

DEVELOPERS' ACTIVITY IN SELECTED CITIES OF POLAND – A COMPARATIVE ANALYSIS

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Abstract

Developers' activity in the Polish residential property market has increased considerably in the last 20 years. Developers are today right behind people building homes for themselves as the major suppliers of housing stock. Their activity shows strong spatial variations, both regarding the numbers and types of developers operating in particular markets, as well as the numbers and characteristics of their projects, such as the type of buildings, the average number of residential units per development project, an average unit size expressed in m² or as an average number of rooms, average price, the number of floors, etc. The results of the analysis of developers' activity in local markets may provide an objective basis for establishing why the markets differ in that respect and what factors determine the expansion of developers' activity in different regions of the country.

The purpose of this article is to characterize developers' activity in five Polish cities and to determine how much the developers differ in their characteristics using quantitative methods and the results of author's earlier studies.

Key words: developers' activity, statistical analysis, residential properties.

JEL Classification: L22, L74, L85.

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1. Introduction

Developers' activity in the residential property market in Poland is strongly diversified. Therefore, a study on developers addressing their structure by type and product and the relevant differences between local administrative units is necessary to identify factors, including the negative ones, that affect development business in particular urban areas. This knowledge can be used to improve local markets where developers function and carry out their projects. The purpose of this article is to identify developers operating in the selected Polish cities and their residential development projects together with their characteristics. The data collected for the research were used to analyse the structure of developers by their type and product, and to assess how particular cities differ in that respect.

2. Defining the scope of research

Developers choose large cities for their projects, as they expect high demand for their products there.

The analysis of developers' activity presented in this study involves five Polish cities that are the largest (in terms of populations and housing stock) and the most alike (regarding their areas, the number of persons per residential unit, and levels of wages). Because of its special character, Warsaw was omitted from the sample. Other cities that were excluded, after factors affecting the supply of

housing and enterprise development were analysed (based on the available GUS data from the years 2010-2011 (Table 1)), on the grounds of having too small populations and housing stock were Lublin, Rzeszów, Białystok, Kielce, Gorzów Wielkopolski, Zielona Góra, Szczecin, Opole, Bydgoszcz, Toruń and Olsztyn. In the ranking of cities based on their populations and housing stock Łódź, Kraków, Wrocław, Poznań and Trójmiasto are right behind Warsaw. Katowice was excluded for its comparably small population and housing stock, as well as a high level of wages. Trójmiasto (Gdańsk, Gdynia and Sopot) was analysed as a coherent unit, because the three cities do not have distinct borders and combine a single organism resembling other large cities in Poland. Table 1 shows the basic statistical data on the selected cities.

Table 1

Basic statistical data on the largest Polish cities

City	Total housing stock (units)	Total population		Total city area (km ²)		Average wages (PLN)		No. of occupants per unit
	2010	2010	2011	2010	2011	2010	2011	2010
Łódź	339509	730633	725055	293	293	3243.15	3427.06	2.15
Kraków	326208	757740	759137	327	327	3543.43	3722.48	2.32
Poznań	237586	555614	553564	262	262	3814.08	3987.13	2.34
Wrocław	269188	630691	631235	293	293	3675.85	3827.68	2.34
Gdańsk	188500	460509	460517	262	262	4108.37	4327.35	2.44
Gdynia	104938	249461	248939	135	135	3662.62	3938.74	2.38
Sopot	18374	38858	38584	17	17	3941.65	3985.66	2.11
Trójmiasto	311812	748828	748040	414	414	3904.21	4083.92	2.40

Source: prepared by the author on the basis of Local Data Bank.

For the purpose of this analysis, an assumption was made that the space each city occupies is equivalent to the area within its administrative borders. It is known, however, that the limited availability of urban land and its high prices make many developers take their projects outside the city limits. This posed a problem with defining the most relevant spatial scope of the research. If the larger area were considered, then inference would be much more difficult because of information being less homogenous. Therefore, being aware that the approach is imperfect but also of the problems that a different solution would pose, the author chose to study cities within their administrative borders as the most appropriate.

