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Bulletin of Geography. Socio-economic Series, No. 47 (2020): 133–144
http://doi.org/10.2478/bog-2020-0008

ISSN 1732–4254 quarterly

BULLETIN OF GEOGRAPHY. SOCIO–ECONOMIC SERIES

journal homepages:
https://content.sciendo.com/view/journals/bog/bog-overview.xml
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Location tendencies in developer investments in the residential market in Łódź

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How to cite:
Antczak-Stępniak, A. (2020). Location tendencies in developer investments in the residential market in Łódź. *Bulletin of Geography. Socio-economic Series*, 47(47): 133-144. DOI: http://doi.org/10.2478/bog-2020-0008

Abstract. One of the most critical decisions that every developer has to make is what location will be the best for his investment. This depends on different factors that change over the years. Therefore, the aim of the article is to identify and assess tendencies in the location of developers' investments based on the example of the activity of Łódź developers. In the past, the share of investments on outskirts was more significant, which in the case of Łódź resulted from several reasons – mainly the small number of local plans, the abuse of planning decisions, and low land prices on the outskirts. Therefore, the current tendency of locating a significant part of investments in the city centre seems to be a very positive phenomenon. It reduces the costs of these investments and creates a more compact urban built-up area.

Article details:
Received: 8 May 2019
Revised: 30 October 2019
Accepted: 12 December 2019

Key words:
residential market,
development activity,
location factor,
urban sprawl

Contents:

1. Introduction

Developer investment is understood as the consolidation of location, investment vision and financing sources thanks to which it is possible to create new real-estate profitable for a developer (Kirejczyk and Dąbrowski 2001). A developer operating in the residential market may be involved in implementing projects to construct multi-family or single-family buildings, apartments or small dwellings, detached or terraced houses. Such activity conducted in the residential market has been evolving in Poland for almost 30 years. The greatest activity by developers can be observed in voivodeship cities because there the largest demand can be expected. Choosing the right location, with regard to the city as well as a specific property located within it, is not an easy task for developers. The successful achievement of this task requires both good knowledge of the area where we want to develop and that analyses be undertaken to help select one of the many available locations. Nevertheless, it seems to be one of the key decisions guaranteeing the success of a developer's investments. With regard to location, macro location and micro location can be distinguished. Macro location is the region, market sector or city in which the property is located and which determines the overall level of its price/rent. Micro location, however, is "the influence of the specific location on value" (Havard 2013: 58). Since real estate is characterised by constancy in place, it is subject to the impact and interdependence of different factors, i.e.:

- the environment and access to recreational areas,
- access to education,
- access to services and health care,
- access to communication networks,
- proximity to the workplace (Aluko 2011),
- availability of parking spaces (Ferlan, Bastic and Psunder 2017).

A prized location for housing is, for example, a neighbourhood with green areas: parks, open spaces. Research shows that also water reservoirs are increasingly recognised as a convenient area for housing (Schirmer, Axhausen and Eggermond 2014). In such an area, however, care should be taken to ensure the quality of workmanship, as a high water table can quickly cause physical wear to faulty basements or foundations. A rather negative impact on the location of residential real estate is found in the immediate vicinity of industrial areas, although in the United States it is pointed out that in recent decades it has been quite common practice to locate multi-family housing near commercial and industrial centres. At that time, it was a buffer between the industry and single-family houses, and at the same time multi-family housing benefited from the good communication accessibility of these areas and utilities (Peiser and Hamilton 2012). With regard to various types of social and service infrastructure, research shows that good access to schools has a positive impact on the location of housing investments, although it is not considerably significant. The distance from grocery stores should not be more than 500 m, and from shopping centres less than 5 km. Access to public transport is welcome, while the proximity of large transport, road and rail networks is less favoured due to noise and pollution (Schirmer et al., 2014; see also de Vor and de Groot 2009). Potential buyers choosing a place to live also take into account the distance between the property and the workplace; this is related to the time spent on travel and transport costs (Aluko 2011). Therefore, it seems to be an important factor in the location of developers' investments. It is crucial to make sure that the property has relatively good access to public transport, which enables commuting to the most important points in the city. The further from the centre, the lower the number of transport links and frequency of public transport. The availability of parking spaces or the possibility of creating them can also be of great importance to the location of housing investments (Ferlan, Bastic and Psunder 2017). The presented approaches refer in particular to factors affecting the value of given real estate, which may translate into the decisions of potential buyers to purchase. Their ability to buy housing depends to a large extent on the prices at which properties are sold. Some economists also stress that buyers of apartments maximise their utility by buying them as close as possible to jobs, services and recreational areas (Kockelman 1997). Developers have to take into account the preferences of potential buyers so that the period of absorption of their projects is as short as possible and allows them to recover the involved funds quickly.

