The National Bank of Poland

THE ECONOMIC INSTITUTE
IN COLLABORATION WITH REGIONAL BRANCHES

Report on the situation in the Polish residential and commercial real estate market in 2010

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The Report has been prepared at the Economic Institute in collaboration with sixteen Regional Branches for the purposes of NBP authorities and presents the opinions of the authors. The document should not be understood as an advisory material or a basis for investment decisions.

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Summary

The Report presents the results of studies based on data gathered by the National Bank of Poland and that provided by other entities. The analysis leads to the following conclusions:

- In 2010 stabilisation in housing prices was observed (both asking and selling prices, on the primary and existing stock), whereas there were drops in housing prices in real terms.
- Within the last few years the residential real estate sector in Poland grew in importance as a factor affecting the economy, and, in particular, the banking system. This is related to the growing share of housing loans in banks' portfolios. The trend has been maintained also in the current recession phase of the business cycle, affecting the sector.
- The last cycle in the housing market reflected a very dynamic development during the boom phase, which was connected with the impact of international fundamental factors, as well as speculations. The burst of the financial crisis prevented tensions to build up, and in consequence the recession phase passed quite smoothly. Currently, most of the factors generating the boom expired and the sector follows to another long-term equilibrium with lower level of output and prices.
- The main instrument of the boom were housing loans, including loans denominated in foreign currencies. Current and planned drops in housing prices, combined with fluctuations in foreign exchange rates, contributed to a loss of collateral in a small part of the portfolio. Moreover, charges related to loan repayment have been growing. These phenomena however, do not threaten banks' stability.
- The real estate development sector was the main beneficiary of the boom, which brought about excessive optimism and higher costs. Amidst growing competition and falling demand, the sector has now been undergoing restructuring, and bankruptcies or take-overs of real estate developers are to be reckoned with.
- The discussed phenomena reflected major differentiations in the local markets, similarly as the differentiated development of those markets. In 2010, in all 16 cities, mismatched supply and demand structure was observed, both in the primary and existing stock. Despite the differences in the price levels, growth rates of those prices did not differ considerably.
- The cycles in the commercial real estate market in Poland are related to office and retail space demand, which is mainly dependent on the general economic situation and the specific character of particular market sub-sectors, or investor behaviour. The sector in Poland has been developing mainly based on foreign capital and has been dominated by international investors. It seems that the sector continues to show a significant growth potential.
- The recent period has brought some progress in the implementation of new prudential regulations for the banking sector, yet, no progress has been noted in the housing policy.

Part I. The Real Estate Market in Poland

1. Introduction

The real estate sector is of considerable economic importance both as an employer and service provider, as well as by offering assets in which households invest their income and savings. Despite its positive role, the sector often acts as the factor which destabilises the economy, especially the financial system, as a result of its cyclical nature and recurring real estate crises.

Business cycles in the real estate market are a regular phenomenon and are usually the result of rapid changes in demand and rigid short-term supply combined with the lack of market transparency. As evidenced in economic history, including the most recent history, there are many risk factors which, when cumulated and occurring on a large scale, lead to domestic, regional or even global crises, as well as smaller local-scale problems. Both the market and the economic policy, understood as fiscal, monetary and supervision policy may be responsible for such problems.

There are at least two reasons why the analysis of the real estate sector is important for the central bank:

- interest rate decisions of the central bank impact the real estate prices, which become an important factor influencing the economic situation and cycles in the real estate market;
- the real estate sector is usually strongly related with the financial sector and excessively strong tensions in this sector may be a risk factor for the financial sector stability.

As regards the Polish housing real estate sector, its faster growth has been observed only since 2005. Nevertheless, this sector is marked by a whole range of disproportions and barriers likely to limit its growth, and – in the longer run – bring about problems. One of the most vital ones is insufficient transparency of the market being the result of missing information. This makes economic agents operating in this sector take wrong decisions.

The Report is aimed to provide the concerned economic agents, including real estate market participants, with as complete, reliable and objective information as possible concerning the situation on the housing real estate market in Poland in 2010. The Report largely focuses on the phenomena observed after 2009 which have a direct impact on current developments. Yet, whenever it was justified, the authors went back to the beginning of the decade.

This is the second edition of the Report, enlarged as compared to the first one with a comparative analysis of development trends in sixteen local markets in Poland, the analysis of the real estate development sector and construction sector, as well as an introduction to the commercial real estate sector. The information regarding the commercial real estate market - as an introduction to the subject – goes back to data from the beginning of the decade owing to the long-term nature of the on-going processes.

Due to the local character of housing markets, the thorough analysis in this Report focuses – as in its previous edition – on the sixteen markets of voivodeship capitals, however, in various layouts. In Chapters 2, 3 and 4, in view of the importance of the housing market, the six largest urban markets (Warszawa, Kraków, Wrocław, Łódź, Poznań and Gdańsk together with Gdynia, meaning seven cities altogether) have been subject to particularly detailed analysis. On the other hand, in Chapter 6 – due to statistical determination of similar demographic interdependencies and the structure of housing units – markets have been analysed in the following layout: seven cities (Gdańsk, Kraków, Łódź, Poznań, Szczecin,

Warszawa, Wrocław) and nine cities (Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Zielona Góra).

The Report is based on the data derived from various sources. The main source of information about housing prices and structure have been data originating from the Real Estate Market Database (BaRN) created by the NBP for analytical purposes[1]. The study also relied on a database prepared and updated by PONT Info Nieruchomości containing data on asking home prices, the SARFIN database of the Polish Bank Association containing data on housing market financing and AMRON database containing data on housing appraisal and selling prices of housing financed with housing loans, as well as collective lending data of the Credit Information Bureau (BIK). The statistical data of the Central Statistical Office (GUS) and analyses including sectorial data[2] have been used in the structural analysis. The authors have also relied upon the results of the annual household surveys conducted in six cities by the NBP from the point of view of households' intentions, preferences and expectations connected with this market. The information about the commercial real estate market is based on data provided on a voluntary basis by commercial real estate brokers, as well as real estate management and consulting companies. The analysis has been supported with knowledge of experts of the particular firms[3].

Although many sources of information have been used, missing data or insufficient quality of data was a significant barrier. In such situations, the authors have relied upon estimates verified on the basis of expert and specialist opinions. In drawing up the Report the authors have assumed that even estimates, verified in several sources, provide better information than general opinions.

The Report consists of three parts. Part I presents some common processes in the real estate market in Poland, Part II consists of analytical studies, elaborating in more detail on certain issues discussed in Part I. Part III is more detailed and includes appendices presenting data of each of the sixteen markets of voivodeship capitals.

Part I focuses mainly on general trends and conclusions resulting from the analysis, while detailed statistical information is presented in figures and tables. Part II includes three analytical articles that supplement the information presented in Part I.

Chapters 2 and 3 of Part I present the main housing market developments in 2010, which frequently represent continuation of the processes observed in the previous years. Moreover, inflation, tensions and home availability in the housing market have been analysed. Annex A1 describes the cycle before 2009 and Annex A2 presents the housing policy in Poland and the regulatory environment of the housing sector. Chapter 4 discusses interactions between the financial sector and the real estate sector by analysing the impact of housing loans on household budgets, competition in the market and credit portfolio profitability. The complimentary Annex A3 discusses the matter of including housing prices in the HICP index. Chapter 5 presents the real estate developer and construction sector, including such issues as construction costs, developers' profits and the sector funding. Chapter 6 presents a comparative analysis of the development trends in sixteen local markets in Poland and addresses the demographic and housing situation, economic factors and housing construction,

[1] The detailed information about the BaRN database was provided in Chapter 6, page 74.

[2] This concerns in particular Sekocenbud surveys concerning the structure and value of construction costs, surveys conducted by the Real Estate Advisory Service (REAS) concerning the real estate developer market, by the Polish Construction Research Agency (PAB) concerning the construction sector and many other entities and associations operating in the same market. The most important ones include the Polish Bank Association (ZBP), PSBD, SPPB and many others.

[3] The data of the following agencies have been used: CBRE, Colliers International, Cushman& Wakefield, DTZ, Jones Lang LaSalle, Ober-Haus and the associations of the Retail Research Forum of the Polish Council of Shopping Centres and the Warsaw Research Forum.

and analyses the data gathered in the housing prices database (BaRN). Chapter 7 provides a description of the commercial real estate sector in Poland (offices, retail space, warehouses), addressing the most important issues regarding rents, vacant spaces and capitalisation rates in the sector.

Only Part I and II are translated into English. All figures and tables are identical as in the polish version, a dictionary of the legend is provided below the figures and tables.

2. Major trends in the Polish housing sector in 2010[4]

In 2010 the housing real estate market and related sectors (including financial and real estate development sector) saw developments that may be defined as a shift towards a new balance in the sector, with a weaker impact of fundamental factors and a higher level of interest rates, which means lower output and lower prices.

In 2010, as compared to the boom period, factors that limit demand on the Polish housing market persisted, including the decrease in the volume of home purchases, drop in loan availability[5] of an average consumer and a slightly larger scale (compared to 2009) of bank lending. The drop in the availability of housing loans weighted with the currency structure of quarterly growth in loan was the result of a major decrease in that period of the share of loans denominated in foreign currencies from about 80% in 2009 to about 20% in 2010 (which includes a major decrease in the share of the CHF loans, with a slight growth of EUR loans).

Still high, although dropping housing prices, a better availability of production factors, including construction land, and in consequence a high profitability of real estate development operations in the housing construction sector caused – despite major risk – that new real estate developers were emerging on the market, and the existing companies were embarking on new investment projects, in order to use the possessed stock of land. The above factors induced real estate developers to verify their expectations as regards the possibility to sell flats at high prices, whereas the number of unsold housing that was growing again, forced them to lower the prices. In consequence, home prices in the largest cities had been on a gradual, yet slightly downward trend, which was particularly visible in real values (see Figure 26 and Figure 30). The real decrease in prices and consequently mitigated tensions in the largest market may be clearly seen when compared with wage growth (see Figure 238).

Stabilisation in the financial markets in Poland in 2010, reflected in a decline in interest rates and risk premiums as compared to the figures in the boom period, contributed to gradual growth in mortgage loan availability[6], which is a measure of effective demand. As availability is still lower than before the boom, this creates the possibility for further price drop combined with a more flexible supply.

The discussed period brought about liberalisation of quantitative limits introduced by banks in 2009 and growth in lending, which were limited by lower creditworthiness of consumers as compared to the level in the boom period, low liquidity of the sector and more common expectations of households as regards further home prices decreases. The recorded margin decreases did not significantly affect the rate of return on equity in the case of housing loans, particularly because in the banks' portfolios the share of non-performing housing loans dropped considerably. Yet, it should be remembered that with low margins, rates of return are highly sensitive to changes in the portfolio quality.

Due to persistently high home prices, combined with low construction costs and expectations of their further drop, real estate development projects, particularly those scheduled ones, generated high profit margins and rates of return, compensating the inherent high risk. This encouraged new real estate developers to enter the market and brought about an increase in the supply of housing construction contracts. The growth was financed, as before, mainly with individual loans taken out by home buyers.

In 2010 the fall of the already low share of loans in funding of operations of real estate developers contributed to a growing indebtedness of real estate developers in the capital market (debt securities issued by the companies, i.e. corporate bonds). The share of financing

[4] The detailed analysis of the current data is provided in the quarterly reports entitled *Information about the housing prices and situation in the housing real estate market in Poland* presented on the Internet site of the NBP.

[5] See the *Glossary of terms and acronyms*.

[6] See the *Glossary of terms and acronyms*.

from pre-payments made by prospective home buyers was low, yet growing. The low financial leverage, high equity and high funding costs in the capital market reflected the unwillingness of banks to finance real estate development projects. On the other hand, this may confirm both high reserves of the real estate developers and their unwillingness to accept bank lending criteria, including the bank's control of the project.

The real indices of real estate developers (estimated on the basis of reports published by the GUS) were much worse in the last year than the theoretical indices resulting from the analysis of the investment projects. A considerable dependence of costs on revenues was observed. This means that along with growth in revenues, largely driven by price growth, real estate developers were increasing their costs, which is a phenomenon often observed during a boom period. In consequence, amidst supply pressure on prices, real estate developers will be forced to cut down on costs. The process has already started. Nevertheless, the general assessment of the condition of the real estate development sector does not arouse any major doubts: output is still profitable and real estate development companies are strong from the capital point of view. Even a drop in the share of funding with amounts payable to construction companies has been observed.

The convergence to the equilibrium in the housing market, which was observed throughout 2010, was a complex process. It is expected that further limitations as regards loans, including those denominated in foreign currencies, as results from the recommendations of the Polish Financial Supervision Authority (KNF), will improve the security of the banking sector in a longer time perspective.

3. Proportions, mechanisms and processes in the Polish private housing sector

Real estate markets, including housing markets, develop on a cyclic basis and are of local nature. This dependence stems from the local impact of variable demand and rigid short-term supply, which result from the relationship between the real sector (real estate developers, construction companies, home buyers), the financial sector providing loans for home purchases and housing construction, and the public sector that regulates the market.

In consequence of those relationships, the prices in the market change, which is translated into the reactions of real estate developers that supply housing. On the one hand, when supply gets flexible quite rapidly, there is a risk of unnecessary financial pool being built by banks. On the other hand, when the flexibility of supply is low, price bubbles originate, which, when they burst may affect the stability of the banking sector due to the deterioration of the mortgage loan portfolio. Moreover, both phenomena may occur at the same time. An excessive scale of tensions, and particularly the accumulation of tensions, usually leads to a real estate crisis, the consequences of which are borne by the whole economy. Problems in the real estate markets may occur independently of general economic developments. However, they usually originate after periods of fast economic growth and additionally deepen the economic slump.

Housing markets retain their mainly national character, which also refers to Poland. Globalization of the financial system – the basic element of demand - is the factor consolidating the operation of markets . The two factors cause that the cycles – when viewed from the historical perspective and from the national and local point of view – differ as regards their shape, length or severity, as they result from the local impact of factors on the side of demand and supply[7]. The unification of the financial system leads to larger, global synchronisation of the cycles, particularly in the boom period, which has been confirmed by international experience.

Poland, as most of the countries undergoing economic transformation, experienced the lending boom and cycle on the housing market. Poland, similarly as other countries, saw accumulation of the convergence processes related to the EU accession, which was accompanied by economic growth acceleration and triggering of pro-cyclic factors in housing demand (migration, income), fundamental demographic factors, global lending boom and related capital flows.

The processes on-going in the Polish housing real estate sector after 2008 were to a major extent the consequence of the cycle. Precisely it was the convergence of the sector to a new point of the long-term balance, determined with new values of the basic market parameters. The point of balance is described with the size of output, interest rates and market prices of housing (described in more detail in Annex A1). A change of that point leads currently to a drop in home prices and the related decline in output.

Another important series of processes was related to the natural development of particular local markets. As a result of those processes, the main disproportions between the analysed cities diminished, although the phenomenon has no linear or one-directional nature. The text below describes the phenomena that were observed in the recent years. The cycle and its factors within the recent years are presented in detail in the analytical Annex A1.

In 2010, when looking at the real side of the economy, the Polish private housing sector covered mainly multi-family housing located in sixteen voivodeship capitals and some medium-sized towns, as well as single-family houses in small towns and in villages (see

[7] See Ch. Andre (2010), *A bird eye view of OECD housing markets*, OECD Economics Department Working Papers No 746 and L. Boone, N. Girouard (2002) *The stock market, the housing market and consumer behaviour*, OECD Economic Studies no. 35.

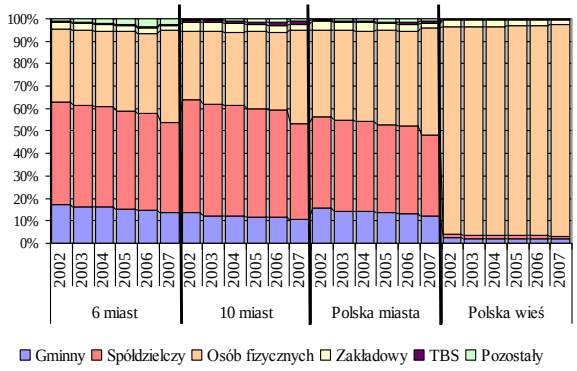
Figure 1, whereas owing to shortage of the latest data, based on experts' knowledge of the market, the persistence of the 2007 situation was assumed). While single-family houses were privately owned even in the period before 1990, the development of the sector in the largest cities was related to privatisation and reprivatisation of council and factory housing, and after 2000 to real estate developer construction. The transformation of the stock of housing cooperatives, which in 1970–1990 were practically the sole suppliers of housing in multi-family construction, was also important to some extent. Ownership of cooperative housing is, however, weaker than freehold ownership, despite similar valuations by the market. It shall be noted that in the last twenty years, the position of cooperative members has improved, and a slight number of such housing was transformed into full ownership.

In the Polish private housing sector there is practically no professional housing rental market[8]. This results from an extensive protection of tenants and the related risk of rental for the owner. Additionally, the small stock of housing for rent existing since the pre-war period is subject to a restrictive rent control, decapitalised and frequently requires immediate renovation.

A significant housing stock, despite privatisation, is concentrated in the hands of municipalities and local governments. The stock is strongly decapitalised and at the same time conveniently located. The weakness of local housing policies and the previously mentioned excessive restrictiveness of the Act on the Protection of Tenants[9] cause that the stock is not rationally used, particularly for social purposes.

The housing policy in Poland and the regulatory issues have been discussed in Annex 2.

Figure 1. Polish housing stock structure broken down into ownership forms (latest available comparative data until 2007).



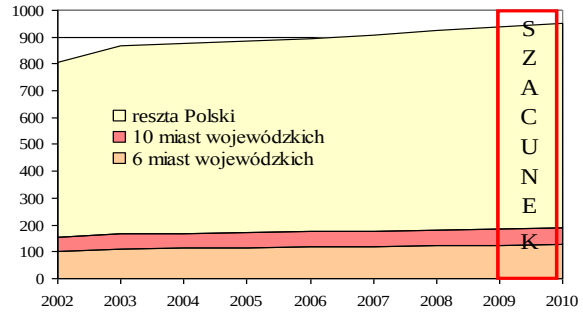
6 cities: Gdańsk, Łódź, Cracow, Poznań, Warsaw, Wrocław.
10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
6 miast = 6 cities, 10 miast = 10 cities
Polska miasta = cities and towns in Poland
Polska wieś = villages in Poland
Gminny = municipal construction
Spółdzielczy = cooperatives construction
Osób fizycznych = private construction
Zakładowy = company construction
TBS [Towarzystwo Budownictwa Społecznego] = Social Housing Society
Pozostały = Other

[8] See the *Glossary of terms and acronyms*.
[9] The Act on the Protection of Tenants and Housing Stock of Municipalities (Journal of Laws No. 31/2005, item 266) imposes on the landlord, intending to terminate the rental contract, the duty to provide replacement housing to the tenant and their family (or several housings in the case of a family with adult children), among other things.

While in the transformation period the basic factor affecting the sector was privatisation of the public stock, after 2000 those factors included the lending boom and the very fast growing prices of housing real estate, particularly in the largest cities[10].

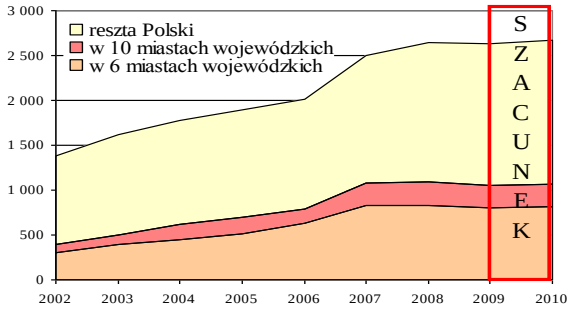
The above factors have considerably affected the proportions of the housing sector, including, in particular, the relationship with other segments of the economy. In consequence, the share of housing wealth grew considerably in relation to GDP, particularly in the largest cities (see Figure 2–Figure 4). Growing housing wealth affected, on the other hand, growing consumer spending[11]. Growing volume of housing construction in the mentioned cities was another consequence of a rapid price growth. Despite the growth, the share of housing investment in relation to GDP was low (see Figure 5), taking into account the scale of its impact on the economy. In consequence, the weakening of the economic situation in the sector does not pose a risk of a major drop in GDP or growth of unemployment, as this was the case during the last crisis in Spain or Ireland.

Figure 2. Housing stock in Poland (in sq. m millions).



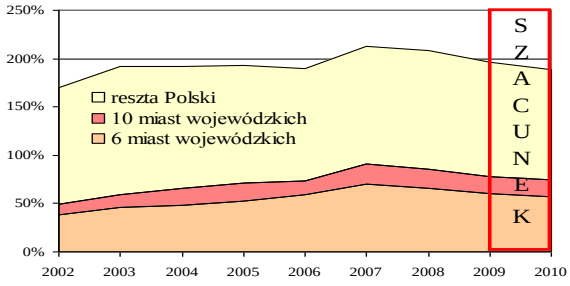
6 cities: Gdańsk, Łódź, Cracow, Poznań, Warsaw, Wrocław.
10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Own studies based on the data of Central Statistical Office, PONT Info, Sekocenbud and NBP.
reszta Polski = rest of Poland
10 miast wojewódzkich = 10 voivodeship capitals
6 miast wojewódzkich = 6 voivodeship capitals
szacunek = estimation

Figure 3. Housing wealth in Poland (in PLN billion).



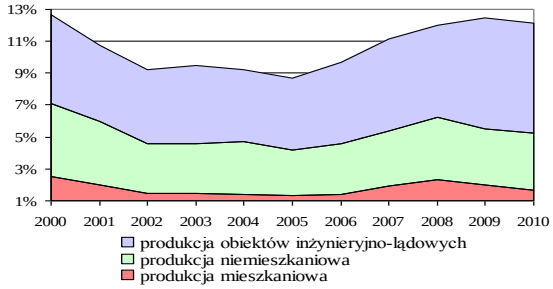
6 cities: Gdańsk, Łódź, Cracow, Poznań, Warsaw, Wrocław.
10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Own studies based on the data of Central Statistical Office, PONT Info, Sekocenbud and NBP.
reszta Polski = rest of Poland
10 miast wojewódzkich = 10 voivodeship capitals
6 miast wojewódzkich = 6 voivodeship capitals
szacunek = estimation

Figure 4. Housing wealth in Poland in relation to GDP.



6 cities: Gdańsk, Łódź, Cracow, Poznań, Warsaw,

Figure 5. Capital expenditures on construction in Poland in relation to GDP.



Source: Own studies based on the data of Central

[10] The subject is discussed in more detail in the sub-chapter: *Inflation, tensions and availability on the housing market*.

[11] See J. D. Benjamin, P. Chinloy, G. D. Jud (2004) *Real estate versus financial wealth in consumption*, Journal of Real Estate Finance and Economics 29:3, 341–354. The discussion refers to the effects of scale.

Wrocław.
10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Own studies based on the data of Central Statistical Office, PONT Info, Sekocenbud and NBP.
reszta Polski = rest of Poland
10 miast wojewódzkich = 10 voivodeship capitals
6 miast wojewódzkich = 6 voivodeship capitals
szacunek = estimation

Statistical Office, PONT Info, Sekocenbud and NBP.
produkcja obiektów inżynieryjno-lądowych = civil engineering construction
produkcja niemieszkaniowa = non-residential construction
produkcja mieszkaniowa = residential construction

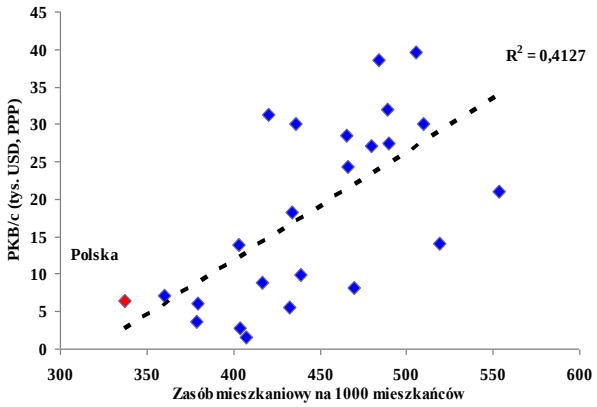
The largest cities, in which loan expansion and speculations by individual and professional investors based on the expectations of further fast growth of prices were observed, were also impacted by fundamental factors, such as rising number of marriages, growth of income and accelerated migration. A major role in the spread of high prices, particularly in small and medium-sized towns, was played by the expectations of market situation in the largest cities. They were, however, based on very weak foundations – in consequence, price adjustments were quickly made on those markets. A major growth in home prices, particularly in the largest cities, connected with the expansion of real estate developer construction financed, to a large extent, from loans, was reflected in the growing housing loans portfolios of the banking sector. Their share – insignificant at the beginning of the decade – exceeded the level of 20% in 2010 and 250% of the regulatory capital of the whole banking sector, becoming a major factor affecting the financial sector[12].

The housing situation

The housing situation in Poland, despite being a considerably weaker than the EU average (see Figure 6–Figure 9) is adequate to the level of development measured with GDP per capita. It is worth to mention the relatively high departures from that trend by the particular countries, which may be to a large extent explained with the national housing policy that frequently accelerates the development of the sector at the expense of the rest of the economy. In Poland, the situation is relatively the best in the largest cities, where in the last decade growth in housing standard (measured for example with the number of housing units in the housing stock per 1,000 inhabitants or the number of square metres of housing in the housing stock per one person) was observed[13] (see Figure 10–Figure 13).

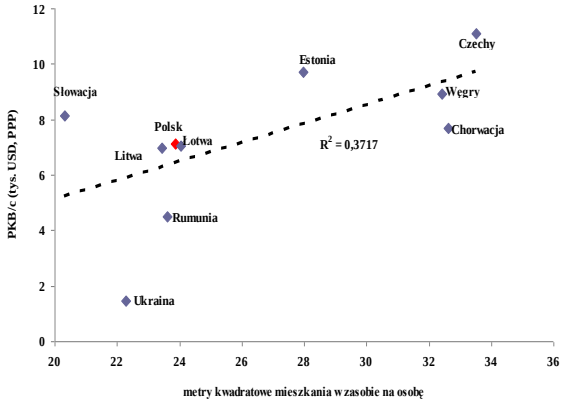
[12] The subject is discussed in more detail in Chapter 4 – *Interrelations of the financial sector and the sector of real estate.*
[13] The subject is discussed in more detail in Chapter 6. *Development trends in local markets – comparative analysis* and Part III *Monographs of 16 Cities in Poland*.

Figure 6. Housing wealth per 1,000 inhabitants and GDP per capita (estimates for 2006).



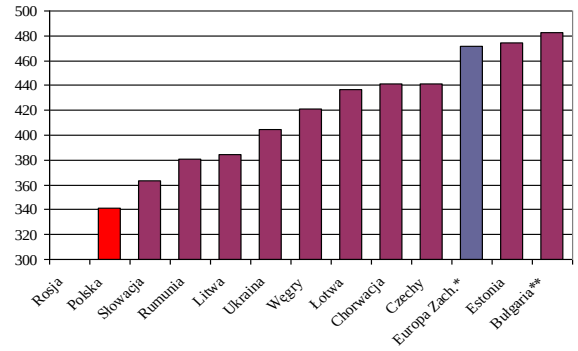
Note: All EU countries were analysed.
Source: Hypostat.
PKB/c (tys. USD, PPP) = GDP per capita (USD '000, PPP)
Zasób mieszkaniowy na 1000 mieszkańców = Housing stock per 1,000 inhabitants
Polska = Poland

Figure 7. Housing floorage per person and GDP per capita (estimates for 2006).



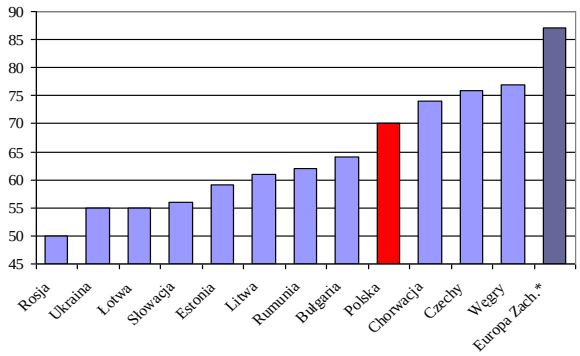
Source: Hypostat.
PKB/c (tys. USD, PPP) = GDP per capita (USD '000, PPP)
metry kwadratowe mieszkania w zasobie na osobę = Square metres of housing stock per person
Słowacja = Slovakia, Litwa = Lithuania, Polska = Poland
Łotwa = Latvia, Estonia = Estonia, Czechy = Czech Republic
Ukraina = Ukraine, Rumunia = Romania, Chorwacja = Croatia
Węgry = Hungary

Figure 8. Number of housing units per 1,000 inhabitants (estimates for 2006).



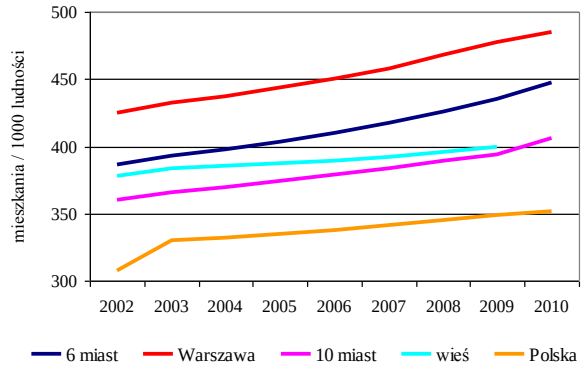
*/ Western Europe – selected countries, i.e. Austria, Denmark, Finland, France, Italy, the Netherlands and Spain.
**/ The number of housing units in Bulgaria was significantly overestimated due to recreational houses being classified as housing.
Source: Hypostat.
Rosja = Russia, Polska = Poland, Słowacja = Slovakia
Rumunia = Romania, Litwa = Lithuania, Ukraina = Ukraine
Węgry = Hungary, Łotwa = Latvia, Chorwacja = Croatia
Czechy = Czech Republic, Europa Zach. = Western Europe
Estonia = Estonia, Bułgaria = Bulgaria

Figure 9. Average housing floorage (sq. m; latest available data).



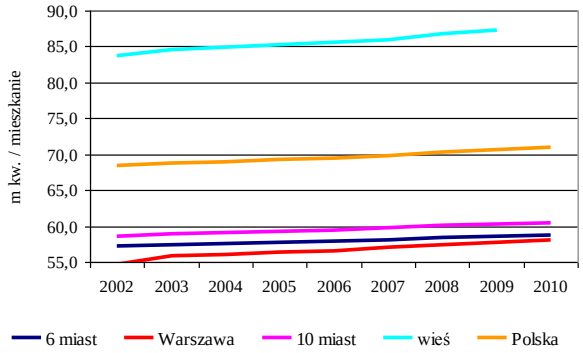
*/ Western Europe – selected countries, i.e. Austria, Denmark, Finland, France, Italy, the Netherlands and Spain.
Source: Hypostat.
Rosja = Russia, Ukraina = Ukraine, Łotwa = Latvia
Słowacja = Slovakia, Estonia = Estonia
Litwa = Lithuania, Rumunia = Romania
Bułgaria = Bulgaria, Polska = Poland
Chorwacja = Croatia, Czechy = Czech Republic
Węgry = Hungary, Europa Zach. = Western Europe

Figure 10. Housing stock per 1,000 inhabitants in Poland.



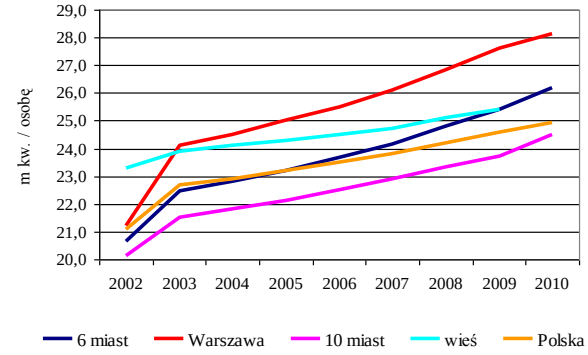
Note: Estimates for 2010.
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
mieszkania/1000 ludności = housing units /1000 inhabitants
6 miast = 6 cities, Warszawa = Warsaw
10 miast = 10 cities,wieś = villages, Polska = Poland

Figure 11. Average housing floorage in the housing stock (sq. m) in Poland.



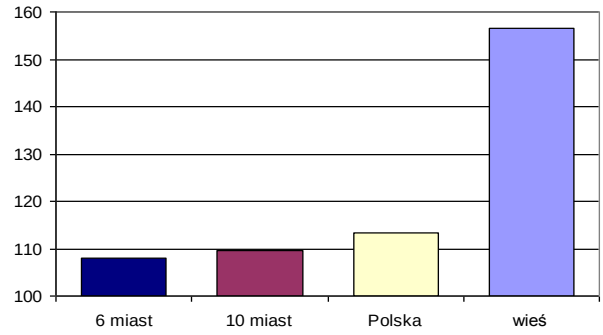
Note: Estimates for 2010.
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
m kw./mieszkanie = square metres/housing
6 miast = 6 cities, Warszawa = Warsaw,
10 miast = 10 cities, wieś = villages, *Polska = Poland*

Figure 12. Average housing floorage in the housing stock per person in Poland.



Note: Estimates for 2010.
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
m kw./osobę = square metres /person
6 miast = 6 cities, Warszawa = Warsaw, 10 miast = 10 cities
wieś = villages, *Polska = Poland*

Figure 13. Households per 100 housings in the housing stock in Poland (acc. to the 2002 Census).

