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LAND ASSEMBLY PROJECTS IN POLAND: THE EVIDENCE FROM KRAKOW

Abstract

Discussion on land supply is present in real estate literature, however it focuses merely on mature western markets. Little is known about land-development problems in emerging markets in CEE countries – Slovakia, Czech Republic, Hungary, Poland. The aim of the article is to discuss the main problems in land-development activity. The study focuses on land assembly problem. In the article we explore the difference between land market value and prices paid for single plots during assembly operations. In our study we focus on real estate market in Poland, and we examine land assembly operations in Krakow – one of most rapidly growing land markets in the region. The empirical part of the study is based on real estate transaction data, gathered by Krakow Real Estate Institute (KIN)

INTRODUCTION

House price appreciation in Europe has been very strong recently. With some exceptions residential prices increased in all European countries, but the growth effect was probably the most visible in emerging real estate markets of CE countries. The data suggest that in last two years Poland witnessed the biggest house price appreciation from all new EU members [RICS European Housing Review 2007].

Demand-driven boom was also observed on Polish land market. Land prices in major cities in Poland has been increasing significantly in Poland during recent three years. There are some obvious reasons for the fact:

Demand for land is in first place driven by structurally strong housing demand (low interest rates, demographic wave), and improving macroeconomic perspectives and expectations.

There are many institutional investors (i.e. investment funds), and considerable number of foreign investors (both individual and institutional – developers, investment funds, insurance companies) that are active players on green/ brown field land market in Poland.

On the supply side, it should be noted that supply of land suitable for development in Poland is rather weak, and inelastic. The stock of premium sites – well situated, and ready for development – is short, and diminishing rapidly. There are also typical problems, that are present in nearly all post-socialist countries. These are: bureaucracy, complicated procedures, non-transparency and corruption. There is also shortage of master plans, especially in rapidly growing cities, which makes the investment process longer (in some cases gaining all permits can last for say, 3-4 years) more risky (it is harder to predict the exact result of bureaucratic procedure).

In the paper we focus on land acquisition problem, as we consider this phase of development project crucial for overall investment outcome, and to certain extent its aggregated results fundamental for real estate market dynamics. There are several arguments

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that support the preposition above. Firstly, even on emerging markets, the stock of greenfields suitable for development is systematically decreasing, as well as the number of large, superbly located plots. Therefore, every developer faces the land acquisition problem, which can be especially complicated when several small plots need to be assembled in order to start development. Secondly, as the building costs are hard to control, and demand is exogenous, land acquisition costs are the key variable when assessing investment yield.

1. LAND MARKET IN POLAND – STYLIZED FACTS

High (and possible increasing) sensitivity of investment budget on land acquisition costs – especially in favorable locations – is embodied into the nature of development activity. Land acquisition cost seems to become the key variable when assessing investment performance. From Polish perspective, the procedure of turning land into development is complicated and long-lasting – in some cases it takes several years to complete. The outcome, in terms of costs involved is often hard to predict, *ex ante*.

The land price depends on location. In the figure 2, we illustrate the land price behavior in all Polish voivodships in 2005.

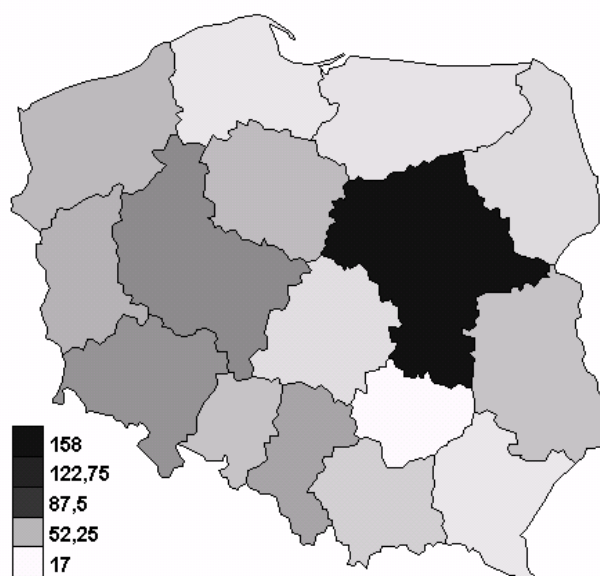


Figure 6. Land suitable for development prices in Poland in 2005

Source: Central Statistical Office in Poland

As can be seen from the figure [fig. 2], land prices differ substantially in Poland, even if we compare average land prices. For instance in Mazowieckie voivodship mean price in 2005 was 158,44 zł/sq m, while in Swietokrzyskie voivodship it was only 17,07 zł/sq m. The difference is even greater when we compare prices in favorable location in Warsaw, and prices in small towns in eastern Poland.

The other official statistics indicate that there was a huge gap between market value and replacement value of residential real estate in last two years. This explains the investment boom, and developers extraordinary yields.