Table 1 presents factors that may affect the location of developers' investments in the residential market, broken down into those related directly to real estate and its surroundings (micro factors) and other socio-demographic, economic or administrative-legal ones having an indirect impact (meso factors and macro factors). It is worth noting that the micro factors and meso factors highlighted in the table refer to the choice of both the city (*gmina*) and the specific real estate in terms of the location of a developers' investments.

As can be seen in Table 1, most factors indicated in the literature directly or indirectly affecting the location of developers' investments are closely related with a specific property and its surroundings. However, it is worth bearing in mind that, contrary to the common opinion that location is the most important factor in investing in real estate, other factors turn out to be equally or even more important. An example of such a factor can be time or, more precisely, the situation on the housing market. In the real-estate market, we deal with cyclicality caused by fluctuations in the economy, structural features of buildings and the process of their construction, as well as human calculations. This means that in the real-estate market, including the housing market, there are periods of recovery characterised by high demand for real estate and rising prices, as well as periods of slowdown when supply exceeds demand and real-estate prices decrease (Kucharska-Stasiak 2016). So, it is possible then, for speculative purposes, to acquire a property at a time when its price is low and, without taking any construction-related activities, to sell it when real-estate prices are higher. If, on the other hand, we acquire the same property during a period of high economic prosperity and build on it, despite all this, it may turn out that in a period of

Table 1. Factors affecting the location of developers' investments in the residential market

Micro factors	Meso factors	Macro factors
physical availability of land (including terrain), hydrological conditions, substrate quality (Smersh et al. 2003; Kim 2003)	specific conditions of investment decisions, e.g. difficulties resulting from environmental or spatial planning regulations (Klimczak 2010)	inflation, interest rates, GDP *per capita* (Kim 2003)
distance from workplaces, retail and service points, recreational facilities (Smersh et al. 2003; Aluko 2011)	level of fees (including casualty fees) and local taxes (Klimczak 2010)	functioning of financial institutions (Klimczak 2010)
neighbourhood (Smersh et al. 2003)	ease of obtaining the necessary permits and decisions (Klimczak 2010)	mortgage credit conditions (Rymarzak and Siemińska 2012)
current land use (Smersh et al. 2003) and possible costs related to its preparation for investment	competition in the real-estate market (Klimczak 2010)	political stability, restrictions of acquisition of real estate by foreign investors, procedures of business registration (Witkowski, Cheba and Kiba-Janiak 2017)
prices of undeveloped and built-up real estate (Klimczak 2010)	level of income, level of unemployment, household savings, construction activity (Kim 2003)	number and frequency of changes in real property law (Antczak-Stępniak 2015)
access to technical infrastructure (Klimczak 2010)	size and age of population, number and structure of households (Rymarzak and Siemińska 2012)	
access to transport and communication infrastructure (Klimczak 2010; Aluko 2011)		
access to education, healthcare, culture and services related to property maintenance (Klimczak 2010; Aluko 2011)		
availability of parking spaces (Ferlan, Bastic and Psunder 2017)		
proximity of green areas and water reservoirs (Schirmer et al. 2014)		

Source: own study based on a literature query

recession its value will be lower than the land itself at the time of its purchase. Despite the same location, one investor may gain, and the other may lose funds invested in the same property (Jurock 1999). Hence knowledge of real-estate cycles is essential for developers' activity to be effective. If a developer starts a new investment in a good location but at a time when prices are very high, and then demand begins to fall, the investment may have a long absorption period, which in turn results in freezing the developer's capital for an indefinite period. Nevertheless, regardless of when developers start their investment, they must make a decision about the location of their project. This choice can be influenced not only by economic factors but also, in accordance with the behavioural trend in the location theory, by certain types of behaviour that have nothing to do with rational choice. These include, above all (Kucharska-Stasiak 2016):

- excessive self-confidence;not always being supported by detailed market analyses or by past experiences that are conducive to intuitive operation;
- herd instinct or a tendency to compare, etc.Developer activity in Poland is often based on an intuitive assessment of reality. In addition to the excessive confidence of many developers, this is also due to information being insufficiently available and outdated (Kucharska-Stasiak 2016). With regard to the choice of location in developers' activity, the phenomenon of herd instinct and the tendency to compare are quite often observed, i.e. developers choose areas of activity where their competition already operates (cf. Godlewska 2001) and construct structures similar to those already existing or being built by competitors. This would indicate the formation of certain investment clusters. In practice, certain tendencies related to locating investments in specific areas are visible, which is presented in the following paragraphs.

