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THE PROBLEM WITH THE VALUATION OF PARKS IN HISTORICAL MANOR-HOUSES IN RURAL AREAS IN POLAND

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ABSTRACT: Manor-house parks are an important part of natural and cultural landscape of Polish countryside. While sites designated as historical do enjoy an elevated "social" status, this does not always translate into its monetary market value. Own research shows large price discrepancies in property appraisal reports for the same real estate. The discrepancies were related to valuation of vegetation (Rosłon-Szeryńska, 2018). Even though there are many methods and techniques of appraisal (including: profit-, market-, cost-oriented or mixed) available in specific legal acts and standards, apprising vegetation is still problematic. The goal of this research is to evaluate reasons behind these glaring discrepancies in appraisal of manor-house and park complexes in rural communes. Research included an analysis of current market prices of 100 historical real estates comprised of a manor-house and a park from all over the country. Regression analysis proves that the share of park's value in the overall historical real estate price is too low. This particularly applies to parks with an area of less than 5 ha.

KEY WORDS: manor-house parks, historical parks, valuation of parks, valuation of plants

Introduction

Manor-house gardens are an important constituent of natural and cultural landscape of rural areas. There were relatively many gentry courts in Poland (Schrimer, 2012). For example, in the 18th century, the percentage of nobility in the society was around 10%, compared to other European countries (about 3-4%). These buildings are an material evidence of Polish history, identity and landed gentry traditions. Their proper historical function, even if it still remains, is at the very least strongly limited and modified due to social and economic changes in the country.

While sites designated as historical do enjoy an elevated "social" status, this does not always translate into its monetary market value. Own research shows large price discrepancies in property appraisal reports for the same real estate. Ever-changing market realities, administrative and legal decisions regarding historical sites cause significant discrepancies in their market value and value appraisals. As a result of their niche character, necessity of large investments and complicated administrative procedures regarding repair and adaptation of historical sites to current needs, their sale price is significantly undervalued. Under the agrarian reform in 1945, Polish manor houses were included in the state's property. This has a significant impact on their poor condition and relatively low value.

The goal of this research is to evaluate reasons behind these glaring discrepancies in appraisal of manor-house and park complexes in rural communes. The study shows whether the park is significant in the price of the property.

An overview of the literature. Historical parks and manor-ľhouses in Poland

According to National Heritage Board of Poland (Narodowy Instytut Dziedzictwa – NID) (2017) data the largest number of historical manor-houses and parks can be found in the following voivodships: Greater Poland (440 manor-houses and 899 parks), Lower Silesian (184 manor-houses and 752 parks), Masovian (318 manor-houses and 622 parks) and West Pomeranian (88 manor-houses and 688 parks). The smallest number of such sites can be found in the following voivodships: Podlaskie (59 manor-houses and 110 parks), Silesian (79 manor-houses and 135 parks), Lubusz (71 manor-houses and 184 parks), Świętokrzyskie (80 manor-houses and 217 parks) and Opole (80 manor-houses and 217 parks). However the cur-