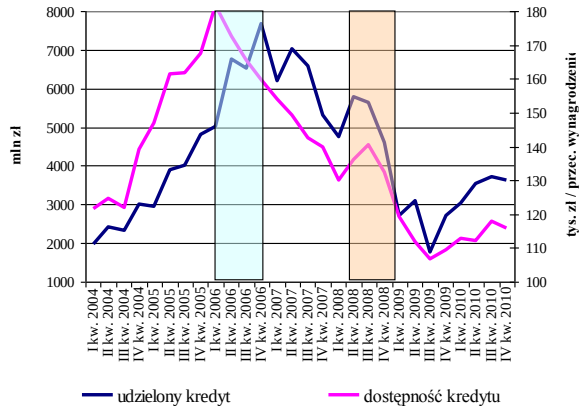


Source: *Source: Central Statistical Office (2002 Census).*
6 miast = 6 cities, 10 miast = 10 cities
Polska = Poland, *wieś = villages*

The consequence of a relatively low GDP and housing standard is the high marginal utility of housing consumption, which is translated into high flexibility of housing demand compared to rise in purchasing power or other consumption and weaker substitution rate as compared to the other groups of goods. In consequence, the demand for housing loans, which are the means to purchase homes, increases along with the growth in loans availability. The availability is a function of income, interest rates, maturities, types of instruments and

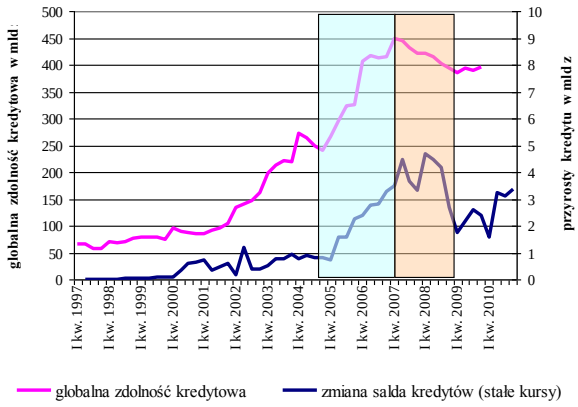
prudential requirements for the banking sector. A breach of that rule was observed in the lending boom period in 2006–2007, when banks were not taking prudential requirements seriously enough, and borrowers were too careless in assuming liabilities (see Figure 14). Banks continued loan expansion despite a drop in loan availability for households (the period marked in blue). The situation was observed again in 2008 when banks began to restrict lending, i.e. in fear of risk, they reduced loans granted, both by number and value, at a rate faster than the drop in consumer creditworthiness (the period marked in yellow). The irregularities between the loan availability of housing and the housing construction contracts sold may be similarly explained (see Figure 16). A slump in the sale of contracts between Q1 and Q3, 2007 lead to a growing number of unsold housing in the market and an expected drop in prices. A similar drop between Q4, 2008 and Q1, 2009 originated from a sudden limitation of loan supply by banks. It should be noted that the discussed phenomena differ slightly over time, taking into account Poland as a whole and the six largest cities, however, in both cases they are clearly visible (see Figure 14 and Figure 15).

Figure 14. Housing loan disbursements vs. loan availability in 6 cities of Poland.



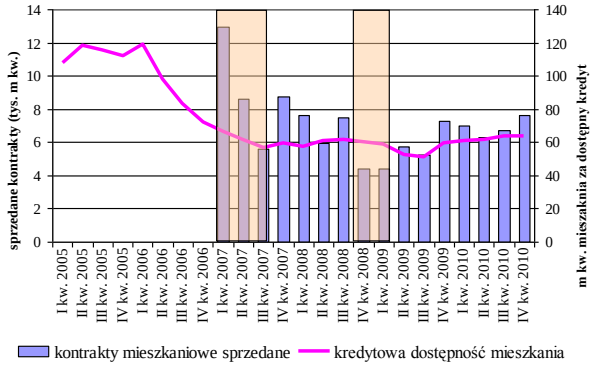
Note: The periods marked are explained in the text.
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
Source: Central Statistical Office, NBP.
mln zł = PLN million
tys. zł/przec. wynagrodzenie = PLN '000/average salary
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
udzielony kredyt = loan granted
dostępność kredytu = loan availability

Figure 15. Global creditworthiness in Poland vs. housing loan increments following foreign exchange adjustment.



Note: The global creditworthiness is the total of the creditworthiness of all private individuals that may apply for a loan. The periods marked are explained in the text.
Source: Central Statistical Office, NBP.
globalna zdolność kredytów w mld = global creditworthiness in billions
przyrosty kredytu w mld zł = loan increments in PLN billions
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
globalna zdolność kredytowa = global creditworthiness
zmiana salda kredytów (stałe kursy) = change in loans balance (constant FX rates)

Figure 16. Availability of loan-financed housing and housing contracts sold in 6 cities of Poland.



Note: 6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.

Source: Central Statistical Office, NBP.

sprzedane kontrakty (tys. m. kw.) = contracts sold in 1'000 square metres
m. kw. mieszkania za dostępny kredyt = square metres of housing for loan available
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
kontrakty mieszkaniowe sprzedane = housing contracts sold
kredytowa dostępność mieszkania = availability of loan-financed housing

The consequence of the discussed phenomenon is the correlation between availability of loan-financed housing and housing sold or housing construction contracts sold (see Figure 16). The above figure clearly presents the period of rationing housing loans at the end of 2008 and beginning of 2009, as well as a slow-down in home sales after the boom between Q1 and Q3 in 2007.

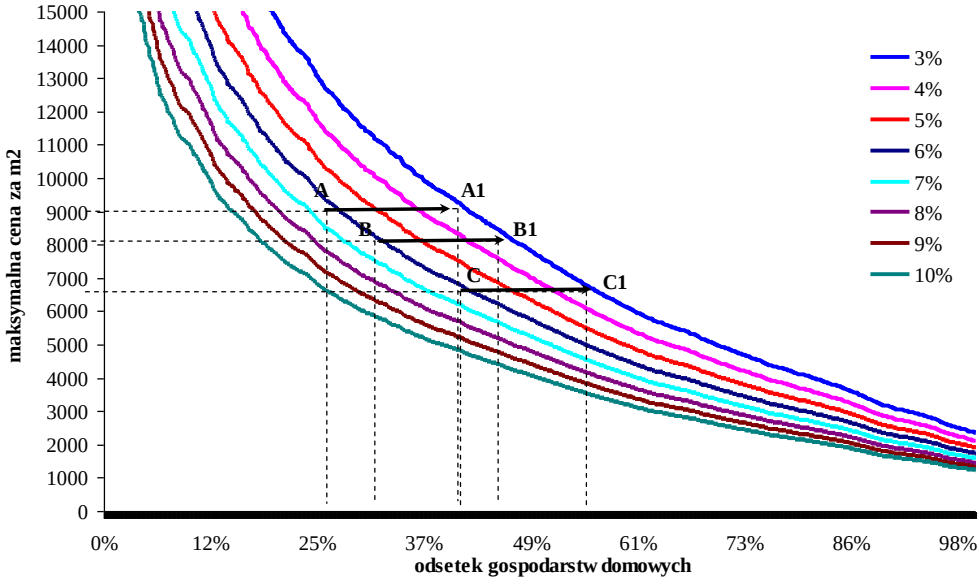
An important factor affecting the housing market is the housing policy. In Poland, starting from the 1990s, the government declared housing policy would focus on supporting housing rental and solving social problems, however, in fact it has been supporting the construction of owner-occupied housing. Nevertheless, the support was restrained and major errors were avoided, particularly the large ones that would destabilise the economy and the sector of subsidy programmes. To date, no coherent system of satisfying the needs, particularly those of less affluent households, has been built based on the programme of housing for average and low income households or reasonable allocation of the public stock. In consequence of the housing system being based on real estate developer construction, it is addressed to the more affluent part of the society and there is no competition of other forms of construction, whereas badly calibrated subsidies additionally inflate prices of such construction. This is presented in Figure 17 on the example of Warsaw in the form of dependence between the price of a square metre of average housing sold by real estate developers, the interest rates on mortgage loans and the percentage of households for which housing is affordable[14]. The limit of the "Rodzina na Swoim" (Family's Own Place, hereinafter referred to as RnS) government programme for Warsaw[15] was in 2010 much above the average market price and its determination on that level does not increase the housing affordability for people but helps to sell expensive housing, moving them from point A – where they were available to only 30% of people – to point A1 – where as much as 40% of people may become potential buyers. The

[14] The figure was created based on the data from a simulation on a representative sample of households.

[15] The calculation ratio of the replacement cost of a square metre of floorage in residential buildings mentioned in Article 2 clause 7 of the Act of 8 September 2006 on Financial Support to Families in the Purchase of Their Own Housing (Journal of Laws No 183, item 1354), amended with the Act of 15 June 2007 (Journal of Laws No 136, item 955) and the Act of 21 November 2008 (Journal of Laws No 223, item 1465) and binding in Q1, 2011 for Warsaw amounted to PLN 9,080.44 per square meter.

actual availability depends on actual selling prices in the market, in this case represented by the average price, involving most of transactions and the average price adjusted for the standard deviation, representing lower-priced housing, usually in worse locations or of poorer standard. Without government support, the average housing (points B and C) is available to approx. 36% and 45% of buyers, whereas when subsidized the share grows to 48% and 59%, respectively. This means that through the RnS programme, owner-occupied housing becomes available to nearly 60% of households, but over 40% of households have no chance to independently acquire their own housing.

Figure 17. Warsaw – estimates of the maximum housing price available for a household in 2010.



Note: The curves represent the percentage of households that may purchase an average housing at the average price per square metres presented on the left-hand axis, in relation to the particular interest rate levels.
Source: Central Statistical Office.
maksymalna cena za m kw. = maximum price of square metres, odsetek gospodarstw domowych = households percentage

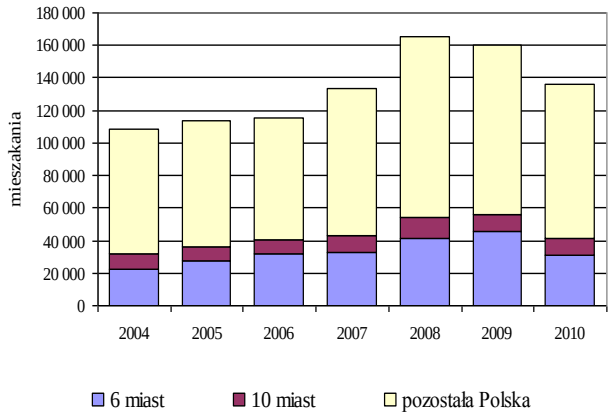
Housing construction

In the 1990s, the development of the housing sector was highly limited owing to high inflation and the absence of respective institutions and regulations, which resulted in higher risk and curbed growth in mortgage loans. In Poland, the real estate developer sector began to develop only after 1996, whereas home financing with mortgage loans gained momentum after 2000, when inflation had dropped considerably.

Real estate developer construction concentrates in the largest cities[16], similarly to classical mortgage loans (see Figure 18–Figure 19). In medium-sized and small towns, like in villages, single-family owner-constructed housing prevailed, whereas loans were only supplementary to own funds. In the largest cities, despite a large number of real estate developers, the level of concentration of output was high (see Figure 20).

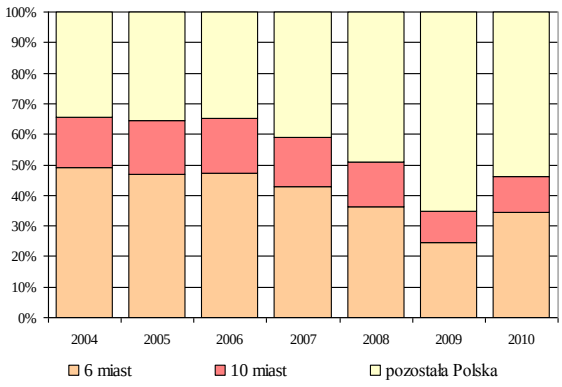
[16] The subject is discussed in more detail in Chapter 6. *Development trends in local markets*.

Figure 18. Housing completed in Poland.



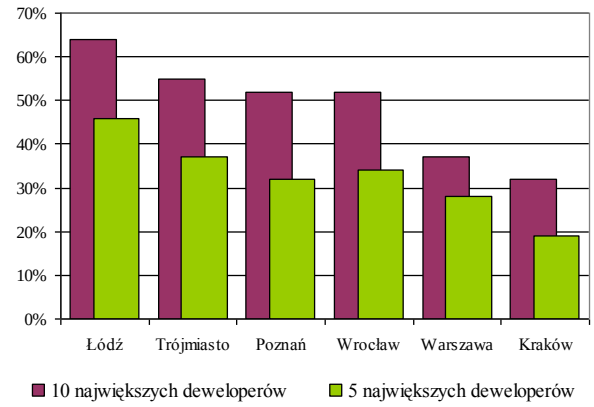
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
mieszkania = housing
6 miast = 6 cities, 10 miast = 10 cities, pozostała Polska = rest of Poland

Figure 19. Area structure of new housing loans in Poland (in %).



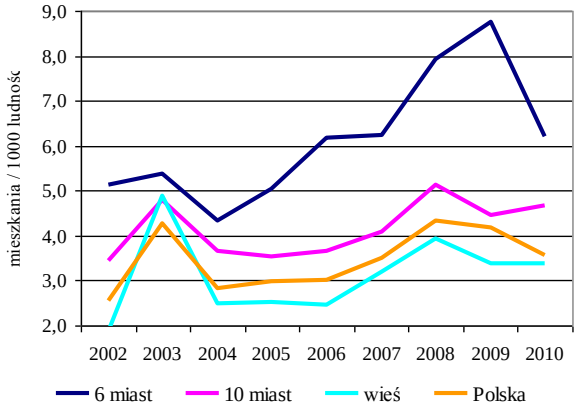
6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: BIK.
6 miast = 6 cities, 10 miast = 10 cities, pozostała Polska = rest of Poland

Figure 20. Concentration*/ on 6 largest markets in Poland.



*/ The share of housing constructed by five and ten largest real estate developers in the total number of housing completed or planned to be completed in a particular market until the end of 2010.
Source: REAS.
Trójmiasto = Gdańsk, Gdynia and Sopot, Warszawa = Warsaw
Kraków = Cracow
10 największych deweloperów = 10 largest real estate developers
5 największych deweloperów = 5 largest real estate developers

Figure 21. Housing construction in Poland per 1,000 people.

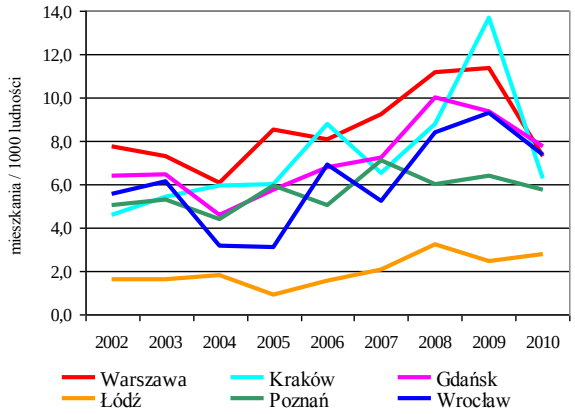


6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical Office.
mieszkania/1000 ludności = housing/1,000 inhabitants
6 miast = 6 cities, 10 miast = 10 cities, wieś = villages
pozostała Polska = rest of Poland

The size of housing construction differs in time and is strongly differentiated by area (see Figure 21 and Figure 22), whereas real estate developer construction dominates the largest cities, in which two cycles occurred at the beginning of the 21st century. The mechanism of the first of them, from the beginning of 2000, was based on fixed short-term supply and delayed demand response, and was initiated with fiscal stimuli. The other one, observed at the

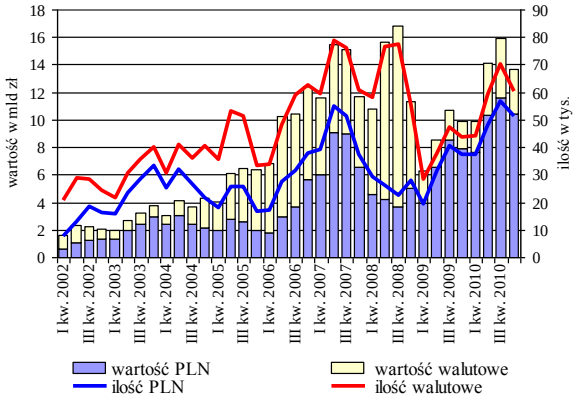
end of 2007 and at the beginning of 2008, was related to rapid economic development and lending boom.

Figure 22. Housing construction per 1,000 inhabitants in 6 cities of Poland.



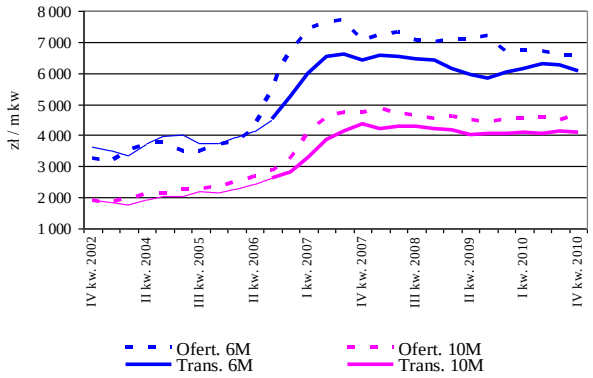
Source: Central Statistical Office.
mieszkania/1000 ludności = housing/1,000 inhabitants
Warszawa = Warsaw, Kraków = Cracow

Figure 23. New loan agreements in the years 2002–2010.



Source: The Polish Bank Association.
wartość w mld zł = value in PLN billions
ilość w tys. = number in thousands
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
wartość PLN = value in PLN
ilość PLN = number in PLN
wartość walutowe = value in FX
ilość walutowe = number in FX

Figure 24. Housing prices (asking and selling prices) on the existing stock in 6 and 10 cities of Poland.



6 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: PONT Info, NBP.
zł/mkw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Ofert. 6M = asking price 6 cities
Trans. 6M = selling price 6 cities
Ofert. 10M = asking price 10 cities
Trans. 10M = selling price 10 cities

Inflation, tensions and availability in the housing market

Housing prices, and particularly changes in the price level and growth rate are the basic indicators of the situation in the residential real estate market. Owing to the local nature, most

important is the analysis of prices in specific markets, especially the largest ones[17]. Aggregated prices, particularly in the case of non-synchronised local cycles, may be of supplementary importance only.

The largest housing markets in Poland, starting from 2008, have seen a slight drop in nominal prices and a rapid decline in real prices (see Figure 29–Figure 36). The trends, however, vary across local markets. As a result, tensions or mismatch in the market diminish – especially the housing price to income ratio (P/I)[18], the best measurable ratio applied in the Polish conditions (see Figure 41). Similar conclusions may be derived from the analysis of the discounted price-to-rent ratio (see Figure 45–Figure 46). Home price, calculated as the value of discounted rents (based on interest rates on 10-year treasury bonds), at the level of market price or lower, confirms a decline in the expectations of gaining speculative profit on home resale. Rents from housing sub-letting reflected major fluctuations in particular quarters, yet, their trends indicate stabilisation (see Figure 42). Change in the structure of home purchase financing from the market dominated by foreign currency loans, particularly the shift from CHF denominated loans to the prevailing PLN loans, contributed to a clear drop in the value of housing as compared to the alternative possibility of sub-letting (see Figure 43 and Figure 44). As a result of the clearly cheaper housing rental as compared to home purchase, the pressure on purchasing new developer housing dropped and the demand for rented housing increased, which put further pressure on the drop in the prices of owner-occupied housing purchased from real estate developers and growth in market rental value. As a result of imputed rents channel, a reversal in the downward trend in market rental share in household budgets and continued drop in ownership costs may be expected (see Figure 47 and Figure 48).

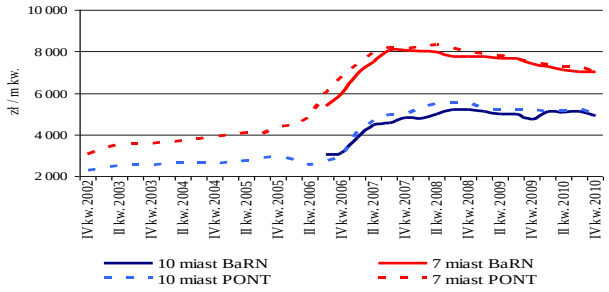
Availability of loan-financed housing[19] shows how the availability of an average housing purchased by an average household with a loan changed (see Figure 49–Figure 52). Owing to low quality of information on actual housing demand, that is caused mainly by the absence of reliable statistics on the number of housing purchased, the information may serve as an approximation only. While in the years 2004–2006 the growth of that ratio resulted mainly from the drop in interest rates and banking margins and growing share of FX loans, the slump persisting until 2007 resulted from the growth in home prices and increased share of PLN loans – the consequence of banks' concerns about the financial crisis looming ahead. Although the years 2007–2008 brought about a renewed growth in the share of FX loans driven by the crisis-induced drop of LIBOR CHF rates, which, in a short term, improved availability of loan-financed housing, which stopped suddenly in mid-2008 when problems with CHF availability lead to its sudden appreciation and the resulting problems of the banking system. The further drop in that ratio after 2008 resulted from the growing decline in the share of FX loans, which could not be stopped with a slight drop in home prices. The consequence of reduced volume of housing loans, resulting from sharper loan granting criteria, was the drop in housing demand and a new point of short-term equilibrium, followed by a long-term equilibrium in the sector.

As a result of sudden adjustments on the market, housing prices fluctuated, which included changes of margin between asking price and selling price observable on aggregated data (see Figure 37–Figure 38), and even more visible from data regarding particular markets. Also the relations between prices in the primary and existing stock housing market vary (see Figure 39–Figure 40). The striking dependence is a very similar behaviour of prices in the markets of six and ten cities[20] (see Figure 25–Figure 28). The differences refer to their levels

[17] See also the data in Part III of the Report – *Monographs of 16 Cities in Poland*.
[18] See the *Glossary of terms and acronyms.*
[19] See the *Glossary of terms and acronyms.*
[20] See the *Glossary of terms and acronyms.*

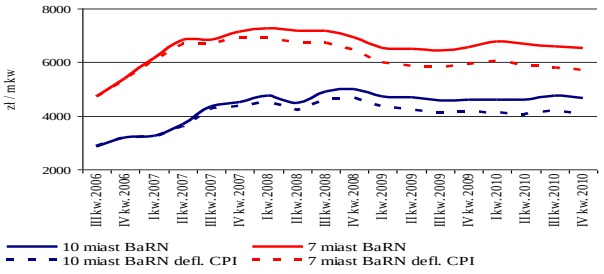
rather than growth rate and are related to differences in the value of household income. The size of the city and the level of income are important factors differentiating the prices of housing among cities at a particular stage of market development[21]. Local price fluctuations make it difficult to include home prices in the CPI index. Methods of including housing prices in the CPI and the related problems are presented in Annex A3.

Figure 25. Average price of sq. m of housing – primary market, asking prices.



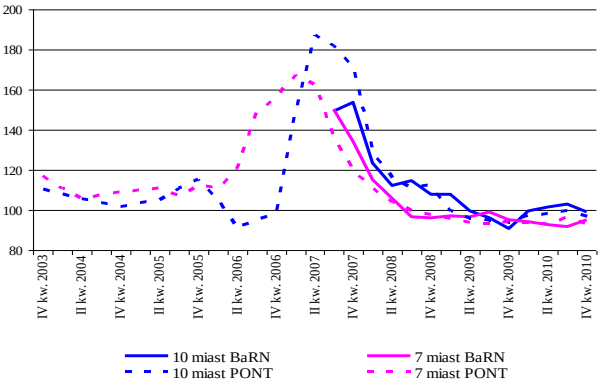
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP, PONT Info.
zł/m kw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast PONT = 10 cities acc. to PONT
7 miast BaRN = 7 cities acc. to BaRN
7 miast PONT = 7 cities acc. to PONT

Figure 26. Average price of sq. m of housing and price deflated with the CPI – primary market, selling prices.



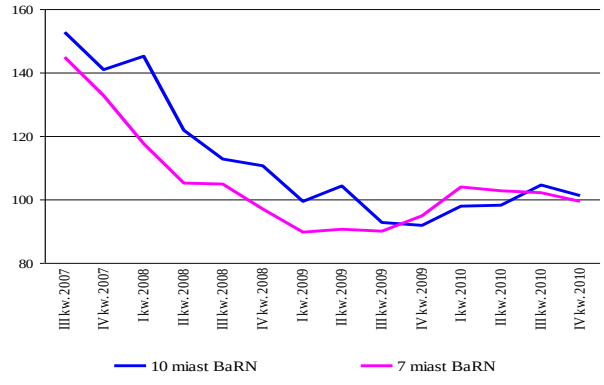
Note: Prices of Q.3, 2006 = 100.
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
zł/m kw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast BaRN defl. CPI = 10 cities acc. to BaRN, deflated with the CPI
7 miast BaRN = 7 cities acc. to BaRN
7 miast BaRN defl. CPI = 7 cities acc. to BaRN, deflated with the CPI

Figure 27. Home price growth rate (Y/Y) per sq. m – primary market, asking prices.



7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast PONT = 10 cities acc. to PONT
7 miast BaRN = 7 cities acc. to BaRN
7 miast PONT = 7 cities acc. to PONT

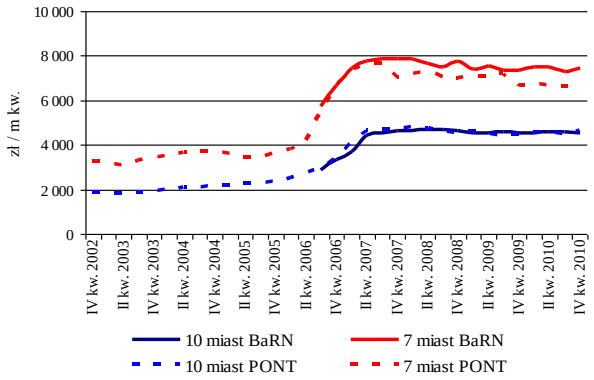
Figure 28. Home price growth rate (Y/Y) per sq. m – primary market, selling prices.



7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
7 miast BaRN = 7 cities acc. to BaRN

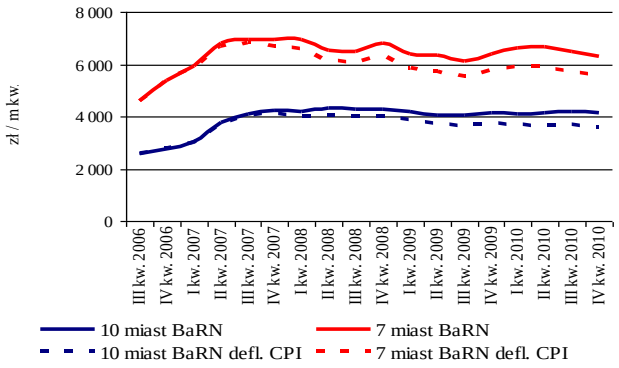
[21] The subject is discussed in more detail in Chapter 6. *Development trends in local markets*.

Figure 29. Average price of sq. m of housing – existing stock market, asking prices.



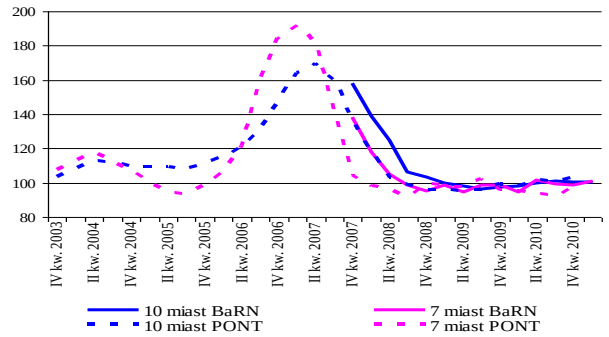
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP, PONT Info.
zł/m kw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast PONT = 10 cities acc. to PONT
7 miast BaRN = 7 cities acc. to BaRN
7 miast PONT = 7 cities acc. to PONT

Figure 30. Average price of sq. m of housing and price deflated with the CPI – existing stock market, selling prices.



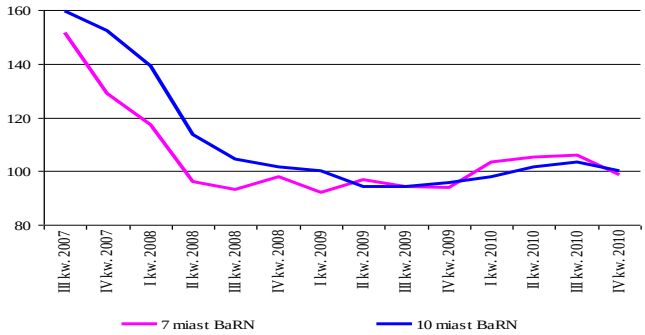
Note: Prices of Q.3, 2006 = 100.
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
zł/m kw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast BaRN defl. CPI = 10 cities acc. to BaRN, deflated with the CPI
7 miast BaRN = 7 cities acc. to BaRN
7 miast BaRN defl. CPI = 7 cities acc. to BaRN, deflated with the CPI

Figure 31. Housing price growth rate (Y/Y) per sq. m – existing stock market, asking prices.



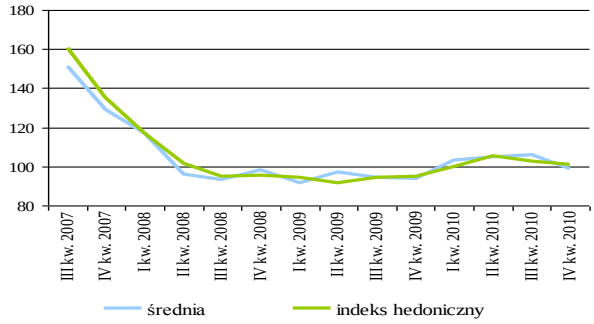
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
10 miast PONT = 10 cities acc. to PONT
7 miast BaRN = 7 cities acc. to BaRN
7 miast PONT = 7 cities acc. to PONT

Figure 32. Housing price growth rate (Y/Y) per sq. m – existing stock market, selling prices.



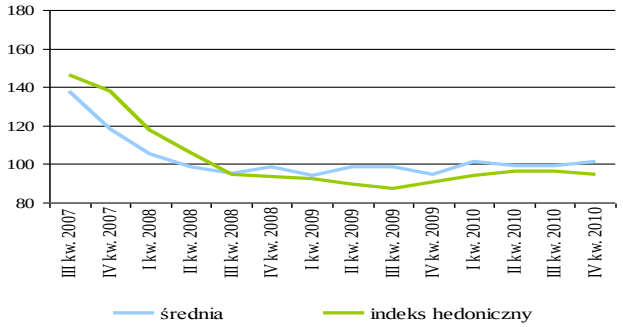
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast BaRN = 10 cities acc. to BaRN
7 miast BaRN = 7 cities acc. to BaRN

Figure 33. Housing price growth rate (Y/Y) per sq. m – 7 cities, existing stock market, selling prices.



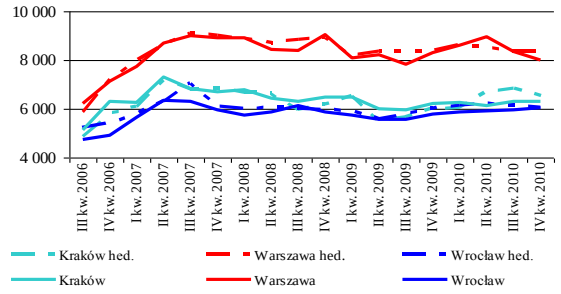
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
średnia = mean, indeks hedonistyczny = hedonic index

Figure 34. Housing price growth rate (Y/Y) per sq. m – 10 cities, existing stock market, selling prices.



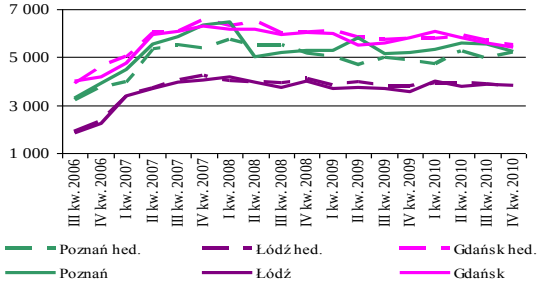
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
średnia = mean, indeks hedonistyczny = hedonic index

Figure 35. Price of sq. m of housing vs. price adjusted with hedonic index[22] – existing stock market, part A.



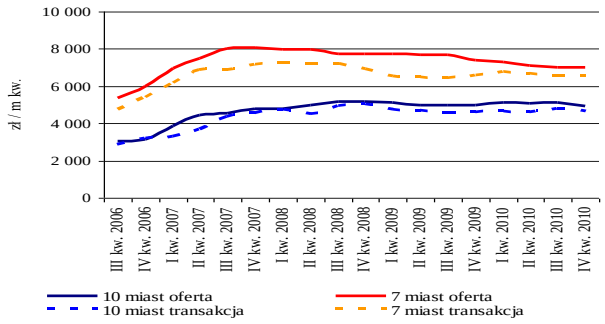
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Kraków hed. = Cracow, hedonic index
Warszawa hed. = Warsaw, hedonic index
Wrocław hed. = Wrocław, hedonic index

Figure 36. Price of sq. m of housing vs. price adjusted with hedonic index – existing stock market, part B.



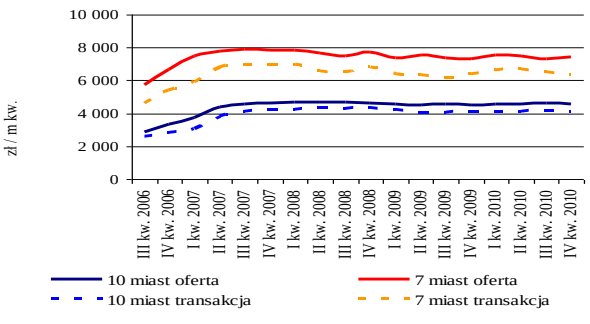
Source: NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Poznań hed. = Poznań, hedonic index
Łódź hed. = Łódź, hedonic index
Gdańsk hed. = Gdańsk, hedonic index

Figure 37. Selling vs. asking price of sq. m of housing – primary market.



7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona

Figure 38. Selling vs. asking price of sq. m of housing – existing stock market.



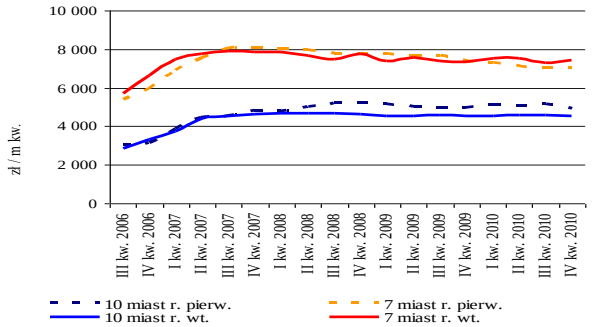
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.

[22] See the *Glossary of terms and acronyms.*

Góra.
Source: NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast oferta = 10 cities, asking price
10 miast transakcja = 10 cities, selling price
7 miast oferta = 7 cities, asking price
7 miast transakcja = 7 cities, selling price

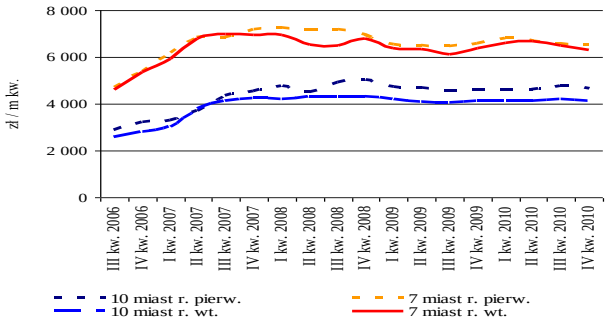
Source: NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast oferta = 10 cities, asking price
10 miast transakcja = 10 cities, selling price
7 miast oferta = 7 cities, asking price
7 miast transakcja = 7 cities, selling price

Figure 39. Asking prices of sq. m of housing – existing stock vs. primary market.