Therefore, the aim of the article is to identify and assess these tendencies based on the example of developers' activity in Łódź. The adopted hypothesis states that, according to the sustainable development policy pursued by many cities, the number of investments implemented in the central parts of the city will increase. The study was conducted using the comparative analysis of data on developers' investments that can be obtained from real-estate websites containing apartment sales offers and from the websites of individual developers.

2. Material and research methods

In order to examine the attractiveness of particular locations of developers' investments, quite detailed information is necessary. The Statistical Office of Łódź publishes quarterly data on the number of flats commissioned in individual districts of the city. The data contain information (presented in Fig. 2) that is useful but not sufficient from the point of view of this work. Due to this fact, they had to be supplemented with the author's own research. Therefore, for the needs of this publication, research covering developers' investments in the Łódź residential market in 2012, 2015 and 2018 was carried out. An attempt was also made to analyse the location of investments carried out in earlier years (until 2011). The study was conducted based on information available on the websites of individual developers. It should be noted, however, that not everyone publishes information about investments already completed, not to mention the dates of their completion. In this regard, it should be noted that investments completed by 2011, included in Table 2 in item 3 of this article, are underestimated. However, they indicate some tendencies in the popularity of specific locations in Łódź. Data concerning other years were collected using widely available real-estate market portals, such as rynekpierwotny.pl, gratka.pl, domiporta.pl, noweinwestycje.pl, dominium.pl and websites of individual developers. The study covered single-family and multi-family investments put up for sale – both those already completed and those under construction in a given year. These were investments implemented only by entities conducting the said economic activity. Only the number of implemented investments, regardless of their size, was taken into account in the study. The purpose of the study was to indicate the places most often chosen by developers, not where the most apartments are. This approach could in some sense distort the results of the study, given the completely different availability and size of real estate located in the central and peripheral parts of the

city. In this study, Łódź was divided into 11 areas for which the number of implemented investments was estimated. They are presented in Fig. 1, created on the basis of the InterSIT map of the Municipal Geodesy Centre in Łódź.

For the purposes of this study, areas 10a and 10b are treated as the central area, and the others as peripheral areas of the city. Adopting Łódź districts as analytical areas, i.e. Bałuty, Górna, Polesie, Widzew and Śródmieście, would not be as effective in this study as the solution presented above. Based on these districts, it would be difficult to verify the hypothesis set out in the introduction about the increasing number of investments in the central part of the city, because all districts except Śródmieście are very large. This means that they cover both central and peripheral areas. As the analysis concerns developers' investments located in one city, the interpretation of the survey results is based only on selected factors related to real estate, bypassing eco-

