which is attractive to potential residents. Niepołomice is also an attractive place for families, due to the policies of the city authorities. Niepołomice is greatly appreciated by its inhabitants, both as a “child friendly city” and “old age friendly”.⁸ In turn, the slightly worse, but against the background of the entire province relatively favourable, situations of Limanowa and Nowy Targ are the result of less advanced outflow of inhabitants and preservation of traditional family patterns.

Regarding the indicators of natural movement of population in the three cities, it is worth noting the extremely favourable situation of Niepołomice (Table 1) in terms of migration balance.

Niepołomice has an inflow of residents which is higher than its outflow, hence it is one of the few cities in Poland that successfully handles the demographic crisis, by attracting new residents. It is also important to note to what extent the analysed cities can be permanently assigned to a particular type of migration. Based on data from the period 1999–2008 we categorise Niepołomice as an immigrant city, while Limanowa and Nowy Targ are among the cities which in this period have less and less inhabitants. (Zborowski, Chaberko, Grad, Gałka & Kretowicz, 2010, p. 62).

Changes in labour market are interesting in the context of predicting development processes in these three cities. The labour market in Niepołomice looks the best, especially due to the growth of the number of working people (Table 2).

The future of the three analysed cities is conditioned by many factors, including those of a socio-cultural character (as well as economic and spatial ones). The assumptions of urban policy are essential, which, however, as can be seen in the National Urban Policy (*Krajowa Polityka Miejska*), concentrate rather on large cities. With regard to proposed activities smaller cities lack both ideas and the concept of using the various resources which exist and which can be generated. As far as social and cultural factors are concerned, we point to certain dangers arising from demographic processes. Only Niepołomice is coping with unfavourable trends, remaining a destination city developing new employment opportunities that attracts young people. Both Limanowa and Nowy Targ have had the status of outflow cities over the last ten years, while their labour markets are stagnant.

Table 1. Natural change in population in 2015

City	Population number	Live births	Deaths	Overall birth rate	Overall migration balance
Limanowa	15,078	167	135	32	-82
Nowy Targ	33,598	300	271	29	-74
Niepołomice (urban/rural municipality)	26,124	299	215	84	+435*

* It is worth noting that, due to the migration balance, Niepołomice takes 1st place in the powiat, and 2nd in the voivodship, while Limanowa is in 12th place in the powiat and 177th in the voivodship and Nowy Targ is in 11th and 143rd.

Source: *Statystyczne Vademecum Samorządowca, Limanowa, Niepołomice, Nowy Targ, Central Statistical Office of Poland, Kraków, 2015.*

⁸ Uwarunkowania i potencjały rozwoju miasta na przykładzie Niepołomic. Raport z badań statutowych 145/KSoc/1/2011/S/624 under supervision of Anna Karwińska, typescript, the Main Library of Kraków University of Economics.

Table 2. Changes in labour market in the selected cities, 1999–2008

City	Size class of the city in 2008	Number of working people in 2008 (in thousands)	Changes in the number of working people (1999–2008)	Dynamic of change in the number of working people (1999 = 100)	Change in the number of working people per 100 people aged 17–65
Limanowa	5–20	8.3	–3	100	0
Niepołomice	5–20	6.0	+1,930	148	+32
Nowy Targ	20–50	14.2	–96	99	0

Source: (Andrzej Zborowski, Tomasz Chaberko, Nina Grad, Jadwiga Gałka, Paweł Kretowicz (2010), *Struktury i trendy demograficzne oraz kapitał ludzki i aktywność społeczna*, p. 87 available at: http://www.politykarozwoju.obserwatoria.malopolska.pl/Files.mvc/196/1_Struktury_i_trendy_demograficzne_oraz_kapita%C5%82_ludzki_i_aktywno%C5%9B%C4%87_spo%C5%82eczna.pdf.