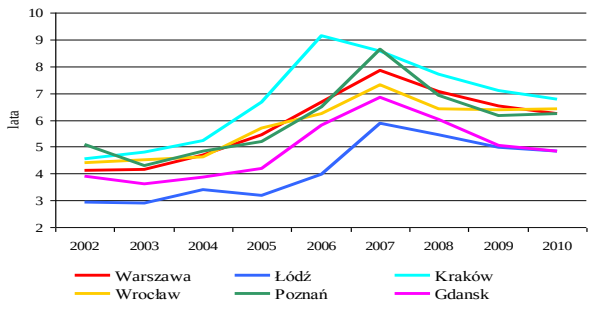
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast r. pierw. = 10 cities, primary market
10 miast r. wt. = 10 cities, existing stock market
7 miast r. pierw. = 7 cities, primary market
7 miast r. wt. = 7 cities, existing stock market

Figure 40. Selling prices of sq. m of housing – existing stock vs. primary market.



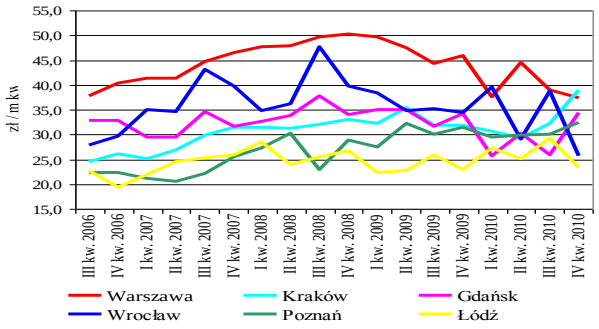
7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
10 miast r. pierw. = 10 cities, primary market
10 miast r. wt. = 10 cities, existing stock market
7 miast r. pierw. = 7 cities, primary market
7 miast r. wt. = 7 cities, existing stock market

Figure 41. Price of sq. m of housing to income (P/I).



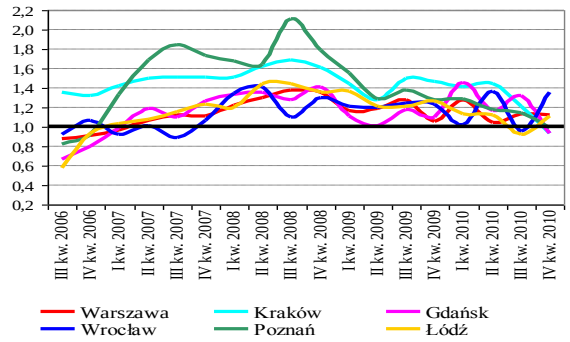
Source: Central Statistical Office, NBP.
lata = years, Warszawa = Warsaw, Kraków = Cracow

Figure 42. Price of sq. m of housing rental (average of selling prices).



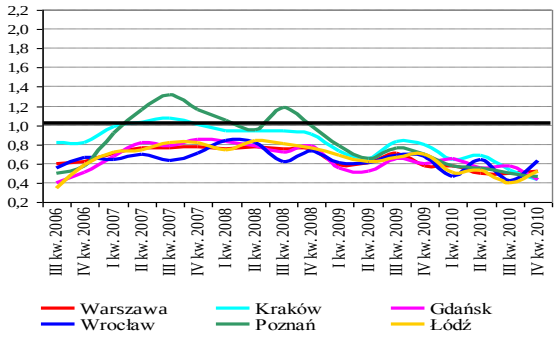
Source NBP.
zł/m kw = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 43. Interest rate cost of sq. m of housing (PLN loan) vs. rental.



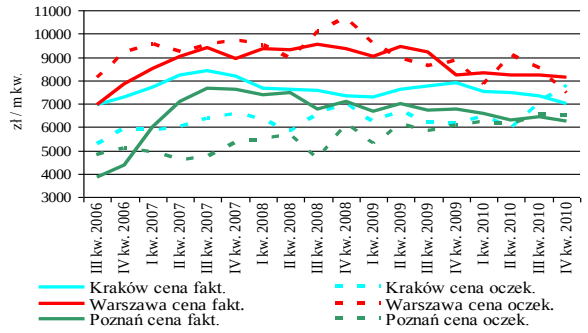
Source: Central Statistical Office, NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 44. Interest rate cost of sq. m of housing (CHF loan) vs. rental.



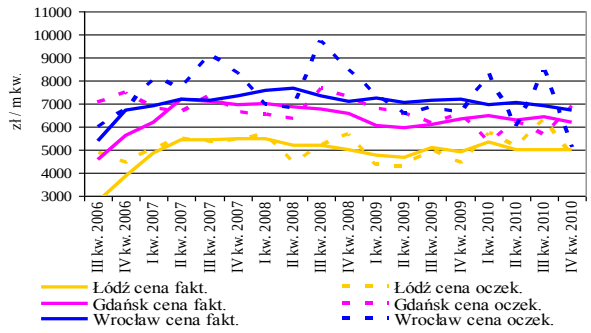
Source: Central Statistical Office, NBP.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 45. Actual price of sq. m of housing and rent discounted with 10Y treasury bonds, part 1.



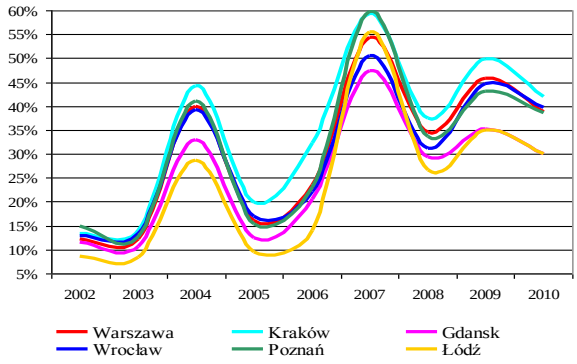
Source: Central Statistical Office, NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Kraków cena fakt. = Cracow, actual price
Warszawa cena fakt. = Warsaw, actual price
Poznań cena fakt. = Poznań, actual price
Kraków cena oczek. = Cracow, expected price
Warszawa cena oczek. = Warsaw, expected price
Poznań cena oczek. = Poznań, expected price

Figure 46. Actual price of sq. m of housing and rent discounted with 10Y treasury bonds, part 2.



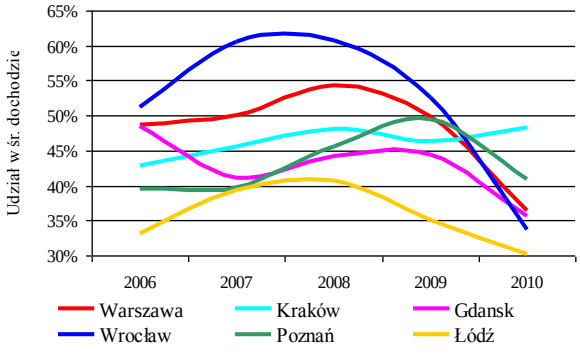
Source: Central Statistical Office, NBP.
zł/m kw. = PLN/square metres
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Łódź cena fakt. = Łódź, actual price
Gdańsk cena fakt. = Gdańsk, actual price
Wrocław cena fakt. = Wrocław, actual price
Łódź cena oczek. = Łódź, expected price
Gdańsk cena oczek. = Gdańsk, expected price
Wrocławcena oczek. = Wrocław, expected price

Figure 47. Housing ownership cost*/ to income (for the dominating loan currency).



*/ Cost of newly purchased medium-sized housing, financed with a loan in the dominating currency.

Figure 48. Cost of housing rental to income.

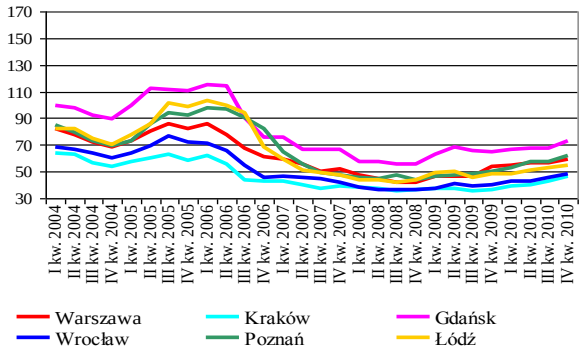


Source: Central Statistical Office.
Udział w śr. dochodzie = share in average income

Source: Central Statistical Office.
Warszawa = Warsaw, Kraków = Cracow

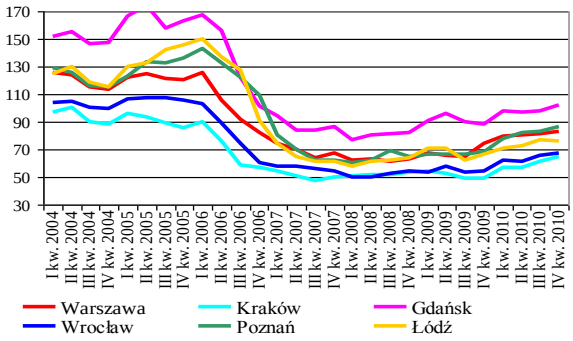
Warszawa = Warsaw, Kraków = Cracow

Figure 49. Availability of loan-financed housing (for PLN loans).



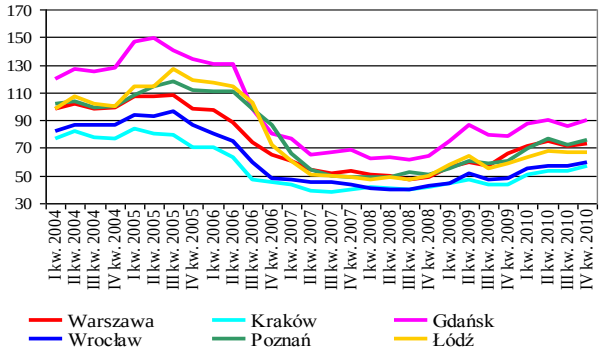
Source: Central Statistical Office, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 50. Availability of loan-financed housing (for CHF loans).



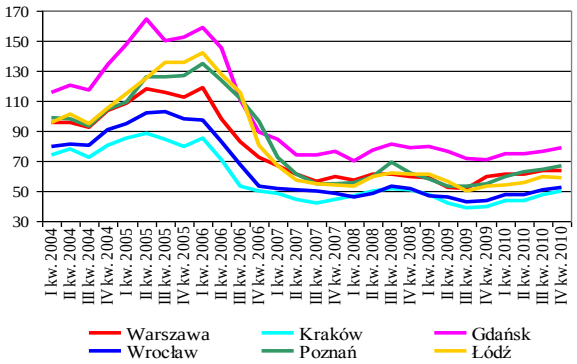
Source: Central Statistical Office, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 51. Availability of loan-financed housing (for EUR loans).



Source: Central Statistical Office, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

Figure 52. Availability of loan-financed housing (for weighted loans*/).



*/ Loan weighted with the currency structure of quarter-over-quarter increment of housing loans to individuals.
Source: Central Statistical Office, PONT Info.
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
Warszawa = Warsaw, Kraków = Cracow

4. Interactions between the financial sector and the residential real estate sector

In the current residential real estate sector the key role is played by the financial sector. The latter affects most of the sector entities and market segments, mainly through interest rate and loan channels, although the very mechanism of transmission and financial instruments are highly differentiated. Historically, housing loans were of the highest macroeconomic importance. They were characterised with moderate risk. Much more problematic were loans financing commercial real estates and real estate developers. Globalisation and the related deregulation of the financial system contributed to a major growth in mortgage risk.

Thus, the impact of the financial system on the real sphere of the sector refers mainly to the demand side, however, as it has been reflected in abundant historical experience, many feedbacks and accumulation processes may be observed. Excessive growth in demand generated by the financial sector leads to mounting tensions and heightened risk, which result in restrained lending, as well as accelerate and deepen the slump. Excessive application of financial leverage, characteristic of some financial institutions and speculative financing of housing and real estate developer projects results in the knock-on effect, and in consequence in the general fall of confidence and drop in demand in the real sphere.

The Polish financial sector specialising in the financing of housing was originally based on strong universal banks and has remained so. So far, the attempts of building a specialised system based on the capital market, either in the form of German mortgage banks or in the form of the American model of central refinance institution have failed. Practically most of the Polish banks offer mortgage instruments. Since for a major part of them the instruments are of strategic importance, this results in strong competitiveness. Simple loan instruments with variable interest rates prevail on the market. Also the share of loans denominated in foreign currencies is high.

Housing loans, stability of the financial sector and household budgets

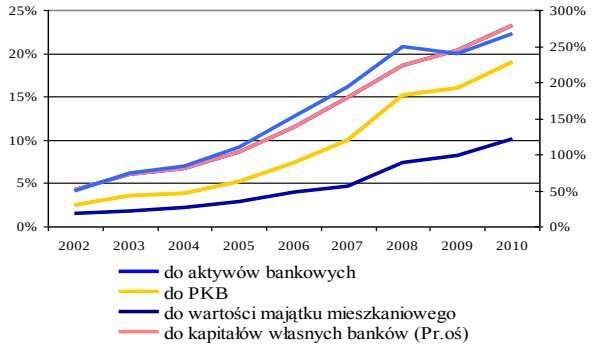
The changing structure of new housing loans had a negative effect on the situation of the financial sector. Throughout the decade, new loans denominated in foreign currencies prevailed (particularly those in CHF). The banks granting housing loans were financed in the Polish deposit markets or through Polish deposit markets in foreign capital markets of the parent banks[23]. Also credit lines were offered. However, it should be mentioned that despite the recommendations issued by the Polish Financial Supervision Authority (KNF), aimed to limit growth in new foreign currency loans, the years 2009–2010 saw only a slight drop in their share in the total housing loans[24] (see Figure 54).

Growing prices of housing and higher loan availability deteriorated the standing of households charged with loan repayment. In the largest cities, a gradual growth in the share of housing loans repayments in household budgets was observed, which did not, however, exceed 20% (see: Figure 55 and Figure 56). Also home maintenance expenditure was growing, although its growth was slower than income growth, which resulted in a slight drop of their share to the level of about 20% (see: Figure 57 and Figure 58). In consequence, the accumulated housing expenditures of households repaying loans reached the level of approx. 40%, becoming the main group of expenditure. This factor may significantly affect the quality of mortgage loan portfolios in the future, because such a high share of fixed expenditure makes households sensitive to labour market problems.

[23] The subject is discussed in more detail in the *Report on the Financial System Stability*, July 2011, NBP.

[24] In accordance with the NBP data, the share of households' mortgage debt denominated in foreign currencies in the whole mortgage loan portfolio reached 60% at the end of 2010.

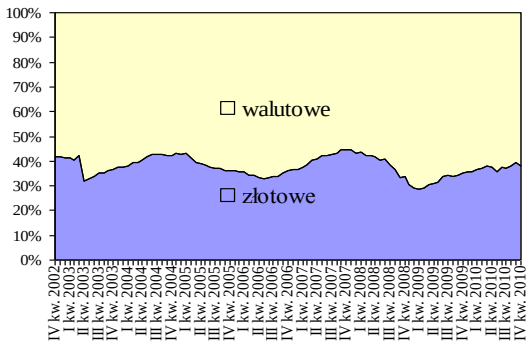
Figure 53. Housing loans in Poland.



Source: Central Statistical Office, PONT Info, Sekocenbud, NBP.

do aktywów bankowych = in relation to bank assets
do PKB = in relation to GDP
do wartości majątku mieszkaniowego = in relation to housing wealth
do kapitałów własnych banków (Pr. oś) = in relation to banks' equity (right axis)

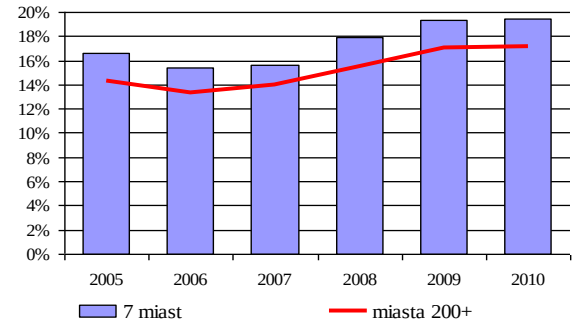
Figure 54. Structure of the share of mortgage debt in the light of the current foreign exchange rates.



Source: NBP.

walutowe = FX, złotowe = PLN
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

Figure 55. Housing loans repayment vs. disposable income.

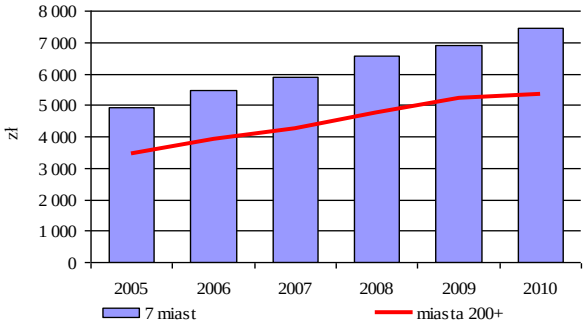


7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
Cities 200+: cities in Poland with more than 200,000 inhabitants

Source: Central Statistical Office.

7 miast = 7 cities, miasta 200+ = cities 200+

Figure 56. Disposable income of households charged with housing loan repayment

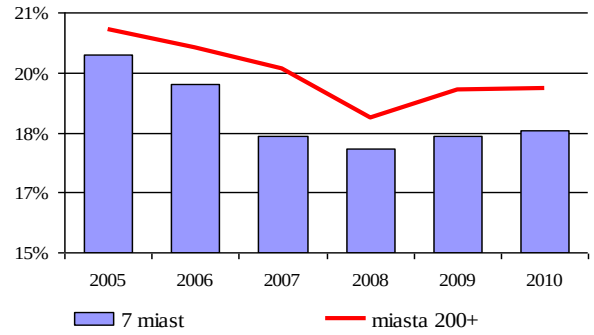


7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
Cities 200+: cities in Poland with more than 200,000 inhabitants

Source: Central Statistical Office.

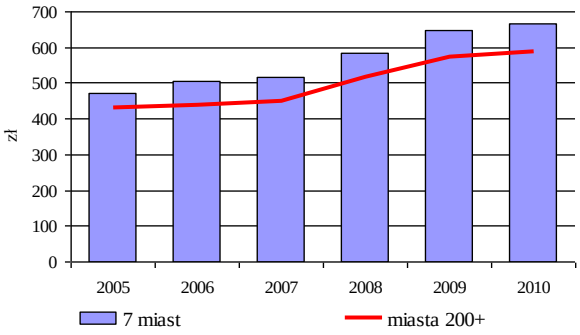
zł = PLN, 7 miast = 7 cities, miasta 200+ = cities 200+

Figure 57. Home maintenance expenditure vs. disposable income.



7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
Cities 200+: cities in Poland with more than 200,000 inhabitants
Source: Central Statistical Office.
7 miast = 7 cities, miasta 200+ = cities 200+

Figure 58. Households' home maintenance expenditure.



7 cities: Warsaw, Cracow, Poznań, Wrocław, Łódź, Gdańsk, Gdynia.
Cities 200+: cities in Poland with more than 200,000 inhabitants
Source: Central Statistical Office.
7 miast = 7 cities, miasta 200+ = cities 200+

Box – Competitiveness in the banking sector

Concentration measures are deemed to be the traditional measures of competitiveness in the banking sector (e.g. the share in market of k largest companies CR_k[25] and Herfindahl-Hirschman indexes (HHI)[26]). Growing competitiveness reflects a drop in concentration measures (growing competitiveness in the banking market is also reflected in shrinking margins generated on the particular transactions).

The results of measurement of the HHI indices and CR_5, CR_{10} and CR_{15} indexes in the segment of housing loans in 2002–2010 reflected a downward trend, which confirms growing competitiveness in that segment and larger engagement of smaller market players in home financing (see Figure 59 and Figure 60). In the years 2002–2010, the value of the CR_5 index dropped from about 74% to 54% in 2010. It should be mentioned, however, that 15 largest commercial banks finance over 90% of the market.

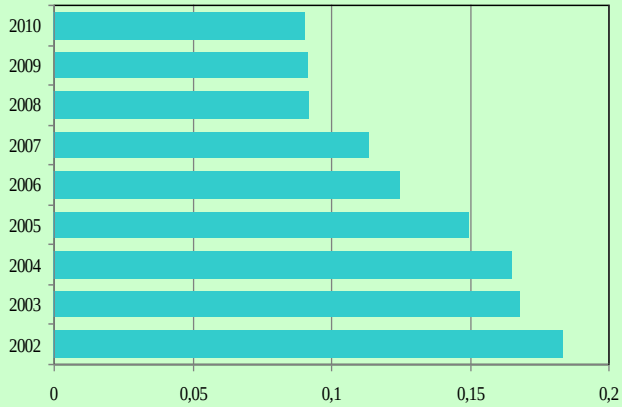
The main players in the housing loan market are universal commercial banks. Financing of housing real estate by the so-called mortgage banks is insignificant and continued a downward trend in the recent years. In 2010 mortgage banks held only about 0.5% of the housing loan portfolio[27] (see Figure 61). The commitment of cooperative banks to financing housing real estates is also insignificant and reaches the level of 1.5%, which is explained by their relatively low liquidity and credit risk for out-of-city areas. The largest commitment of cooperative banks to financing housing loans was observed in 2004 at the level of about 2.5% (see Figure 62).

[25] CR_k means the share in the market of k largest banks, e.g. in net assets.

[26] Herfindahl-Hirschman Index (HHI), calculated as the total of the squares of the share in the markets of the particular commercial banks, e.g. in net assets. The index ranges from 0 to 1. The higher the value of the index, the higher the market concentration. Markets whose HHI value is lower than 0.1 are deemed to be non-concentrated. When the index value is higher than 0.18 the market is deemed to be concentrated; see: *Consolidation and diversification in the euro area banking sector*, Monthly Bulletin, European Central Bank, May 2005. It is assumed, however, that the market is moderately concentrated if the HHI value ranges between 0.1 and 0.18.

[27] In 2010 four mortgage banks were operating in the Polish banking market: Pekao Bank Hipoteczny S.A., BRE Bank Hipoteczny S.A., ING Bank Hipoteczny S.A., NykreditRealkredit A/S S.A. – Branch in Poland.

Figure 59. HHI concentration index for housing loans at commercial banks (2002–2010).

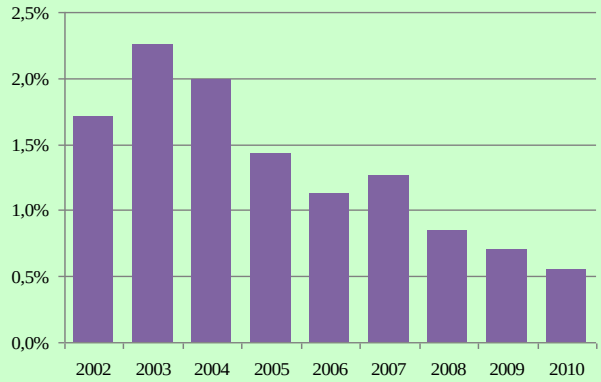


Source: NBP.

Figure 60. CR_5, CR_{10} and CR_{15} concentration indices for housing loans at commercial banks (2002–2010).

Source: NBP.

Figure 61. Share of housing loans at mortgage banks in the housing loans of commercial banks.



Source: NBP.

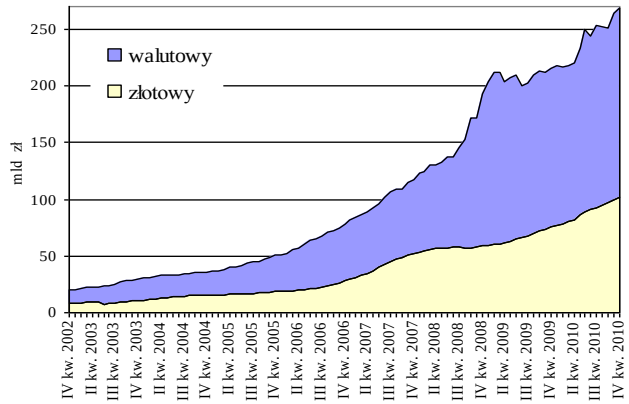
Figure 62. Share of housing loans at cooperative banks in the housing loans of the whole banking sector.

Source: NBP.

Credit portfolios

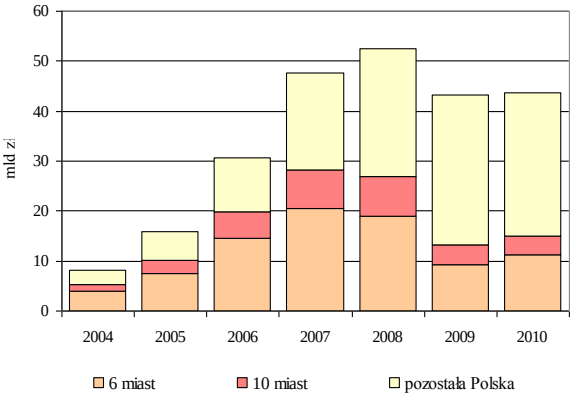
A significant development of housing market financing by banks was observed after 2000, when financing became the basis for housing demand in multi-family buildings (see: Figure 63–Figure 66).

Figure 63. Value of housing loans in Poland.



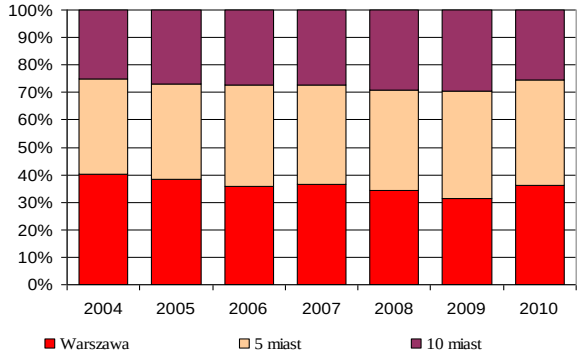
Source: NBP.
mld zł = PLN bilion, walutowy = FX, złotowy = PLN
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

Figure 64. Value of newly disbursed housing loans (acc. to BIK).



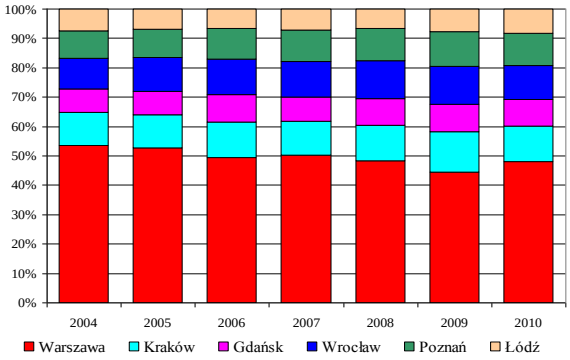
Source: BIK.
mld zł = PLN bilion, 6 miast = 6 cities, 10 miast = 10 cities
pozostała Polska = rest of Poland

Figure 65. Area structure of housing loans in 16 cities of Poland.



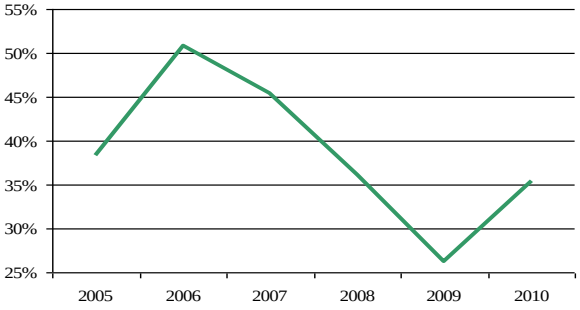
5 cities: Cracow, Poznań, Wrocław, Łódź, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: BIK.
Warszawa = Warsaw, 5 miast = 5 cities, 10 miast = 10 cities

Figure 66. Area structure of housing loans in 6 cities of Poland.



Source: BIK.
Warszawa = Warsaw, Kraków = Cracow

Figure 67. Share of capital expenditure financing with housing loans by consumers in Warsaw.



Source: REAS, NBP.

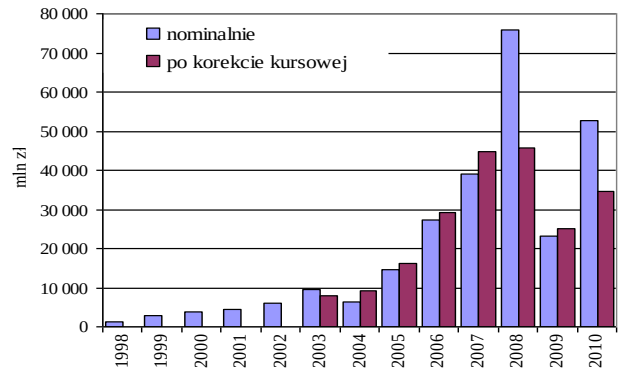
After the period of high tensions and turmoil related to the political system transformation, the demand in small and medium-sized towns and partially also in villages rebounded. These areas were a traditional market for loans, because they were dominated by private, single-family construction.

The disbursement of loans and the related debt increment gained momentum after the year 2000, simultaneously showing a high volatility. This was related to the structural development of the market, the economic cycle and the consequences of the global lending boom.

Generally, banks that were lending more (had a larger share in loans granted to the non-financial sector measured with assets), were also lending more to the housing sector. After the 1990s, when banks were not willing to engage in that sector owing to risk exposure, a significant change in their approach occurred. This was related to the experience gathered and changes ongoing in the sector.

Due to the transformation processes, related economic shocks and high inflation, the Polish loan market was based mainly on indexed instruments, including those indexed with foreign exchange rates. After 2000, when inflation dropped, the demand for foreign exchange loans was driven by the interest rate disparity and absence of bad experience in FX risk both by lenders and borrowers. Currently, the share of FX loan portfolio amounts to roughly 60%, whereas the structure of its increment was considerably changing, as a function of interest rate disparity and FX risk perception (see Figure 68–Figure 70). As a result of the negative experience related to the global financial crisis and regulations, the share of FX loans in the quarterly increase of newly granted housing loans dropped from 90% in 2008 Q3 to 20% in 2010 Q4.

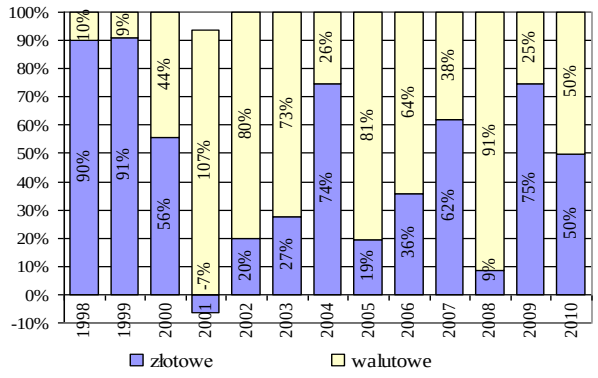
Figure 68. Annual changes in the volume of housing loans in Poland (PLN million).



Source: NBP.

mln PLN = PLN million, nominalnie = in nominal terms
po korekcie kursowej = adjusted for FX rates

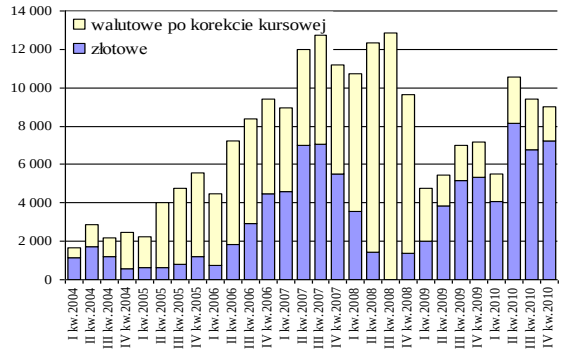
Figure 69. The currency structure of housing loans increment in Poland (at constant exchange rates).



Source: NBP.

złotowe = PLN, walutowe = FX

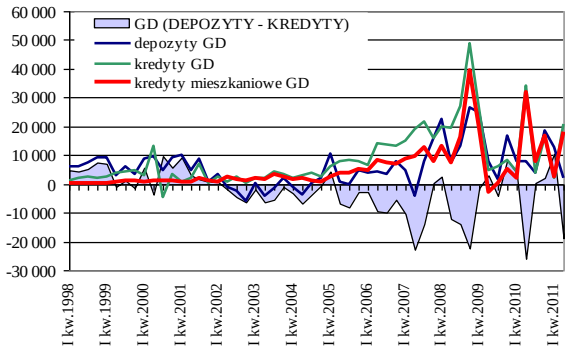
Figure 70. Currency structure of housing loans increment in Poland (at constant exchange rates, in PLN million).



Source: NBP.

walutowe po korekcie kursowej = FX loans adjusted for FX rates
złotowe = PLN loans
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

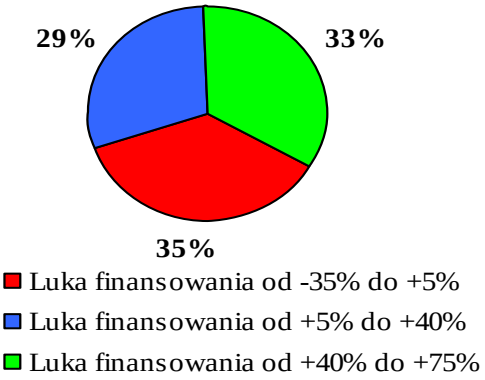
Figure 71. Finance by the banking sector in Poland (quarterly changes in PLN million).



Source: NBP.

GD (DEPOZYTY-KREDYTY) = HOUSEHOLDS (DEPOSITS-LOANS)
depozyty GD = household deposits
kredyty GD = household loans
kredyty mieszkaniowe GD = housing loans to households
I kw. = Q1

Figure 72. 2010 housing loans broken into groups based on banks with negative, slightly positive and significantly positive funding gap.



Note: The volume of housing loans in particular funding gap groups was added and divided by the total volume of housing loans. Banks with marginal market share were excluded from the analysis.

Source: NBP.