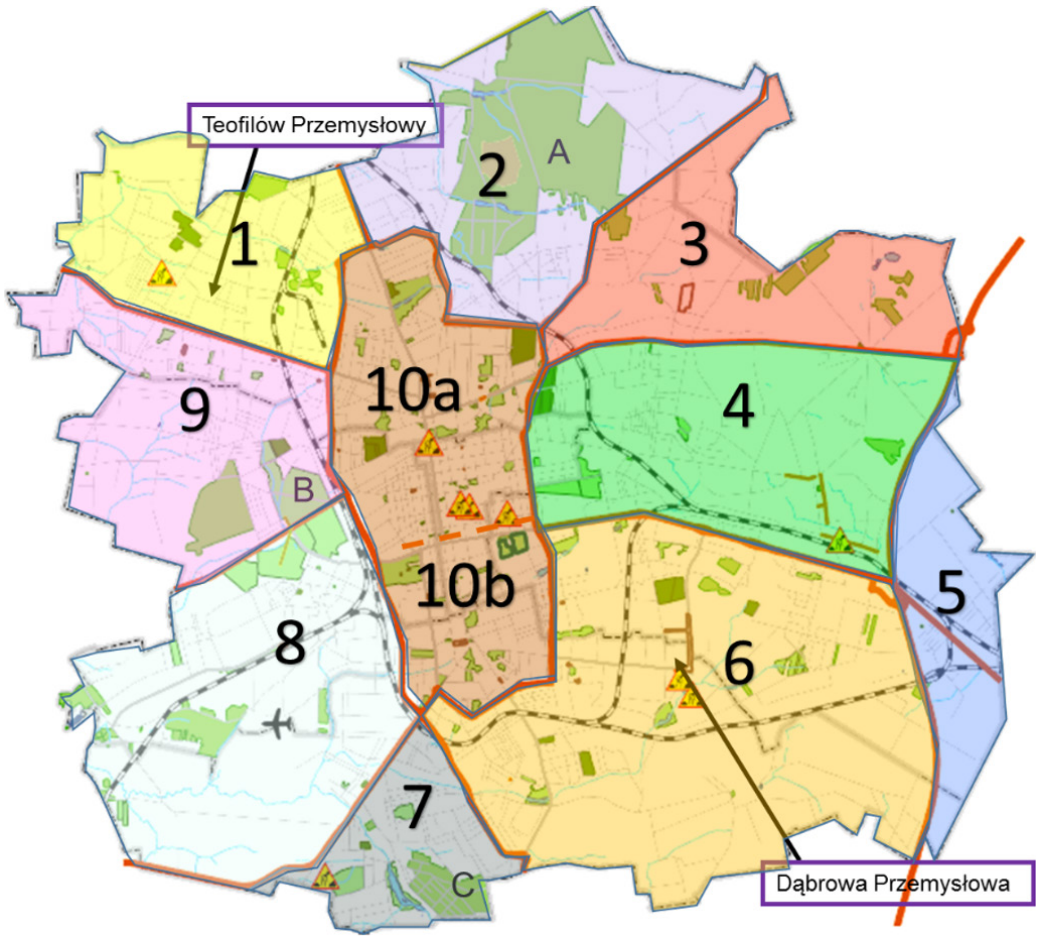

Fig. 1. Division into analysed areas; 1 (yellow) – area delimited by city's north-western border, Aleksandrowska Street, Al. Włókniarzy, Sikorskiego and Zgierska Street, 2 (violet) – area delimited by city's northern border, Zgierska Street, Al. Sikorskiego, Łagiewnicka Street, Inflancka Street and Strykowska Street, 3 (red) – area delimited by city's north-eastern border, Strykowska Street, Brzezińska Street, 4. (green) – area delimited by Brzezińska Street, Amber Highway, Rokicińska Street, Al. Piłsudskiego and Al. Kopcińskiego, Al. Palki, 5 (blue) – area delimited by city's eastern border and the Amber Highway 6 (orange) – area delineated by the Amber Motorway, city's southern border, Rzgowska Street, Broniewskiego Street and Al. Śmigłego-Rydza, 7 (gray) – area delimited by city's southern border, Rzgowska Street and Pabianicka Street, 8 (white) – area delimited by Pabianicka Street, city's south-western border, Konstantynowska Street and Al. Jana Pawła II, 9 (pink) – area delimited by city's western border, Konstantynowska Street, Al. Włókniarzy and Aleksandrowska Street, 10 (brown) – the central area of the city designated by Al. Jana Pawła II, Włókniarzy, Sikorskiego, Łagiewnicka Street, Inflancka Street, Al..Palki, Kopcińskiego, and Śmigłego-Rydza, Broniewskiego Street; area divided at the location of the W-Z route into sections 10a and 10b, A – Łagiewnicki Forest, B – Park na Zdrowiu, C – Ruda Pabianicka
Source: own study based on InterSIT map of the Municipal Geodesy Centre in Łódź

nomic and socio-demographic factors. The only factor from the category of "meso-factors" (Table 1) that was taken into account is the spatial policy of Łódź. In addition, results presented in Section 3 allow for the interpretation of changes in the location of developers' investments over the last few years, not an analysis of the location of individual investments. Therefore, in the discussion of the results obtained, issues such as terrain, hydrological conditions, shape or current use were omitted, focusing on the neighbourhood and accessibility of social, commercial, service and communication infrastructure. Due to the fact that only one city will be subject to further research, the impact of macro factors on the location of developers' investments has also been omitted.

3. The most popular locations selected by developers in Łódź: results of analyses

As can be seen in Fig. 1, most green areas are located in the northern part of the city (Łagiewnicki Forest – marked as A, being part of Wzniesienia Łódzkie Landscape Park), and in the western part (Park na Zdrowiu – B) either side of Konstantynowska Street. The third largest green area is the area of Ruda Pabianicka (marked as C). Many smaller areas are located throughout the city, both on the outskirts and in the centre. Industrial and storage areas, being a less friendly neighbourhood for residential development projects, are concentrated in two areas of the city: in the north-western part, in the Teofilów Przemysłowy, and in south-eastern districts, in the Dąbrowa Przemysłowa district. Both of these areas have been indicated by arrows in Fig. 1. In the south-western part of Łódź, there is Władysław Reymont airport, which also has a sewage treatment plant in its vicinity. The map also shows railway tracks. All this information will facilitate the interpretation of the location tendencies of Łódź developers operating in the residential market.

3.1. Developers' dwellings in Łódź: statistical data

Over the years, the number of ongoing developers' investments in Łódź has been growing, albeit with certain temporary decreases in the number of investments. This fact is indicated by data of both the Local Data Bank of the Central Statistical Office (Fig. 2) and by the author's own research.