This analysis concentrates on the year 2012 because of limited availability of information about projects that had been completed and transferred to users before that year, particularly by developers having the legal status of natural persons or SPVs (Special Purpose Vehicles). The omission of the two categories of developers would distort the source data, because of the overrepresentation of larger entities that carry out development projects on a regular basis.

Another definitional problem with the scope of the study was related to the concept of developers' structure by type and by product. In this study, the type structure of developers is the structure of developers as determined by their legal status, capital structure and the location of their head office. The product structure of developers arises from the profile of their products, i.e. development projects and their characteristics, such as a mean size of a residential unit, a mean unit price, an average number of floors, the type of buildings, etc.

This breakdown of development industry, i.e. by type and by product, refers to a theory of market functioning, where the same division is used (see: MRUK 2003, p. 17 - 22).

The frequency of variable occurrence and their correlations were analysed with the SPSS statistical software package.

3. The type structure of developers

Information on the type structure of developers in the selected Polish cities was obtained from real estate internet portals, the web pages of particular developers, and from the National Court Register. Rather than dealing with all developers in the country, the research concentrated on those operating

in the five selected cities, taking account of the fact that some developers may operate in more than one city. Developers were divided into active (i.e. those that completed, were granted occupancy permits, or were involved in any development project in one of the sampled cities in 2012) and passive (that completed a project before 2012 or intended to undertake a project after 2012).

The numbers of developers identified in particular cities are shown in Table 2.

Table 2

Developers in the residential property markets of the sampled cities

City	Active developer	Active developer	Passive developer	Passive developer	Total	Total
	unit	%	unit	%	unit	%
Łódź	59	72.8	22	27.2	81	100
Kraków	100	82.0	22	18.0	122	100
Wrocław	82	80.4	20	19.6	102	100
Poznań	57	65.5	30	34.5	87	100
Trójmiasto	60	70.6	25	29.4	85	100

Source: prepared by the author.

As mentioned, the type structure of developers is defined based on their legal status, capital structure and where their head office is.

Most development projects studied under this research were carried out by commercial law partnerships and companies, but also by civil law partnerships (see: *Civil Code, article 860-875*) or even natural persons. The last two forms are economically less advantageous, because they prevent developers from expanding their business. In contrast, commercial law partnerships and companies (see: *Commercial Partnerships and Companies Code of September 15, 2000*), but particularly joint stock/limited liability companies, involve lower transactions costs, which may go up as the developer's business becomes more complex (NAPIERAŁA, SÓJKA 2007, p. 27 – 28). The development industry is certainly extremely risky and capital intensive, and thereby very complex. Because of that, the majority of developers choose to operate as commercial law partnerships and companies. Recently, so-called hybrid partnerships, i.e. organisations where one of the partners is another partnership, started to grow in number. The benefit of having a hybrid partnership is that the business costs and risk can to be reduced (SZYSZKO 2010, p. 481 – 491). In many cases the formal status of a developer is difficult to establish, because of projects being carried out by a group of companies. A group of companies may be “an organizational structure containing at least two but usually more companies with centralised management”, where the decisions are made by the controlling company (SOŁTYSIŃSKI 2007, p. 79). Companies may also form groups related horizontally (for the definition of a controlling company and a related company see the Code of Commercial Partnerships and Companies). Both two groups were accounted for in the study. As in the past the Polish law allowed foreign corporations to make investments only through subsidiary companies (SOŁTYSIŃSKI 2007, p. 79 – 83), it became necessary to consider whether a subsidiary company should be treated as a separate entity or as part of a group of companies. Another problem involved SPVs, i.e. organisations formed for the purpose of a specific project. SPVs are limited liability/joint stock companies that are frequently owned by bigger organisations. Some SPVs covered by this analysis were set up by private investors whose legal status was unidentifiable or heterogeneous.