Luka finansowania od -35% do +5% = Funding gap ranging from -35% to +5%
Luka finsowania od +5% do +40% = Funding gap ranging from +5% to +40%
Luka finansowania od +40% do +75% = Funding gap ranging from +40 to +75%

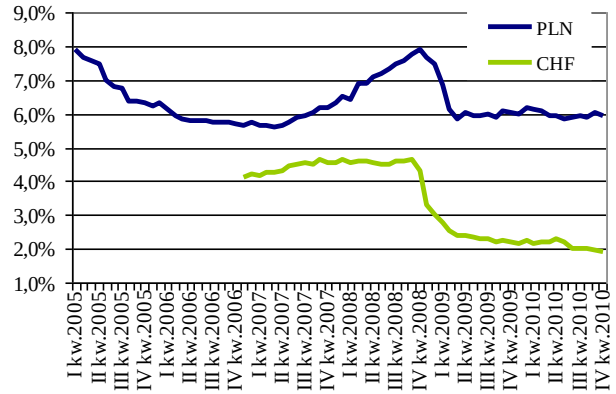
The consequence of the poorly developed capital market before the crisis and the dominating share of universal banks is the security deposit system in loan financing. The developed interbank market caused that the weaker deposit base was not a barrier for financing to some banks, although generally banks of better liquidity financed the sector to a

larger extent (see Figure 72). The situation resulted in tensions when due to the crisis the market was no longer liquid. The deposit system imposes variable interest rates. Banks usually use as indices the domestic interbank market interest rates and foreign interbank market interest rates in the case of FX loans.

The period of housing loans market development after 2004 may be generally divided into three sub-periods:

- the improving stabilisation in the economy and stabilisation on the market, as well as growing competitiveness, accompanied by a drop in margins and interest rates, particularly in the case of PLN loans – the period persisting until the beginning of 2007;
- increasing tensions, including the finance gap (see: Figure 71) in the sector and in the global financial system, which resulted in an increase of interest rates and margins and finally ended with a foreign exchange shock, risk increase, decline in the importance of the interbank market and deposit interest rates increase in the years 2008–2009;
- adjustments after the crisis, observed until today, as a result of which the level of interest rates on loans practically reversed to the level observed before the crisis, albeit, with considerably higher interest rate spreads (related with FX risk, among other things) and lower interest rates determined by the central banks (see: Figure 73–Figure 78).

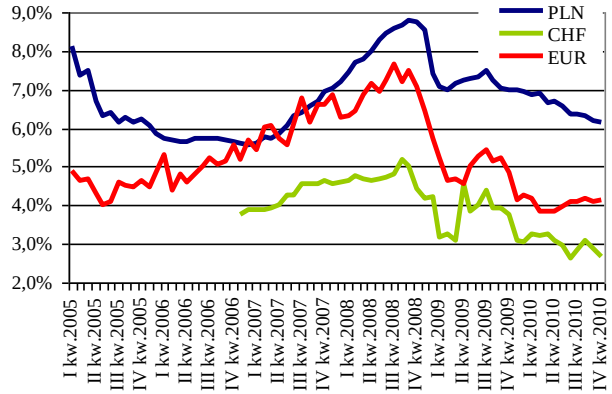
Figure 73. Interest rates on housing loans in Poland.



Source: NBP.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

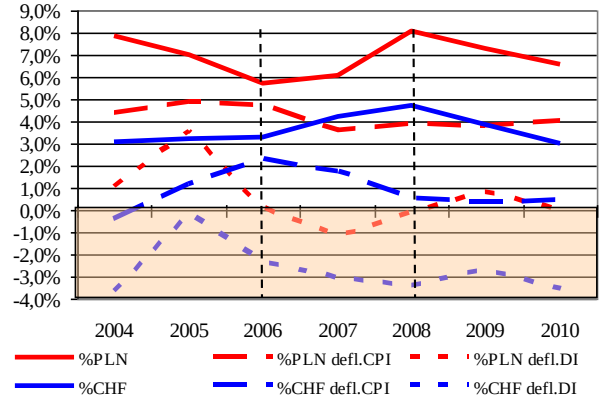
Figure 74. Interest rates on new housing loans in Poland.



Source: NBP.

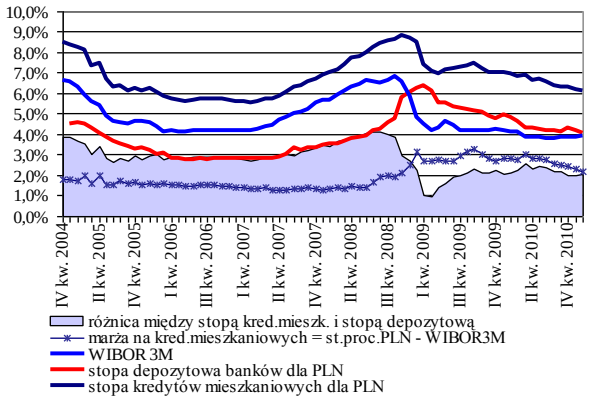
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

Figure 75. Interest rates on housing loans deflated with the CPI or DI*/.



*/ DI means growth rate of gross disposable income of

Figure 76. Interest rates on PLN housing loans vs. funding costs.

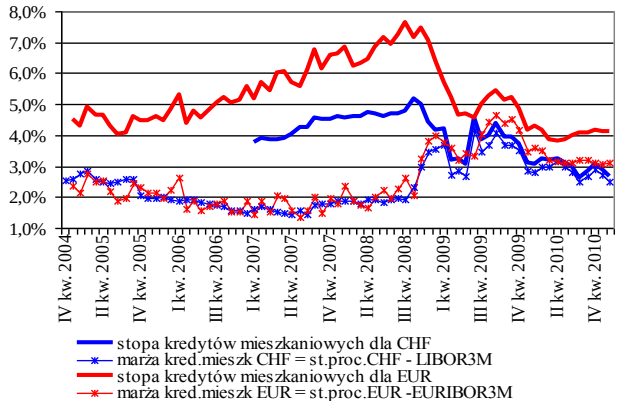


Source: NBP.

households, the dotted vertical lines mean the boom period – falling real interest rates.
Source: Central Statistical Office, NBP.

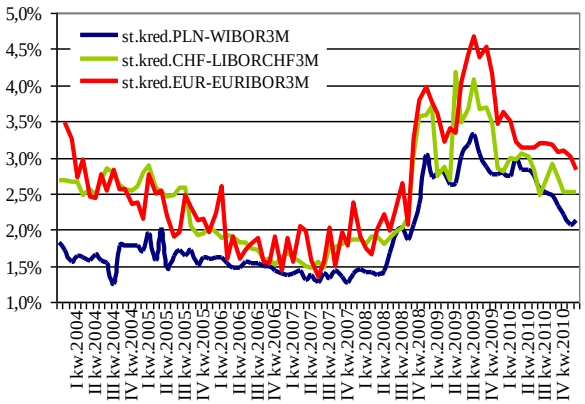
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4różnica pomiędzy stopą kred. mieszk. i stopą depozytową = difference between the interest rate on housing loans and deposit interest rate
marża na kred. mieszkaniowych=st. proc. PLN-WIBOR3M = margin on housing loans is equal to PLN interest rate less 3M WIBOR
stopa depozytowa banków dla PLN = interest rate offered by banks for PLN deposits
stopa kredytów mieszkaniowych dla PLN = interest rate on PLN housing loans

Figure 77. Interest rates on loans denominated in CHF and EUR vs. funding costs



Source: NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4stopa kredytów mieszkaniowych dla CHF = interest rate on CHF housing loans
marża kred. mieszk. CHF=st.proc. CHF-LIBOR3M = margin on CHF housing loans is equal to CHF interest rate less 3M LIBOR
stopa kredytów mieszkaniowych dla EUR = interest rate on EUR housing loans
marża kred. mieszk. EUR=st.proc. EUR-EURIBOR3M = margin on EUR housing loans is equal to EUR interest rate less 3M EURIBOR

Figure 78. Margins on new housing loans (calculated using 3M WIBOR, LIBOR, EURIBOR).



Source: NBP.
*I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4*st. kred. PLN-WIBOR3M = interest rate on PLN loans - 3M WIBOR
st. kred. CHF-LIBORCHF3M = interest rate on CHF loans - 3M CHF LIBOR
st. kred. EUR-EURIBOR3M = interest rate on EUR loans - 3M EURIBOR

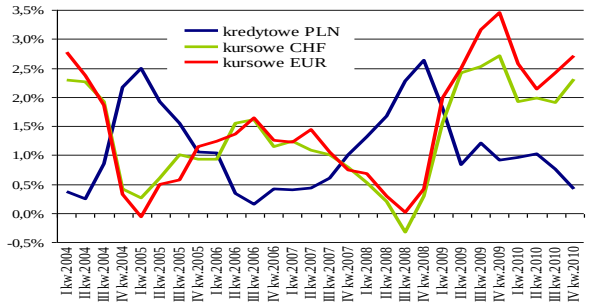
Despite the large portfolio of loans denominated in foreign currencies, created mainly during the lending boom period, the banking sector survived the shocks triggered by the financial crisis relatively well. This was caused by the distribution of portfolio-related risks, which was positive for the Polish financial sector. What was particularly propitious was the fact that the European countries faced the crisis earlier, which caused that the FX shock coincided with the fall in interest rates – the response of central banks to the crisis-induced problems (see: Figure 79 and Figure 80). In consequence only some borrowers faced loan servicing problems (see: Figure 81 and Figure 82) and they were not as widespread as in Hungary. This was also supported in Poland by loan agreement clauses, determining the value of margin in relation to interest rates in the European interbank market, rather than costs of raising funds by a particular bank. The consequence of growing costs of fund raising (the effect of risk premium growth) was the decline in the rates of return on those portfolios (see: Figure 96–Figure 97). As a result of constant margins in a larger part of the foreign currency loan portfolio, the quality of the foreign currency mortgage loan portfolio did not deteriorate significantly. This was visible in quite stable bad loan write-downs. Nevertheless, a temporary deterioration of the quality of loans in the largest cities was observed (see: Figure 83–Figure 84).

The situation was also affected by Recommendation S, which limited the granting of loans to economically weaker borrowers. The rates of return generated on FX loans were still higher than in PLN loan portfolios (see: Figure 96 and Figure 97).

The quality of the housing loan portfolio, despite FX shocks, was gradually improving in all large cities (see: Figure 91), both during the decade and after the shocks caused by the

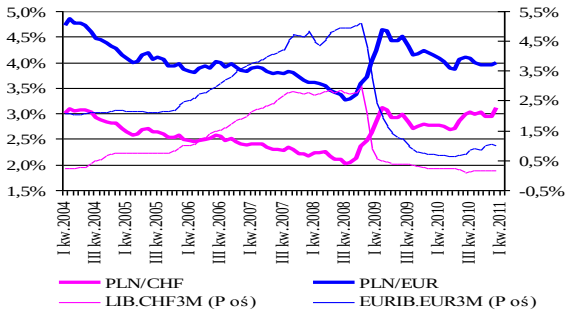
2008–2009 crisis. Nevertheless, there is no doubt that significant and long-lasting foreign exchange shocks will lead to the deterioration of the quality of portfolios, particularly those measured with short-term delays in repayment and the generation of loans mostly affected by appreciation (see Figure 82). Attention should be paid to the fact that growth in PLN and FX loan servicing costs – taking into account household budgets charges – was similar (see Figure 81–Figure 82).

Figure 79. Banks' assessment of risk of new housing loans.



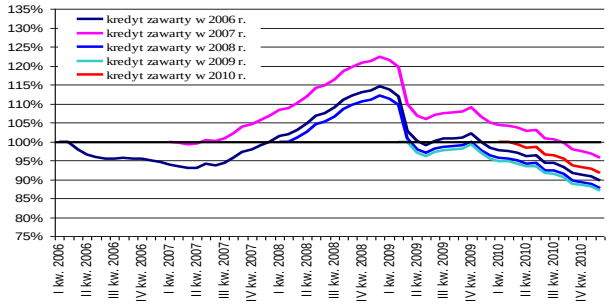
*/ PLN loan risk assessment (PLN interest rates on loans - 10Y treasury bonds rate); CHF loan risk assessment (CHF interest rates on loans - PLN interest rates on loans - 10Y treasury bonds rate); EUR loan risk assessment (EUR interest rates on loans - PLN interest rates on loans - 10Y treasury bonds rate).
Source: NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

Figure 80. Changes in FX rates and interest rates on FX loans.



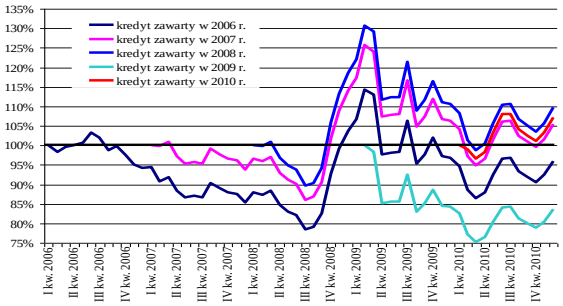
Source: NBP.
*I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4*P oś = right axis

Figure 81. Current repayment vs. first repayment of PLN housing loans*/.



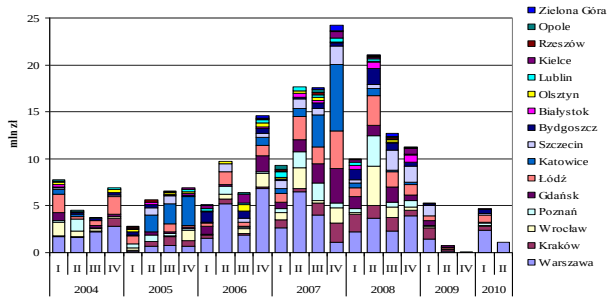
*/ The calculation was based on a loan of PLN 200,000 with fixed margin plus the average quarterly 3M WIBOR and 20-year' depreciation; repayment in fixed instalments.
Source: NBP.
kredyt zawarty w …= loan agreement entered into in …

Figure 82. Current repayment vs. first repayment of CHF housing loans*/.



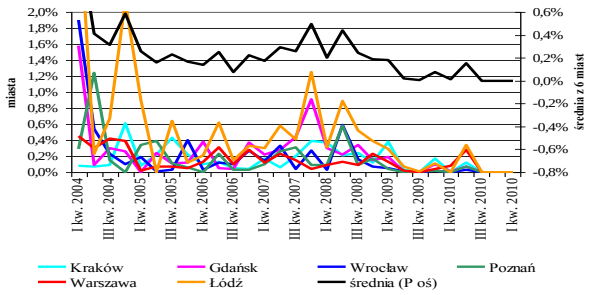
*/ PLN 200,000 loan converted into CHF with constant margin plus the average quarterly 3M CHF LIBOR and 20-year' depreciation; repayment in fixed instalments.
Source: NBP.
kredyt zawarty w …= loan agreement entered into in …

Figure 83. Housing loans overdue for 91–180 days in 16 cities of Poland at the end of 2010.



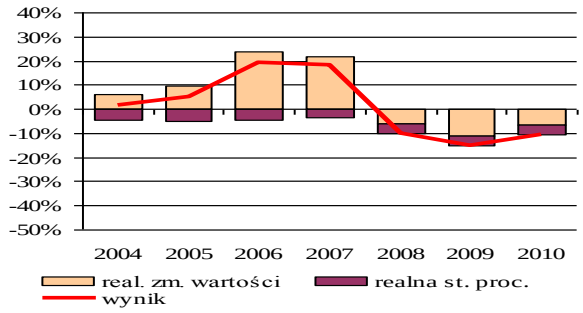
Source: BIK.
mln zł = PLN milion, Kraków = Cracow, Warszawa = Warsaw

Figure 84. Quality*/ of housing loan portfolio in 6 cities of Poland.



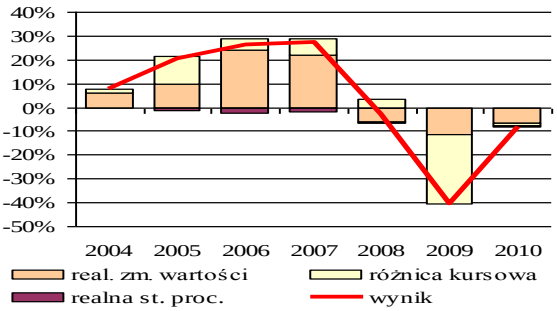
*/ Percentage share of housing loans overdue for 91–180 days in the total of housing loans in a particular city and in the average for 6 cities.
Source: BIK.
miasta = cities, średnia z 6 miast = average of 6 cities
Kraków = Cracow, Warszawa = Warsaw
średnia (P oś) = average (right axis)

Figure 85. Investor's profit in housing in particular years, Warsaw, PLN loans.



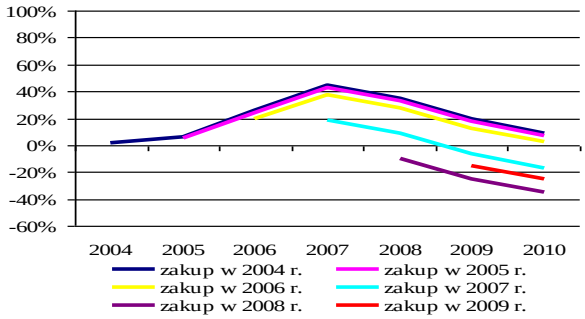
Source: NBP, Central Statistical Office.
real. zm wartości = real change of value
realna st. proc. = real interest rate, wynik = result

Figure 86. Investor's profit in housing in particular years, Warsaw, CHF loans.



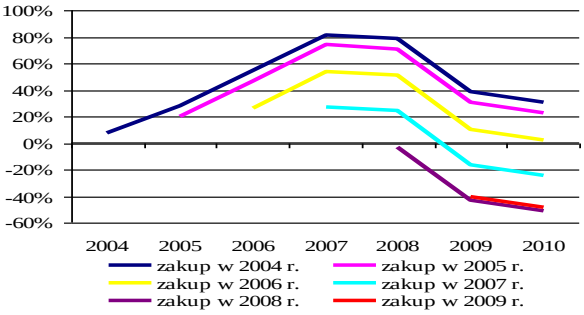
Source: NBP, Central Statistical Office.
real. zm wartości = real change of value
realna st. proc. = real interest rate
różnica kursowa = FX differences, wynik = result

Figure 87. Profit of the investor in housing, for particular housing loans generations, Warsaw, PLN loans.



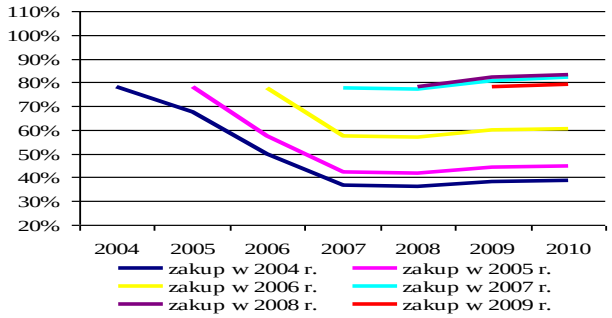
Note: Assumed initial LTV = 80%, 20-year loan, repayment in equal instalments.
Source: NBP, Central Statistical Office.
zakup w …. = purchase in …

Figure 88. Profit of the investor in housing, for particular housing loans generations, Warsaw, CHF loans.



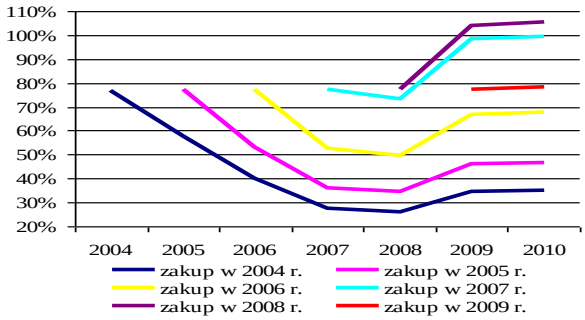
Note: Assumed initial LTV = 80%, 20-year loan, repayment in equal instalments.
Source: NBP, Central Statistical Office.
zakup w …. = purchase in …

Figure 89. LTV for particular housing loan generations, Warsaw, PLN loans.



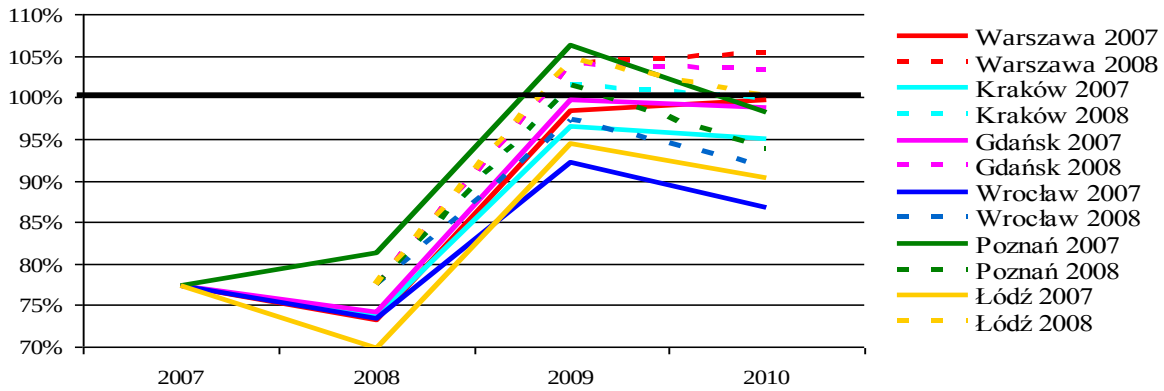
Note: Assumed initial LTV = 80%, 20-year loan, repayment in equal instalments.
Source: NBP, Central Statistical Office.
zakup w …. = purchase in …

Figure 90. LTV for particular housing loan generations, Warsaw, CHF loans.



Note: Assumed initial LTV = 80%, 20-year loan, repayment in equal instalments.
Source: NBP, Central Statistical Office.
zakup w …. = purchase in …

Figure 91. LTF (end of year) for the most doubtful loan generations (2007 and 2008), in 6 cities, CHF loans.

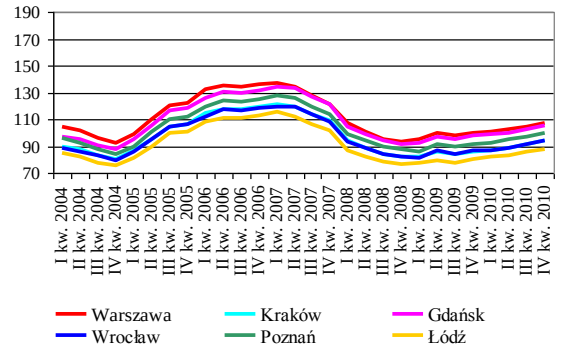


Note: 20-year loan taken out at the beginning of the year, repayment in fixed instalments, initial LTV = 80%, balance at the end of the period.
Source: NBP, Central Statistical Office.
Warszawa = Warsaw, Kraków = Cracow

As a result of slow adjustments in the housing market and the related fall in prices, the share of the portfolio in which the value of loan was higher than or was equal to the value of insurance, did not exceed 10% at the end of 2010; therefore, the related risk of portfolio quality deterioration may be assessed as moderate. Figure 89 and Figure 90 present, on the example of Warsaw, the estimated LTV ratio for subsequent cohorts of PLN and CHF loans, which are representative for other cities. Figure 91 shows the cohorts of loans for the six largest cities in Poland, for which the LTV ratio either exceeded 100% or was close to 100%.

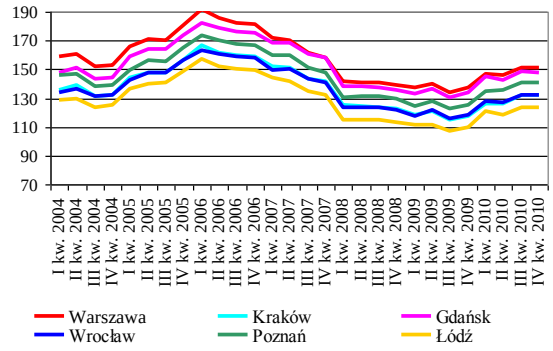
Turmoil in the financial markets and the related interest rate growth translated into lower housing loan availability to households (see: Figure 92–Figure 95). Although the interest on EUR loans reversed to its previous level and the interest on CHF loans is now even lower than before the slump, loan maturity shortened considerably. In consequence, their financial availability is now lower than before the crisis. Of paramount importance from the point of view of the housing market is the actual availability of loans, which results in their share in the market of newly granted loans at the end of the year to fall below 20% and their further drop in 2011. This brings about an increase in average interest rates and decrease in the general loan availability, affecting the housing market starting from 2010 Q3.

Figure 92. Available PLN housing loans (in PLN thousand).



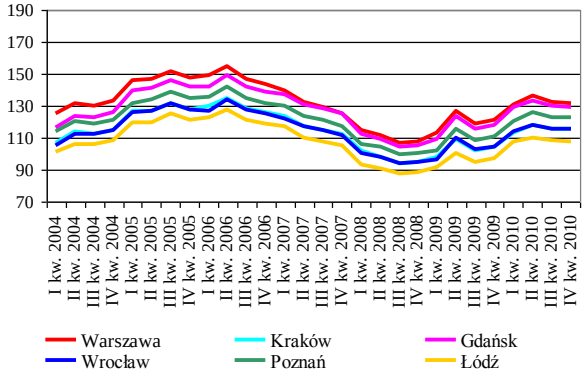
Source: Central Statistical Office, PONT Info, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4Warszawa = Warsaw, Kraków = Cracow

Figure 93. Available CHF housing loans (in PLN thousand).



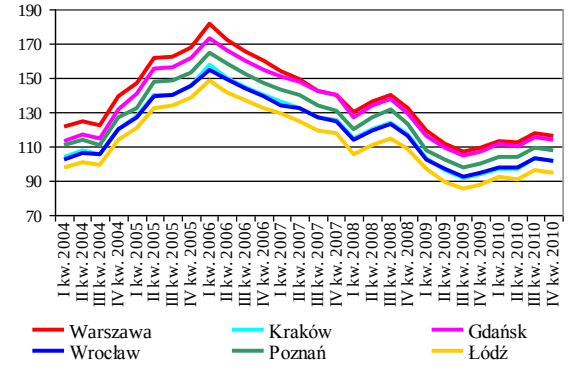
Source: Central Statistical Office, PONT Info, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

Figure 94. Available EUR housing loan (in PLN thousand).



Source: Central Statistical Office, PONT Info, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

Figure 95. Available weighted housing loan*/ (in PLN thousand).



*/ Loan weighted with the currency structure of quarterly increment of housing loans for private individuals (since 2009 PLN loans have prevailed and the importance of EUR loans have been growing).
Source: Central Statistical Office, PONT Info, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

Loan availability is equivalent to the consumer's creditworthiness and is the function of the nominal interest rate, loan maturity and income. Growth of inflation, boosting nominal interest rate, increases the value of initial loan servicing, decreasing, at the same time, creditworthiness. Decline in real interest rates that often accompanies a rise in inflation means falling funding costs and may be capitalised upon, in particular by more professional investors. In Poland there are no ready-made instruments enabling to capitalize on declines in nominal interest rates (indexed loans or loans with repayment grace period), whereas the use of financing with two credit lines – as a substitute for such instruments – is complicated and expensive. Despite that fact, the drop in real interest rates combined with the expected growth in housing prices and further PLN appreciation resulted in the already discussed growth in demand and lending acceleration by banks amidst falling creditworthiness and related loan availability. Figure 75 shows the value of real and nominal interest rates for PLN and CHF housing loans. Additionally, the Figure presents interest rates deflated with wage growth rate. In the years 2006–2008 a significant drop in real interest rates took place, particularly in the

case of the prevailing FX loans. A negative loan interest rate means that the balance of the loan, even in the absence of interest and principal repayment, diminishes in real values. In the case of Poland, negative interest rates charged on loans deflated with wage growth proved to be of more relevance. This meant that although it was necessary to service the loan, income was growing from period to period, and it was unnecessary to limit other expenditures. Figure 85 and Figure 86 show the full cost calculation of the investor based on the backward looking behaviour. The phenomenon may be explained by the lending boom amidst growing interest rates and prices in the housing market. The figure reflects the actual, current profits and losses of investors investing in housing in particular years. Despite the cyclic nature of the discussed phenomena, some of them managed to maintain profits (see Figure 87 and Figure 88).

Portfolio profitability

Portfolio profitability has a major influence on bank lending. In the analysed period, namely from the end of 2008 to the beginning of 2010, a slight deterioration of the estimated profitability of banks' loan portfolio may be observed, which, however, remains at a moderate level. It should be emphasised that this profitability measure is of indicative character and it includes solely financial costs, without taking into account any other operating costs borne by banks. The estimated profitability of FX loans was much higher than in the case of PLN loans (see: Figure 96 and Figure 97), which explains the observed boom in granting FX loans. The adjusted interest margin and the required own contribution have an impact on the difference in profitability, whereas the significant differences in the adjusted interest margin are of most crucial importance.

The estimated profitability (estimated RoE) is calculated as the adjusted interest margin on housing loans on the minimum own contribution requirement. The minimum own contribution required[28] is estimated based on LTV estimations by AMRON and contribution requirements for housing loans determined by the Polish Financial Supervision Authority (KNF). The required own contribution in the case of PLN loans ranged from 6.5% to 7% of the credit portfolio, whereas the required own contribution in the case of FX loans was close to 7.5% of the loan granted.

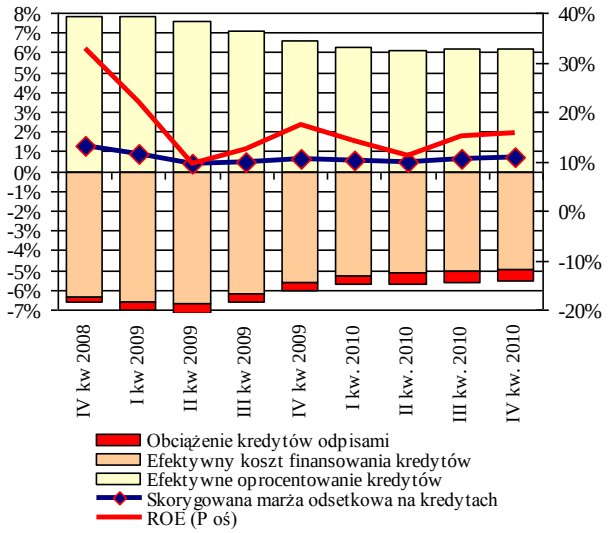
The adjusted interest rate margin results from adding all income and deducting all funding costs. The effective cost of funding was calculated based on 3M WIBOR and LIBOR by adding the estimated costs related to that operation. Loan write-offs result from the presence of doubtful loans or impaired loans. The effect of closing the FX position and effective interest rate on loans were derived from the *Report on the Stability of the Financial System, July 2011*, NBP (2011). In the case of FX loans an important position is the effect of closing the FX position[29], which significantly increases the adjusted interest margin. Moreover, bad loan write-offs in the case of FX loans are lower than in the case of PLN loans.

Despite the fact that the share of the minimum required own contribution in the case of FX loans is slightly higher than in the case of PLN loans, the estimated RoE on FX loans is nearly doubled.

[28] The required own contribution amounts to 8% of the loan granted. However, if LTV is below 50%, the required own contribution in the case of PLN loan is multiplied by 35% (which results in 2.8%) and in the case of FX loan it is multiplied by 75% (which results in 6%). If LTV is higher than 50%, full own contribution is required, i.e. 8% of the loan granted. Based on the balance of PLN and FX loans and the knowledge of the distribution of loans among the LTV intervals (AMRON SARFIN report) below or over 50%, the total minimum own contribution required may be calculated.

[29] The operation is described in the *Report on the Financial System Stability, July 2011* , NBP (2011).

Figure 96. Estimated profitability*/ of housing loans for banks in Poland, in the case of PLN loans.



*/ Financial revenues and costs related to housing loan portfolio.

Source: NBP, AMRON-SARFIN.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4Obciążenie kredytów odpisami = Loan write-offs

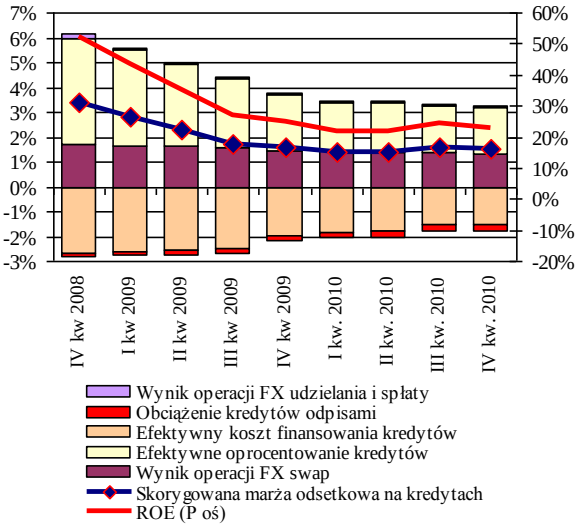
Efektywny koszt finansowania kredytów = Effective costs of loan funding

Efektywne oprocentowanie kredytów = Effective interest rate on loans

Skorygowana marża odsetkowa na kredytach = Adjusted interest margin on loans

ROE (P oś) = RoE (right axis)

Figure 97. Estimated profitability*/ of housing loans for banks in Poland, in the case of FX loans.



*/ Financial revenues and costs related to housing loan portfolio.

Source: NBP, AMRON-SARFIN.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4Wynik operacji FX udzielania i spłaty = Result on FX operations of loan granting and repayment

Obciążenie kredytów odpisami = Loan write-offs

Efektywny koszt finansowania kredytów = Effective costs of loan funding

Efektywne oprocentowanie kredytów = Effective interest rate on loans

Wynik operacji FX swap = Result on FX swap operations

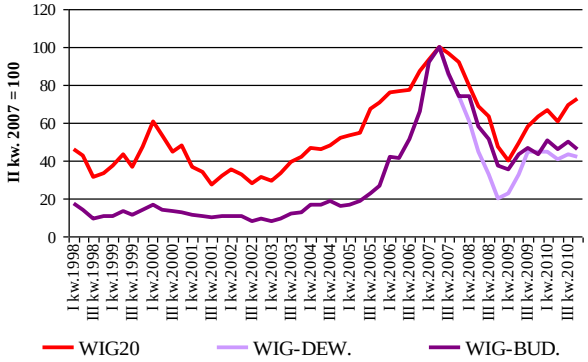
Skorygowana marża odsetkowa na kredytach = Adjusted interest margin on loans

ROE (P oś) = RoE (right axis)

5. Real estate development and construction sector

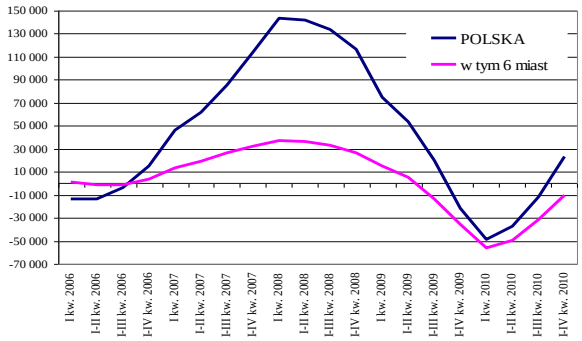
Stock-exchange indices may provide a synthetic picture of the economy, and in particular, its reaction to the financial crisis (see: Figure 98). Stock-exchange indices of real estate developers and construction companies reflected the situation in the construction and real estate sector, in the periods of boom and the subsequent slow-down resulting from the previously observed boom, as well as the financial crisis. Despite the fact that stock-exchange indices cover a much broader range than the construction and housing sector, yet, a considerable part of their behaviour may be explained with processes affecting that sector. This refers particularly to construction companies which in the period 2006–2007 experienced demand well exceeding their output capacity, generated both by the housing sector and infrastructural construction.