However, it should be noted that, over the years, developers' interest in particular locations has changed, though rather slightly, as illustrated in Fig. 3 and Table 2.

Based on the data contained in Fig. 3, it can be seen that the attractiveness of individual districts of Łódź in the area of developers' activity changed during the period under consideration. Most of the time, the Polesie district, i.e. the western and south-western part of the city, attracted the great-

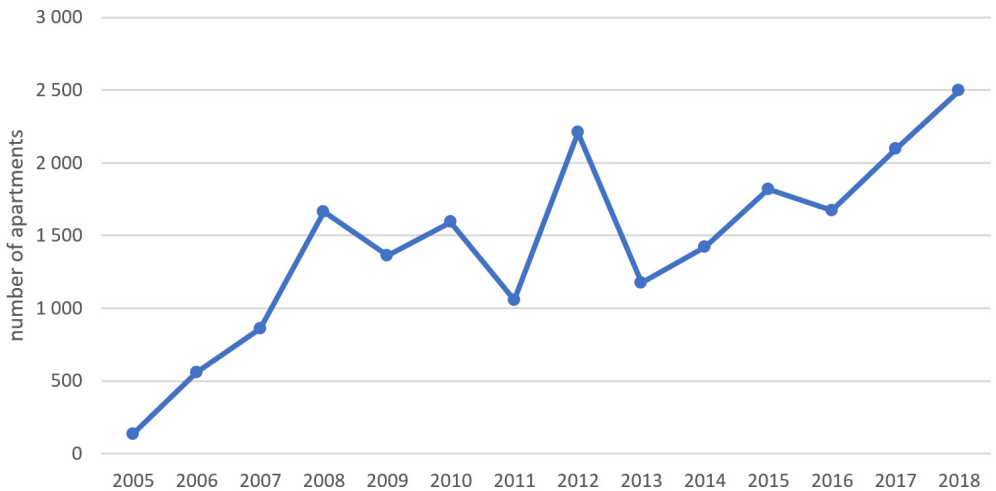

Fig. 2. Number of apartments for sale or rent (as defined by 2018) completed for use in *Łódź* in 2005–18
Source: own study based on Local Data Bank

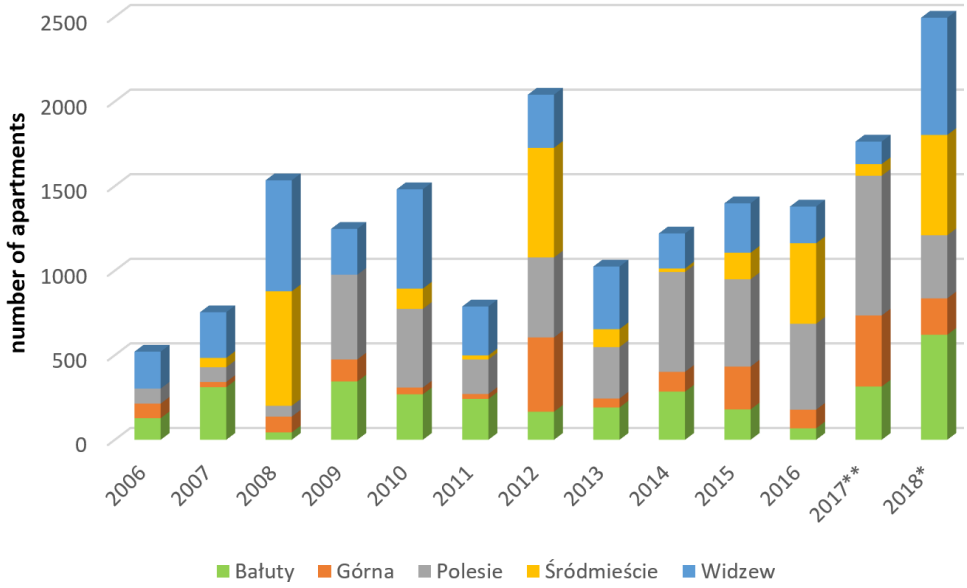

Fig. 3. Number of apartments for sale or rent (1) completed for use in particular districts of *Łódź* in the years 2006–18
Explanation: *data already contain apartments completed as part of individual construction for sale or rent, **data up to 2017 do not include development of dwellings carried out by natural persons
Source: own study based on quarterly reports "Sytuacja społeczno-gospodarcza Łodzi", Statistical Office of Łódź (10.04.2019)

est interest. In 2018, a significant number of investments were also put into use in the districts of Widzew, Bałuty and Śródmieście. However, it should be borne in mind that this chart does not show in which neighbourhood the developers' activity was carried out. In the coming paragraphs, data more detailed in this regard are presented.