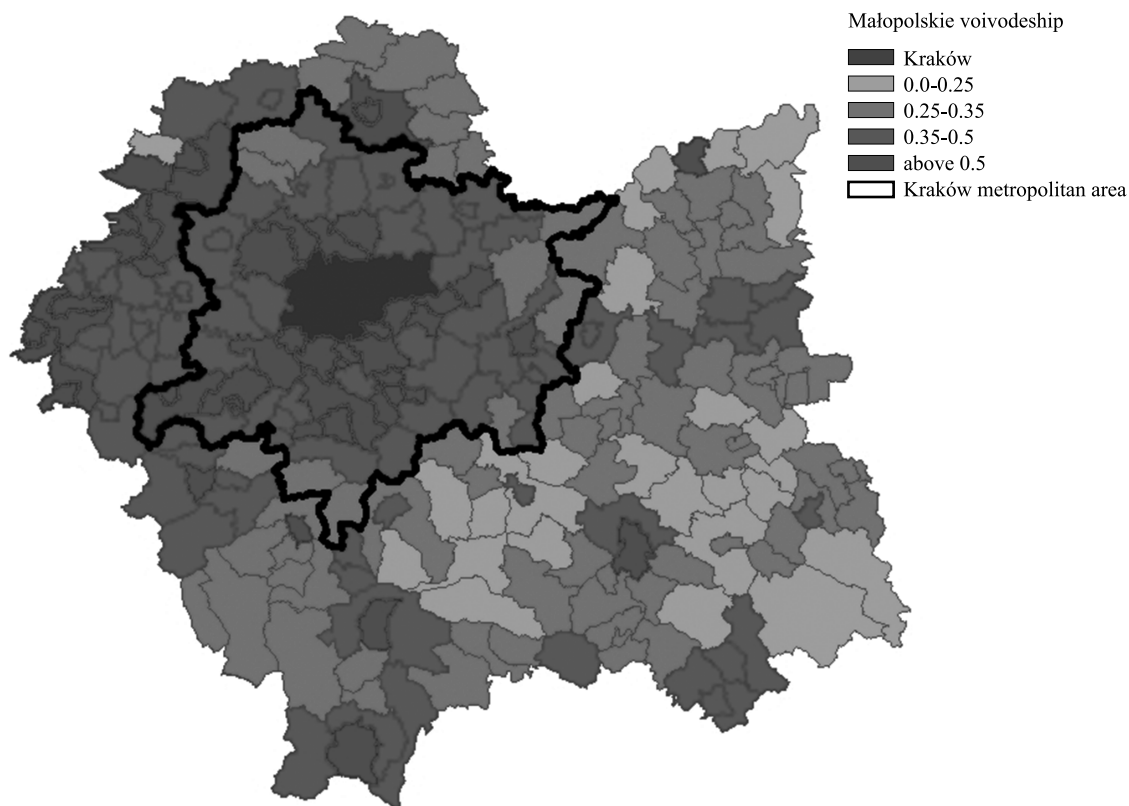


Figure 1. Spatial distribution of the development of the Małopolska Voivodeship

Source: own elaboration.

Figure 1 shows points for each of the municipalities of the Małopolska Voivodship, illustrating the relationship between the distance and the values of economic potential indicators (the darker the colour, the higher the economic potential). As can be seen from the above image, the municipalities neighbouring Kraków enjoy above-average interest from potential residents. Considering the synthetic indicator of economic development, it can be said that functional metropolitan area should be the primary category when thinking about development. Moreover, an integral part of this process is the creation of integrated development plans. There are also other regularities: distribution of potential along high-speed transport links (the A4 motorway and the E7 road) and differences in economic potential between the eastern and western parts of the Małopolskie Voivodship, which can be explained by historic factors.