Figure 98. Growth rate of WIG indices for real estate developers and construction companies.



Note: The data has been normalised, 2007 Q2 = 100. The WIG index of real estate developers has been recorded since 2007 Q2.
Source: Warsaw Stock Exchange.
II kw. 2007=100 = Q2, 2007=100
I kw. = Q1, III kw. = Q.3
WIG-DEW = WIG index for real estate developers
WIG-BUD = WIG index for construction companies

Figure 99. Index of economic situation in housing production (housing whose construction has begun less completed housing).



Note: The index is a 12-month rolling value.
6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
Source: NBP (on concepts of the PABB).
POLSKA = POLAND
w tym 6 miast = of which 6 cities
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

The consequence of demand exceeding supply were growing prices of construction and assembly output (see Figure 100–Figure 106), which for real estate developers meant rising costs and for the construction sector – growing revenues and profits. The housing market slump at the end of 2007 resulted in lower demand and lower prices of construction works, and in consequence, a slump in the stock-exchange indices of construction companies and real estate developers.

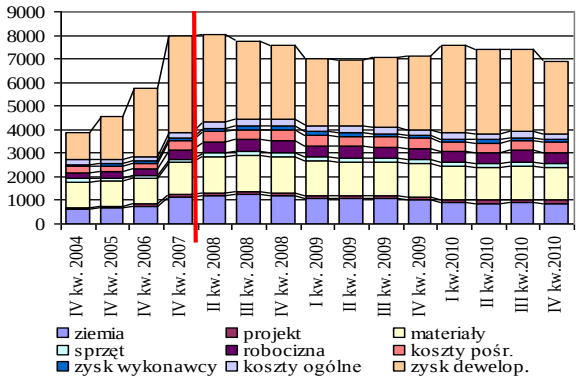
A simple synthetic measure reflecting the situation of construction companies in the housing sector is the index of change of work in progress applied by PABB[30] (see: Figure 99). Change in the index shows that the economic situation in that market segment was improving starting from Q.1, 2010. Growth of work in progress during the economic slow-down may, however, mean further problems for the construction sector, as the investors will not be able to pay their liabilities in respect of the already built structures. This may result in a growing number of frozen investments and irregular payments. Therefore, beside capital expenditures,

[30] Polish Construction Research Agency.

another factor affecting the standing of housing construction companies is the situation in the real estate developer sector and the housing market.

The analysis of home price structure shows that apart from real estate developer's profit, the cost of land and materials account for the largest share in the price. The cost of land in all cities was growing until the end of 2008, and afterwards it started to decrease slowly. The cost of materials does not depend on particular markets and was quite stable. Real estate developers' profits (on long-term investment projects) are the function of demand surplus and the economic situation. All markets could see the share of real estate developers' profits growing strongly in the years 2004–2008, which resulted from growing demand and rising prices. Upon the outbreak of the crisis, real estate developers were forced to offer discounts to buyers in order to revive the market. When the crisis was entering its final phase and the economic situation began to improve, real estate developers started to increase their profits slightly. The profits of developers in Warsaw, Cracow and Poznań accounted for almost 50% of the whole price, whereas in the case of other cities their share was much lower.

Figure 100. Warsaw – home price structure (PLN/sq. m) (building 1121)[31].

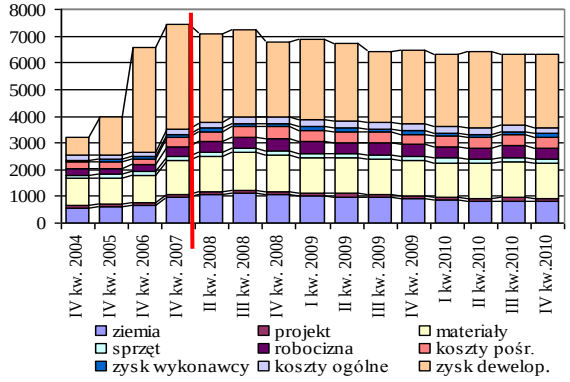


Note: Calculations based on selling prices in the primary market, according to the BaRN database; the red vertical line separates annual data from quarterly data.

Source: Sekocenbud, NBP.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4ziemia = land
sprzęt = machinery,
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs
materiały = materials, koszty pośr. = indirect costs
zysk dewelop. = developer's profit

Figure 101. Cracow – home price structure (PLN/sq. m) (building 1121).

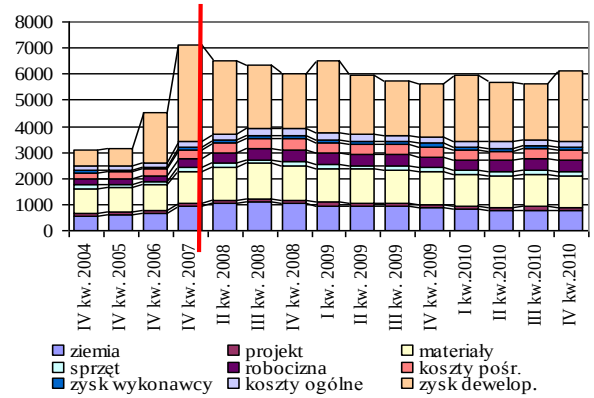


Source: Sekocenbud, NBP.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
ziemia = land, sprzęt = machinery
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs
materiały = materials, koszty pośr. = indirect costs
zysk dewelop. = developer's profit

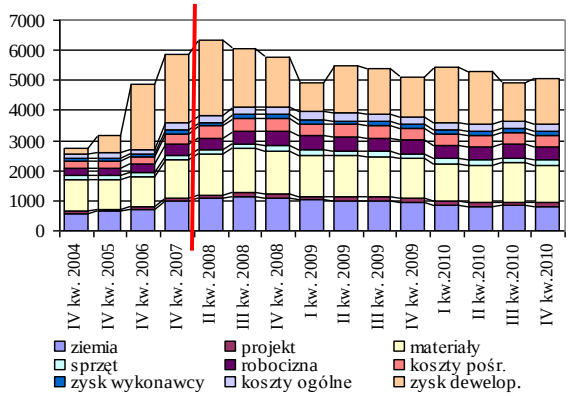
[31] See the *Glossary of terms and acronyms*.

Figure 102. Poznań – home price structure (PLN/sq. m) (building 1121).



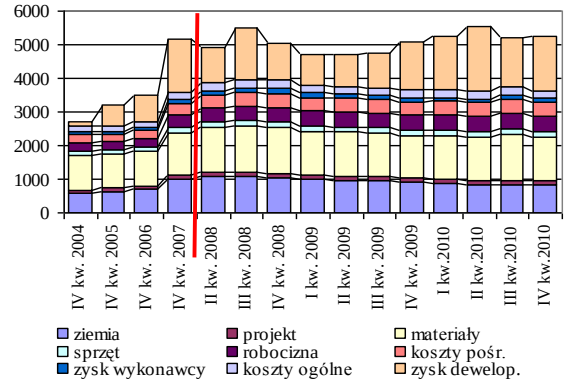
Source: Sekocenbud, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
ziemia = land, sprzęt = machinery
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs, materiały = materials
koszty pośr. = indirect costs, zysk dewelop. = developer's profit

Figure 103. Gdańsk – home price structure (PLN/sq. m) (building 1121).



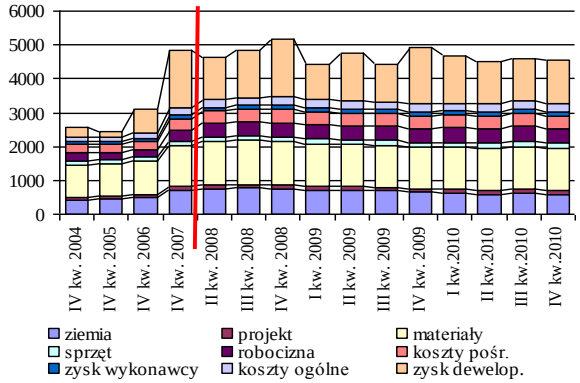
Source: Sekocenbud, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
ziemia = land, sprzęt = machinery
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs, materiały = materials
koszty pośr. = indirect costs, zysk dewelop. = developer's profit

Figure 104. Wrocław – home price structure (PLN/sq. m) (building 1121).



Source: Sekocenbud, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
ziemia = land, sprzęt = machinery
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs, materiały = materials
koszty pośr. = indirect costs, zysk dewelop. = developer's profit

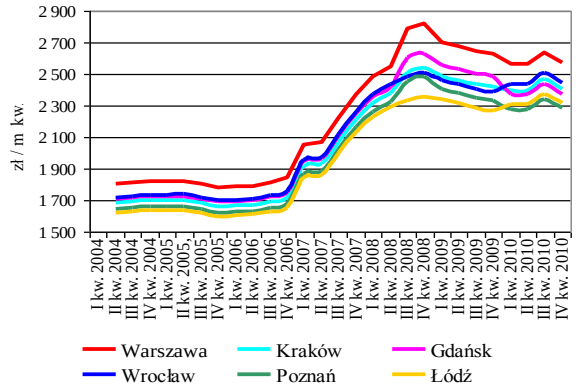
Figure 105. Łódź – home price structure (PLN/sq. m) (building 1121).



Source: Sekocenbud, NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
ziemia = land, sprzęt = machinery
zysk wykonawcy = contractor's profit
projekt = design, robocizna = labour
koszty ogólne = general costs, materiały = materials
koszty pośr. = indirect costs, zysk dewelop. = developer's profit

A more detailed assessment of the discussed phenomena may be derived from the analysis of housing projects profitability and the condition of real estate developers (see: Figure 107–Figure 117). The two-track analysis is necessary due to the low transparency of the real estate developer sector in Poland, which is conditioned on many factors, such as the accounting standards and the related quality of data or the definition of costs that need to be incurred by the developer for a particular investment project.

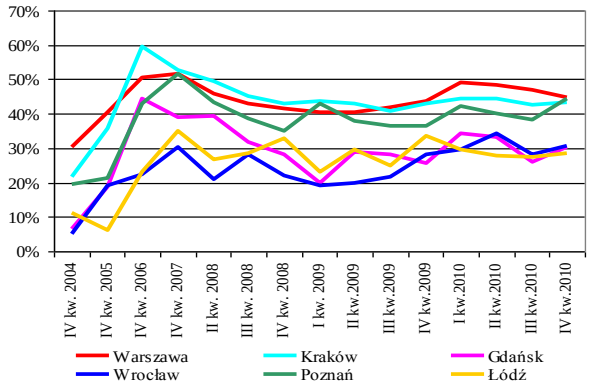
Figure 106. Construction costs of 1 sq. m of an average housing unit (building 1121), according to Sekocenbud.



Source: Sekocenbud.

zł/m kw. = PLN/square metres
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

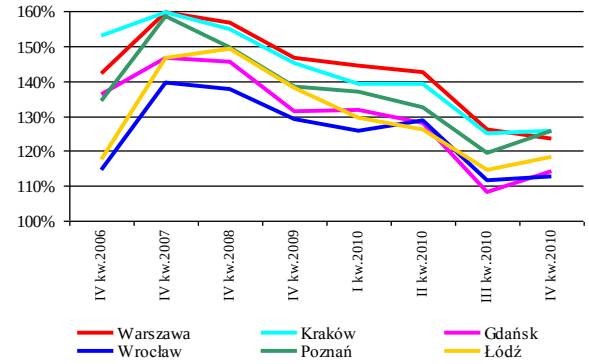
Figure 107. Change in the share of developer's profit in the market price of 1 sq. m of housing (building 1121).



Source: Sekocenbud.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

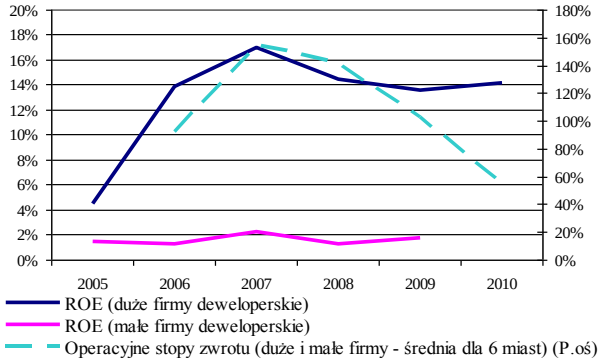
Figure 108. Operating rates of return[32] on developer projects in 6 cities.



Source: NBP, Sekocenbud.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Kraków = Cracow

Figure 109. Actual vs. operating rates of return of real estate developers.



Source: NBP, Sekocenbud, Central Statistical Office (F01 and F02).

ROE (duże firmy deweloperskie) = RoE (large real estate developers)
ROE (małe firmy deweloperskie) = RoE (small real estate developers)
Operacyjne stopy zwrotu (duże i małe firmy - średnia dla 6 miast) (P oś) = Operating rates of return (large and small companies – average for 6 cities) (right axis)

The analysis of prices of newly built housing and the structure of prices in the largest housing markets in Poland (prepared based on the actual costs of construction according to Sekocenbud and own estimates of the other price components, and at the transaction price in the primary market derived from the BaRN database) shows that housing construction continues to be profitable. Although profit margins of real estate developers dropped significantly as compared to the pre-crisis figures (see: Figure 107), they continue to exceed the level of 30%, or are sometimes even higher, which is considered to be the value covering the developers' risk and generating high return on equity. As a result, rates of return on real estate developers' projects calculated in consideration of the financial leverage allowed by

[32] Operating income return on investment projects were calculated assuming market selling prices of housing according to BaRN database, costs of construction according to Sekocenbud and the structure of the sources of project funding according to the actual structure of funding of real estate developers.

banks (70%–80%) exceed 100%, which on the background of other sectors of the economy is a very good result and attracts capital to that sector despite the risk.

The actual performance of real estate developers is, however, much worse than both indices related to housing projects and operating indices, i.e. theoretically based on the real data on those companies' performance, show. Figure 109 compares the actual rates of return on equity generated by small and large real estate developers[33] with the rates of return calculated for those companies assuming the actual structure of their liabilities, using costs according to Sekocenbud and selling prices according to the BaRN database. Owing to the fact that the results for small and large companies were only slightly different, they are presented jointly. The results may be surprising – while the actual RoE does not exceed 15% for large companies and 5% for small companies, the theoretical calculations present results exceeding 100%. This means that the costs reported by real estate developers vary considerably from the cost estimates. It may be assumed that the process results from many factors, such as construction delays, additional costs incurred by real estate developers on account of construction of infrastructure or other unforeseen situations. A more detailed analysis presented in the later part of the paper shows, however, that excessive optimism and the absence of cost controls were relevant in this case. The analysis shows that the boom period saw high increase in costs when housing prices were growing. In consequence, after the market slump and its stabilisation at a lower level, some of the companies faced painful restructuring, or even the need of additional capital raising if they were too optimistic at the initial stage of the project and distributed capital as future profits. As shown by the analysed data, restructuring processes are ongoing and companies – particularly the smaller ones – are cutting down on costs. The consequence of such changes are, however, growing problems faced by some companies, which may result in mergers and acquisitions in that market.

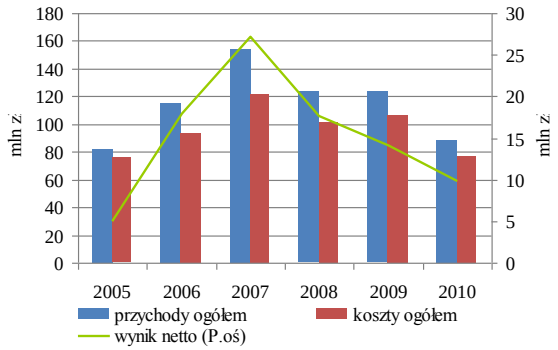
Basic indices of real estate developers[34]

Based on the analysis of GUS data, it may be concluded that in 2010 the average large real estate developer reported profits; at the same time the tendency of deteriorating net results, observed since 2007, continued (see Figure 110). As compared to 2009, a significant drop in sales could be observed, both in nominal terms and expressed in the number of metres squares sold (see Figure 112). Despite drop in sales, large companies reported a decline in the stock of completed and unsold housing in 2010. Compared to the previous year, the value of pending real estate development projects was clearly limited and the value of land owned by large companies also went down (see Figure 114). This means that large companies were finishing already commenced projects, yet did not embark on new ones and suspended the purchase of new land.

[33] See the *Glossary of terms and acronyms*.

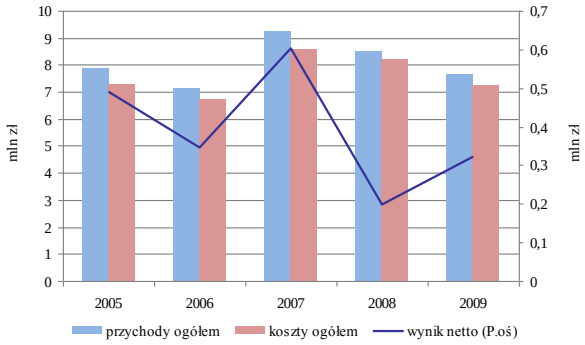
[34] The analysis was based on quarterly and annual F01 and F02 reports for GUS and data from reports presented by banks in B0300 forms, being part of the BIS reporting. Real estate developers were separated based on the PKD2007 number, and were divided into large and small taking into account the headcount and revenues (the number of companies in particular years and categories is presented in Table 1). Companies employing less than 50 people are treated as small. The others are large. The analysis focuses on the annual data from the years 2005–2010.

Figure 110. Financial results of an average large real estate developer.



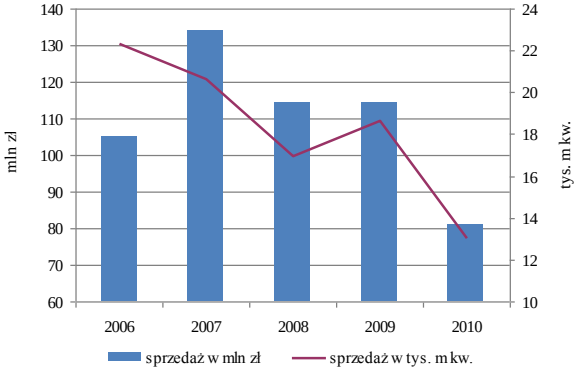
Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
przychody ogółem = total revenues
wynik netto (P oś) = net result (right axis)
koszty ogółem = total costs

Figure 111. Financial results of an average small real estate developer.



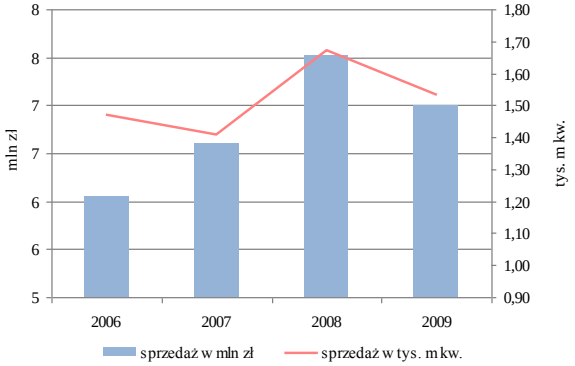
Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
przychody ogółem = total revenues
koszty ogółem = total costs
wynik netto (P oś) = net result (right axis)

Figure 112. Sales by an average large real estate developer.



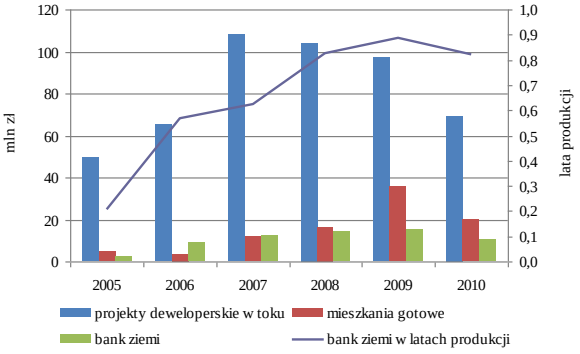
Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
tys. m kw. = sq. m thousands
sprzedaż w mln zł = sales in PLN million
sprzedaż w tys. m kw. = sales in sq. m thousands

Figure 113. Sales by an average small real estate developer.



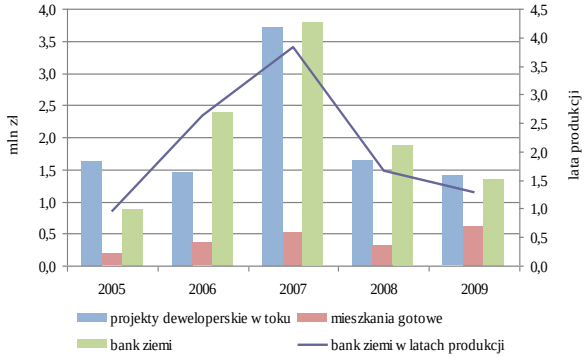
Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
tys. m kw. = sq. m thousands
sprzedaż w mln zł = sales in PLN million
sprzedaż w tys. m kw. = sales in sq. m thousands

Figure 114. Basic economic categories of an average large real estate developer.



Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
lata produkcji = production years
projekty deweloperskie w toku = ongoing real estate development projects

Figure 115. Basic economic categories of an average small real estate developer.



Source: Central Statistical Office (F01 and F02).
mln zł = PLN million
lata produkcji = production years
projekty deweloperskie w toku = ongoing real estate development projects

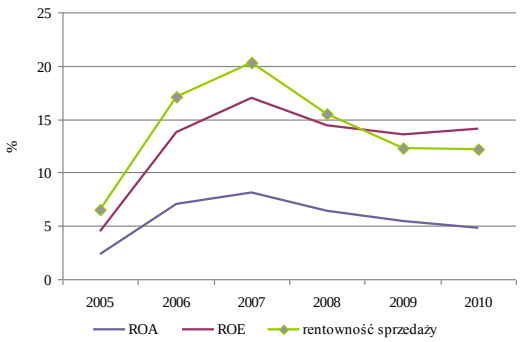
bank ziemi = land stock
mieszkania gotowe = completed housing
bank ziemi w latach produckcji = land stock in production years

bank ziemi = land stock
mieszkania gotowe = completed housing
bank ziemi w latach produckcji = land stock in production years

In contrast to large companies, small companies improved their net result in 2009[35]. Sales expressed in square meters grew compared to 2008, whereas sales in PLN million dropped only slightly as compared to 2008, and as compared to 2007 they registered a growth. The land stock was greatly reduced, while finished housing grew in 2009 as compared to 2008. This means that small companies were not limiting production on such a mass scale as the large ones.

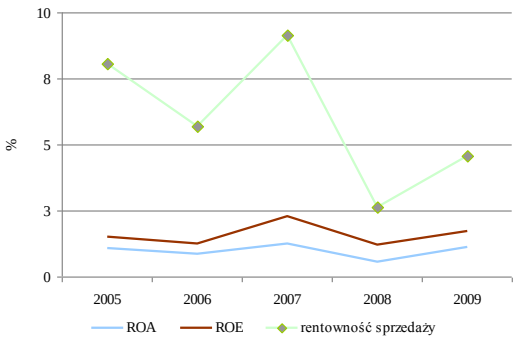
In the years 2005–2009, profitability ratios of small companies were lower than those of large companies (see: Figure 116 and Figure 117), which resulted from a relatively higher costs level (as compared to the revenue level) and much lower financial leverage. In 2008 growth of the cost index was reported by both large and small companies, which resulted from a lower drop of costs than that of revenues. Small companies introduced restructuring and cost reduction quite rapidly, which contributed to growing profitability observed in 2009, whereas in the case of large companies the process was much slower. This means that the risk incurred by a real estate developer does not necessarily have to be related to its size.

Figure 116. Profitability ratios of an average large real estate developer.



RoA (Return on Assets) – net result to assets at the end of the period.
RoE (Return on Equity) – net result to equity at the end of the period.
Sales profitability – net result to sales revenues.
Source: Central Statistical Office (F01 and F02).
rentowność sprzedaży = sales profitability

Figure 117. Profitability ratios of an average small real estate developer .



RoA (Return on Assets) – net result to assets at the end of the period.
RoE (Return on Equity) – net result to equity at the end of the period.
Sales profitability – net result to sales revenues.
Source: Central Statistical Office (F01 and F02).
rentowność sprzedaży = sales profitability

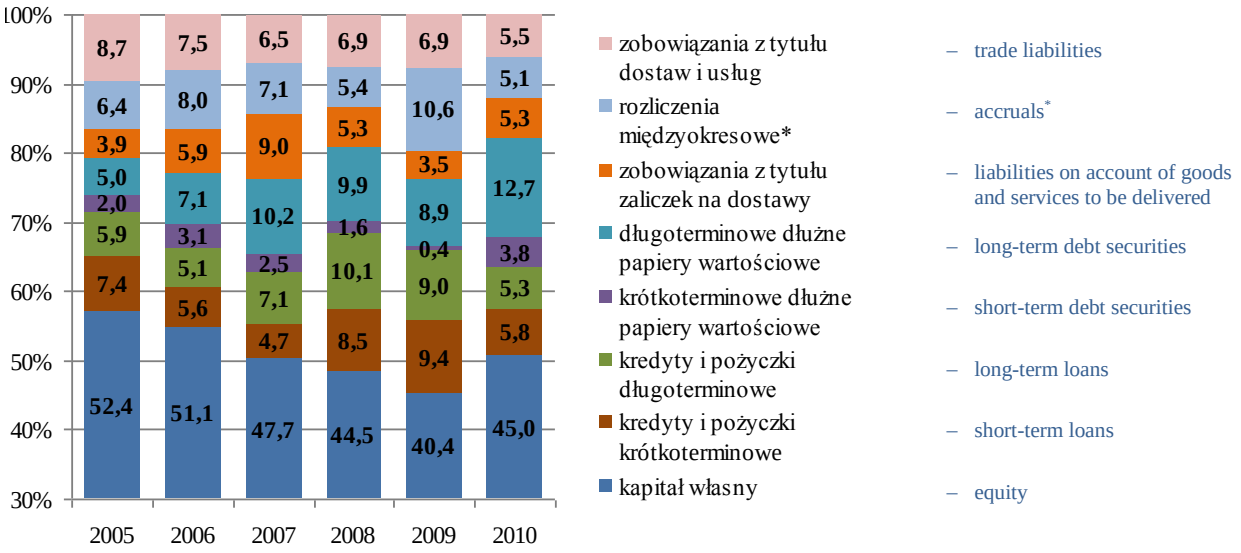
Funding of real estate developers

There are major differences between small and large real estate developers in the method of financing operations (see Figure 118). Large companies are quite willing to rely on external funding, whereas in the case of small companies equity plays a more important role. Against this background, the analysis of downpayments received from customers to finance operations of the companies brings very interesting results. In the balance sheet of real estate developers they are classified in two items – accruals and liabilities on account of goods and services to be delivered. Contrary to the intuitive opinion, they do not have any significant impact on company's liquidity. In the peak boom period , their share exceeded ten per cent of

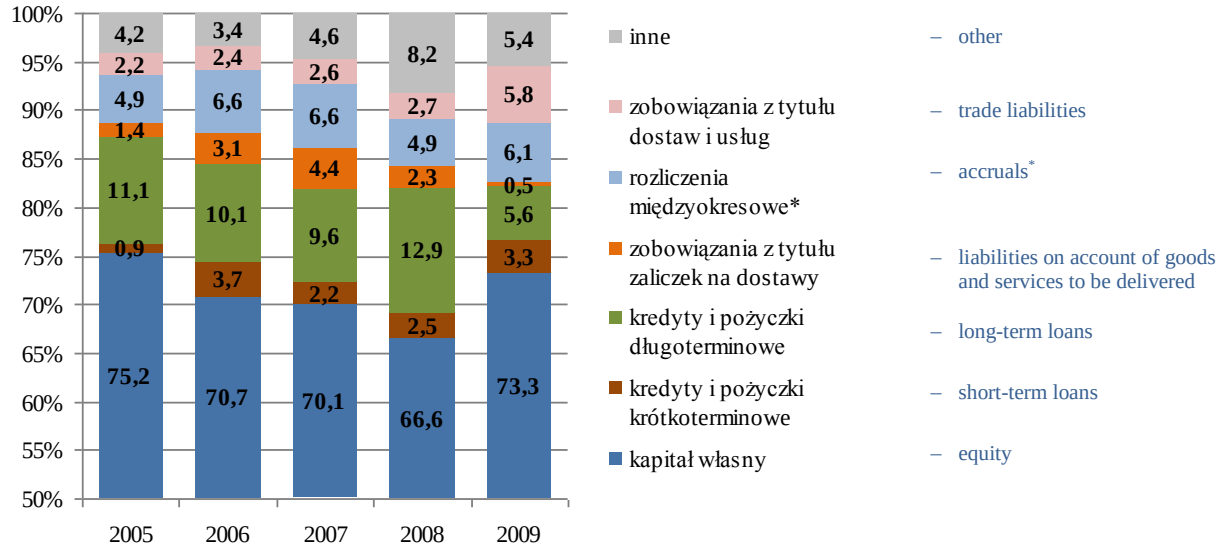
[35] When analysing small companies, it should be considered that the data at the moment of writing the Report were available only up to the year 2009. This means that for the purpose of comparison with large companies the period ending in 2009 used as a reference, and for further periods the analysis may be based on market observations only and other, not fully comparable databases.

the total sources of financing, and in the subsequent years it dropped to about 10% in the case of large companies or even below that figure in the case of small companies. What is interesting is the larger share of this source of financing in the case of large companies which, in theory, had better access to other sources of financing. 2009 brought a decline in relative importance of liabilities in small companies' financing, whereas in large companies the process of debt limitation began only in 2010 – the value of liabilities of an average large real estate developer fell as compared to the preceding year by almost 42% (in the same period equity shrank by nearly 30%, which translated into a visible decline in leverage ratio – see Figure 119). In 2010 large companies could observe a major fall in importance of loans, with concurrent growth in importance of liabilities on account of debt securities issuance (as a result of a marked drop in loan indebtedness, with simultaneous increase of indebtedness resulting from debt securities issuance), which reflected real estate developers' problems in obtaining bank loans. It shall be mentioned, however, that growth of indebtedness resulting from debt securities issuance was mainly observed in the segment of short-term securities (see: Figure 120), which may suggest that in 2010 even large companies faced problems in attracting long-term finance. Larger interest of real estate developers in fund raising outside banks is confirmed by the data of Fitch Polska[36] – in 2010 eight developer companies issued bonds of the total value of PLN 746.7 million, which represented 9.8% of the value of all corporate bonds issued in 2010 (in 2009 only two companies decided to issue bonds of the value of PLN 54.9 million). The issuance of bonds was also observed in the Catalyst – the bond market kept by the Warsaw Stock Exchange since 2009. In 2010 the bonds of the total value of PLN 173.9 million were issued by four developer companies: Green House Development, Gant Development, Murapol, Marvipol S.A.

Figure 118. Structure of finance of an average large (upper panel) and small (lower panel) real estate developer.

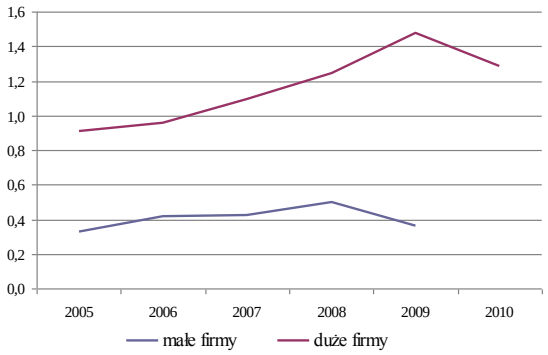


[36] Fitch Polska, *Rating&Rynek*, 12 (280), 31.12.2010.



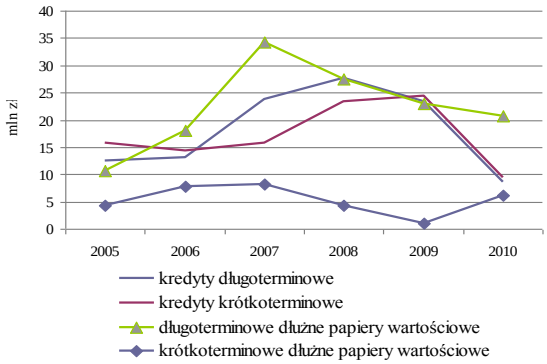
* Including down-payments made by clients and liabilities to construction companies. From the sample of small companies, the entities with negative equity have been excluded, as well as those that were financed mainly from liabilities to related companies.
Source: Central Statistical Office (F01 and F02).

Figure 119. Financial leverage*/.



małe firmy = small companies
duże firmy = large companies

Figure 120. Indebtedness of an average large real estate developer resulting from loans and issuance of debt securities.



mln zł = PLN million
kredyty długoterminowe = long-term loans
kredyty krótkoterminowe = short-term loans
długoterminowe papiery wartościowe = long-term securities
krótkoterminowe papiery wartościowe = short-term securities

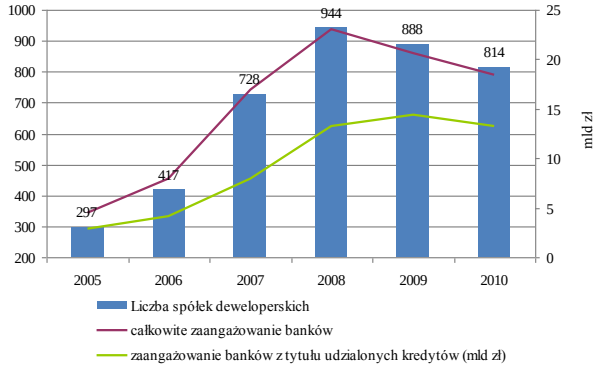
*/ Liabilities and provisions for liabilities to equity. From the sample of small companies, the entities with negative equity have been excluded, as well as those that were financed mainly from liabilities to related companies.
Source: Central Statistical Office (F01 and F02).