However, before these trends are presented, it is worth noting the distribution of land property values in Łódź, which may also to some extent affect the distribution of investments in the city (Fig. 4).

The most expensive land is located in the city centre, especially in the immediate vicinity of the New Centre of Łódź. However, high land values, up to PLN 500/m^2, are also found in other districts, in the central area designated for the purpose of this study by the city's main communication axes, as well as in the Retkinia district (the western part of the city near the airport) and in Dąbrowa Przemysłowa. The lowest values were recorded on the northern outskirts of the city, where the land is not sufficiently developed (it is often used for agricultural production).

3.2. Location of developers' investments in Łódź – own studies

Based on the data presented in Table 2, the following tendencies in location of developers' investments can be observed:

- a growing share of investments carried out in the city centre (areas 10a and 10b);
- outside the centre, the most popular locations until 2011 were southern areas of Łódź, including south-eastern (area 6) and south-western areas (area 8), and now they are shifting towards the west (area 9);
- the south-eastern areas (area 6) are also a frequently chosen location nowadays;
- northern (area 2) and north-eastern areas (area 3) of Łódź were in the past and are also nowadays the least popular locations for developers' investments.

As regards the first tendency, it should be noted that in the period from the 1990s to 2011, 35 investments were identified in the centre. The number of those located on the outskirts of the city was 71. Therefore, the share of projects centrally located in relation to all examined developers' invest-

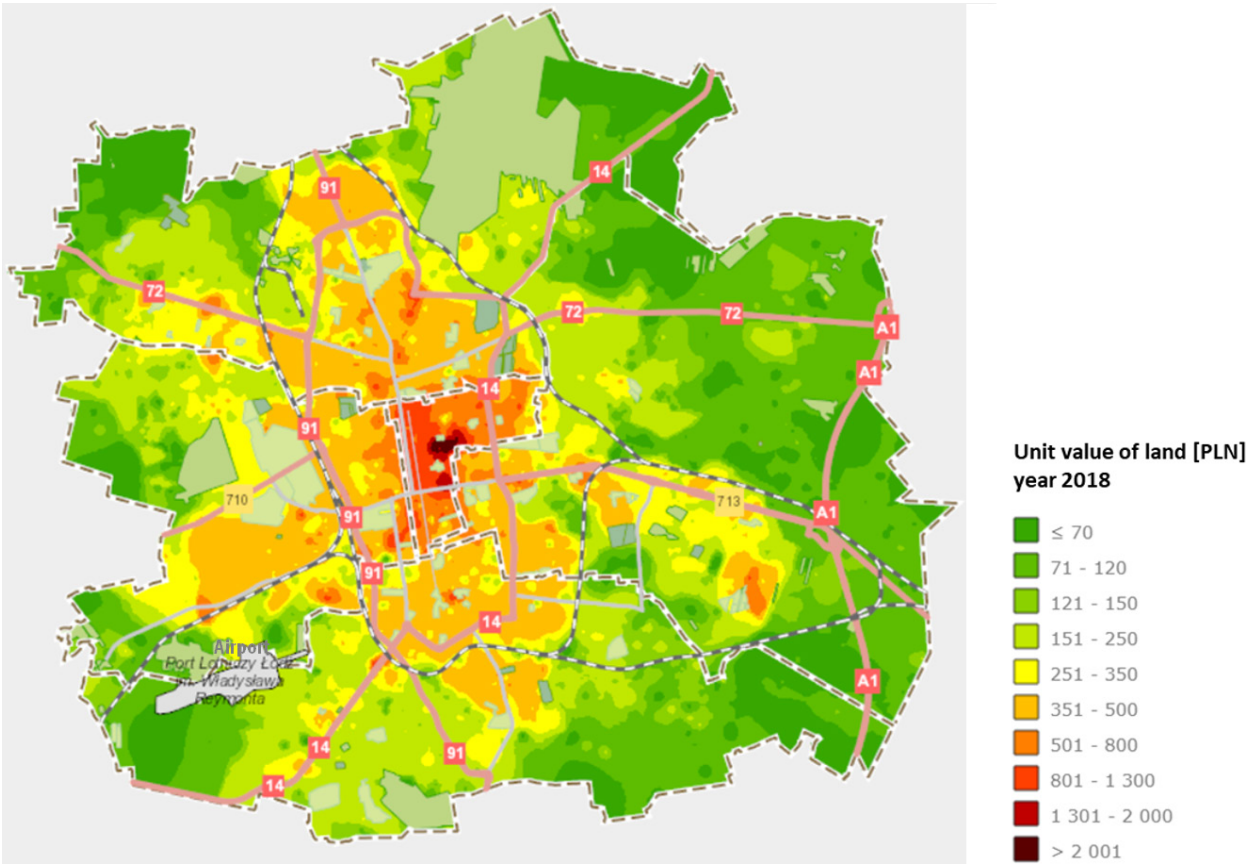

Fig. 4. Conceptual map of land values in Łódź in 2018
Source: Municipal Geodesy Centre in Łódź

