



Munich Personal RePEc Archive

Real estate development enterprises in the Polish market and issues related to its analysis

Hanna Augustyniak and Krzysztof Gajewski and Jacek
Łaszek and Grzegorz Żochowski

National Bank of Poland, Warsaw School of Economics

August 2012

Online at <https://mpra.ub.uni-muenchen.de/43347/>

MPRA Paper No. 43347, posted 20. December 2012 17:04 UTC

Real estate development enterprises in the Polish market and issues related to its analysis

Hanna Augustyniak¹, Krzysztof Gajewski¹, Jacek Łaszek^{1,2}, (with advice from Grzegorz Żochowski³), August 2012

Abstract

We analyse the real estate developer sector in Poland and explain how the housing construction process is financed. The main economic indicators that are used in the profitability analysis are explained in detail. Moreover, we analyse the real estate developer business plan and propose a model to analyse the housing construction process, focusing on the accounting of costs and profits.

Key words: Real estate development, construction process analysis, business plan;

JEL Classification Numbers: R31, M21, O18;

Introduction

The real estate development sector in Poland took a large scale in the years 1994-1995, upon the disappearance of the effects of loan agreements signed before 1990 with housing cooperatives and related government-subsidized housing. In the subsequent years, this sector gained a dominant position as a supplier of multi-family housing, especially in the largest cities. The commercial functioning of this sector, i.e. expansion of offers addressed to a wide range of clients, was first observed after 2000, when the high inflation came to an end and mortgage loans become the primary form of financing for this type of construction.

During its expansion, the real estate development sector experienced two cycles. The first one during the 1999-2001 boom and the second one in the years 2005-2008. The first of these cycles had a domestic character and was driven by classical real estate market mechanisms, which unfortunately coincided with changes in fiscal regulations. The second one, however, was triggered by the global boom in real estate markets, that was largely driven by the financial system. The consequences of the first cycle were more severe for the sector as it was poorly capitalized, whereas during the second cycle, companies were much wealthier and had already gained a certain experience. Additionally, the sudden burst of the bubble in the U.S. curbed the growth of a bubble in Poland. Highly elastic prices during a demand growth and more rigid ones during declining demand indicate a low level of competition in the sector. In fact, only the past two years have seen a growing competition in the sector.

¹ Economic Institute, National Bank of Poland. Ul. Świętokrzyska 11/21, 00919 Warszawa, Poland.
Hanna.Augustyniak@nbp.pl. *Corresponding author.*

² Warsaw School of Economics.

³ REAS.

This paper is part of the National Bank of Poland (2012) "Report on the situation in the Polish residential and commercial real estate market in 2011".

This paper presents the personal opinions of the authors and does not necessarily reflect the official position of the National Bank of Poland, the Warsaw School of Economics or REAS.

The analysis of the real estate development sector aims to find answers to the following two questions:

1. What is the condition of the majority of developers, especially in terms of the involvement of the banking sector?
2. Is the current level of home prices stable or is it likely to decline sharply, and how does it affect the housing production sector?

Currently, the share of real estate development production in Poland accounts for approx. 1% of GDP, and the share of real estate development loans in the banking sector assets is even smaller. Housing is classified, in general, as an asset, a capital good generating housing services and, finally, as a consumer good. The problem of the central bank's response to large increases in home prices and the question whether to include home prices into the basket of goods determining the inflation target is still under discussion. Yet, today most economists believe that the central bank should monitor the real estate sector, especially its prices. This is due to the fact that prices and the resulting economic condition of the sector and, to some extent, the impact of the sector on the entire economy (multiplier effects of construction, wealth effects, speculation and price bubbles) are closely related to the level of interest rates and the mechanism of liquidity supply to the banking sector, the tools used by the central bank. In the recent years, we witnessed numerous negative examples driven by the lack of common sense in this respect - the most spectacular crises in the last eight-year period were observed in the USA, Ireland, Spain. Yet, the sector's negative experience has a rich history, spanning over the period of several hundred years.

Selected issues in the real estate development sector analysis

A real estate developer is a company operating in the residential or commercial real estate sector, involved in building, renting or selling real estate on its own account, with a view to making a profit. In developed economies, real estate developers usually deal with residential and commercial real estate, while the latter also include residential properties for rent. They operate also in the land development market, converting agricultural land to non-agricultural one, providing the land for construction with appropriate infrastructure and utilities and selling it.