The set-up of relationships of cities located in a metropolitan area is a result of infrastructure conditions (transportation links), of the inner potential of the core city (the greater the competitiveness of the metropolis, the greater the attraction), and of local authorities' awareness of their potential (of the presence of the metropolis) and of the tendency to exploit this advantage. The city of Limanowa is located about 60 km from Kraków, while Niepołomice is 34 km from Kraków. However, the important factor is the time needed to get to the core city, which from Limanowa is about 70 minutes (on average), while in the case of Niepołomice it is about 30 minutes. Nowy Targ is located 87 km from Kraków and the journey there takes an average of 85 minutes.

Directions of socio-economic and spatial growth in view of local policies

The directions of the socio-economic growth of the analysed cities are reflected in the vision and in the tree of objectives of the development strategy, and these very elements were analysed by the authors in terms of direct traces of an informed attempt to use the resources of Kraków for the own

purposes of such cities and possibly indirectly analysing the consequences of the implementation of strategy for the relationship with Kraków and the intensification or disappearance of phenomena caused by the presence of the core city.

When analysing the directions of socio-economic development of the city and municipality of Niepołomice attention should be paid to the focus on activities for economic development. Niepołomice is aware of its favourable location in relation to the metropolitan centre, which generates growth potential. This potential, according to the theory of diffusion of innovation and sprawl of development, inevitably contributes to the metropolitan environment. In addition to the awareness of local authorities of municipalities located around the metropolis of Kraków, there is a need to exploit their potential. That can be done through the development of local legislation, effective and active development policies using exogenous potential. Niepołomice, through its implemented policy of supporting entrepreneurship and tourism, uses the development resources of Kraków for that purpose, even if the intention of the authorities of the city of Kraków is not to support the socio-economic development of Niepołomice. Attracting investors to Niepołomice involves the creation of certain conditions, i.e. the provision of adequate human resources, supply of knowledge, a market for manufactured goods and services, etc. These activities are carried out in a systematic way, by creating an investment offering, providing professional service to investors by providing high quality public services for both large enterprises and SMEs, as well as creating a friendly climate and a city brand that fosters entrepreneurship. Niepołomice also competes effectively with Kraków for a different kind of resources: residents who constitute a tax base and labour resources. Niepołomice is working to increase the appeal of its location and image, in order to become a friendly, secure and compact city. Therefore for a long time Niepołomice has had a positive migration balance, while a number of residents of Kraków has been constant.

Table 3. Analysis of socio-economic development stemming from the development strategies of Limanowa, Niepołomice and Nowy Targ in the context of the urban sprawl phenomenon

	“Pro-sprawl” provisions	“Anti-sprawl” provisions	Relationship with Kraków
Development strategy of Limanowa for the years 2014 to 2020	1.4. Further “opening” of the city to its residents, making unused potentials and space available.	Operational goal 1: Ordering the functionality of public, economic and environmental spaces. 2.1. Diagnosing the connections between local government units of the surroundings of Limanowa. 2.4. Establishing a Limanowa Functional Centre partnership 2.4. Establishing a high quality transport and traffic management system inside and outside the city.	Goal: Limanowa as a tourist product strengthening the Małopolska brand. 2.1 Supporting the construction of a fast railway from Kraków to Limanowa to the southern national border.
Development strategy of Niepołomice city and municipality	-	1.3. Caring for a secure economic space in the Niepołomice Investment Zone. II.2. Providing high quality space for local trade and services. IV.1. Improvement of the public transport system in the municipality.	Creation of mechanisms for inter-institutional co-operation in order to streamline the investment process in the municipality between municipal self-government and Wieliczka powiat, road management boards, companies providing media to the municipality, and Kraków Technology Park. IV.4. Increasing the accessibility of the Kraków Metropolitan Area. Key tasks: 1 / conducting a campaign for the creation of a fast agglomeration railway covering the area of the Niepołomice municipality (agglomeration ticket); 2 / concentration of activities aimed at establishing the location of the A4 motorway junction in Podłęże (until 2015).
Development strategy of Nowy Targ for the years 2012 to 2020	I.2. Development of individual entrepreneurship. III.3. Initiating and supporting activities for the development of housing.	III.2. Improvement of the environment.	