All the above problems led to the following legal classification of developers:

- commercial law partnerships and companies and groups of companies,
- civil law partnerships,
- natural persons.

In this part of analysis, both active and passive developers are dealt with. The legal structure of developers operating in the residential markets of particular cities is presented in Fig. 1.

As expected, most developers in the selected cities were commercial law partnerships and companies and groups of companies (mostly limited liability companies), because of the aforementioned capital intensive and risky nature of this industry. Figure 1 shows that the legal criterion clearly differentiates the cities. Cities with higher levels of socio-economic activity, such as Wrocław or Kraków, have lower numbers of natural persons or civil law partnerships engaged in the

development industry. This implies that the cities have more large and multi-stage development projects. The greatest number of natural persons carrying out small-scale residential projects are found in Łódź, probably because of lower demand for projects and lower interest in the city from the large companies.

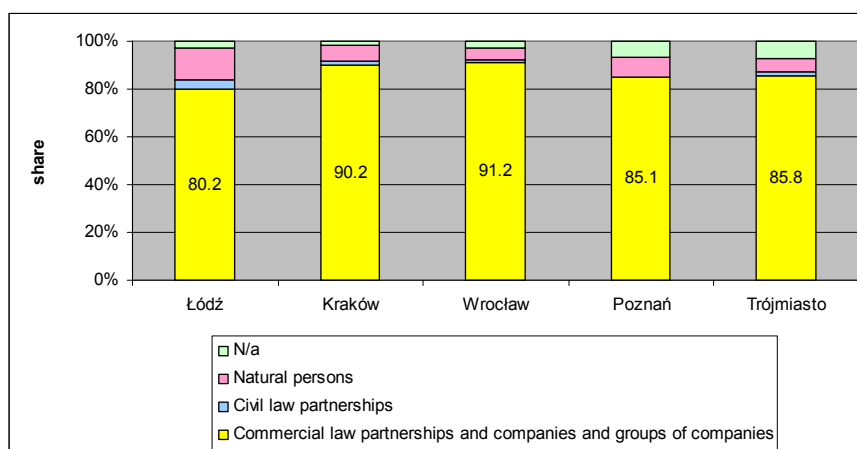


Fig. 1. The legal structure of developers. *Source:* prepared by the author.

After 1990, when the private sector became more important, enterprises that had previously acted in the capacity of general contractors on behalf of housing cooperatives or public entities began to establish their own units specialising in complex construction projects (DĄBROWSKI, KIREJCZYK 2001, p. 11). Further, towards the end of the 1990s, foreign investors started flowing to Poland. Most of them were interested in commercial projects, but some group found the residential market to be interesting too (ŁASZEK 2004, p. 177). Another increased influx of foreign capital could be seen after 2004, when Poland became a EU Member State. This course of events was behind the decision to investigate the capital structure of developers (Figure 2) divided into organisations with domestic capital and foreign capital.

Graph 2 shows that Łódź and Wrocław have the greatest numbers of developers with foreign capital. It must be noted, however, that some data on the analysed cities were not available, so the structure of developers may be somewhat distorted. It is quite certain, though, that nearly three-fourths of developers were established with domestic capital. The number of developers with foreign capital in a city is a likely indication of its attractiveness for investors, likewise the number of developers with domestic capital that have their head offices in other cities. To learn more, the type structure of developers was analysed with another criterion (Figure 3).