In the case of residential real estate, the developer usually finances construction with his own funds. The cost traditionally includes the acquisition of the land which has to be owned by the developer or be under a long-term lease, expenses related to the execution of architectural design and obtaining a building permit. Developers also finance their investment through investment funds, the so-called *mezzanine finance*, which are treated as own capital contribution, but are much more expensive than a bank loan. Financing through the capital markets and the issue of debt securities is less costly and troublesome, but usually available to the largest companies with a good reputation only.

In the case of higher risk, the bank may require a larger share of developer's own funds. Additional sources of financing may also include down payments made by future owners and untimely paying of construction companies' bills. To execute the investment project, the real

estate developer employs construction companies but sometimes the developer performs the whole or part of the investment through their own construction company. Yet, such a system is considered a second-best choice due to the greater difficulty in the enforcement of commitments. The bank financing the investment usually requires the real estate developer to establish a special purpose vehicle (SPV), which owns the land and building under construction as well as to open an account used for all the financial flows associated with the investment. The construction loan with a 3-5 years maturity is disbursed in installments in accordance with the approved loan disbursement schedule as defined in the loan agreement, after the actual advancement of the project has been confirmed and invoices for the previous period verified. Yet, the bank tries to avoid financing of the developer's profit, which should be financed at the end of investment. Likewise, also the real estate developer provides financing to construction companies only after particular stages of works have been completed and accepted.

When completed, housing is sold to buyers for cash or with a mortgage, and the mortgage at the bank funding the investment is converted into mortgage at the bank providing financing to the home buyer.

In the case of commercial real estate, not only the property itself, but also the company that owns the property is the object of transaction, and the construction loan is converted into a 10-15 year financing.

The time necessary to execute the real estate development project may vary depending on the specific character of a particular investment project, and includes the time associated with investment arrangements and execution of the construction process itself. The former one is largely impacted by formal requirements regarding real estate construction. The latter one depends upon the technical aspect of the project.

The discussed characteristics of real estate development reveal the main problems which arise during the economic analysis of this sector. The most important issues include the discontinuous and unitary nature of production and lengthy production process, usually spanned over several years. Consequently, due to the unitary nature of production, it is difficult to apply the conventional index-based analysis, since the inputs and outputs are in each case unique. Thus, there arises the problem of how to account the construction effects in traditionally accepted periods, as the final result will be available with a time lag.

A solution to the unitary nature of the production is to analyze the whole sector or a basket of selected companies. As a result of the discussed specificity of the sector, larger developers usually operate as holding companies, being owners of investment projects.

With a sufficiently large number of such entities in the sample, the business continuity may be assumed as there are always some investments under construction, some are being embarked on and some are being completed. The problem is that costs and expenses are calculated in a different place; what is more, the expenses include costs incurred at different stages of the construction process. As a result, with a constant sample and stable economy, the calculation results are acceptable indicators, yet with larger shocks leading to changes in costs and the volume of production, the results will be subject to an error. For example, a growing number of new projects will push up costs and bring down profitability indicators, whereas a decline will trigger the opposite effect. This is a significant drawback, since the sector is, by definition, subject to cycles. Moreover, during such changes we need even more reliable

information. Nevertheless, these shortcomings do not disqualify the method itself, however, require some caution in the interpretation of the results, knowledge of real processes in the sector and reliance on additional, independent sources of data. Thus, it is pragmatic to say that poorer information, yet verified through a variety of sources and often corroborated with expertise is better than none.

While subject to certain reservations, the indicator-based analysis of the sector may be applied, the analysis of individual companies requires the adoption of additional assumptions, especially regarding future sales; moreover, it is burdened with a significantly higher error.

In Poland, by the end of 2004, the problem was the lack of standards to qualify the building as sold. It was either the time of the sale of the contract or the time when the building was actually put into use. The problem was solved by the large-scale adoption of the International Accounting Standards (IAS).

In the real estate sector, as in other sectors, there is a tendency to hide profits in costs and finance certain expenses in this way. This problem usually occurs amidst higher corporate tax rates and a less developed capital market, which does not discipline players, especially public companies. Another form of the same process is the capital outflow from one company to another one, for example, from a real estate development company to a construction company. This practice may well go hand in hand with loan withdrawal from the project. In both cases, the result will be excessive costs and poor financial performance of the sector and companies, which, in fact, does not have anything to do with the reality. In the real estate sector, this problem may be partially solved if we use, apart from measures based on corporate reporting, also measures based on market prices, cost estimates and valuation of investment projects in reliance on these data. In fact, the financial results of real estate developers, due to the business-related risk and ensuing losses, will correspond to such measures, only in exceptional circumstances. Yet, their level, compared with the level of measures based on financial reporting will indicate a range within which the real estate sector indicators are contained.