Lower banks' capital commitment in funding real estate developers is visible also in the data regarding the so-called large capital commitment passed to the NBP by banks operating in Poland[37]. Since 2008, the number of real estate developers in which banks have major capital commitments has been falling steadily (at the end of 2010 there were 814 such companies, i.e. by 8.3% less than in the previous year – see: Figure 121). As compared to 2009 the joint total capital commitment of banks in funding real estate developers has declined, as well as the average capital commitment to one company (from PLN 23.2 million

[37] Based on the B0300 form data.

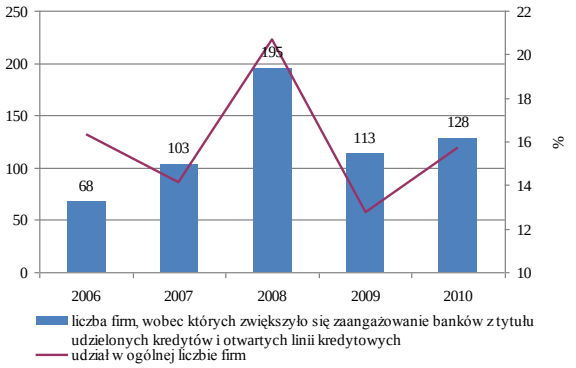
to PLN 22.6 million)[38]. However, as compared to the previous year, the share of companies that were granted a new loan or credit line during the year was higher (see: Figure 122).

Figure 121. Number of real estate developers companies listed in B0300 reports and banks' capital commitment in those companies.



Source: Central Statistical Office (F01 and F02).
mld zł = PLN billion
liczba spółek deweloperskich = number of real estate developers
całkowite zaangażowanie banków = total banks' capital commitment
zaangażowanie banków z tytułu udzielonych kredytów (mld zł) = banks' capital commitment as a result of loans granted (PLN billion)

Figure 122. Number of companies to which banks' capital commitment increased in a particular year.

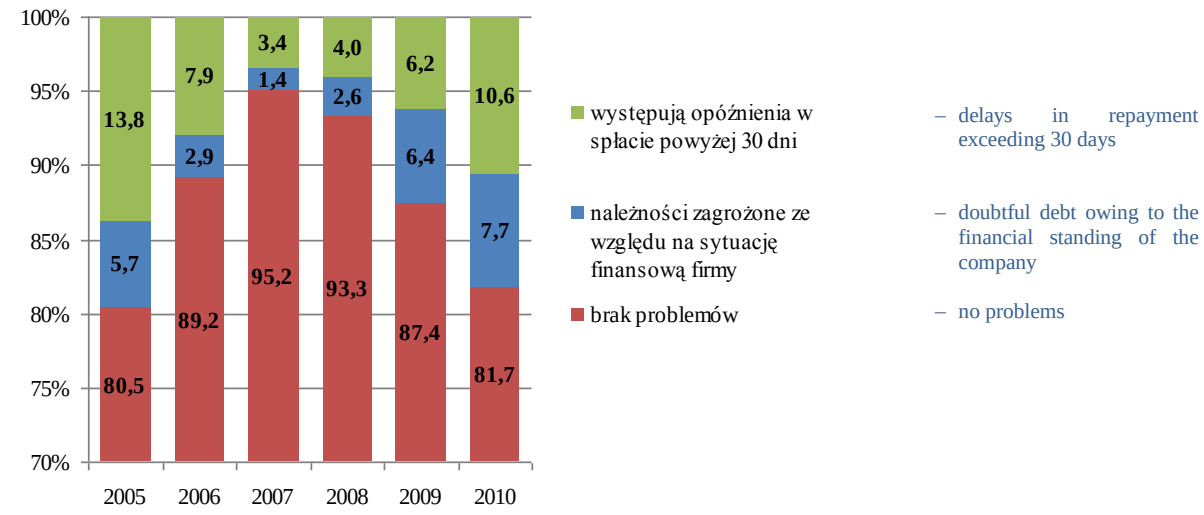


liczba firm, wobec których zwiększyło się zaangażowanie banków z tytułu udzielonych kredytów i otwartych linii kredytowych = number of companies to which banks' capital commitment as a result of loans and open credit lines granted increased
udział w ogólnej liczbie firm = share in the total number of companies

Banks' unwillingness to finance real estate developers could result from problems faced by real estate developers in the timely servicing of their bank debt. 2010 brought further deterioration of loan portfolios of real estate developers. As compared to 2009, the share of companies having problems with timely debt servicing increased, as well as the share of such capital commitment in bank portfolios (see: Figure 123). The largest group of companies having problems with servicing their bank debt in 2010 were those whose financial problems occurred in the last year. Nevertheless, the share of such companies declined as compared to the previous year (see: Figure 124), which may suggest that solvency problems faced by real estate developers were not getting more and more serious and the problem largely concerns companies which had already faced such problems for a longer period time. In 2010 the share of companies whose debt was classified as doubtful debt clearly increased as compared to 2009, owing to delays in repayment (see; Figure 125).

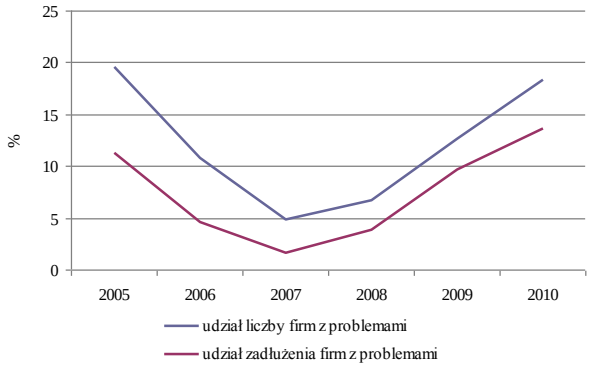
[38] A predominant part of banks' capital commitment to real estate developers is capital commitment as a result of loans granted and open credit lines.

Figure 125. Distribution of the number of companies depending on their financial standing.



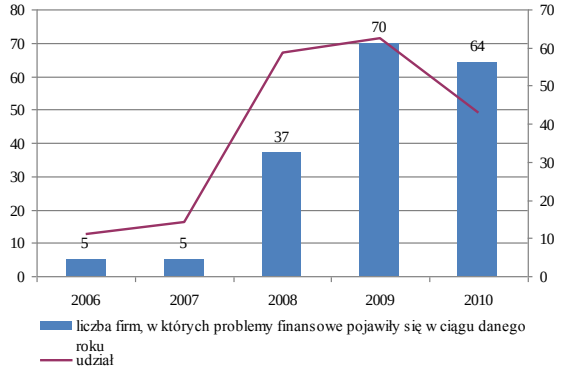
Source: NBP.

Figure 123. Quality of loan portfolio for real estate developers.



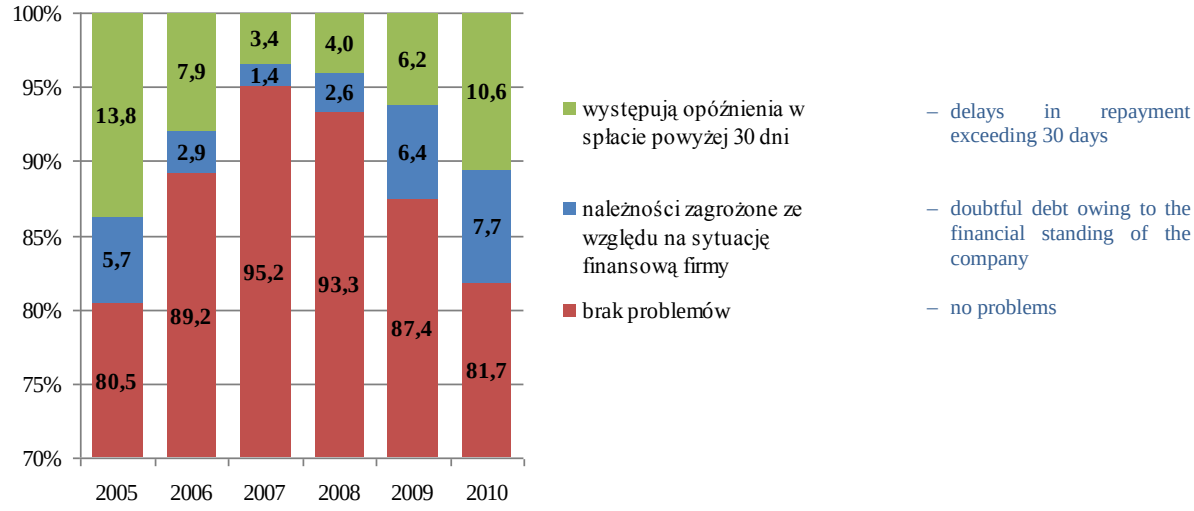
Source: NBP.
udział liczby firm z problemami = share of the number of problem facing companies
udział zadłużenia firm z problemami = share of debt of problem facing companies

Figure 124. Companies which started to face debt servicing problems in a particular year*.



* The red line shows the number of problem facing companies which started to face financial problems in a particular year, i.e. the share of companies that faced financial problem in a particular year and had no financial problems in the preceding year. (Note: it has been assumed that a company had no financial problems when it was not registered in the database for the previous year).
Source: NBP.
liczba firm, w których problemy finansowe pojawiły się w ciągu danego roku = number of companies which started to face financial problems in a particular year
udział = share

Figure 125. Distribution of the number of companies depending on their financial standing.



Source: NBP.

6. Development trends in local markets (comparative analysis of 16 cities in Poland)

The residential real estate sector in Poland, although often analysed as a whole, is not a uniform market and differs significantly across 16 voivodeship capitals. Setting out the criteria of the Polish housing market division, groups of cities may be distinguished whose real estate markets respond to external impulses in a similar way and display a similar structure of housing or demographic relations. The groups of cities separated on the basis of selected criteria are not rigid and, additionally, structural changes affecting a particular market in time significantly hinder the arrival at proper conclusions. In this respect, the so-called tree diagrams may be helpful (see Figure 126–Figure 131), which show similar objects in terms of assumed variables at the successive stages of their creation. The longer is the length on the diagram, the more the selected objects are different from each other.

Figure 126. Housing situation tree diagram (average housing size, floorage per person, average number of rooms per dwelling, average number of persons per dwelling) for voivodeship capitals in 2009.

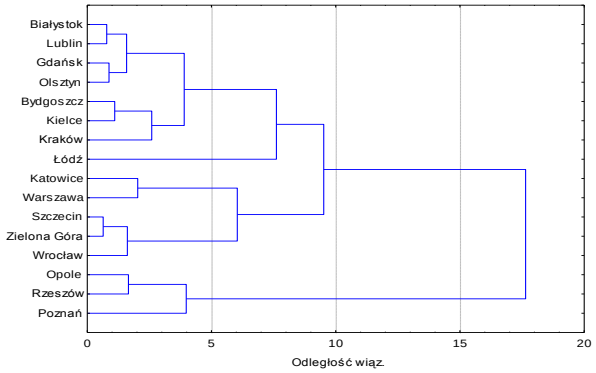
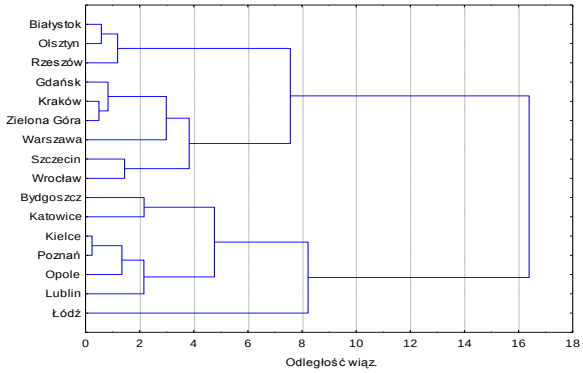


Figure 127. Demographic data tree diagram (birth rate, migration balance, marriages per 1,000 inhabitants) for voivodeship capitals in 2009.



Source: NBP, Central Statistical Office.
Odległość wiąz. = relationship length

Figure 128. Residential structure tree diagram (population at pre-working, working, and post-working age) for voivodeship capitals in 2009.

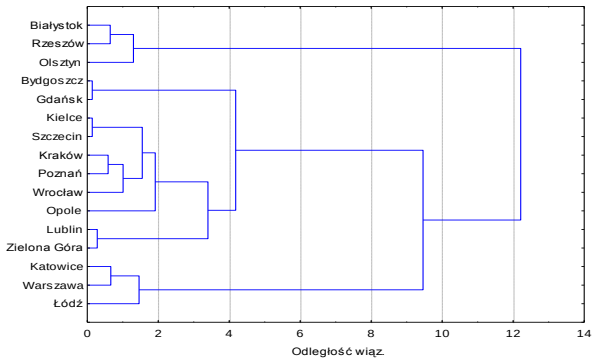
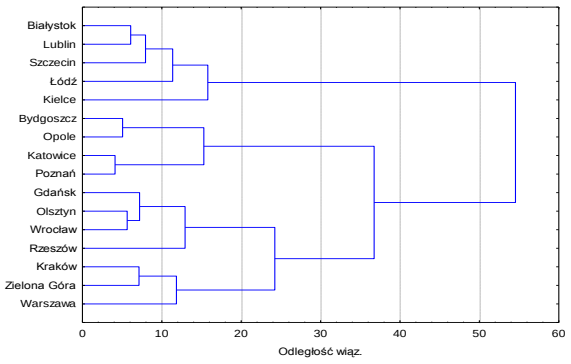


Figure 129. Economic and demographic factors tree diagram (unemployment rate and migration per 1,000 inhabitants) in voivodeship capitals in 2009.



Source: NBP, Central Statistical Office.
Odległość wiąz. = relationship length

Figure 130. Housing construction output tree diagram (completed housing units per 1,000 inhabitants and per 1,000 marriages entered into) for voivodeship capitals in 2009.

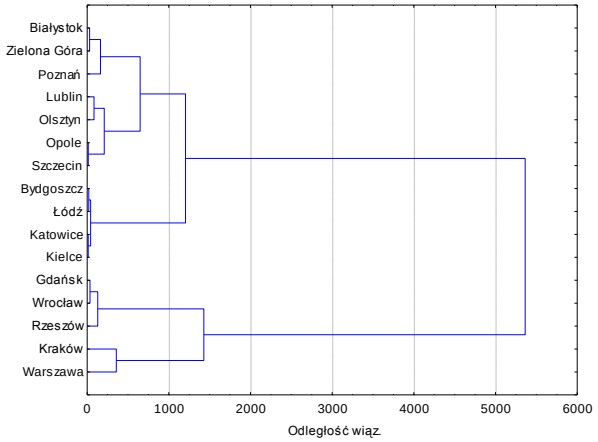
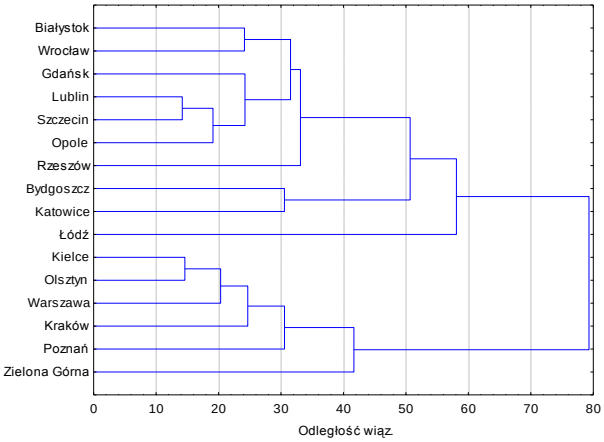


Figure 131. Quarterly price growth rate tree diagram (sales transactions in voivodeship capitals – existing stock market).



Source: NBP, Central Statistical Office.
Odległość wiąz. = relationship length

As a result of the analysis of statistical data and the data gathered in the BaRN database, it has been determined that the optimal division of regional markets should separate the seven largest voivodeship capitals with over 400,000 residents (Gdańsk, Cracow, Łódź, Poznań, Szczecin, Warsaw, Wrocław) and other voivodeship capitals, which has been applied in this chapter. The analysis was based on the data within the administrative borders of particular voivodeship capitals. Owing to the strong dependencies between the neighbouring municipalities, which form agglomerations with voivodeship capitals, data of the areas of the particular agglomerations should be considered in the future in order to present the full situation of the housing real estate market.

Based on the analysis of statistical data (demographic and economic), the possibility of dividing the country also into an eastern and western part has been observed. In the case of voivodeship capitals located in the east, a higher concentration of population in the largest cities has been observed, with distinct depopulation of more distant towns/villages in that region owing to high rate of unemployment. Other parts of the country are less differentiated in this respect. A higher population concentration in major cities, mainly in the east (in 2010 compared to 2002) resulted in rising numbers of residents in Białystok, Olsztyn, Rzeszów and additionally Warsaw being the largest university centre and the largest employment market in Poland.

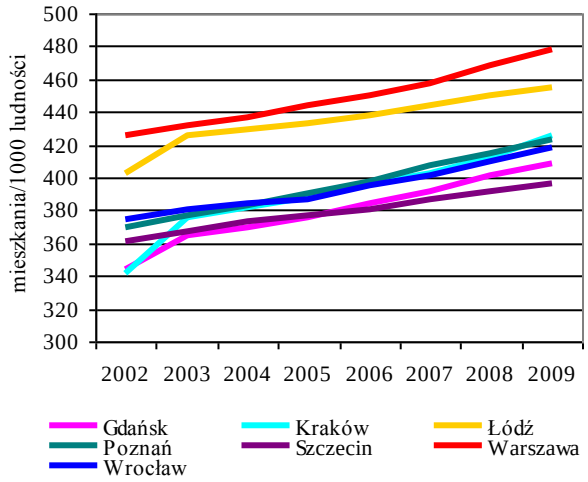
Housing situation in 16 voivodeship capitals

The housing situation of the Polish voivodeship capitals has slightly improved in the recent years. Housing saturation indices in the seven largest city markets were close to the UE-15 level[39]. In the case of nine smaller cities, the indices were slightly lower (except for Katowice) but reflected a positive growth rate (see Figure 132–Figure 133). Among the smallest cities, the largest growth of the housing needs satisfaction index in 2009 compared to 2002 was observed in Lublin (17%), Zielona Góra, Białystok, Rzeszów (15% each), and the lowest in Katowice (9%).

[39] *Source: "Report on the Situation on the Housing Real Estate Market in Poland in the Years 2002–2009" – NBP, 2010, p. 30.*

As regards the average floorage, the housing situation in the voivodeship capitals is similar (see Figure 134–Figure 135). On the largest city markets better population ratios were observed (higher floorage per person, fewer persons per housing – see Figure 136–Figure 139). Depending on the city, the situation may result from several reasons, e.g. non-registration of incomers who migrate to cities to find employment or to learn (Warsaw, Cracow), increased activity of real estate developers (Warsaw, Cracow), drop in the number of residents (Łódź –negative migration balance and negative birth rate).

Figure 132. Housing stock per 1,000 inhabitants in 7 cities.



Source: Central Statistical Office.
mieszkania/1000 ludności = housing/1,000 inhabitants
Kraków = Cracow, Warszawa = Warsaw

Figure 133. Housing stock per 1,000 inhabitants in 9 cities.

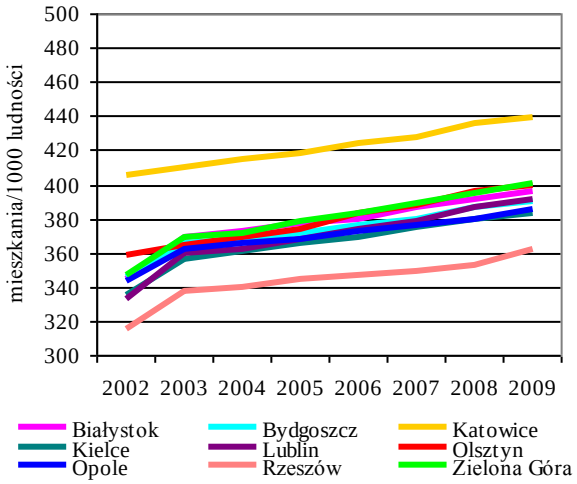
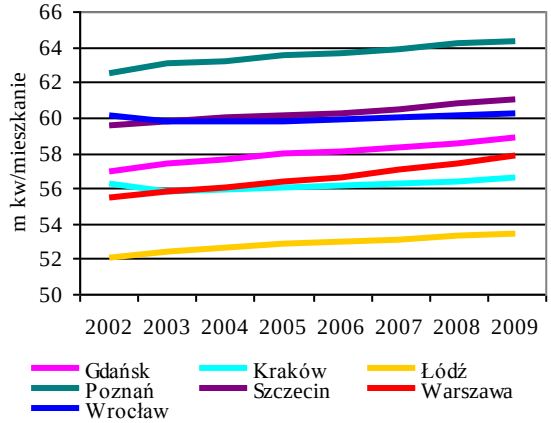


Figure 134. Average floorage (sq. m) in the housing stock of 7 cities.



Source: Central Statistical Office.
m kw/mieszkania = sq. m/housing
Kraków = Cracow, Warszawa = Warsaw

Figure 135. Average floorage (sq. m) in the housing stock of 9 cities.

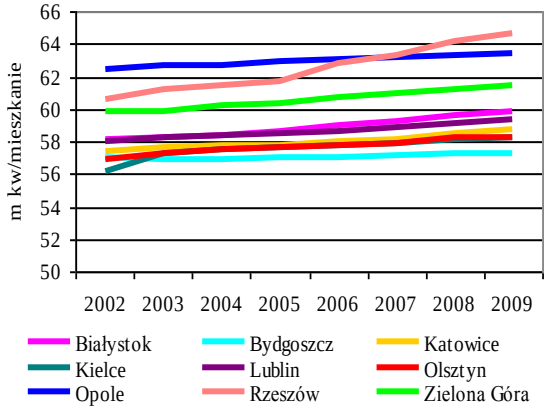


Figure 136. Average floorage per person in the housing stock of 7 cities.

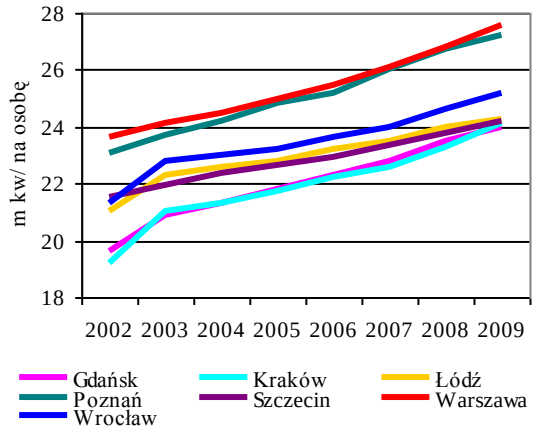
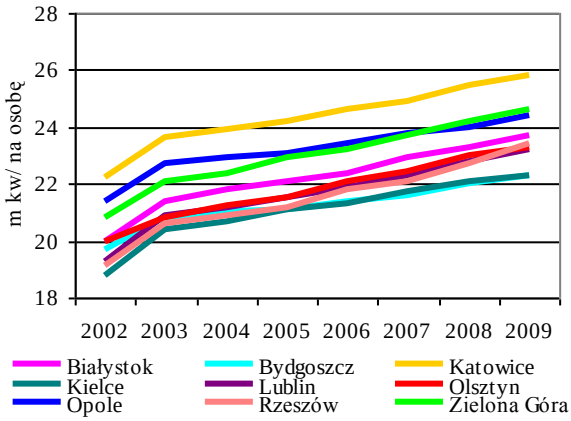


Figure 137. Average floorage per person in the housing stock of 9 cities.



Source: Central Statistical Office.
m kw/osobę = sq. m/person
Kraków = Cracow, Warszawa = Warsaw

Figure 138. Average number of persons per housing in 7 cities.

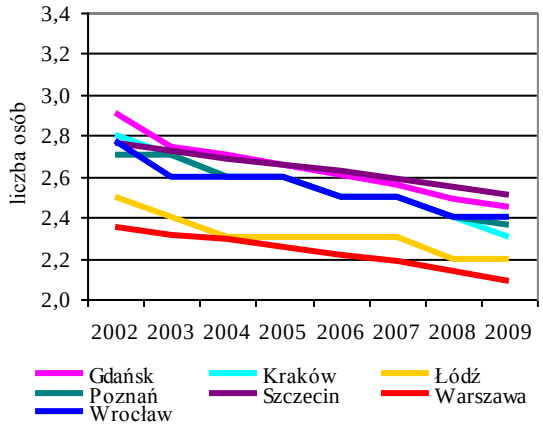
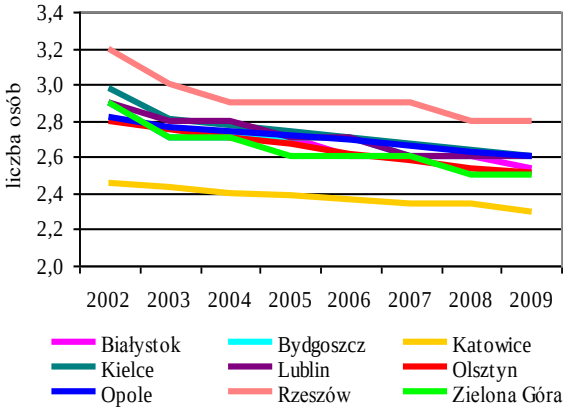


Figure 139. Average number of persons per housing in 9 cities.



Source: Central Statistical Office.
liczba osób = number of persons
Kraków = Cracow, Warszawa = Warsaw

Demographic situation in 16 voivodeship capitals

The development of housing construction depends mainly on demographic factors, and those should be positive in the recent years owing to subsequent generations of the second post-war baby boom of the turn of 1970s and 1980s entering the market. The progressing process of baby boomers becoming independent is reflected in statistical data: in the years 2002–2009 the rate of marriages entered into per 1,000 inhabitants increased (similar level in larger and smaller voivodeship capitals – see Figure 144–Figure 145) and birth rate improved – higher on smaller markets (see Figure 140–Figure 141). A worrying phenomenon on the local markets was observed in 2010, namely the number of marriages entered into and natural birth rate dropped in most voivodeship capitals (except Warsaw, Wrocław, Szczecin, Łódź, Rzeszów and Katowice). For the housing market, it will be important whether the drop observed in 2010 will start a dropping trend or it is only a momentary slump and the growing trend initiated in 2002 will continue in future.

In the case of migration balance, a uniform trend may not be found for a group of cities (see Figure 142–Figure 143). Both the largest voivodeship capitals and the smaller ones

watched positive and negative values in 2002–2010, whereas a slight improvement on the market was reflected. Negative migration balance in the largest cities (e.g. Poznań) or smaller cities (e.g. Bydgoszcz, Lublin) resulted from migration to rapidly developing neighbouring municipalities, where houses were being built and jobs kept in the cities. Moreover, in Katowice, beside to the sub-urbanisation process, leaving the city by some retired people for other regions of the country was observed. Additionally, among the reasons of unfavourable trends in Szczecin and Lublin, the phenomenon of migration for employment abroad was mentioned, however, the scale of the migration was lower than 2–3 years ago.

Gradual slight improvement of demographic indexes in the voivodeship capitals of Poland in 2002–2009 did not make up for the unfavourable changes in the age structure of the residents of those cities. Growing percentage of population at post-working age and decreasing percentage of population at pre-working age resulted in a deterioration of demographic load indexes in those cities, whereas this was least visible in the smallest cities (see Figure 146–Figure 147).

Figure 140. Birth rate per 1,000 inhabitants in 7 cities.

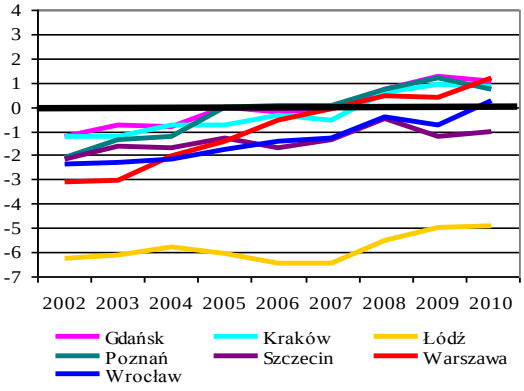
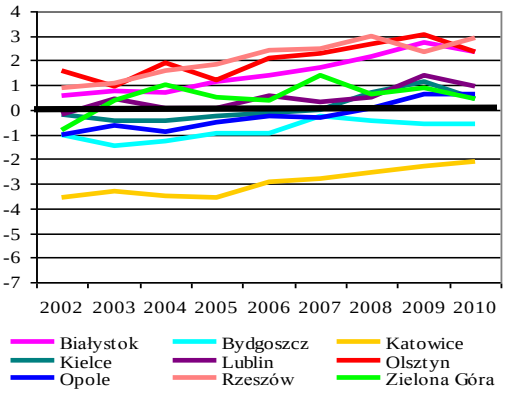


Figure 141. Birth rate per 1,000 inhabitants in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw

Figure 142. Migration per 1,000 inhabitants in 7 cities.

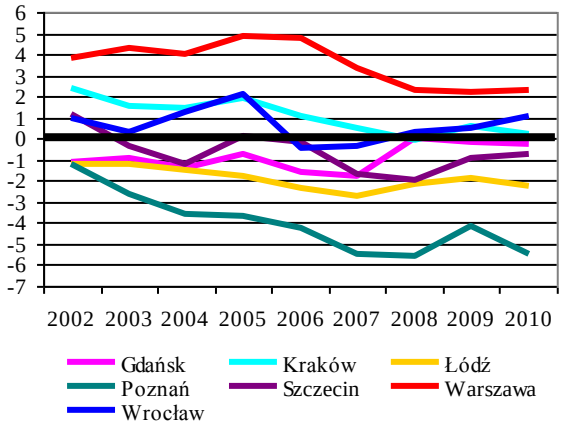
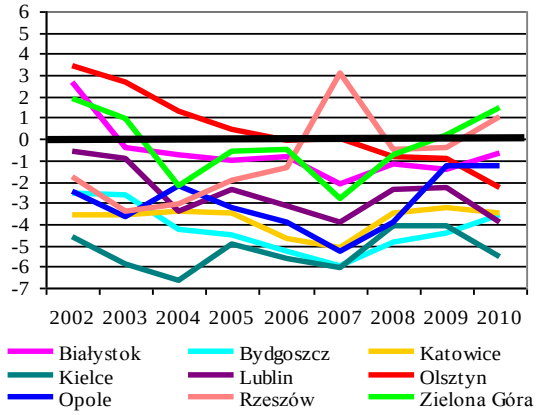


Figure 143. Migration per 1,000 inhabitants in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw

Figure 144. Marriages per 1,000 inhabitants in 7 cities.

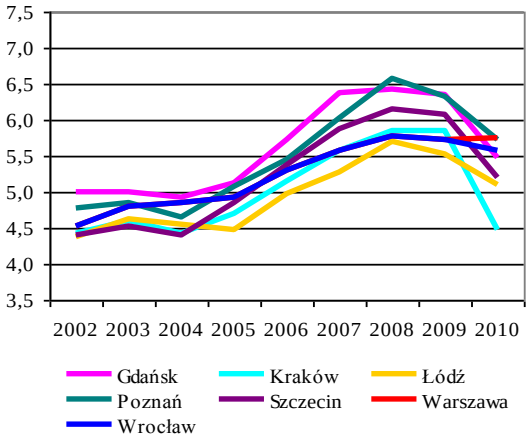
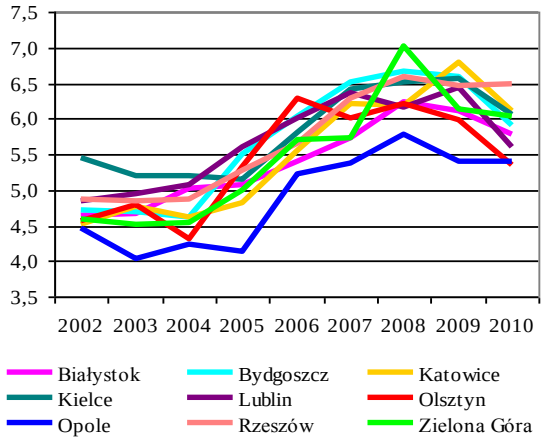


Figure 145. Marriages per 1,000 inhabitants in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw

Figure 146. Rate of change in population age, 2009 to 2002, in 7 cities.

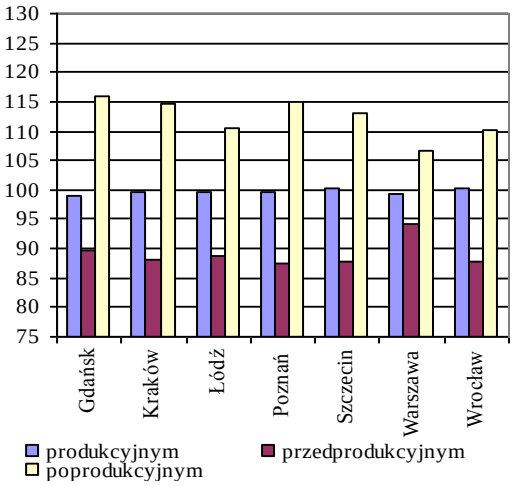
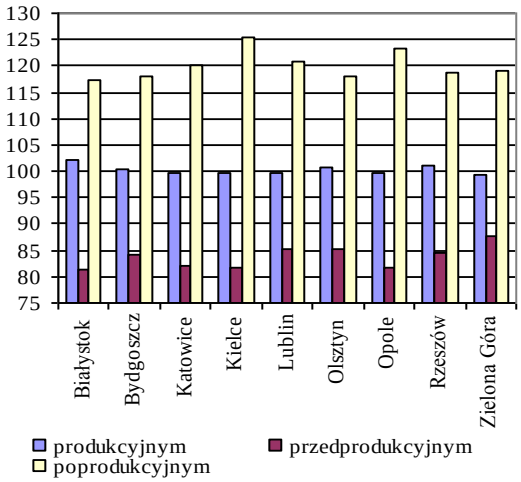


Figure 147. Rate of change in population age, 2009 to 2002, in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw
poprodukcyjny = post-working age, produkcyjny = working age, przedprodukcyjny = pre-working age

Economic factors in 16 voivodeship capitals

Economic factors affecting the demand for housing real estate include income, unemployment rate and loans availability. Starting from 2002 both in larger regional cities and in smaller towns positive trends in the market were observed (slow decline in unemployment and average monthly wage growth– see: Figure 148–Figure 149 and Figure 152–Figure 153). The situation changed after the financial crisis, which markedly affected unemployment growth. A disturbing phenomenon observed in the largest as well as in smaller voivodeship capitals is unemployment among the young (see: Figure 150–Figure 151). The high share of population up to 34 years of age in the unemployment structure will have an unfavourable impact on the development of local real estate markets. So far, in such cities as Białystok, Cracow, Opole, Szczecin, Rzeszów, Warsaw or Wrocław this age group accounted for the largest part of home buyers.