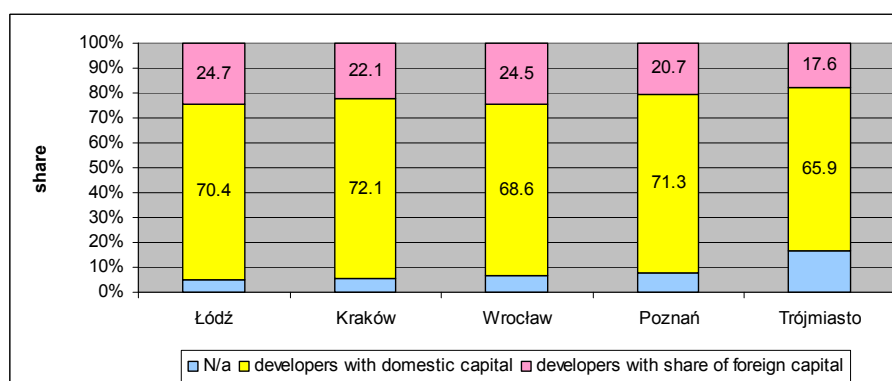


Fig. 2. Developers by capital structure. *Source:* prepared by the author.

As found, Łódź and Poznań have the greatest numbers of developers with domestic capital that have their head offices outside the cities where they operate. Interestingly, in the cities that could be expected to have a higher share of external developers, local developers definitely prevailed. It is possible that lower production costs attract out-of-city developers, despite lower demand and smaller margins (particularly in Łódź). Trójmiasto has many developers based in the adjacent areas, which

additionally increases the proportion of external organisations. In assessing the findings one must bear in mind that also this part of analysis lacked some data. If they had been available, the type structure of developers would probably be different.

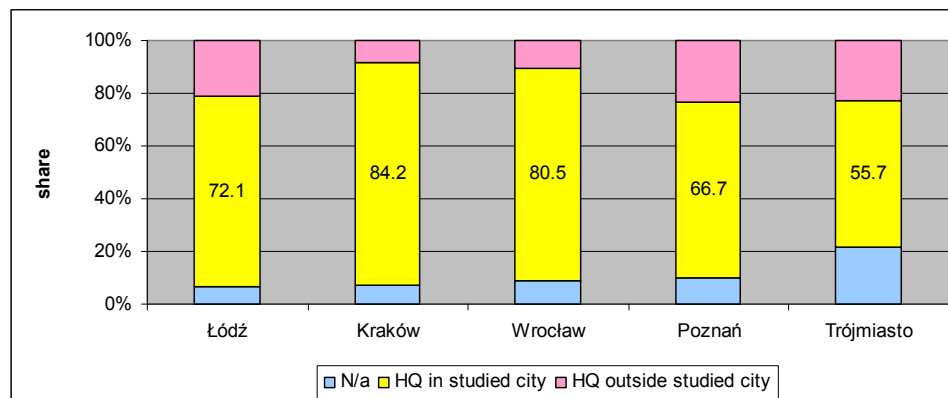


Fig. 3. The structure of developers with domestic capital by the location of the head office. *Source:* prepared by the author

4. Analysis of the product structure of developers

In this part of the analysis, the number and structure of developers' projects in 2012 were estimated on a city-by-city basis. The analysed projects were those completed or in progress in 2012. Projects that were only granted a building permit but did not move to the construction site were left out. This approach is consistent with the Building Law, according to which a building permit is valid for three years. In other words, a permit granted in 2012 would expire in 2015. The definition of a developer's project as understood in this article should also be explained. I. Weiss and R. Jurga define a development project as one involving financial outlays that are spent on construction activity to bring about the expected effects (WEISS, JURGA 2005, p. 6). Accordingly, developers' projects involve outlays that are made to raise property value and thereby earn profits. Developers may choose to construct new buildings or parts thereof, to rehabilitate the existing stock, or to improve land for future development (land developers), etc. (KUCHARSKA-STASIAK 2006, p. 229 - 234). In this research, only projects involving the supply of new space or the rehabilitation of the existing space are considered. Development projects, particularly those providing residential space and consisting of many buildings, are frequently phased, i.e. divided into stages. Sometimes one stage involves the completion of several buildings, each of which is ready on a different date and represents a different type. This means that an ordinary total of the number of buildings in a project would make certain characteristics of the buildings indistinguishable (e.g. multi-unit buildings and single-family houses have different prices and unit sizes). For this reason, two approaches to arriving at the numbers of development projects were adopted, one used the totals of projects (their breakdowns into production stages and other specific characteristics were ignored) (table 3.1), and the other took account of the different types and completion dates of buildings in a project – see table 3 part 2.