With the above reservations in mind, the analysis of real estate developers may rely on most indicators used in the analysis of a usual company, i.e. indicators based on the vertical and horizontal analysis of the balance sheet and the income statement, as well as measures of profitability, costs, liquidity, debt collection effectiveness etc. The object of the study should be the key determinant of the indicator selection. However, while the income statement makes sense when analyzing a large holding company, in small businesses and projects only the balance sheet is available, as there are numerous expenses, growing assets and income appears only at the end of the process.

Assumptions and basic indicators used in the analysis

In the analysis of the real estate sector, the National Bank of Poland uses two basic approaches. In the first approach, based on F-01/I-01 and F-02 forms of the Central Statistical Office (CSO), using a relatively constant sample of enterprises, the index-based analysis is applied which, as previously discussed, treats the sector as a company. The object of the analysis are small and large businesses broken down according to the CSO classification. Measures of the condition of enterprises are adapted to the sector's specific character and take into account the previously outlined aim of the analysis. These are total revenues, total

expenses, net income, ROE and ROA, which, when analyzed from a historical perspective, show the financial condition of the entire sector and of an average company. For the purpose of the study, these indicators are defined and calculated as follows:

- Total revenue – total sum of net sales, other operating and financial income,
- Total expenses - operating expenses plus other operating costs and financial expenses minus change in inventory minus the cost of goods produced for own consumption,
- Net income - gross earnings minus income tax,
- ROA - net income at end of period / assets at end of period (in %).
- ROE - net income at end of period / equity at end of period (in %)

Measures depicting the situation from the real estate assets perspective are development projects under construction, completed housing, land bank and land bank exposed as the average, annual production in the recent years. These include:

- Real estate development projects under construction - stocks of semi-finished products and work in progress,
- Completed housing - stocks of finished products,
- Land bank - stocks of goods,
- Land bank in the years of production - stocks of goods / 0.15 * income from sales.

As real estate developers, by definition, leverage their activities (use financial leverage), and may have recourse to various sources of financing, with different availability and at different costs, the change of the structure of these sources is of considerable importance. It provides information on potential problems that companies may face (for example, growing share of liabilities, falling share of loans) and financial costs that companies incur. The main problem is usually the availability of data. Based on CSO reporting, the following sources of financing may be identified:

- Equity - fixed assets plus current assets minus liabilities and provisions for liabilities
- Loans – long-term liabilities resulting from loans and borrowings plus short-term liabilities resulting from loans and borrowings,
- Debt securities – long-term liabilities resulting from issuing of debt securities plus short-term liabilities arising from issuing of debt securities
- Client down-payments and - short-term liabilities resulting from advances for deliveries plus accruals,
- Trade liabilities – liabilities resulting from goods delivered and services rendered to other entities,
- Other liabilities.

Equally important as the analysis of the sources of financing, is the analysis of costs. As the real estate developer usually employs subcontractors, the basic cost items are third party services, or costs of housing construction. Other costs are usually associated with the activity of the real estate development company that arranges investment projects, exercises supervision, keeps the accounting and sells completed housing. In theory, the real estate development company can operate virtually at no cost, as these costs can be, for the most part, accounted for as third party services. On the other hand, some smaller companies are

contractors themselves, and consequently the materials and services consumed do not necessarily have to mean pure development costs, but costs associated with housing production. In the NBP analysis, costs are broken down as follows:

- Third party services,
- Payroll,
- Materials and energy consumed.

The conclusions resulting from the analysis of real estate companies may be verified by analyzing the real economy, that is the actual costs of housing construction, market prices and profitability of housing projects, which should translate into the condition of real estate developers and provide an answer to the question, whether companies are going to increase housing production. The simplest, and, therefore, fairly reliable measure is the structure of market prices of housings in the local market. The starting point are current housing prices, costs of housing production and sale, and costs of construction sites. The NBP uses for this purpose the transaction price at the local primary market, taken from the NBP BaRN database that collects housing prices. To estimate the construction cost per one square meter of usable area of housing, assumed to be an average cost, we rely on the information from the Bulletin of real estate construction prices published by Secocenbud. The type 1121 multi-family building was adopted as an average building⁴.

In each quarter, prices of particular stages of the construction process (e.g, zero state, raw state of the building, external and internal finishing stage, installations) are quoted, and the percentage share of individual components of the cost estimate in the the total price of the object is given. Costs of labor, materials and equipment, indirect costs and profits of a construction company are quoted separately. To those costs the cost of the project (approx. 3%), the cost of land (according to the company's own base of land prices) and other costs associated with the launch of the investment (approx. 5%) and VAT need to be added. The approximate amount of the developer's cumulative gross profit (for the entire investment period, without taking into account the provisions for investment risk) is obtained residually, after deducting the price of the other elements.