In the years 2002–2010, in the two groups of the analysed voivodeship capitals of Poland average wage growth was observed, whereas the highest growth rates were recorded in the largest regional cities (with the exception of Katowice, where the highest wage level in Poland is generated by the coal mining sector) – see: Figure 152–Figure 153.

A slow growth in average wage with concurrent adjustment of home prices offered by real estate developers caused that starting from 2008, availability of housing in the primary market was slightly higher in particular voivodeship capitals of Poland (see: Figure 154–Figure 155). Similarly to the primary market, availability of housing in the existing stock market has also slightly grown, whereas in smaller cities availability of housing was higher than in the seven largest regional markets (see: Figure 156–Figure 157). Additionally, in the group of smaller cities, Katowice stands out as regards availability of housing, which results from high average wage level recorded in that town and comparatively low prices of housing compared with other cities.

After the slump at the end of 2007 and beginning of 2008 a slow growth in loan availability in the two analysed groups of voivodeship capitals was observed, as well as related growth in availability of housing financed with PLN loans (see: Figure 158–Figure 161). The situation resulted mainly from interest rates decreases, growth in household income and low inflation levels. Two cities standing out in that group are worth mentioning: Łódź and Katowice, where major differences in loan availability were identified. In Łódź, this was the consequence of low and in Katowice – high wage level against the backdrop of the group as whole.

In the years 2009–2010 the interest in loans provided under the government-subsidized housing programme "Rodzina na Swoim" (RnS) grew in voivodeship capitals of Poland, which resulted from the increase of threshold prices per square meter of housing, which was the condition of interest rate subsidy under the programme, and last year's speculations with regard to changes in the programme criteria (see: Figure 164–Figure 165). Comparing the medians of selling prices and housing prices indexes entitling to subsidies under the RnS programme confirms high mismatch of the values in the voivodeship cities (Figure 166–Figure 169). During the initial period of the programme implementation, availability of preference loans was limited by excessively high home prices as compared to the specific home price indices in the voivodeship capitals. In the years 2009–2010 the situation changed owing to an increase in the price thresholds per square meter of housing. Higher preference loan availability had a positive impact on the housing market, however lower home selling prices as compared to price indices in the RnS programme confirm that consumers did not accept excessive home prices and were interested in buying cheaper housing.

Figure 148. Unemployment rate in 7 cities.

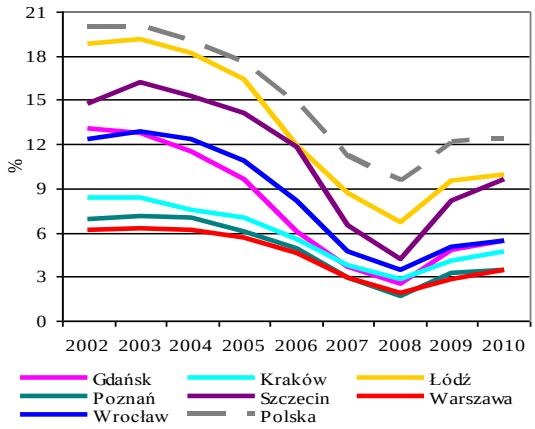
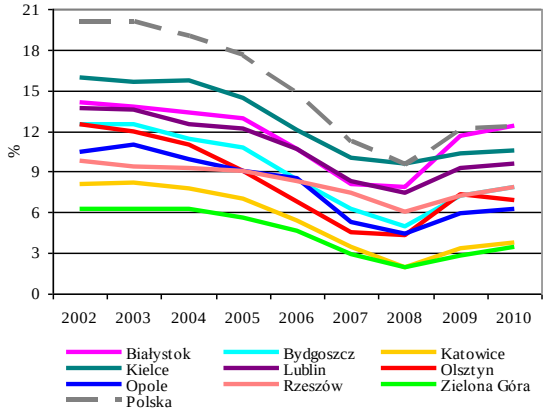


Figure 149. Unemployment rate in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw

Figure 150. Share of the unemployed aged up to 34 in 7 cities.

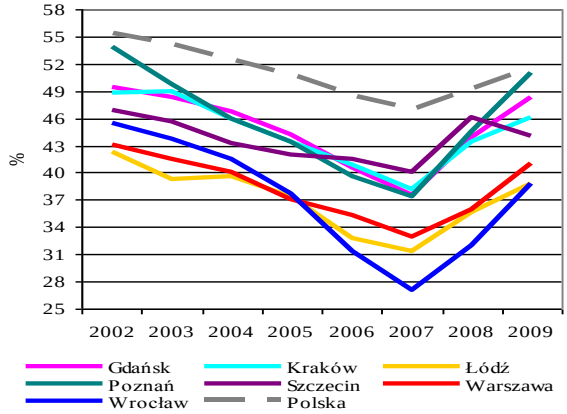
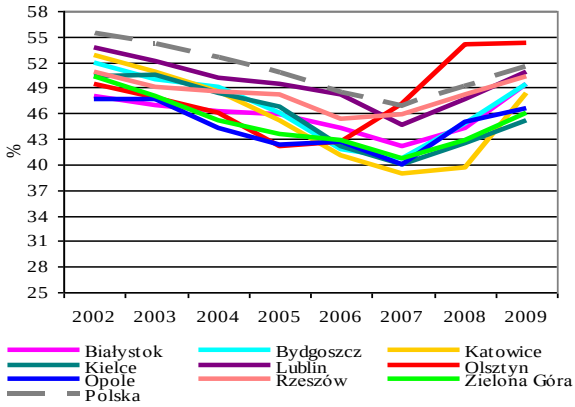


Figure 151. Share of the unemployed aged up to 34 in 9 cities.



Source: Central Statistical Office.
Kraków = Cracow, Warszawa = Warsaw

Figure 152. Average monthly salary in the enterprise sector in 7 cities.

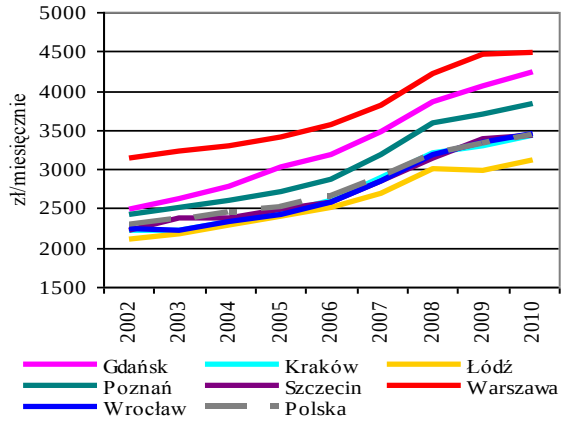
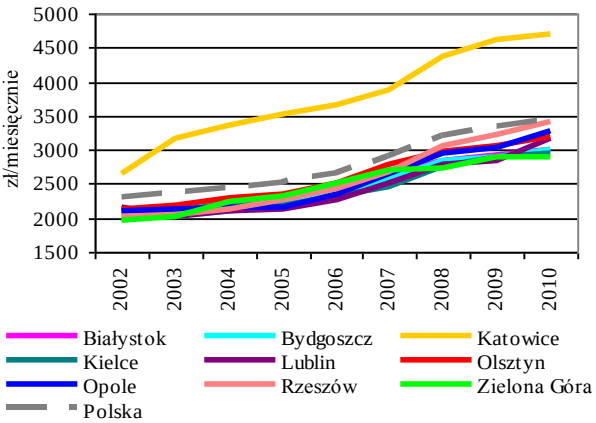


Figure 153. Average monthly salary in the enterprise sector in 9 cities.



Source: Central Statistical Office.
zł/miesięcznie = PLN/month, Kraków = Cracow, Warszawa = Warsaw

Figure 154. Housing availability per average salary, 7 cities, primary market.

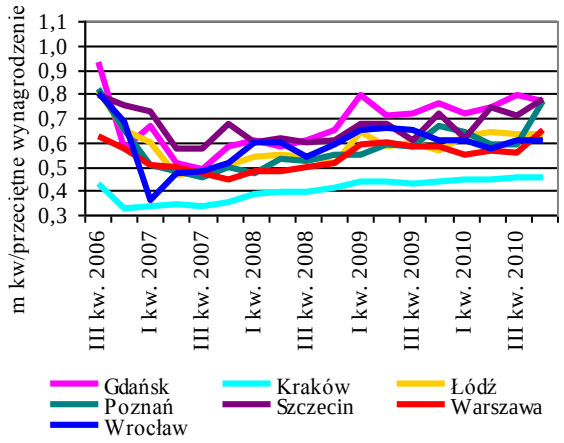
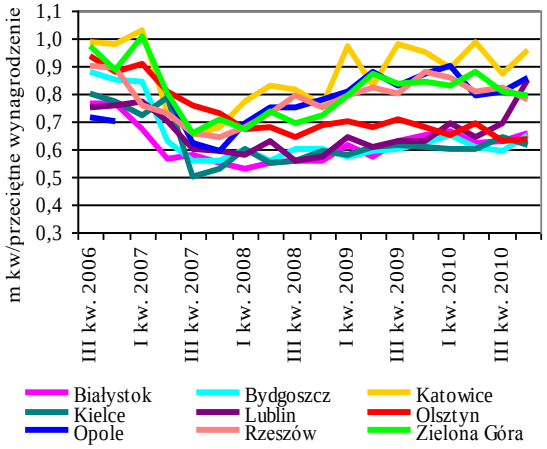


Figure 155. Housing availability per average salary, 9 cities, primary market.



Source: NBP, Central Statistical Office.
m kw /przeciętne wynagrodzenie = sq. m/average salary
I kw. = Q.1, III kw. = Q.3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 156. Housing availability per average salary, 7 cities, existing stock market.

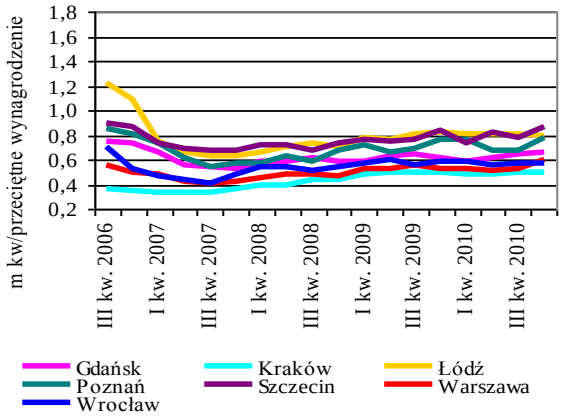
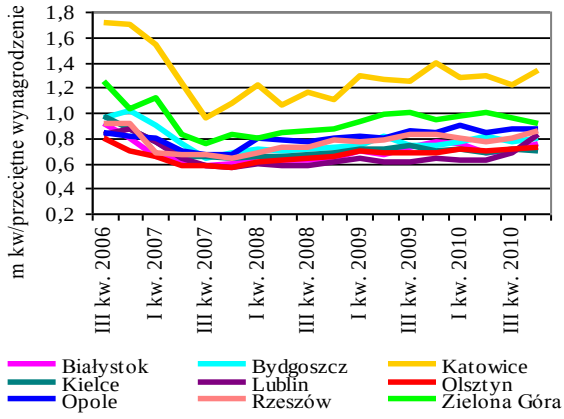


Figure 157. Housing availability per average salary, 9 cities, existing stock market.



Source: NBP, Central Statistical Office.
m kw /przeciętne wynagrodzenie = sq. m/average salary
I kw. = Q.1, III kw. = Q.3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 158. PLN loan availability in 7 cities.

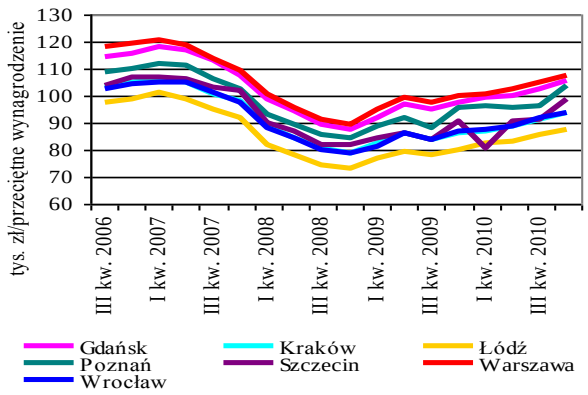
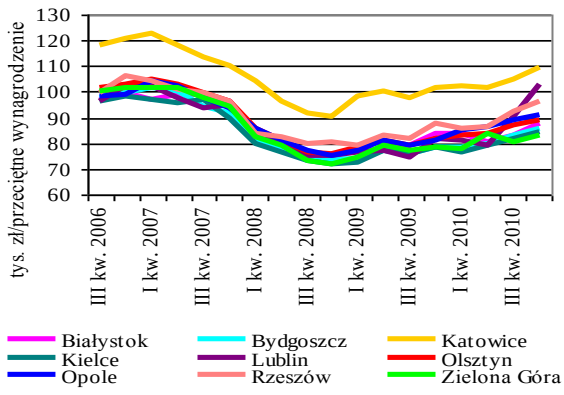


Figure 159. PLN loan availability in 9 cities.



Source: NBP, Central Statistical Office.
m kw /przeciętne wynagrodzenie = sq. m/average salary
I kw. = Q.1, III kw. = Q.3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 160. Availability of loan-financed housing (in PLN loans) in 7 cities.

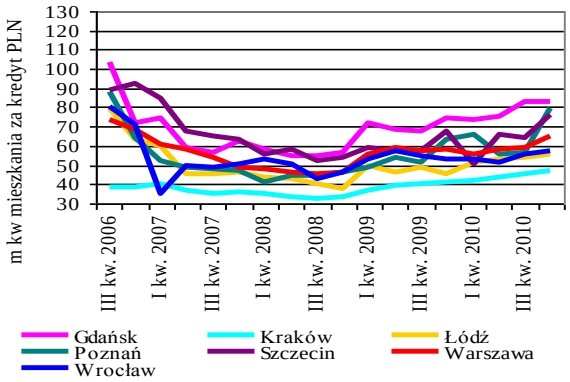
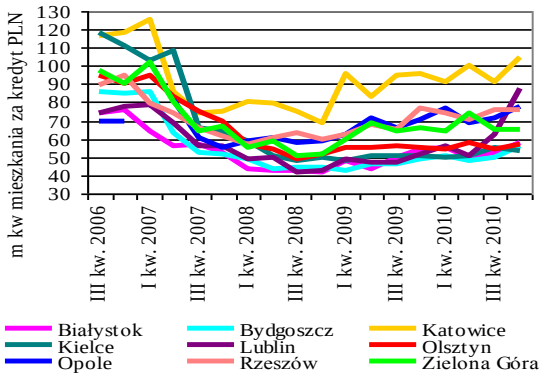


Figure 161. Availability of loan-financed housing (in PLN loans) in 9 cities.



Source: NBP, Central Statistical Office.
m kw mieskania za kredyt PLN = sq. m of housing for a PLN loan
I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 162. Value of housing loans granted (in PLN million), 7 cities.

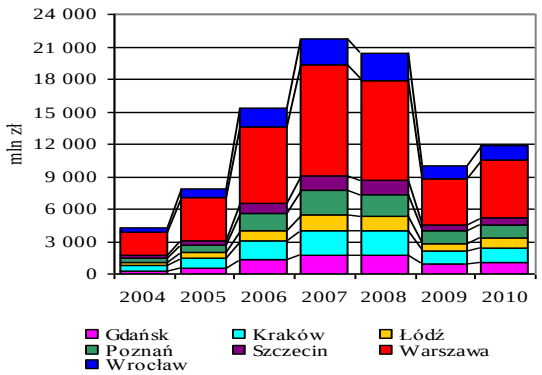
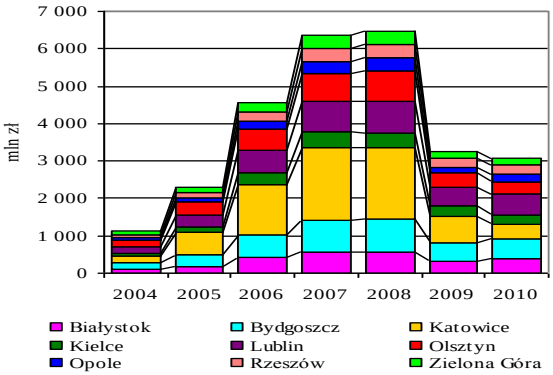


Figure 163. Value of housing loans granted (in PLN million), 9 cities.



Source: BIK, NBP.
mln zł = PLN milion, Kraków = Cracow, Warszawa = Warsaw

Figure 164. RnS programme share in the value of housing loans granted, 7 cities.

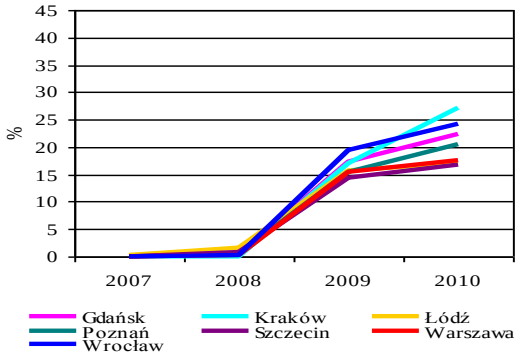
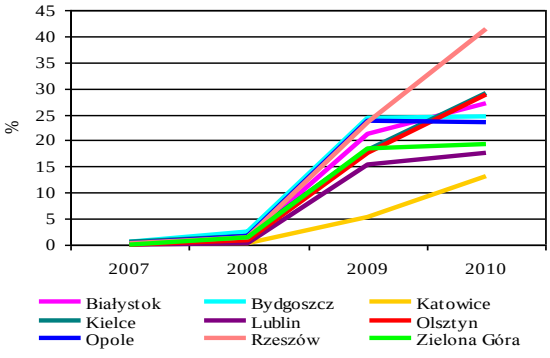


Figure 165. RnS programme share in the value of housing loan granted, 9 cities.



Source: BGK, BIK, NBP.
Kraków = Cracow, Warszawa = Warsaw

Figure 166. RnS limit gap/surplus compared to transactions median in 7 cities, primary market.

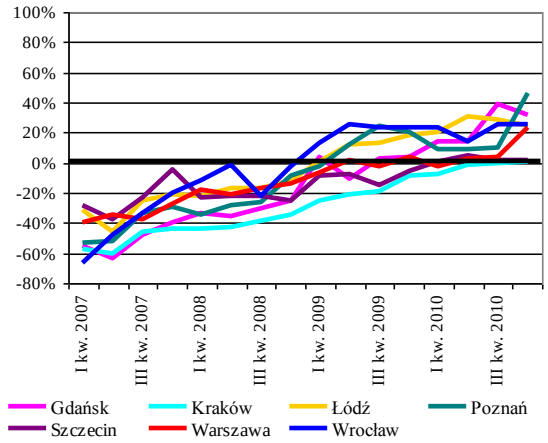
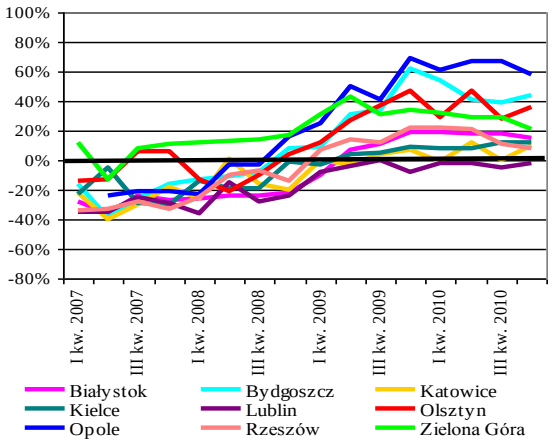


Figure 167. RnS limit gap/surplus compared to transactions median in 9 cities, primary market.



Source: BGK, NBP.
I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 168. RnS limit gap/surplus compared to transactions median in 7 cities, existing stock market.

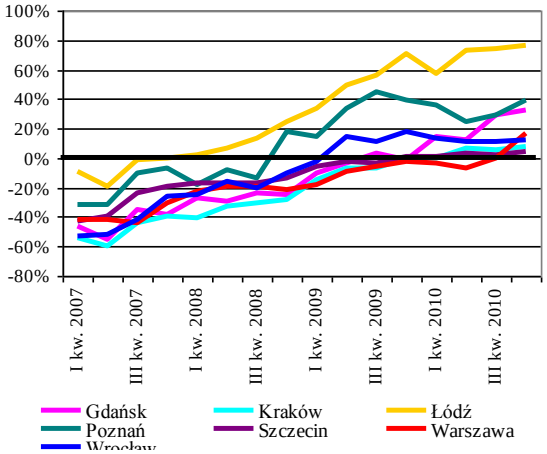
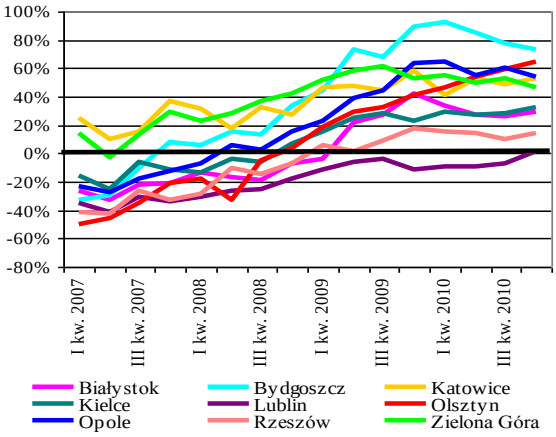


Figure 169. RnS limit gap/surplus compared to transactions median in 9 cities, existing stock market.



Source: BGK, NBP.
I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Housing construction in 16 voivodeship capitals

The rate of housing construction development in particular voivodeship capitals differed and was conditioned upon many factors, e.g. housing demand and availability of land for housing investment projects. Voivodeship capitals in which the factors were positive and the investment projects yielded high rate of return, which means that they generated high profitability on developers' activities, registered the highest growth in housing construction (Gdańsk, Cracow, Warsaw). In those cities the share of real estate developers in housing investment projects launched in 2002–2010 was the largest and equalled approx. 80% (Warsaw and Gdańsk) or approx. 76% (Cracow). High activity of real estate developers was also observed in Wrocław and Poznań, where in the years 2002–2010 they started the construction of approx. 76% and 73%, respectively, of all housing construction projects.

High oversupply of housing in the markets of some voivodeship capitals in Poland resulting from the 2006–2007 boom, crisis-induced turmoil in the financial markets and dropping sales urged real estate developers to limit or suspend in 2009 new housing investment projects. At the end of 2009 and beginning of 2010 a slight drop in home prices, better availability of loans granted under the government subsidized housing programme "Rodzina na Swoim" (higher limits), and the announced programme changes provided an incentive to home purchases, bringing about improvement in sales generated by real estate developers, whereas some of the developers decided to reinstate the previously suspended housing investment projects (in Warsaw, Gdańsk, Cracow and Poznań), particularly, in the so-called popular segment, better adjusted to the demand (smaller floorage and lower price per square meter of housing).

In the years 2002–2010, the local housing markets of voivodeship capitals of Poland experienced cyclic changes in the size of housing completed (see Figure 174–Figure 175). In the group of seven largest voivodeship capitals of Poland (with the exception of Łódź), the scale of discrepancy in housing construction effects as regards the average housing floorage was lower than in the other group of 9 smaller regional cities. The atypical situation in Łódź resulted from high share of individual construction in the total number of housing units completed, characterised with quite a large housing floorage.

The barriers limiting housing construction development were similar in both analysed groups of voivodeship capitals. Problems, affecting the housing real estate sector negatively, reported by the investors included, among other things: missing up-to-date local area development plans or low level of the plan coverage of the city area (Bydgoszcz, Kielce, Łódź, Opole, Cracow, Warsaw), low availability of land for housing construction (Lublin, Kielce, Zielona Góra), absence of infrastructure on new housing estates (Lublin, Rzeszów, Warsaw), unclear legal status of some of the real estates (Warsaw, Kielce) and difficulty in obtaining investment loans (Kielce).

Figure 170. Housing completed per 1,000 inhabitants in 7 cities.

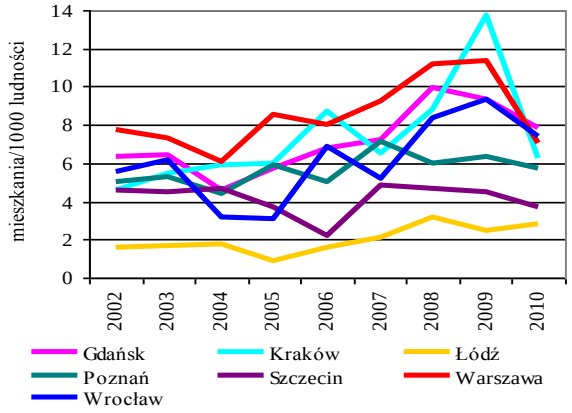
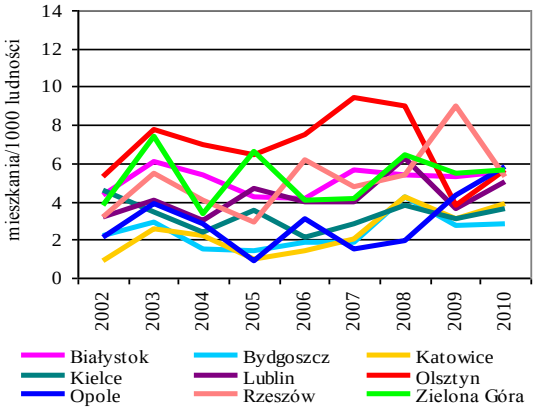


Figure 171. Housing completed per 1,000 inhabitants in 9 cities.



Source: Central Statistical Office.
mieszkania/1000 ludności = housing/1,000 inhabitants
Kraków = Cracow, Warszawa = Warsaw

Figure 172. Housing completed per 1,000 marriages newly celebrated in 7 cities.

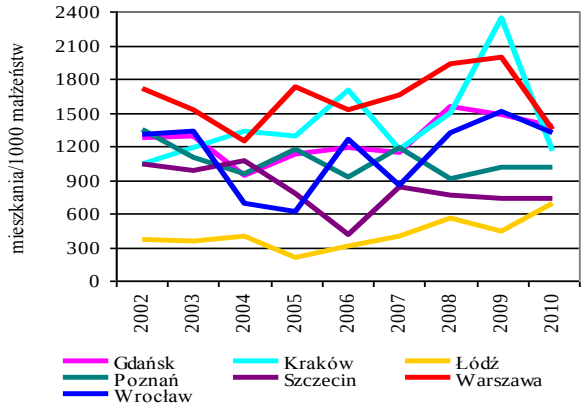
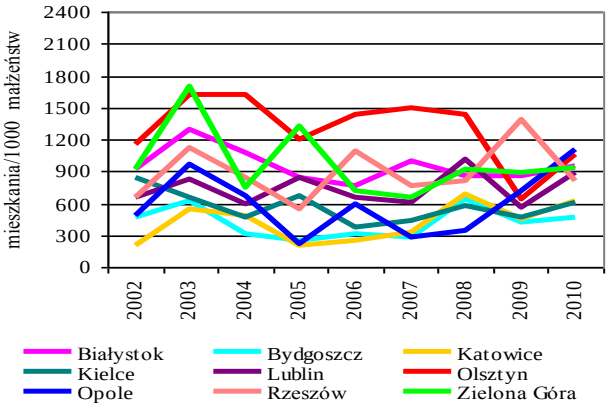


Figure 173. Housing completed per 1,000 marriages newly celebrated in 9 cities.



Source: Central Statistical Office.
mieszkania/1000 małżeństw = housing/1,000 marriages
Kraków = Cracow, Warszawa = Warsaw

Figure 174. Average floorage of housing completed, 7 cities.

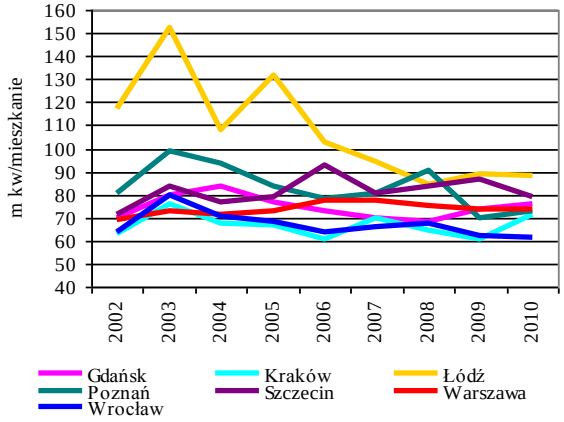
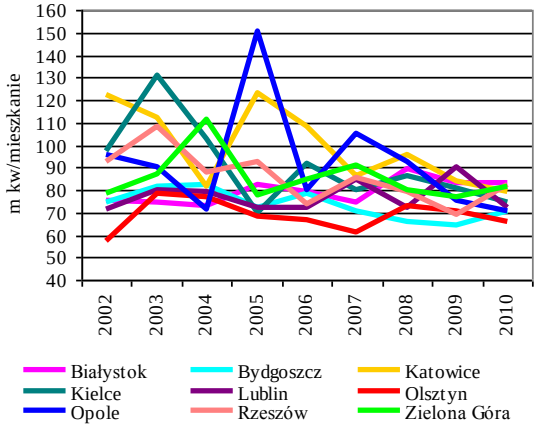
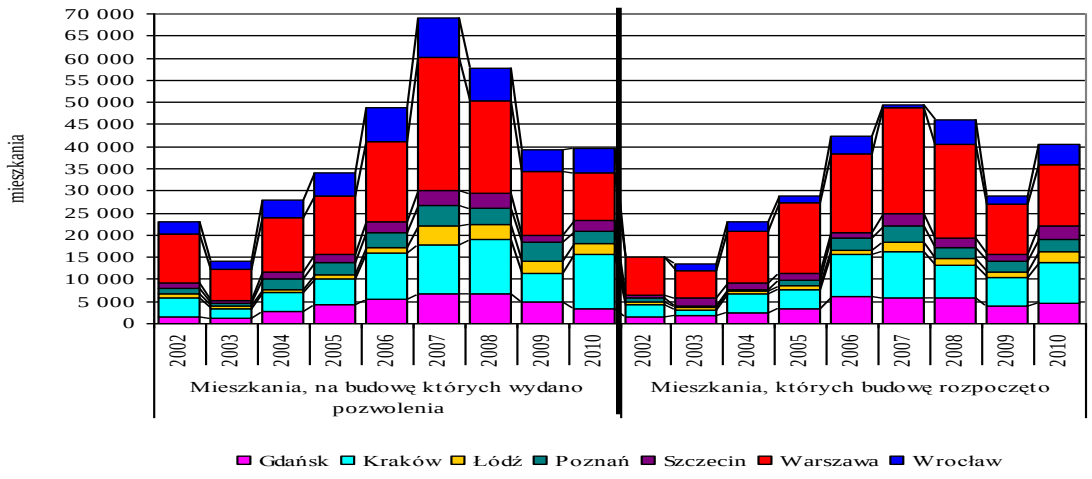


Figure 175. Average floorage of housing completed, 9 cities.



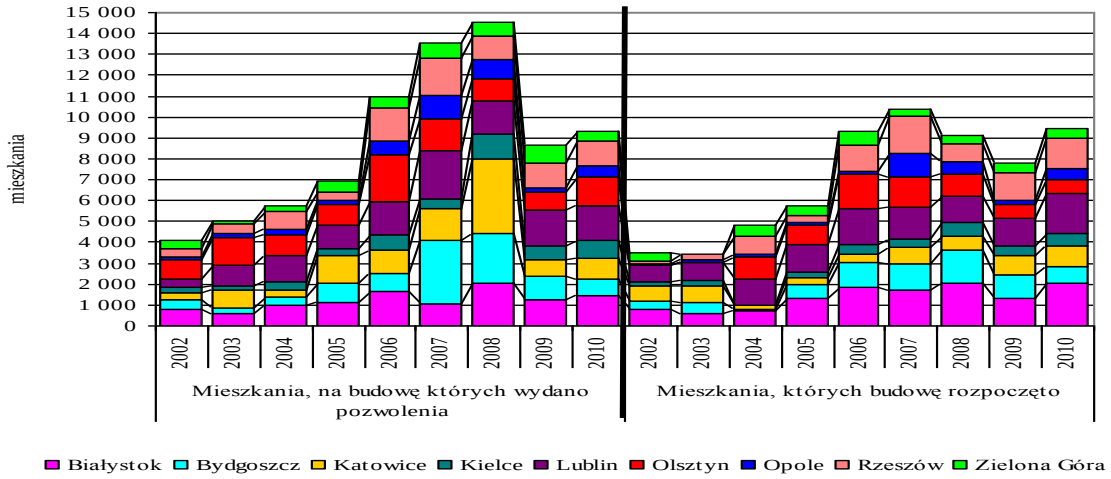
Source: Central Statistical Office.
m kw/mieszkanie = sq. m/housing
Kraków = Cracow, Warszawa = Warsaw

Figure 176. Perspectives of housing construction in 7 cities.



Source: Central Statistical Office.
mieszkania = housing units
mieszkania, na budowę których wydano pozwolenia = housing units for the construction of which permits have been granted
mieszkania, których budowę rozpoczęto = housing units whose construction has already begun
Kraków = Cracow, Warszawa = Warsaw

Figure 177. Perspectives of housing construction in 9 cities.

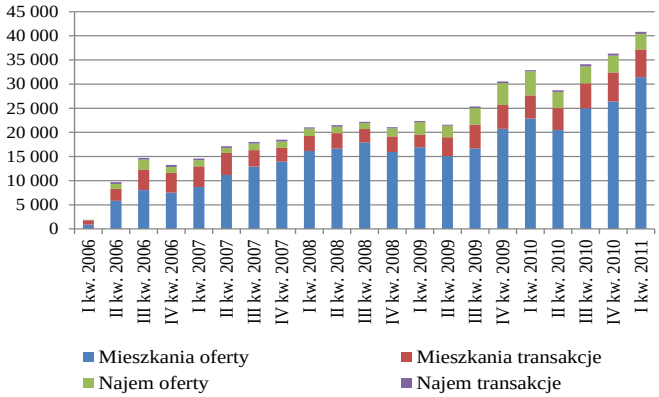


Source: Central Statistical Office.
mieszkania = housing units
mieszkania, na budowę których wydano pozwolenia = housing units for the construction of which permits have been granted
mieszkania, których budowę rozpoczęto = housing units whose construction has already begun

Analysis of data gathered in the BaRN database

The BaRN data covers both offers and transactions of home sale and rental within the administrative limits of sixteen voivodeship capitals[40]. The BaRN database was generated by voluntary provision of data by real estate agents and developers, with a major engagement of the NBP Regional Branches.

Figure 178. Number of records in the BaRN database.