Table 3

The numbers of developers' projects in the sampled cities

City	The number of whole projects			Total
	Multi-unit buildings	Single-family houses	Mixed projects	
Łódź	52	18	2	72
Kraków	136	18	1	155
Wrocław	105	20	1	126
Poznań	68	18	2	88
Trójmiasto	103	13	2	118
Total	464	87	8	559

The number of projects/stages (accounting for their characteristics)			
	Multi-unit buildings	Single-family houses	Total
Łódź	57	30	87
Kraków	160	21	181
Wrocław	125	25	150
Poznań	86	21	107
Trójmiasto	155	19	174
Total	583	116	699

Source: prepared by the author.

Table 3 shows that the numbers of development projects are yet more diverse than the numbers of developers. Unlike the Kraków and Wrocław estimates that are not surprising because the two cities have the highest numbers of developers, the results for Trójmiasto are. Trójmiasto and Łódź have similar numbers of developers, but the number of development projects in Trójmiasto is much higher. This proves that developers in Trójmiasto engage in many concurrent projects and that the projects are divided into stages or even into individual buildings that are completed on different dates.

The variables applied to investigate the product structure of developers included a mean number of residential units per project /stage, the type of the building, the number of floors, a mean unit size expressed in square metres or as a number of rooms, and average asked price.

The term “the type of a building” as used in this article collectively describes single-family houses and multi-unit buildings in line with their definitions provided in the Building Law. Therefore, single-family houses are detached houses, duplex houses, terraced houses and residential compounds with two residential units per building at the most (*Building Law* 1994). All buildings with more than two residential units are considered multi-unit buildings. In Figure 4 that presents the structure of the analysed projects by building type, single-family houses are divided into detached houses, duplex houses and terraced houses. This division is based on the fact that the buildings have different construction solutions, the degree of individualisation, the economy of use, and investment outlays involved (WŁODARCZYK 2004, p. 35 – 54). The multi-unit buildings can be subdivided into different categories, one of the possible criteria being the year when they were erected. So, there are new structures and old structures such as lofts that undergo rehabilitation or modernisation processes. Lofts have special features and are highly individualised. The various definitions of lofts and the unavailability of detailed information on them prevented the author from accounting for lofts as a separate category of multi-unit buildings. For the same reasons, the author had to give up the breakdown of multi-family buildings into categories.

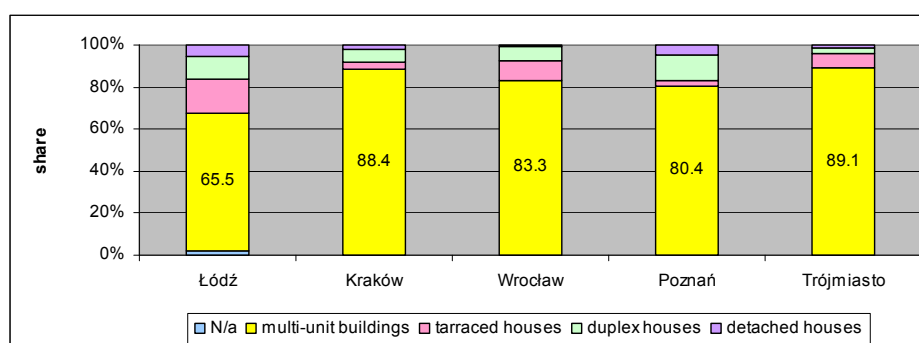


Fig. 4. The type structure of residential buildings in developers' projects. Source: prepared by the author.