Source: own study based on the development strategies of Limanowa, Niepołomice and Nowy Targ.

When analysing the content of the socio-economic development strategy of Limanowa we do not see any attempt to use Kraków for the purposes of Limanowa. This may mean the performance of development activities based on internal potential, which in principle is limited:

Limanowa is a relatively small city with no capacity for self-generating potential, weakened by the migration of young people who cannot use, as residents of Limanowa, the resources of Kraków regularly (certainly not every day). In general, this results in people leaving the smaller city

in favour of the metropolis, leading to the widening of the gap. So, if we talk about urban sprawl in the case of Limanowa, we usually refer to resources that do not have to use the resources of Kraków. The case is similar with Nowy Targ, which, although located further away, maintains a similar relationship with Kraków as the above-discussed Limanowa.

Essentially, the development strategy of the City of Nowy Targ does not mention the need to use Kraków's resources for the own purposes of Nowy Targ. It can therefore be stated that the functional area of Kraków is not a regular circle, but it is stretched along the traffic routes (the east-west A4 motorway, the expressway section of national road E7 and suburban railway connections), and the degree of eluviation of potential depends to a certain extent on natural and spontaneous processes, supported by the activities of local government.

Analysing the development visions and the tree of objectives of the three analysed cities which are different distances from Kraków, it is important to note that Niepołomice's authorities are aware that Kraków is a growth pole, which, according to the theory of diffusion of innovation, can contribute to raising the socio-economic indicators of Niepołomice. There is also an attempt to use the city's privileged position in relation to Kraków and to exploit this potential advantage for Niepołomice's own economic purposes. The analogy of thinking in the case of Limanowa and Nowy Targ is less similar. What is worth pointing out is that in the strategic documents referred to there are no signs of defensive behaviour, which consists mainly of limiting Kraków's unfavourable influence on Limanowa and Nowy Targ. It is therefore possible to conclude that there is no awareness of the nature of Kraków's influence on its slightly further surroundings, and consequently, a lack of any tendency to overcome the unfavourable direction and power of this relationship. There is no way to find any direct reference to the socio-economic resources of Kraków. Probably the authorities of Limanowa and Nowy Targ see at

most the indirect, complementary role of Kraków in building the competitive advantages of their cities. Adopting such an assumption leads to two phenomena: passivity of local public authorities, incapable, in their opinion, of attracting potential from the growth pole; and the chaotic filling of the spatial space with spontaneous developments. These are the consequences of the lack of a coherent spatial policy, as well as of the appropriate policy for the socio-economic development of the given municipality. The activities of the residents of these municipalities are governed by short-sighted opportunism, the effects of which will be felt in the financial and spatial sense for many years before the Dutch or Japanese model is formed, where spatial policy is not dominated by accident, chaos and a lack of a coherent long-term plan. Urban sprawl is a spontaneous process, destructively affecting the morphological and functional structure of municipalities even if the quality of life of individual entities improves as a result of this phenomenon.

Conclusions

Referring to the hypotheses indicated in the methodical part of this article, it should be noted that case of Kraków and the Małopolska region confirms the theoretical assumptions: the distance of the analysed cities from Kraków affects the intensity, character and direction of the relationship with the core city and it is matter mainly of distance counted in time, because society subordinates a permanent relationship with a given place to the time which should be expended to get to the core city and back again every day, and such time is considered to be lost from the economic point of view. It is possible to live far away from Kraków and have an effective transport connection, so distance counted in kilometres has a secondary character.