rent administrative division of the country does not reflect the specific features of individual historical regions. When taken into account, it can be seen that the greatest density of architectural monuments can be found in Western, Central and Northern part of Poland. Number of sites per 1000 square kilometres, shown in the figure below (figure 1) is a more meaningful indicator of historical site density in the country. The difference between the voivodship with the highest historical site density per unit of area (Lower Silesian) and the voivodship with the smallest density (Podlaskie) is nearly sevenfold for parks and threefold for manor-houses. In Greater Poland and Lesser Poland voivodships the number of manor-houses per 1000 km^2 is five times higher than in Podlaskie voivodship and twice as high as in Silesian voivodship.
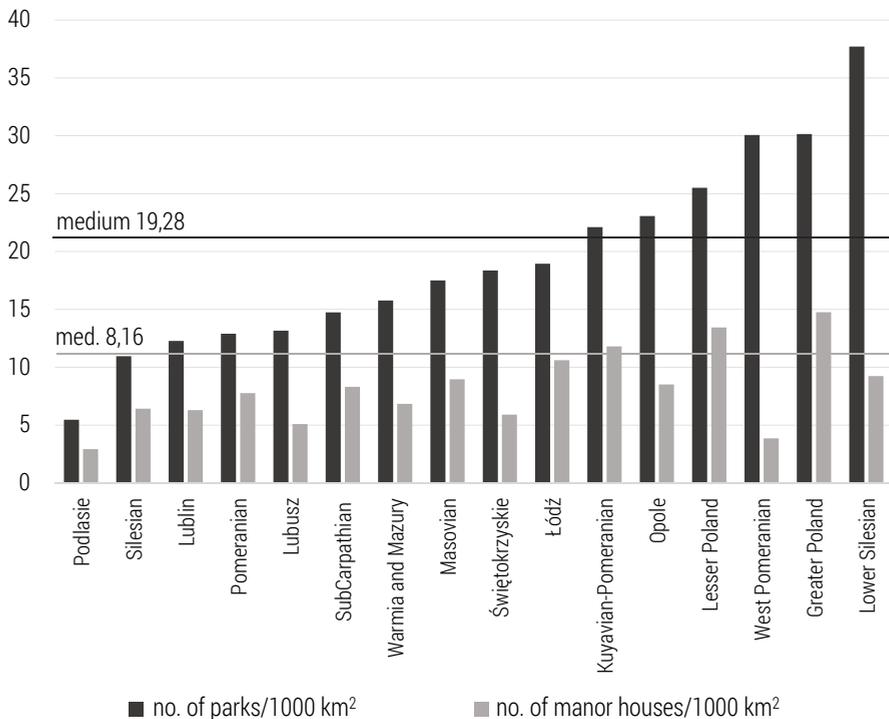

Figure 1. Density of historic manor houses and parks in voivodships per 1000 km^2
Source: author's own work based on NID, 2017.

Only in few voivodships this number is equal or greater to the mean statistical average for the entire country of 19 parks and 8 manor-houses per 1000 square kilometres. Voivodships where number of parks exceeds the average include: Lower Silesian, Greater Poland, West Pomeranian, Lesser

Poland, Opole, Kuyavian-Pomeranian, Łódź, Świętokrzyskie and Masovian. Voivodships where number of manor-houses exceeds the average include: Greater Poland, Lesser Poland, Opole, Kuyavian-Pomeranian, Łódź, Lower Silesian and Masovian. Density of historical manor-houses is clearly lower in the following voivodships: Podlaskie, Lubusz, Silesian, Lublin, Świętokrzyskie, and Pomeranian.

Research indicates a dwindling number of gentry manor-houses and their continued deterioration (Rydel, 2012; Fortuna-Antoszkiewicz, 2012). In 1939 Poland, within its contemporaneous borders, there were approx. 16,000 manor-houses including approx. 4,000 in the Eastern borderlands. In 1990 there were 8,740 historical parks and manor-houses (Michałowski, 1992). In 2014 2,800 manor-houses (Rydel, 2012) and 9,024 were registered. For a quarter of a century the number of historical parks increased by 3%, to drastically fall in recent 4 decades. According to a report by National Heritage Board of Poland (2017) published in 2016 there were only 2,610 registered countryside manor-houses and 8,152 parks in cities and villages, of which 6,139 have been positively verified. Up to 40% of historical parks and 42% of historical manor-houses are in a poor condition and in need of heavy repairs or full reconstruction. Repair and restitution works are required in 22% of manor-houses and 16% of parks while only 9-13% of those does not require any repair (figure 2).
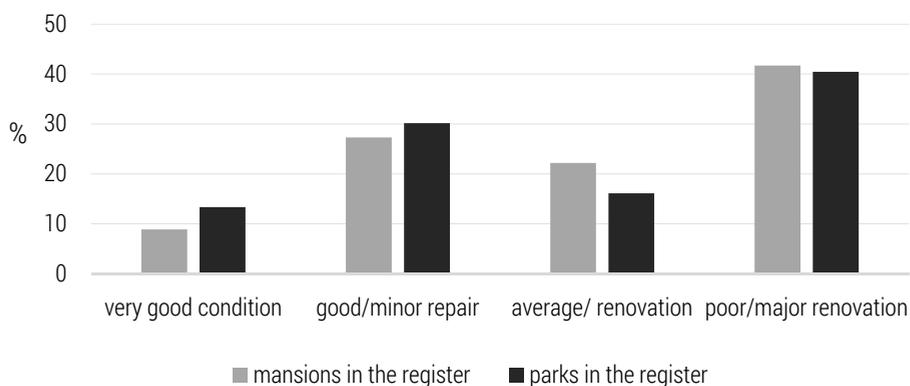

Figure 2. Condition of historic mansions and parks
Source: author's own work based on NID data, 2017.