According to the research findings, developers in all cities prefer to construct multi-unit buildings. The reason is of economic nature, because this solution allows many units to be built on a limited space and therefore higher returns to be obtained. In all cities but Łódź this type of projects accounted for over 80% of all development activity. Interestingly, Łódź has the greatest diversity of building types. There are several possible explanations of this phenomenon. One is that developers try to adjust the offered space to the financial potential and needs of local residents – 1 square metre of a house is

less expensive than 1 square metre of a flat in a multi-unit building and the level of wages paid in Łódź is comparably low. The other is that single-family houses are less expensive to produce, so a relationship may exist between the type of a building and the legal form of the developer (many Łódź developers are natural persons and civil partnerships that have lower costs but also less capital, so they rarely engage in large-scale projects). Moreover, the city has many undeveloped sites on its outskirts, which border on areas developed with single-family houses. In other cities, developers tend to build multi-unit buildings everywhere.

Another criterion with which development projects were investigated was building height (for its categories see the ordinance on technical and location requirements applying to buildings issued by the Minister of Infrastructure on April 12, 2002 (Journal of Laws 2002.75.690 as amended)). The multi-unit buildings were divided by the number of floors into low (to four floors), medium (from 5 to 9 floors), high (10-18 floors) and high-rise (19 floors and higher). The single-family houses are basically low, so they were excluded from this part of analysis. Buildings with different numbers of floors were classified according to their highest floor.

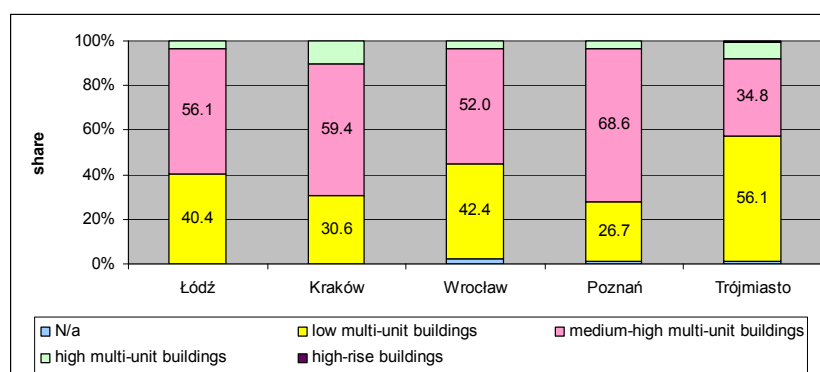


Fig. 5. Building height in the investigated project. *Source:* prepared by the author.

In most cities the medium-high buildings were found to prevail. This is probably related to the fact that the cities are highly urbanized and densely developed, so this height is the most appropriate for the current urban fabric. The absence of high-rises, particularly in Kraków and Wrocław, is fairly surprising. High-rises offering attractive sea views can be found in Trójmiasto that also has mostly low, residence-like buildings.

Because of incomplete data, the other variables had to be estimated. To arrive at the average size of a project in the city, the arithmetic mean and the median of units per project (as a whole and phased) were calculated. This approach was necessary, because the variable “the number of units” does not have a normal distribution, so a median is a more appropriate measure. On the other hand, though, an arithmetic mean is more effective in identifying cities where large development projects were carried out.

Table 4

The mean number of units per project (in progress or completed in 2012) – the arithmetic mean and the median

CITY	The number of units per project (as a whole) – the arithmetic mean	The number of units per project (as a whole) – the median	The number of units per project / stage allowing for phasing – the arithmetic mean	The number of units per project allowing for phasing – the median
Łódź	66.33	26.5	54.62	22
Kraków	92.21	67	78.89	59
Wrocław	101.22	70	86.04	70
Poznań	77.64	53.5	65.27	47
Trójmiasto	91.70	70	63.17	50.5

Source: prepared by the author.