High yields generated by housing development have some negative effects on real estate market in Poland. The most important consequences are:

- occurrence of so-called „raw” developers: investors who lack expertise, or even fundamental knowledge indispensable to organize the whole process. Although there are no regular research on this phenomenon, the bulk of this new wave of developers are firms or individuals successful in other economic activities.
- illegal or half legal practices of some developers
- rising speculation over land suitable for development

These are the major outlines of the problems put in our study. In the end of this section, it should be noted, that land development is not an established profession on real estate market in Poland. There is a lack of specialized companies, and land-development activity in Poland is:

- realized as a part of complex development activity
- realized by local government
- realized by individual land proprietors

Current market situation -rising prices of land, and converging developers yields in next two-three years perspective – put in favorable situation this investors, who amassed huge land banks. On the other hand the entry barriers for newcomers are as high as never.

2. DATA AND SCOPE OF THE STUDY

The main objectives of the study, are listed below:

- exploration of land assembly projects,
- exploration of land acquisition cost, and their key determinants.

In order to research areas above, the research was both quantitative and qualitative. The core of our researched is based on land transaction data provided by Cracow Real Estate Institute (KIN), and based on Notary Acts (NAs). The data were drawn from large database covering nearly all land transaction made in Krakow since 1992². Complementary to being representative, the data used in our research were also highly detailed – available information covered several plot attributes (i.e. size, length, width, transaction price, address, GIS coordinates, distance from the city centre, possible usage, territory development) and additional transaction records (i.e. buyer, seller, time, valuation results where possible, current user where existing, supplementary agreements as stated in NA). All KIN data records are based on Notary Acts information and in-depth site scrutiny (of physical cadastre, and other real estate registers available, GIS survey, etc.).

Our sample from real estate market in Krakow (632 observations) covered transaction from 4/10/1992 to 31/12/2003. Sampling was based on land contiguity. Only adjacent plots sold by individual proprietors to institutional investors were included in the sample. Majority of these plots was available for multi-housing or commercial development, and most of them has been built over (scrutiny of whether site assembled was developed was another measure we used to ensure face validity of our data).

3. ANALYSIS OF LAND ASSEMBLY PROJECTS IN KRAKOW

History of land-development transaction shows that some parts of the city have witnessed very intense assembly operations during last 15 years. Three of them, seem to dominate the others in terms of transactions conducted: Bronowice, and Krowodrza Górka in north-west part of the city, and Ruczaj in south-west part of the city. As can be seen from the map attached, the east part of the city (namely Nowa Huta district) was not essentially

² When compared to official real estate market statistics, based on NAs (provided by Central Statistical Office in Poland, KIN database covers about 97 per cent of land transactions in Krakow. This makes the database representative source of data about real estate market in Krakow.

interesting for potential developers [fig. 3]. The statistics for housing development follow the same pattern, so the concentration of land-assembly practices is supposedly not caused by specific land patterns in west part of Krakow (small plots forcing developers to perform complicated assembly operations), but the potential investment benefits (housing attractiveness of west part of Krakow, contrasted with post-socialist and unsafe Nowa Huta).

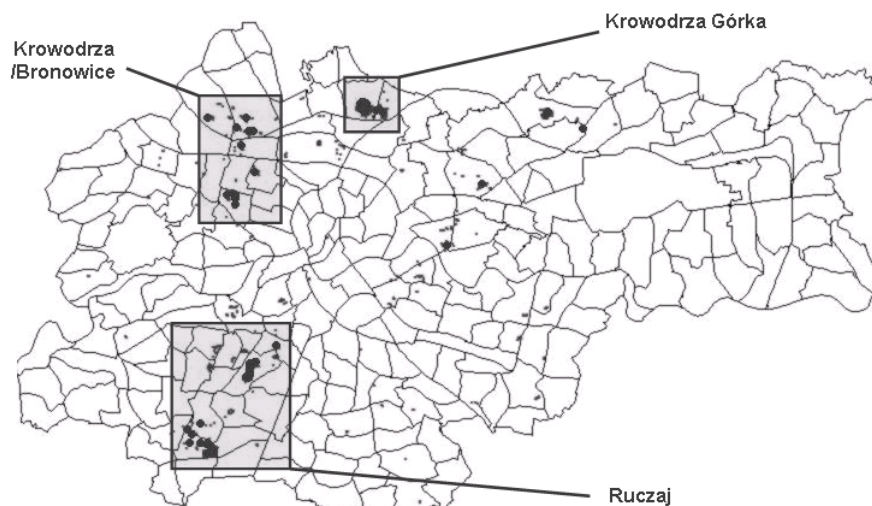


Figure 7. Selected land assembly operations in Krakow from 1993-2004

Source: author's own

During examined period of time, 116 land assembly operations were undertaken. This number does not include transaction conducted by municipality of Krakow and the Treasury of Poland, with the aid of compulsory purchase. The operation were not homogenous in terms of time span needed to complete the entire operation, number of transactions involved, and operation total worth. The main figures can be shown in table 2.