A significantly worse condition of palaces and manor-houses in Western part of the country can be observed. Generally this is where the grand and imposing palaces and manor-houses were built, which are however most expensive to restore and maintain. Better preserved sites can be found in

Greater Poland, Kuyavian-Pomeranian, Lublin and Mazovian Voivodships (Kozak, 2008).

Problems with appraisal and valuation of historical sites

The degradation of cultural landscape and historical sites in our country has been observed for many years. This is not only due to lack of maintenance but also due to adaptation of these historical sites to new functions such as: hotels, restaurants, museums, facilities for cultural or other public services. These changes significantly lower their historical value. It is estimated that barely a few percent of adapted palace and manor-house complexes retain their original architectural and historical features (Rydel, 2012). Recreation of compositional and spatial layout of parks is especially rare.

Even though research confirms that economic value of hotel buildings, including those established in rebuild residences in rural areas, is influenced by psychological factors such as uniqueness and historical character of the building, very often economic and functional needs determine applied land use strategy (Rouba, Cudny, 2012). Effects of such investment strategies often cause numerous conflicts and result in decrease of the historical site value.

The above mentioned problems, as well as ever-changing market realities, administrative and legal decisions regarding historical sites cause significant discrepancies in their market value and value appraisals. As a result of their niche character, necessity of large investments and complicated administrative procedures regarding repair and adaptation of historical sites to current needs, their sale price is significantly undervalued. The ongoing real estate crisis which began in 2009 has brought down the valuations of historical real estate's held by the State Treasury. Their prices fell by as much as a few dozen percent. Historical sites may be bought for a few dozen thousand zloty, but the cost of their recreation (repair) may be many times higher than their sale price. Site value appraisal is made more difficult by their niche character. On an average only a few dozen such transactions are made annually (Wesołowska, 2012).

According to Bogdani (2013) problems with historical site appraisal include:
- legal status and commune policies which limit available historic real estate use, resulting in their undervaluation,
- monument conservation related limitations as a result of designation of sites as a monument conservation zone, which hinder adaptation of the building to new requirements,
- long investment process procedures for historical sites.

The author claims that while sites designated as historical do enjoy an improved "social" standing, this does not always translate into their monetary market value.

In many European countries, four main methods are used to construct fixed quality property indexes (Diewert, 2006): the repeated sales method; the assessment method based on a comparison between valuation of a house, often official, and its sales price; the stratification method used in the Icelandic house price index for the calculation of the simple user cost model in the Icelandic CPI (Pétursson, Elíasson, 2006) and the hedonic method (Sirmans et al., 2005).

Methods of appraisal and valuation of historical sites were a subject of many studies (including: Bogdani, 2012; Lichfield, 1988). Their special characteristics should be considered while preparing appraisals. The following aspects have to be considered: 1) historical value, increasing with time; 2) technical value, decreasing with time; 3) architectural value – increasing with time, but decreasing with use. It is especially difficult to evaluate "historical" value of a site, as it cannot be readily quantifiable.

Methods for vegetation valuation (as a natural element) had been in use since 30-ties of the last century, and they were further developed in 60-ties and 70-ties of the last century. However the demand for monetary valuation of trees, tree-stands, forests and other land properties became necessary in Poland only in the 90-ties of the 20th century (Zmarlicki, 2012). Even though there are many methods and techniques of appraisal (including: profit-, market-, cost-oriented or mixed) available in specific legal acts and standards, apprising vegetation is still problematic.