Wrocław, Kraków and Trójmiasto were found to have a much higher average of units per project (as a whole) than the other two cities. Half of development projects in the three cities had more than 60-70 units, whereas in Łódź 50% of projects had less than 26 units. This implies a connection between the project size and the type of buildings. The arithmetic mean shows unusually high numbers of units per project in some cities. Moreover, a mean calculated for the phased projects indicates considerable diversity of projects, particularly in Trójmiasto.

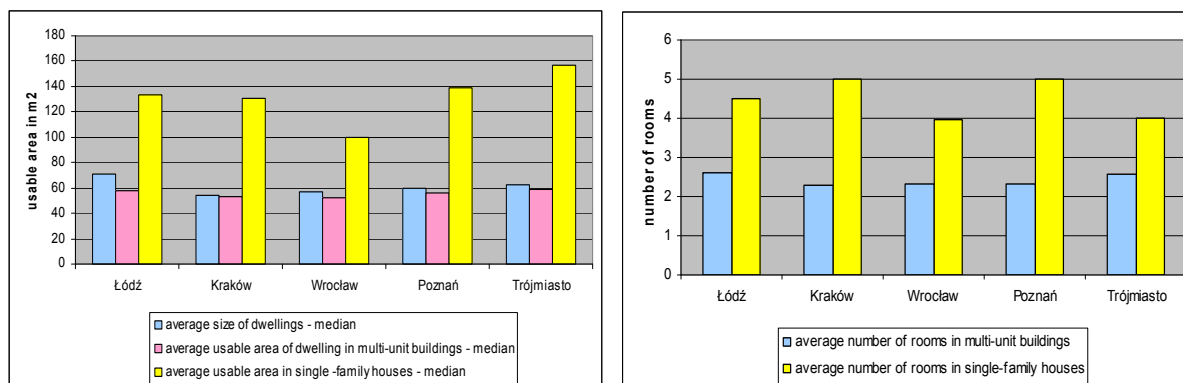


Fig. 6. Mean unit size in the surveyed projects: a) by usable floor area of a unit, b) by the number of rooms. *Source:* prepared by the author.

The usable floor area was difficult to estimate for many reasons. Firstly, the data are incomplete, units in the same building may vary in size (sometimes from 60 m² to more than 200 m²), in some cases the floor areas allow for garages (single-family houses) or mezzanines (multi-unit buildings). Because a floor area measured with square metres or the number of rooms does not have a normal distribution, medians were calculated for this variable (Figure 6).

Among the five cities in the sample, Łódź has the greatest mean size of residential units. This is probably due to the relatively high proportion of single-family houses. However, the sizes of units in the multi-unit buildings in Łódź also seem considerable, likewise in Trójmiasto and Poznań. A possible explanation of this coincidence is that Łódź has lofts and Trójmiasto has many apartment houses, mostly along its coastline. The largest floor area was established for single-family houses in Trójmiasto – as much as 50% of them are larger than 150 m². Concerning the numbers of rooms, the multi-unit buildings in all cities usually have 2-3 rooms, whereas single-family houses have from 4 to 5.

Another variable that was used to investigate the product structure of developers was average asked prices (Figure 7).

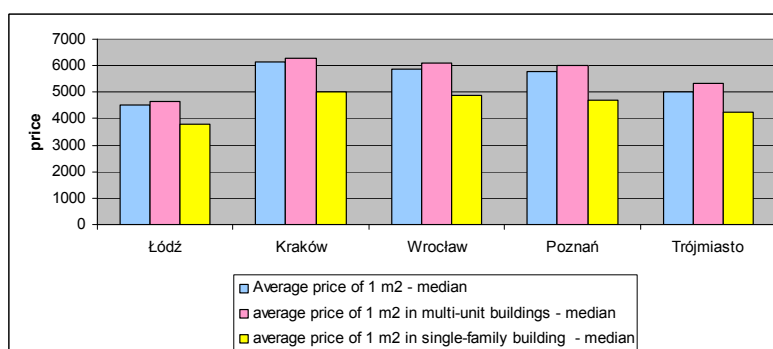


Fig. 7. An average asked price of a unit in the investigated projects in 2012. *Source:* prepared by the author.