Table 2. Number of investments on offer in the studied years, broken down by analysed areas

Area of the city	Number of investments on offer in a given year			
	Until 2011	2012	2015	2018
1 (yellow)	2	4	5	3
2 (violet)	11	3	4	7
3 (red)	0	4	2	1
4 (green)	4	9	9	9
5 (blue)	0	2	1	2
6 (orange)	21	7	15	18
7 (grey)	8	3	3	2
8 (white)	19	6	10	6
9 (pink)	6	8	15	18
Total for the peripheral area	**71**	**46**	**64**	**66**
10a (brown)	27	22	25	35
10b (brown)	8	7	9	14
Total for the central area	**35**	**29**	**34**	**49**
Total	**106**	**75**	**98**	**115**
Share of centrally located investments in total (%)	**33%**	**38.6%**	**34.6%**	**42.6%**

Source: own study

ments sold in this period was 33%. In 2012, this share increased – in the centre 29 investments were identified, while outside the centre there were 46, which gives us a share of 38.6%. In 2015, there was a slight decrease to 34.6%. In 2018, many more investments were carried out in the centre of Łódź, i.e. within the boundaries of the city's largest streets, 49 such investments have been identified, while on the outskirts there have been 66, which gives us a share of 42.6%. Such tendencies in developers' activity are in line with the main objective of the Łódź 2020+ Spatial Development Strategy, i.e. "Sustainable compact city - means the city's development inward" (Spatial Strategy ... 2013). It is also worth noting that among central city locations the most investments were made in the past, and this is currently also the case, north of Al. Mickiewicza, today's W-Z route (area 10a). Part of these investments are infill buildings between existing tenement houses. Other investments are buildings located in the less urbanised northern part of the research area. This is the area of Julianów, one of the most expensive locations in Łódź, and the surroundings of Arturówek, i.e. green and recreational areas. There is good access to education, health care and shopping centres in these areas. There are main transport routes within a short distance, although not in their direct vicinity. The area around Julianów is also well connected to the city centre. It should be noted that the growing share of investments in the centre of Łódź may be a result of greater availability of land in this area due to the demolition of stock in poor technical condition. These properties are characterised by good access to technical infrastructure, communication and good neighbourhoods, so, despite the higher prices, they are attractive to developers.

As regards the second tendency, it is worth noting that the share of investments carried out in the south of the city (areas 6, 7, 8) in relation to the total number of investments by 2011 was over 45%. This would mean that in the first years of developers' activity in Łódź, the city's outskirts were a more popular location. This may have been a result of several factors, including neighbourhood, greater availability of cheap land and local spatial planning regulations. The two largest investment clusters in this area were Smulsko (south-western Łódź in area 8) and the area south-east of Pabianicka Street (area 7) a short distance from Rondo Lotników Lwowskich. It can be assumed that these two locations are very different from each other. Smulsko is a single-family housing area located in the immediate vicinity of Retkinia – a large multi-family housing area with good social, service and communication infrastructure (near this area there is a tram stop). The green areas available south of Smulsko are a noise buffer generated by the airport about 3 kilometres away. Currently, approx. 500 m away as the crow flies, there are also various types of industrial buildings, including Gillette and Amcor. During the implementation of the majority of the discussed investments, this type of development was not yet present in this area.

The other cluster of developers' investments is also predominantly single-family housing. Access to public transport is much better here than in the case of Smulsko because about 300–400 metres away runs Pabianicka Street, a national road. This area also adheres to the multi-family housing territory, although access to social and service infrastructure is slightly worse there. There are no major industrial plants in close proximity. In addition to these two clusters of developers' investments, investments were also carried out up to 2011, especially until 2005, in the form of individual investments located some distance from the existing dense development. This required various media and road investments to be made in those developments. The investments were partly the result of the city's spatial policy. Łódź is characterised by one of the lowest coverage rates for local plans – currently it is just over 18%, but in 2010 it was still only around 5%. Therefore, since 2003, when the Act on Spatial Planning and Development came into force, most of the investments have been based on decisions on building conditions, which, as shown by the Supreme Audit Office in 2010, have been issued in discretionary and lengthy ways (Information on the results of ... 2011). Developers bought land properties where it was cheaper, often without utilities, which led to urban sprawl.