In the valuation of historic buildings, intangible assets (historical, artistic, etc.) are also important. In property auditor standards, it is recommended that a property valuer should use the help of a historian (Cymerman, Hopfer, 2006). However, the role of the dendrologist and landscape architect in assessing the value of the park is omitted. This has a significant impact on skipping the park value in estimating the valuation of mansions.

The average price of a manor house in England is 11 times higher than the value of a flat with 3 rooms and almost twice as high as the price of the most expensive one-family house in the English style or a country house. In Poland, the price of manor-houses is very diverse. Real estate is basically valued as a whole, without division into a building and land property. The exception are palace and park complexes, where in the case of a park with unique trees and small architecture, the value of the park is estimated separately (Frączek, Musiał, 2009).

Research methods

The goal of valuating real estates is to determine its market value, and this forms a subject of this research. Pilot studies have shown that greatest challenges lie in valuation of undeveloped land, covered in vegetation and included in the monument register. The analysis of guidelines and rules used for evaluation of vegetation shows a need for greater objectivity of appraisals so as to limit potential conflicts. The goal of this research is to evaluate reasons behind glaring discrepancies in appraisal of parks attached to palace and manor-house complexes in rural communes.

A review of 300 sale offers of mansions from the last 3 years has been made. 100 objects containing complete data on the technical condition and photographs of the building and the park were selected for detailed analyzes. Research included an analysis of offer prices of 100 historical real estates comprised of a manor-house and a park from all over the country. The offer price was analysed in relation to usable area of enclosed structures and plot area (including historical parks) in 15 voivodships. Based on descriptive and photographical record the preservation of buildings and parks was estimated. Building condition was evaluated using a four grade scale analogous to methods used in NID (2017) report, where: very good condition – means no need for repair/modernization; good condition – means some minor repairs or maintenance is necessary; average condition – means repair/protective maintenance is necessary; poor condition – means a complete refurbishment of the site, recreation of the park is necessary. Impact of the size and level of preservation of parks on sale prices was evaluated using descriptive statistics and multiple regression methods in Statistica 7.0 software.

Results of the research

The greatest number of transactions were done in Greater Poland and Lower Silesian voivodships while no current manor-house park sale offers in Podlasie voivodship have been found. Generally amount of price data for palace and manor-house complexes per voivodship is directly proportional to the number of such sites in a given voivodship. The average real estate sale value was 2,050,000 PLN. The index price for 1m2 of enclosed structure was 2,150 PLN, while price per 1 m^2 of park was 69 PLN. The average usable building area in the studied sample was 1,050 m^2, while average park area was – 3.37 ha. 44% of parks and 51% of buildings were evaluated as being in a good or very good condition. 36% of buildings and 29% of parks were evaluated as being in poor condition (for complete refurbishment or recreation).

When compared to the NID report (2017) the condition of sold sites is generally better than the overall average, what is perfectly understandable.
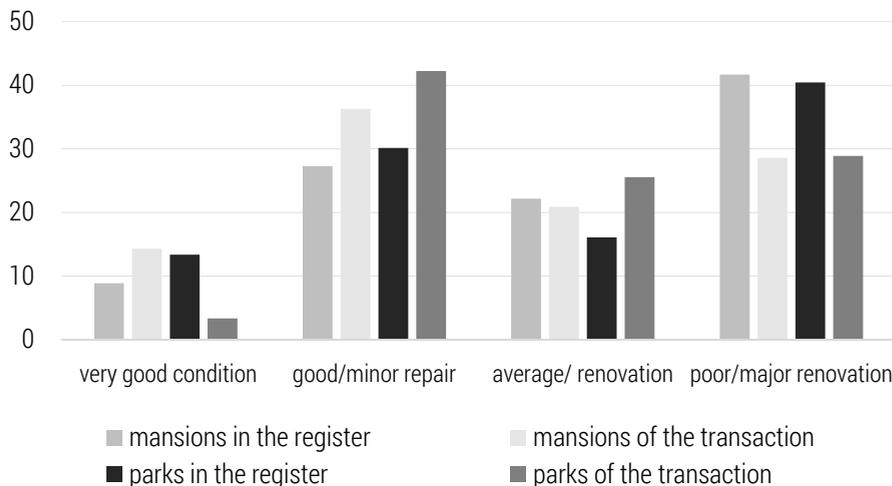

Figure 3. Comparison of the state of preservation of historic mansions and parks in the records with objects on sale

Source: author's own work.