Attempts to use the resources of Kraków are visible in the strategy of Niepołomice, but in the cases of Limanowa and Nowy Targ only in a very limited way. The relevant documents do

not talk about the phenomenon of urban sprawl and even do not mention it. It is also evident that the vectors of Kraków's impact on these three cities are reversing: metropolis, instead of sharing its resources with other suburban areas, begins to drain them – if the municipalities are located too far from the metropolis (what we count calculating the time of travel, not kilometers). The impact of Kraków is positive for Niepołomice (the authorities there are trying to use the resources of Kraków for the own purposes of Niepołomice), almost neutral for Limanowa (however, the outflow of younger age people from there to Kraków is having negative impact) and unequivocally negative for Nowy Targ. These conclusions also enable one to make more general observations related to Polish urban sprawl.

The characteristic features of Polish urban sprawl are: bad law in spatial planning; the superiority of ownership over local law; the historical mentality of society consisting of total freedom in the sphere of landscaping; the dependence of municipal authorities in defining spatial development directions as defined in local spatial development plans; and “sprawling” spatial arrangement favouring the rise of urban sprawl.

The authors set out a set of remedies below that could create controlled urban sprawl in Poland. However, one needs to seek systemic solutions to counter the uncontrolled growth of suburban space. In view of the growing problem of urban sprawl in Poland, there is a need to develop conceptual tools for central and local public administration in the field of urban sprawl and transition to a “smart sprawl”, that is, consequently, to the “compact city” and the crystallisation of settlements. Managing the problem of uncontrolled urban sprawl is fundamental to local and regional development policies. This is one of the main problems regarding inefficient spatial planning and financial management, which certainly affects the quality of the socio-economic potential of cities. The most important remedies for the phenomenon of urban sprawl in Poland are, in the authors' opinion, the following.

Clarification of applicable law

This is the first, basic requirement that is essential. Introducing more restrictive provisions that will prevent impermissible construction, as one can call decision-making at the request of developers to build housing estates, apartment buildings, shopping centres and services in places in which they devastate the landscape, disrupting the morphological structure and exposing the municipal budget to unnecessary expenses.

Changing social mentality

Activities in this area should primarily involve building social spaces of a “socio-petal” nature (conducive to the formation of dialogue, social bonds and other elements of social capital) in a harmonised, symmetrical manner, effectively utilising the available space, leaving no “empty fields” which are left without a functional role. It is also about the development of social attitudes, reflecting the awareness of consequences of putting private interests before the public good. Although local government administration should be the initiator of this activity, as we mention in the next section, the residents of the city and suburban areas should identify themselves with the public space as well as contribute to the morphological fabric of the city or the suburbs. Residents must feel and be real hosts of the given municipality's territory, not just own property. This, of course, requires the strengthening of civic education processes, including the responsibility for the space used, the sense of connection with the place of residence, work, etc. Similarly, developers building housing estates should also take on the role of host of those places.

Counteracting passivity in the activities of local administration

The point here is for local authorities to see the pros and cons resulting from the increasing number of resident of individual municipalities

besides larger tax revenues; this means the need to involve more financial resources for the performance of the municipality's own tasks, as well as the cost of utilities, which, inter alia, include the cost of building municipal infrastructure. It is more difficult to accept, however, the silent acceptance of the devastation of the landscape and the emergence of "vacancies" due to lack of internal regulations that counteract the chaotic actions of developers. As a result, we have to deal with inefficient spatial management. Moreover, another problem of the development of Polish metropolitan centres is the "narcissistic" attitude of the city authorities, which is, in fact, a certain way of thinking, glorifying their own material and non-material resources and non-objectively assessing own actions to create conditions for the development of socio-economic potential.

Counteracting incorrectly understood territorial competitiveness

Basing on the considerations in the preceding paragraph, one may produce yet another reflection: there is a need for integrated territorial management, taking into account the interests of an area larger than a municipality, which will cut competitive behaviour consisting in "snatching" potential from one another and creating more and more liberal solutions to attract new companies and residents without an analysis of economic, spatial and social consequences for the municipality. Particularly desirable are integrated activities of a core city and the municipalities forming its functional area.

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