Fig. 7 shows that Łódź had the lowest average asked prices (the medians¹) of units among all cities in the sample and Kraków the highest. This applies to both multi-unit buildings and single-family houses. The Poznań and Wrocław prices were nearly as high as in Kraków.

After completing the analysis of the type structure and product structure of developers, the Spearman's rank correlation coefficient was calculated to find out how the selected quantitative variables related to each other and how they differed in value between the sampled cities.

It is quite natural for a unit size and its price to be related to each other and that the greater floor area, the lower price per square metre. The Spearman's rank correlation coefficient calculated with the collected data explains what this relationship was in Łódź, Wrocław and Poznań.

Table 5

Correlation between an average unit size and asked price		
Cities	Spearman's correlation coefficient	p - value
Łódź	- 0.465**	0.000
Kraków	- 0.164	0.117
Wrocław	- 0.421**	0.001
Poznań	- 0.404**	0.005
Trójmiasto	- 0.147	0.218

Source: prepared by the author.

A scale where 0-0.3=weak correlation, 0.3-0.5=moderate correlation, 0.5-0.7=significant correlation, 0.7-0.9=high correlation and correlation ≥ 0.9 is very high (see: MICHALSKI 2004, p. 152) shows that in Łódź, Wrocław and Poznań the unit size and the price are moderately correlated. Unfortunately, with the available data, correlations for the other cities could not be established. One probable explanation is that particularly Trójmiasto has many large apartments that are priced accordingly, so correlations are disturbed. Because a unit size measured in square metres and its price were correlated, the collected data revealed also some relationships between the number of rooms per unit and the unit price in Łódź (-0.667), Kraków (- 0.302), Wrocław (- 0.452) and Poznań (- 0.497) at $p=0.01$. According to the numbers, the average asked price decreases as the number of rooms goes up.

Another interesting relationship that was identified is that between the unit size and the number of units per project.

Table 6

Correlation between an average size of units in a project and their number		
City	Spearman's correlation coefficient	p - value
Łódź	- 0.622**	0.000
Kraków	- 0.460**	0.000
Wrocław	- 0.629**	0.000
Poznań	- 0.640**	0.000
Trójmiasto	- 0.470**	0.000

Source: prepared by the author.

In all cities, the correlation was negative and either moderate or significant. This means that the greater unit floor area, the fewer units per building and vice versa. This mechanism is somewhat related to the type of a building – the floor area in single-family houses is much larger than in multi-family buildings. It is important to note, however, that large residential units can also be found in the high-rises.

¹ In Łódź, Kraków, Wrocław and Poznań the difference between the median and the arithmetic mean were insignificant, but in Trójmiasto the two values were markedly different. Because of atypical observations the graph shows the medians of prices.

5. Summary and conclusions

Particular cities analysed in this study differ with respect to the type structure and product structure of developers. Łódź and Trójmiasto are special in that respect.

Łódź has the highest diversity of the legal forms of developers, building types and the sizes of development projects, whereas Trójmiasto is characterised by a large volume of phased projects and the greatest proportion of low, multi-unit buildings. The conclusions drawn from the analysis of correlations are also interesting, for instance that about the number of units per project being inversely proportional to the average floor area. The findings of the study must be treated with some caution, as the reliability of the quantitative method applied was impaired by the insufficient number of observations and incomplete data. A more appropriate approach to analysing the development industry would be a comparative and descriptive one that in addition to allowing the identification of differences between the cities would also provide clearer research results.

The last important conclusion from the research is that in Poland even the basic primary data about developers are difficult to obtain. This shows that the transparency and maturity of the industry is still inadequate.

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