The price of a palace and park complex real estate is usually established based on usable building area, this is why its price is largely dependent on size and condition of the building. Analysis of study results shows a weak correlation between real estate price and plot/park area. It was possible for large structures, located in a small plot to be valuated at higher prices than smaller structures built within an expansive park complex.

Using multiple regression method the relation between building usable area and real estate price for sites with a plot of up to 5 ha was determined. The following multiple regression formula was created:

$$price = absolute\ term + b1 \times x1 + b2 \times x2. \tag{1}$$

Figure 4 shows regression curve with building usable area in m^2 (x) and prices (y) shown. Regression line determined using STATISTICA 7.0 software was plotted to a coordinate system. It also includes points for real values of evaluation parameters used to create a given regressive model. The model shows that variable correlation is present in the following set: site with an area up to 5 ha and real estate price. A table and a diagram showing this relation is provided below.
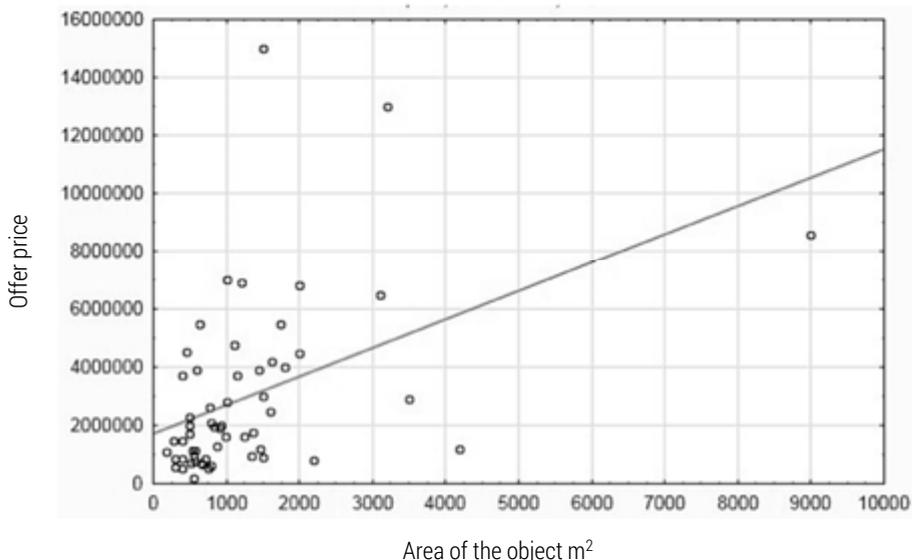
Figure 4. Analysis of the relationship between the price of a historic property and the size of a building

Source: author's own work.

Table 1. Analysis of the relationship between the price of a historic property and the size of a building

parks with an area of less than 5 ha N=58	Summary of regression of a dependent variable: market price (New Sheet Statistica Spreadsheet) R= ,47030937 R^2= ,22119090 Correct R2= ,19287057 F(2,55)=7,8103 p<,00103 error std. estimation: 2611E3 22119090. R2 =, 19287057 F (2.55) = 7.8103 p <, 00103: 2611E3 Condition of inclusion: v4 <4					
	b*	error std. with b*	b	error std. with b	t(55)	p
free condition			1009012	743466,9	1,357171	0,180270
surface of the object m²	0,435579	0,119431	955	261,8	3,647120	0,000590
area of the park m²	0,144103	0,119431	31	25,7	1,206584	0,232757

Stat. summary; variable. dependent: market price (New Sheet Statistica Spreadsheet) Condition of inclusion: v4 = 4; Multiple varieties: 0.470309367; Multiple R2: 0.2211909; Adjusted R2: 0.19287057; F (2.55): 7.81032189; P: 0.00103360123; Std error estimation: 2610958.98

Source: author's own work.