As already mentioned, outside the centre, developers are currently eager to choose the western part of the city (area 9 and partly 8), which are only partially connected for transport and equipped with technical infrastructure. Some investments continue to arise away from public transport, in areas with

low construction rates, and thus with poor access to services and commercial facilities. Two investments are being created in the immediate vicinity of the Park na Zdrowiu, which is an advantage of this place, but the proximity of the cemetery and a small number of retail and service facilities in the area may discourage the purchase of apartments in these developers' investments. It turns out that although Łódź developers' location preferences are changing, the city's policy that would allow for the implementation of investments in poorly urbanised areas is insufficient. This may partly be a result of unspecified statutory criteria related to the issuance of decisions on building conditions (expanding the analysis area to justify the function that the investor wants to achieve in a given area) and the fact that it is not necessary to show the convergence of elements of these decisions with the study of conditions and directions of spatial development (Brzeziński 2013).

In the south-eastern part of Łódź (area 6), a significant number of investments have always been implemented, which results from its large area and the availability of relatively cheap land. However, these investments are often very scattered. Nevertheless, they are usually implemented in areas well connected to the city centre, with good access not only to commercial and service infrastructure but also to culture and entertainment. Not all investments are characterised by proximity of green areas. It can therefore be said that buyers interested in these investments can be completely different target groups.

The northern areas of Łódź have never been a popular location for developers' investments. This is partly due to the specificity of these areas. The north-western part of the city (area 1) is the already mentioned Teofilów Przemysłowy, where warehouse, production and office buildings prevail. Several investments have been carried out in the border areas, but they are characterised by poor accessibility. In 2018, one investment was implemented closer to Aleksandrowska Street. It is adjacent to a petrol station, warehouse and office facilities, as well as a school. The lack of industrial facilities in the close vicinity favours the sale of apartments in this investment, which is also well connected for transport, and on the opposite side of Aleksandrowska Street, Teofilów Mieszkaniowy is located with a well-developed social and commercial-service infrastructure. The northern part of the city (area 2) is around the Łagiewnicki Forest, where there are major restrictions on construction and land property prices are high. This discourages many developers from implementing ventures there. The north-eastern part of the city (area 3), however, is poorly developed. It is characterised by a significant percentage of agricultural land and is undeveloped, and thus without technical infrastructure.

4. Conclusions

The conducted analysis of the subject literature points to the fact that good areas for housing investments are green areas and those with good access to public transport as well as commercial and service infrastructure. Developers in Łódź implement their projects only partially in accordance with these assumptions. Their investments are rarely carried out in the vicinity of green areas, which are often characterised by higher prices. Also, these areas are not always well connected to the city centre, and access to services and shops is significantly limited. Nevertheless, a positive conclusion from the analysis is that increasing numbers of investments are being carried out in the city centre between existing buildings. Investments made outside the strict centre are mostly located in the vicinity of other multi-family housing areas with good access to infrastructure. There are some exceptions; for example, multi-family investment being implemented on Warszawska Street among single-family housing. Single-family housing is implemented outside the centre, in areas already built up with single-family buildings, though the buildings are quite often low-intensity. This involves poor access to public transport and services.

In the past, the share of investments on the outskirts was larger, which in the case of Łódź was for several reasons. The first reason was the small number of local plans and the related abuse of planning decisions, which combined with the availability of cheap land on the city outskirts to result in undeveloped land being used chaotically. The effect of this was the sprawl of the city. This problem has not yet been completely eliminated. Secondly,

land properties on the outskirts were often characterised by lower prices, which encouraged newly established companies to purchase them. The investments made in Smulsko were a good example of that. In the 1990s, land in this area was cheap; it gained in value only in subsequent years. Also, in the following years, there were investments distant from transport, commercial and service infrastructure, and often characterised by lower values, e.g. in Nowosolna (north-eastern part of Łódź – area 3) or in the vicinity of Kolumny Street (south-eastern Łódź, near industrial areas – area 6). Therefore, the current tendency of locating a significant proportion of investments in the city centre in relation to the tendencies from previous years seems to be a very positive phenomenon.

It can therefore be said that the location tendencies of developers' investments in the residential market in Łódź have changed positively, aiming to reduce the costs of these investments, and at the same time to create a more compact urban built-up area due to the growing number of investments in the city centre.

Notes

Until the end of 2017, development construction is to be understood as construction intended for sale or rent, as well as part of individual construction (natural persons building with the intention of making a profit). Since 2018, all development apartments (built by various investors) are classified as construction for sale or rent.

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Ministry of Science and Higher Education
Republic of Poland

The proofreading of articles, positively reviewed and approved for publishing in the 'Bulletin of Geography. Socio-economic Series', was financed from the funds of the Ministry of Science and Higher Education earmarked for activities popularizing science, in line with Agreement No 695/P-DUN/2018.