Yet, when interpreting the size of the developer's profit it should be borne in mind that this does not mean the actual share of the profit in sales, nor the rate of return on equity. The real estate development project takes many years. Thus, to calculate such indicators, the result should be adjusted accordingly. On the other hand, real estate developers do not commit all their capital at the beginning of the project. They also use external sources of financing, including clients' down-payment. These factors largely influence the expected investment performance indicators.

Based on the observations of the Polish market, it may be assumed that margins in the range of 20-30% ensure a good profitability. Below this range, we may reckon with a decline

⁴ This is residential, multi-family, five-storey building with an underground garage and retail space on the ground floor; traditional design (masonry over ground part made of ceramic bricks); for simplicity, it was assumed that the cost of construction of a square meter of garage and utility and service areas is similar to the cost of housing construction in the shell unit standard; the actual, based on construction costs, price of one square meter of housing depends on the share of external space, which is different for different buildings; when calculating one square meter of consumer's usable housing, a 20% share of external surface area in relation to the size of housing was adopted; this value was used to revise upwards the price of a square meter of housing.

in the volume of production. This also depends on the developer's capacity of alternative capital allocation. Consequently, in order to calculate the annual housing production effectiveness, a simplified business plan of the housing project should be developed on the basis of performance indicators. For the purpose of the analysis, the NBP adopts, in this case, the following assumptions.

The entire construction process, which takes approximately 18 quarters, can be broken down into the following three stages:

- A. Preparations taking approximately 7 quarters (purchase of construction land, preparation of the project and obtaining of all necessary permits),
- B. Execution and construction taking approximately 7 quarters,
- C. Sale, which should be completed within 4 quarters.

The description of the construction process model is presented in Table 1, whereas developers' profits calculated on the basis of this model are presented in Chapter 4 of the annual NBP report on the real estate market.

Conclusions

Economic indicators calculated on the basis of this model are theoretical indicators, as they fail to take into account the real economic and financial conditions of the company and the specific character of the project. The actual business conditions, include, in particular, the financial situation⁵ and sources of investment financing of the company. The actual conditions of the project also include additional costs of technical infrastructure, and hard to predict geological difficulties. The real estate development activity involves a significant risk, starting from the cyclical nature of the market to the general economic, political or legal risks, not to mention natural disasters or construction failures.

Consequently, those profits which take into account the risk premium, are generally higher than in other industries. However, real estate developers are highly flexible in adjusting to economic conditions. This is shown by their experience before 2005, when they operated at low profit margins. On the other hand, amidst an economic downturn that is a typical problem for the sector, the possibilities of capital withdrawal and its allocation to other industries become limited.

The experience of foreign markets shows that real estate developers, like construction companies, build housing provided this activity brings even a rate of return of few per cent, rightly hoping the cycle to reverse. Bankruptcies are usually the consequence of excessively imprudent behaviour during the boom (too many deluxe projects, land purchases at high prices, materials, etc.).

⁵ For example, purchases of land and construction contracts signed during the boom and high prices in projects dominated by luxury apartments, sale in a period of stagnation, or the need to change the project. The opposite scenario may take place, too.

Table 1 Model of development construction process
(residential building, 100 dwellings of 50 square meters each)

Period	quarter 0-7										quarter 8-14								quarter 15-18		
Project stage	Start										Construction + final inspection and acceptance+ sale of some dwellings								Sale and completion of the investment		
Activity	Land purchase, documentation and permits										Construction of buildings and infrastructure, final technical inspection and acceptance, sale of 60% of dwellings								Sale of 40% of completed dwellings , loan repayment, completion of investment, establishment of housing community		
Costs	Land (15%), documentation + permits (5%), up to 20% of investment costs										Up to 100% of total investment costs								Sale costs (3.5% of return on investment)		
Equity-based financing	Land (100%), documentation (100%), permits (100%)										30% of total investment costs (20% from the previous period plus 10% as a loan condition)								40% of dwellings financed with equity capital and profit (sold in quarters 15-18)		
Average quarterly commitment of own capital in the investment project	Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
	share	0%	15%	20%	20%	20%	20%	20%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	0%	
	16%										30%								23%		
Loan financing	0%										Loan taken to finance 70% of total investment costs according to the following schedule:										
Average quarterly commitment of loan in the investment project	Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
	share	0%	0%	0%	0%	0%	0%	0%	7%	15%	25%	26%	50%	63%	70%	70%	70%	35%	0%		
	0%										36%								26%		
Average quarterly commitment of client down payments in the investment project	0%										34%								51%		