Figure 5 shows regression curve with park area in m² (x) and real estate price (y) shown. Regression line determined using STATISTICA 7.0 software

was plotted to a coordinate system. It also includes points for real values of evaluation parameters used to create a given regressive model. The model shows that variable correlation is present in the following set: park with and area of over 5 ha and real estate price. A table and a diagram showing this relation is provided below.
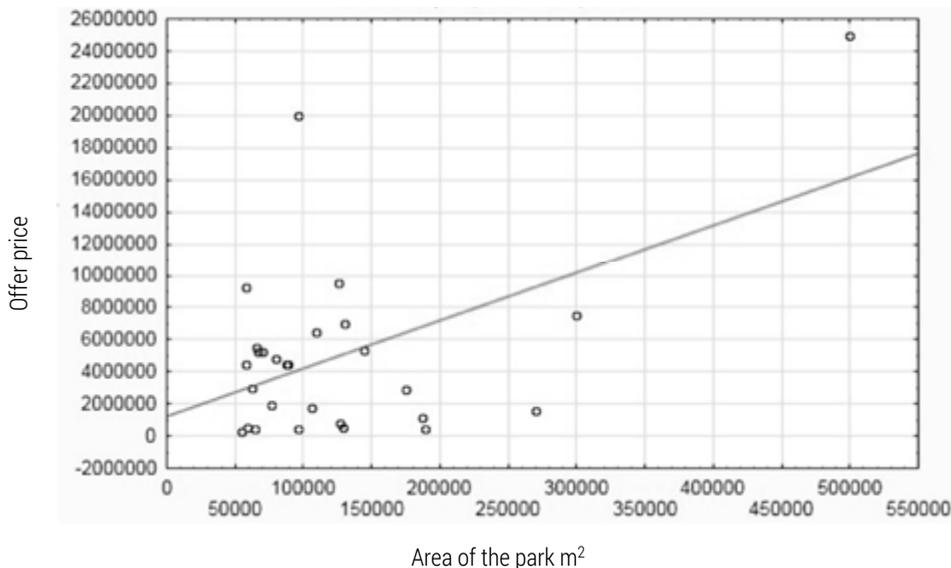

Figure 5. Analysis of the relationship between the price of a historic property and park area

Source: author's own work.

Table 2.   Analysis of the relationship between the price of a historic property and park area

parks with an area of over 5 ha N=29	Summary of regression of a dependent variable: market price (New Sheet Statistica Spreadsheet) R= ,50529132 R^2= ,25531932 Correct. R2= ,19803619 F(2,26)=4,4571 p<,02166 error std. estimation: 5006E3 Condition of inclusion: v4=4					
	b*	error std. z b*	b	error std. b	t(26)	p
free condition			1184878	1626284	0,728580	0,472771
surface of the object m²	0,011212	0,190188	35	594	0,058951	0,953442
area of the park m²	0,500077	0,190188	30	11	2,629389	0,014175

Statistics. Summary. Var. dependent: market price (New Sheet Statistica Spreadsheet) Condition of consideration: v4 = 4; Multiple varieties: 0.505291321; Multiple R2: 0.253131319; Adjusted R2: 0.198036189; F (2.26): 4.45714684; p: 0.0216576438; Std error Estimation: 5006286,94

Source: author's own work.

Summing up, any significant contribution of park area to real estate price may be seen mainly in large area sites, i.e. lager than 5 ha. While the share of building size in real estate price is especially pronounced in sites with plot area lower than 5 ha.