Table 1. Key figures about land assembly transactions in Krakow from 1992 to 2004

	N	Mean	Median	Min	Max
Land assembly time – in months	116	13,05	5	0	86
Number of transactions	116	5,54	4	2	40
Operation worth – in PLN	116	1946243	462683	9879	41370749

Source: Author's own based on KIN database

First conclusion drawn from our analysis is that assembly operation in Krakow, were rather small sized (74% of transaction involved less than 5 operation). The biggest operation involved 40 transactions. The majority of assembly projects were completed in one year time span (one in four operation took only several days). Only 20% of all operation took longer than 20 months. The last evidence of different scale of land assembly in Krakow is based on information of operation worth – it ranges from less than 10 thousand zł to as much as 41 mln zł.

As for the plots involved in each operation, suffice it to say that they varied considerably. Empirical evidence shows that typical plot in Krakow is long rather than wide (although there are exceptions). Minimum front width of plot from our sample was 1 meter only, and the maximum 615 meters. But as it can be seen from statistics available in table 3, dispersion of observations is huge, especially when plot area is considered.

Table 2. Key figures concerning plots involved in land assembly operations In Krakow from 1992 to 2004

	N	Mean	Min	Max	Std.dev.	Std.dev-to-mean
area -in sq meters	632	3252,7	3,000	132820	7453	2,29
width (front) - in meters	632	33,8	1	615	53	1,55
length - in meters	632	93,7	4,5	604	96	1,02

Source: Author's own based on KIN database

More careful analysis shows also that a modal plot was small, and often of irregular shape. As can be seen from figure 4, when the simple shape ratio is used (front width to length of a plot) it occurs that most of land pieces assembled by developers were long rectangle shaped. This result is not surprising – as a matter of fact it is consistent with outcomes of previous research conducted by Bitner-Fialkowska [2] in selected European cities.

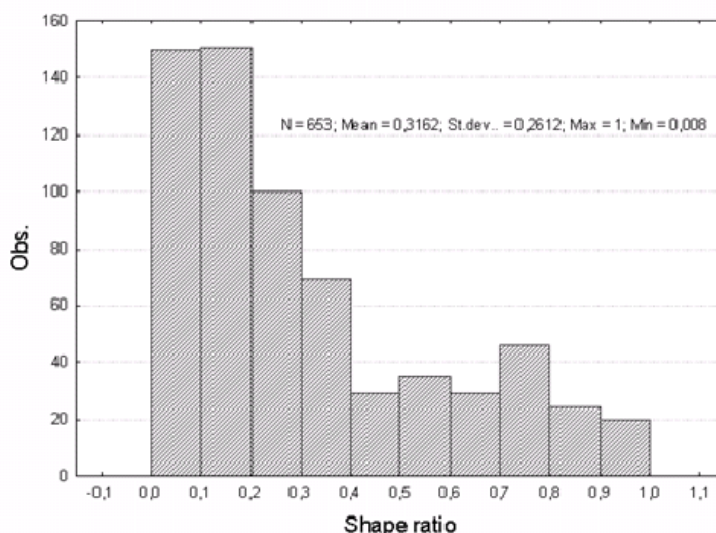


Figure 8. Transaction based evidence of typical shape ratio of land suitable for development in Krakow

Source: author's own based on KIN database

When dealing with land transactions, a few words must be spoken about legal issues of assembly process. Significant number of plots had major legal disadvantages – hindered

access to public road, easement appurtenants, and personal servitudes. Many plots were co-owned. All these defects made the future development a costly, and problematic endeavor.

CONCLUSION

As indicated before, the paper is intended to fill the gap on the subject of the land supply from the perspective of development projects. Although discussion on land supply is present in real estate literature, it focuses merely on mature western markets. Little is known about land-development problems in emerging markets in CEE countries.

The empirical results are to some extent similar to previously conducted research in western Europe and US. Surprising enough we discovered that land acquisition cost appreciation during most of land assembly operations was not as high as we expected on the bases of theoretical models available in the literature. The prices of succeeding land assembly transaction seemed to be rather chained to the first transaction price in the neighborhood (rather than fundamental market value of sites). On the other hand in many operations at least one deviant (in terms of enormous price paid) observation was noticed. We observed several speculative transactions that influenced the final outcome of land assembly operation. The other problems of land-assembly operations were connected to: legal issues, small sizes of separate plots, co-ownership of one piece of land, communication and access to public road burdens.

Typical land assembly operation was rather small sized (few transactions involved), and quick (a modal of 0-6 month). According to qualitative research results, when investment value and market efficiency is concerned the emphasis must be put on land planning and information issues. The role of negotiations was also pointed out – several endeavors were accomplished in just one day, at cooperatively low cost (after negotiating with all land proprietors involved in one time).

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