Figure below (figure 6) shows comparison of price indices of park and manor-house complexes (average, minimum and maximum prices per unit of area: 1-10 m^2) along with park index prices (unit price/10m^2 of park). The data is sorted from the lowest index (for Opole voivodship) to the highest one (for Masovian voivodship). Highest prices per unit of area have been found in the following voivodships: Masovian, Pomeranian, Kuyavian-Pomeranian, Lesser Poland and West Pomeranian. Lowest prices were found in the following voivodships: Opolskie, Silesian, Sub Carpathian, Świętokrzyskie and Łódź. This does coincide with data on prices of construction works in those voivodships.
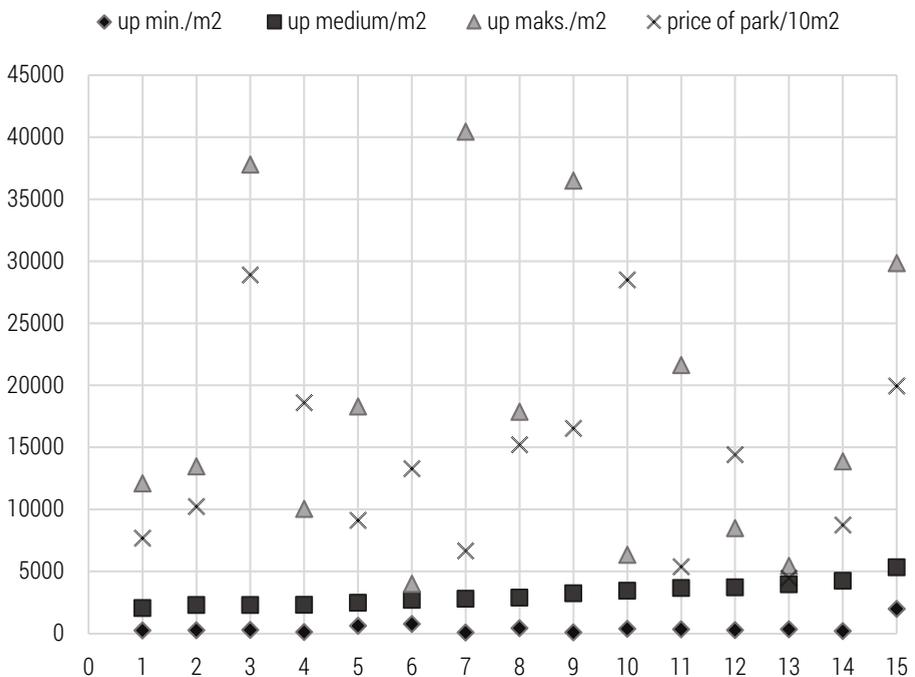

Figure 6. Price indices of palace and park complexes (average, minimum and maximum prices per unit area: 1 m^2) compared to the park index price (up/10m^2 of the park), developed for 15 voivodships: 1 – Opole, 2 – Silesian, 3 – Sub Carpathian, 4 – Świętokrzyskie, 5 – Łódź, 6 – Lublin, 7 – Lubusz, 8 – Warmia i Mazury, 9 – Greater Poland, 10 – Lower Silesian, 11 – West Pomeranian, 12 – Lesser Poland, 13 – Kuyavian-Pomeranian, 14 – Pomeranian, 1 – Masovian.

Source: author's own work based on NID data, 2017.

Conclusions

Landed gentry manor-houses with parks are an important spatial element of countryside landscapes. Research shows a dwindling number of landed gentry manor-houses and their deteriorating state. Nearly half of the sites require complete refurbishment. Today those sites have already lost their original function, which can result in lost of their historical qualities as well. Adaptation is one of the forms of conservation of palace and manor-house complexes. However, valuation of such sites, both for selling purposes as well as for establishing value of compensation to expropriated owners is problematic. The study shows discrepancies in valuation of historic real estates accompanied by park complexes. Price is influenced by, among other, location, building size, plot area, level of building preservation. Valuation of vegetation in such sites is also problematic.

In Poland, the price of mansions is very diverse. The real estate is generally valued as a whole without distinction between construction and land. Therefore, the value of the park (especially with a small area) is often underestimated or neglected in the real estate valuation.

Summing up, any significant contribution of park area to real estate price may be seen mainly in large area sites, i.e. lager than 5 ha. While the share of building size in real estate price is especially pronounced in sites with plot area lower than 5 ha.

Highest prices per unit of area have been found in the following voivodships: Masovian, Pomeranian, Kuyavian-Pomeranian, Lesser Poland and West Pomeranian. Lowest prices were found in the following voivodships: Opolskie, Silesian, Subcarpathian, Świętokrzyskie and Łódź. This does coincide with data on prices of construction works in those voivodships.

The contribution of the authors

Edyta Rosłoń-Szeryńska – 45% (conception, literature review, data acquisition, analysis and interpretation parts of data).
Jan Łukaszkiewicz – 30% (analysis and interpretation parts of data).
Beata Fortuna-Antoszkiewicz – 25% (partial review of literature).

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