Source: NBP.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
mieszkania oferty = housing sales offers, najem oferty = housing rental offers
mieszkania transakcje = housing sales transactions, najem transakcje = housing rental transactions

Despite the differentiated demographic and economic situation and differences in the housing stock of the analysed regions of Poland, the primary and existing stock market

[40] Trójmiasto is an exception because Gdańsk, Gdynia and Sopot are analysed jointly, whereas in the comparative analysis Gdańsk is taken into account separately.

experienced similar price developments. There was no marked division into group of cities that respond differently to the market changes, including reactions to the 2007–2008 turmoil (Figure 179–Figure 182 and Figure 191–Figure 194). All markets responded faster to external factors in the case of selling prices than asking prices. The highest prices in the primary and existing stock market, both in the case of offers and transactions were recorded in Poland's largest cities, the unquestioned leader being the Warsaw market, which is more expensive by about PLN 1,000 in the primary market and about PLN 2,000 in the existing stock market than the second largest market of Cracow. As regards 9 smaller voivodeship capitals, price differences between particular cities are considerably smaller. The smallest markets are definitely less liquid, whereas smaller number of offers and transactions is translated into higher price fluctuations in the periods of demand or supply disturbances.

Similar relationships in local markets as regards price level and price growth result from the analysis of asking and transaction price median on the primary and existing stock markets (Figure 183–Figure 186 and Figure 195–Figure 198). More differentiated as regards price median in both markets is the group of the seven largest cities in Poland, with two cities markedly distinguishing themselves: Warsaw on the one hand with the highest price in the existing stock market and Łódź, on the other hand with the lowest price - the effect of the Warsaw market vicinity. In the group of smaller voivodeship capitals, clearly a higher uniformity may be observed, whereas the price line in the subsequently analysed periods was smoother, as a result of rejection of discrepant observations. The small scale of new construction in smaller cities is translated into a definitely higher average price and median fluctuations, whereas it often happens that one big investment project in a more expensive or cheaper location has a major impact on the price level and price growth.

Home selling prices in the market of existing stock in 2010 were mainly affected by the wage level in a particular city and the size of the city (Figure 199 – correlation matrix). The correlation coefficients for the price of a square meter of housing and the size of the city amounted to 0.86, whereas for the price and wage level – about 0.52.

Each of the analysed markets experiences tensions resulting from housing demand and supply mismatch, observed both in the primary and existing stock market, however, the cyclic nature of the study and the frequently non-representative study groups (particularly in the smaller markets) make it impossible to provide a thorough analysis of new housing. The primary market is statistically better balanced as regards supply and demand structure. A reliable analysis of market adjustment may be carried out solely in the largest voivodeship capitals (Figure 187–Figure 190) due to their high liquidity. The results of the studies in all cities confirm that the smallest floorage housing sells the fastest, whereas in the case of larger housing oversupply is observed, which is translated into higher price discounts per square metre of such housing.

In the market of existing stock the largest negative mismatch (higher percentage share in transactions than in offers) is observed in the case of housing with a floorage up to 39 sq. m (Figure 200–Figure 201). A smaller differentiation in this respect is recorded by larger cities, which is driven by the fact that they are important university centres and demand for the smallest housing is the largest there. Along with growth in floorage, the trend is reversed and a positive market mismatch is observed. In the case of the largest housing (floorage of 60–80 sq. m and above 80 sq. m), their share in transactions is much smaller than in the offer structure (Figure 202–Figure 203). Similarly to the smallest housing, the group of the seven largest cities in Poland is more homogenous in this respect. The highest balance of supply and demand in the existing stock market is observed in the case of housing ranging from 40 to 60 sq. m, however, at the end of 2010 it was negative everywhere.

Since the housing boom period, extension of the average home selling time in the existing stock market was observed – see: Figure 204-Figure 205 (with the exception of disturbances resulting from small samples in smaller cities). Lower demand resulted from the activity of

local real estate developers who quickly adjusted their offer to the market demand, thus, attracting customers from the market of existing stock. The relatively higher importance of the primary market as compared to the existing stock market is observed in smaller, less liquid markets, where larger investment projects put stronger pressure on the whole local market. The difference between the analysed market of the 7 largest cities and the market of other cities – based on the average time of sale – recorded since the beginning of the BaRN research has not exceeded 1 week. The average home selling time in the existing stock market was nearly 2.2 times longer in 2010 than in 2007 (the first year of research with four research periods) and equalled nearly 150 days.

Primary housing market according to the BaRN database

Figure 179. Growth rate (Y/Y) of asking prices in 7 cities – primary market.

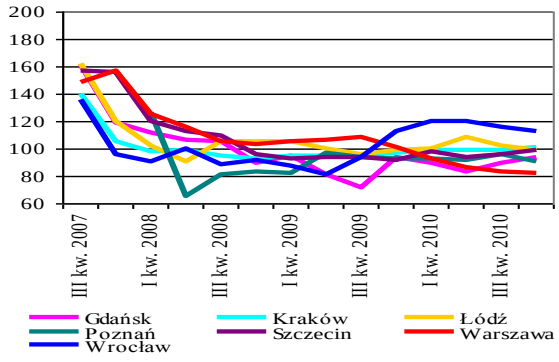
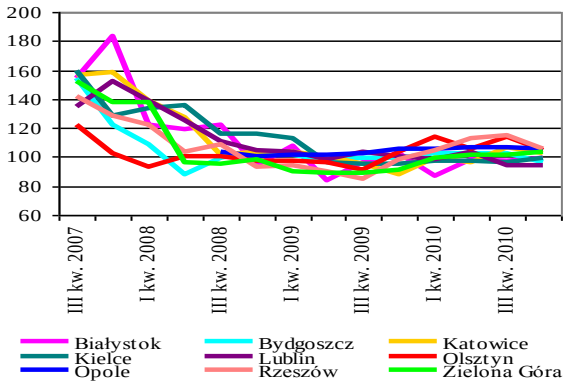


Figure 180. Growth rate (Y/Y) of asking prices in 9 cities – primary market.



Source: NBP.

I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 181. Growth rate (Y/Y) of selling prices in 7 cities – primary market.

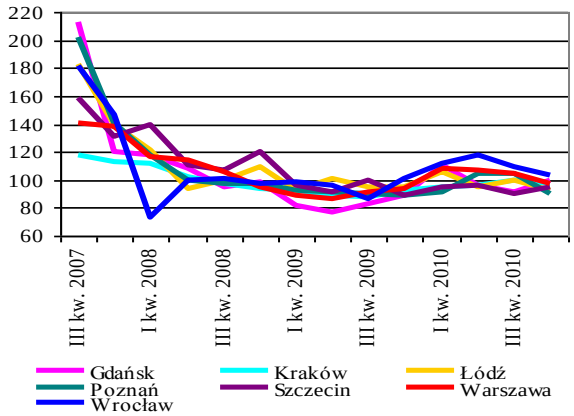
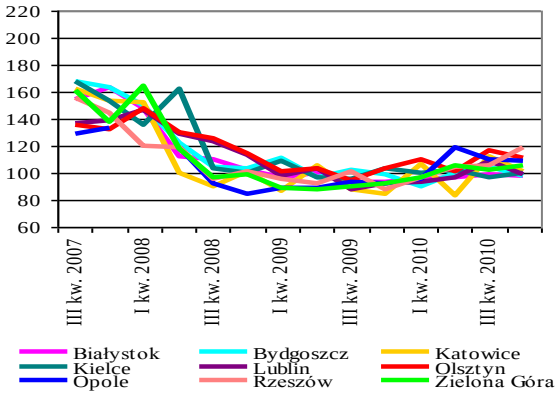


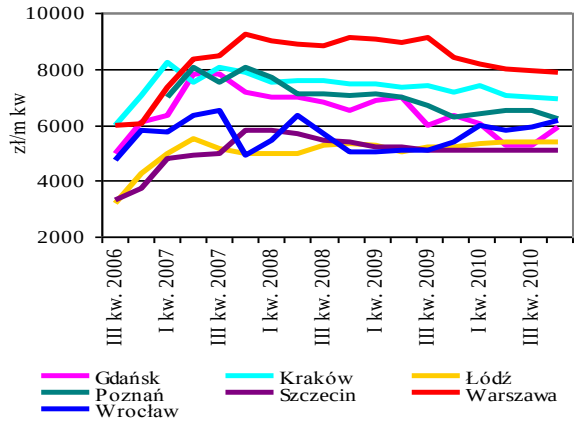
Figure 182. Growth rate (Y/Y) of selling prices in 9 cities – primary market.



Source: NBP.

I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 183. Median of asking prices in 7 cities – primary market.



Source: NBP.

zł/m kw = PLN/sq. m

I kw. = Q1, III kw. = Q.3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 184. Median of selling prices in 7 cities – primary market.

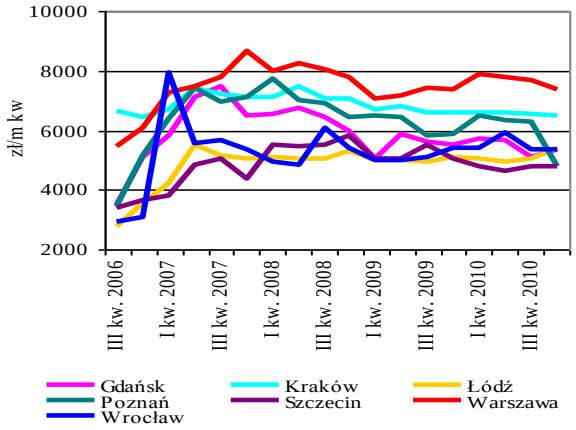
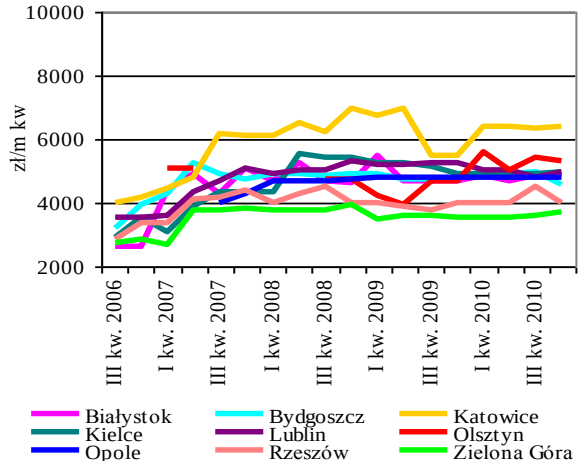


Figure 185. Median of asking prices in 9 cities – primary market.



Source: NBP.

zł/m kw = PLN/sq. m

I kw. = Q1, III kw. = Q.3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 186. Median of selling prices in 9 cities – primary market.

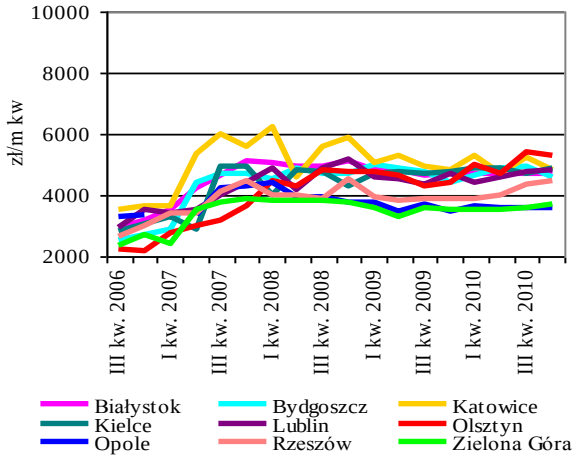
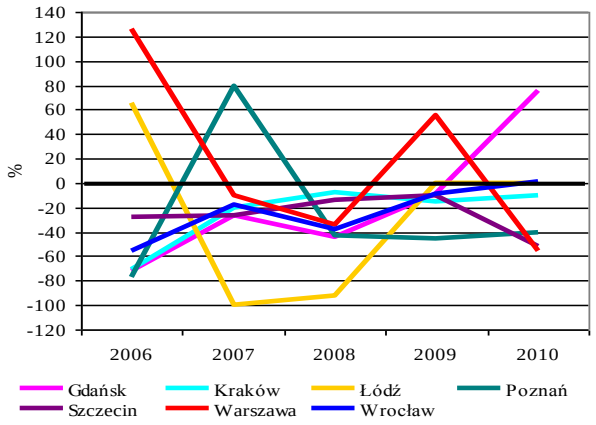


Figure 187. Supply vs. demand for housing of 39 sq. m floorage or less, primary market, 7 cities.



Source: NBP.
Kraków = Cracow, Warszawa = Warsaw

Figure 188. Supply vs. demand for housing of 40–59 sq. m floorage, primary market, 7 cities.

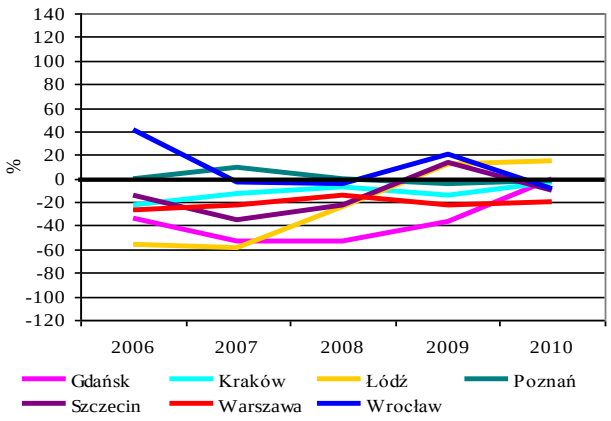
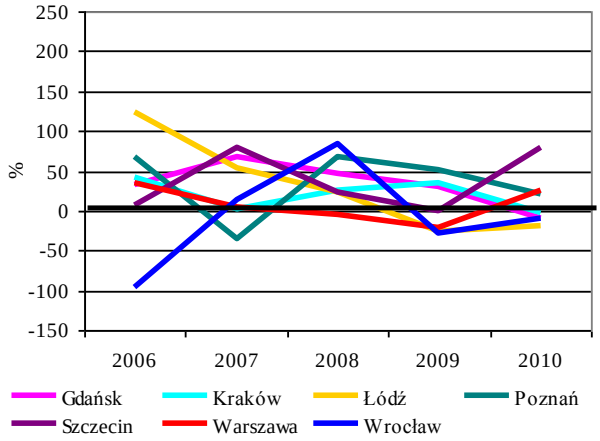
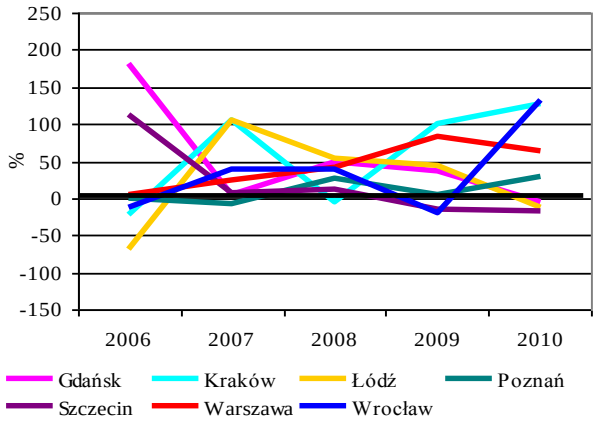


Figure 189. Supply vs. demand for housing of 60–79 sq. m floorage, primary market, 7 cities.



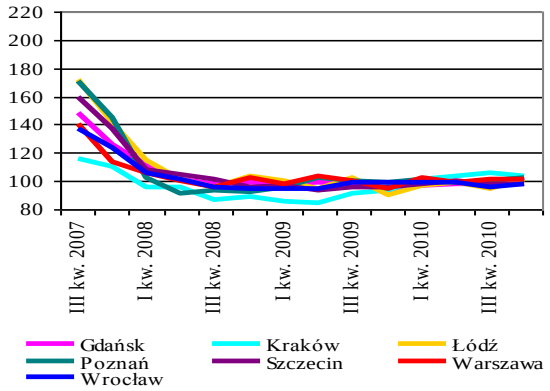
Source: NBP.
Kraków = Cracow, Warszawa = Warsaw

Figure 190. Supply vs. demand for housing of 80 sq. m floorage or more, primary market, 7 cities.



Existing stock market according to the BaRN database

Figure 191. Growth rate (Y/Y) of asking prices in 7 cities – existing stock market.



Source: NBP.

Kraków = Cracow, Warszawa = Warsaw

Figure 192. Growth rate (Y/Y) of asking prices in 9 cities – existing stock market.

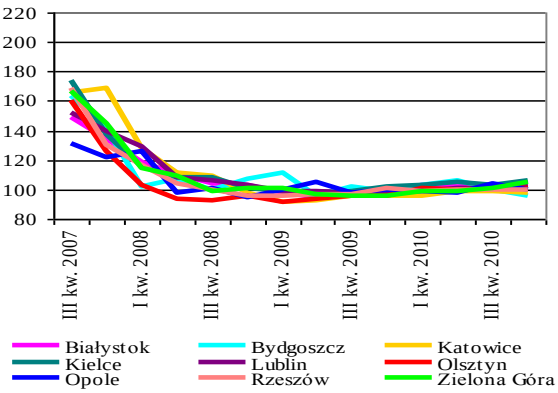
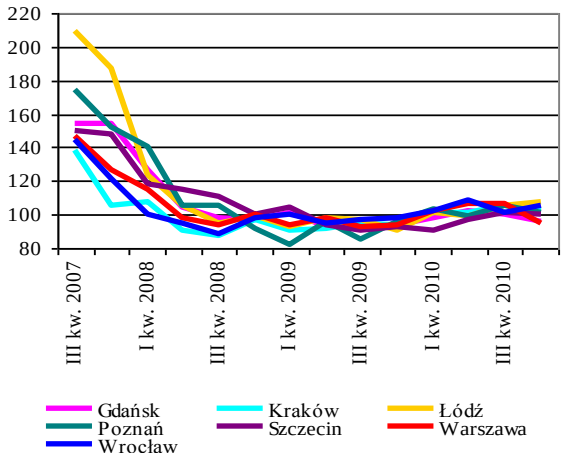


Figure 193. Growth rate (Y/Y) of selling prices in 7 cities – existing stock market.



Source: NBP.

Kraków = Cracow, Warszawa = Warsaw

Figure 194. Growth rate (Y/Y) of selling prices in 9 cities – existing stock market.

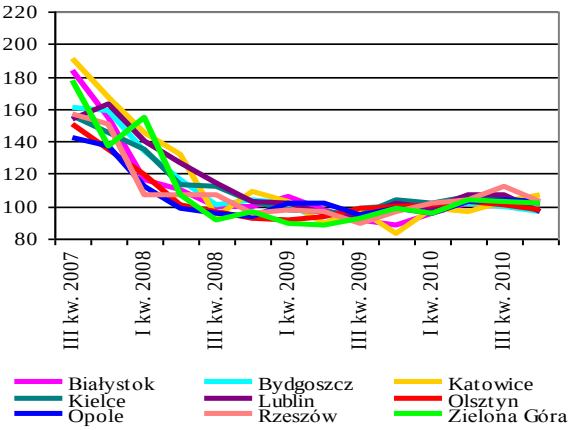
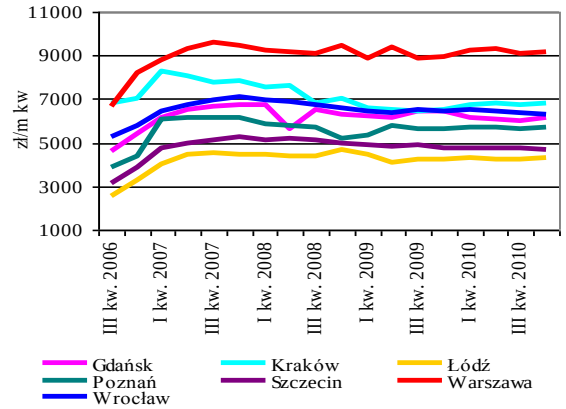


Figure 195. Median of asking prices in 7 cities – existing stock market.



Source: NBP.

zł/m kw = PLN/sq. M, I kw. = Q1, III kw. = Q3

Kraków = Cracow, Warszawa = Warsaw

Figure 196. Median of selling prices in 7 cities – existing stock market.

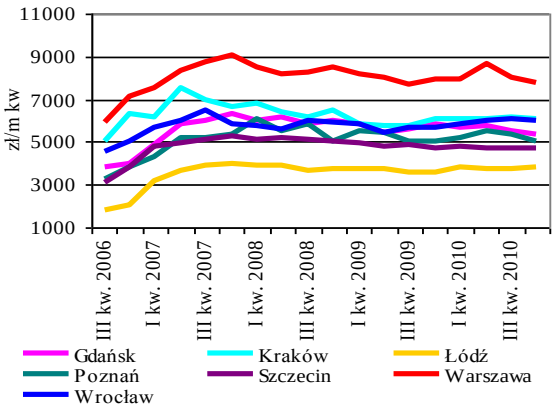


Figure 197. Median of asking prices in 9 cities – existing stock market.

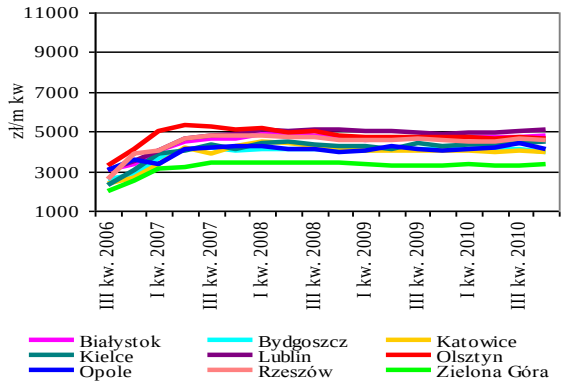
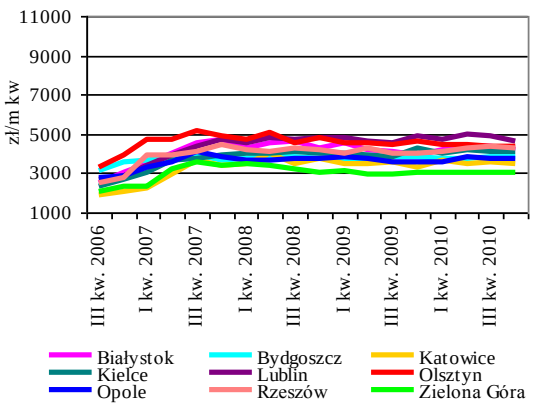
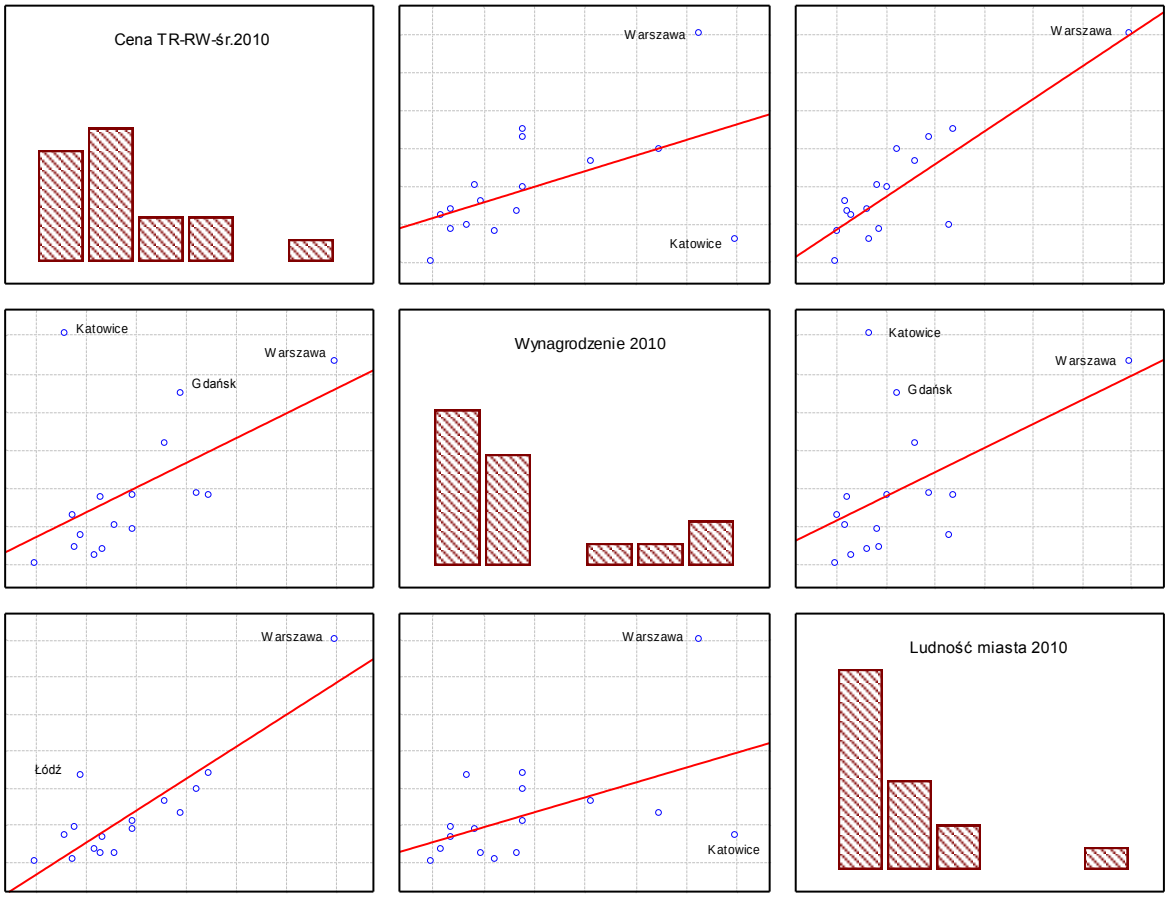


Figure 198. Median of selling prices in 9 cities – existing stock market.



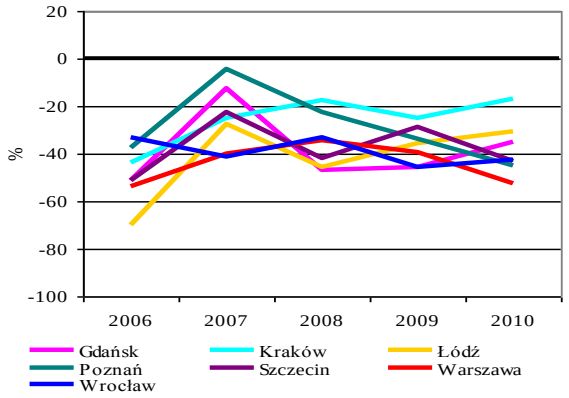
Source: NBP.
zł/m kw = PLN/sq. m
I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Figure 199. Correlation matrix for average selling price in the existing stock market in 2010, average wage level in the enterprise sector in 2010 and the number of city residents.



Source: NBP, Central Statistical Office.
Cena TR-RW-śr.2010 = 2010 average transaction price in the existing stock market
Wynagrodzenie 2010 = 2010 salary
Ludność miasta 2010 = Number of city residents in 2010, Warszawa = Warsaw

Figure 200. Supply vs. demand for housing of 39 sq. m floorage or less, existing stock market, 7 cities.



Source: NBP.

Kraków = Cracow, Warszawa = Warsaw

Figure 201. Supply vs. demand for housing of 39 sq. m floorage or less, existing stock market, 9 cities.

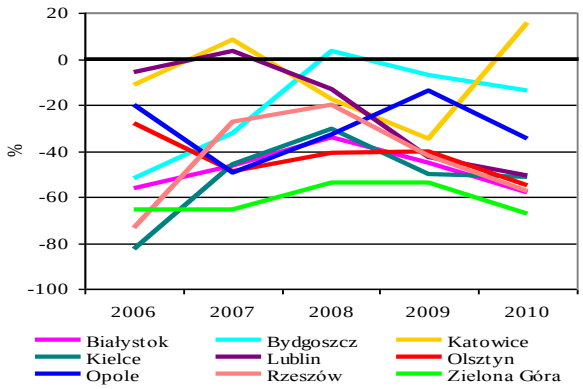
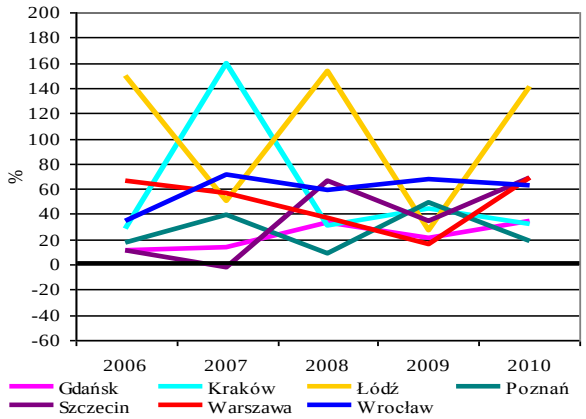


Figure 202. Supply vs. demand for housing of 60–79 sq. m floorage, existing stock market, 7 cities.



Source: NBP.

Kraków = Cracow, Warszawa = Warsaw

Figure 203. Supply vs. demand for housing of 60–79 sq. m floorage, existing stock market, 9 cities.

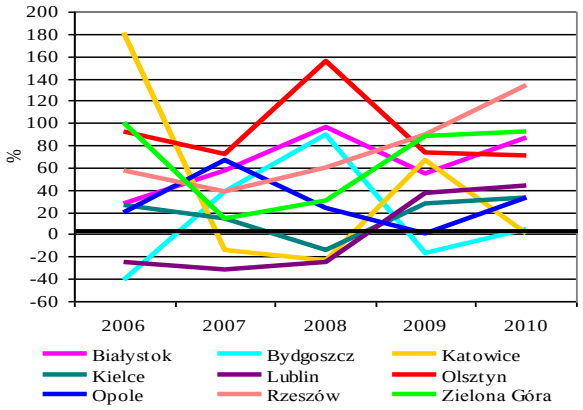


Figure 204. Average home selling time in 7 cities – existing stock market.

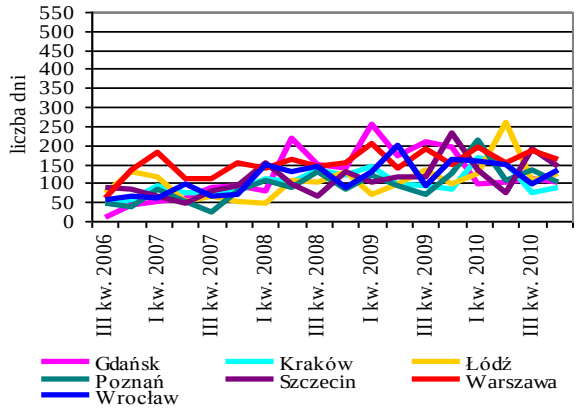
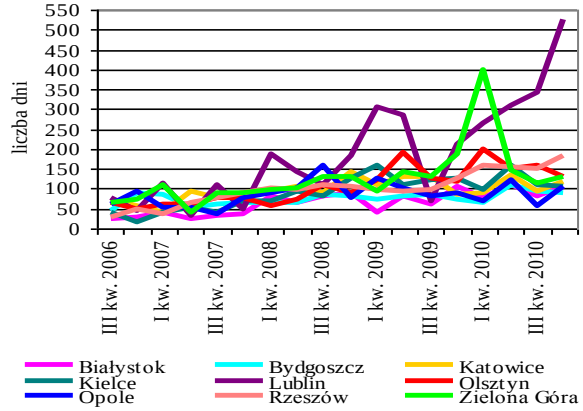


Figure 205. Average home selling time in 9 cities – existing stock market.



Source: NBP.

liczba dni = days, I kw. = Q1, III kw. = Q3, *Kraków = Cracow, Warszawa = Warsaw*

Conclusions

The real estate markets in Poland differ across regions as regards many analysed factors, mainly their size and structure. Only the largest real estate market of Warsaw with its housing stock is comparable to the total of the nine smallest voivodeship capital markets in Poland. A natural solution to facilitate the analysis is to identify and separate markets similar to each other from the point of view of a particular factor. The most durable division as regards particular demographic and economic factors, also resulting from the BaRN database, is the division between the group comprising cities of over 400,000 residents (7 cities) and the group of cities below that number. As regards demographic relations, the division of Poland into part A and B has been strengthening, whereas concentration of population in particular cities is stronger in eastern Poland.

Despite huge differences between particular cities, the authors were unable to confirm the previous division into smaller and larger cities in Poland, based on the BaRN data. It appears that despite natural differences in the price level in particular cities (with the clearly distinct Warsaw market), the price growth rate (in quarterly and annual terms) did not vary considerably across cities. Slightly more pronounced differences in price the growth rate were observed at the beginning of the BaRN survey, however, in that case the results obtained should be analysed bearing in mind the low representativeness of the sample and the housing boom. In the latest survey study growth rates were much closer to each other, and representativeness of the sample improved along with the market stabilization. All cities experienced the supply and demand mismatch, both in the primary and existing stock market. In the existing stock market a shortage of housing with a floorage below 40 sq. m was recorded (with the exception of Katowice) and oversupply of larger housing with a floorage of 60–80 sq. m and above. The structure of demand and supply is best matched for the 40–60 sq. m interval. In 2010 a relatively low negative mismatch in the existing stock market and a relative adjustment in the primary market were recorded in all cities. The results from the BaRN database do not confirm that the trends are mainly observed in the largest cities and only afterwards reverberate in the smaller cities. The flow of impulses among the local markets is very fast, which is undoubtedly the effect of uniform economic policy in Poland (e.g. the government-subsidized housing programme "Rodzina na Swoim", despite different values of maximum prices with subsidies), relatively uniform bank lending policy and activity of the largest real estate developers in several regional markets at the same time.

A significantly greater impact on the housing situation in a particular region is exerted by the price per square meter, unemployment rate, wage level and the ensuing availability of one square meter of housing. In order to identify the most friendly market, an attempt has been made to assess the situation of consumers on local, voivodeship real estate markets in 2007 and 2010, taking into account the price per square metre, wage level in the city, the number of residents (as related to the size of a particular market), unemployment rate and availability (Figure 206–Figure 207). The results obtained place Katowice on the first position. The decisive factors in the case of Katowice included the wage level (highest in the group of voivodeship capitals), low unemployment rate and relatively low price of one square metre of housing. Further follow the largest cities of Poland (including exceptionally Zielona Góra due to low unemployment rate combined with the lowest price of metre square in Poland). Kielce, Lublin and Białystok hold the last positions in the ranking. In the case of Białystok, the factor behind its low position in the 2010 ranking was high unemployment combined with relatively high prices. In the middle of the scale no significant changes in the situation of particular voivodeship capitals were observed.

Figure 206. Consumer situation in the housing market in voivodeship capitals in 2007.

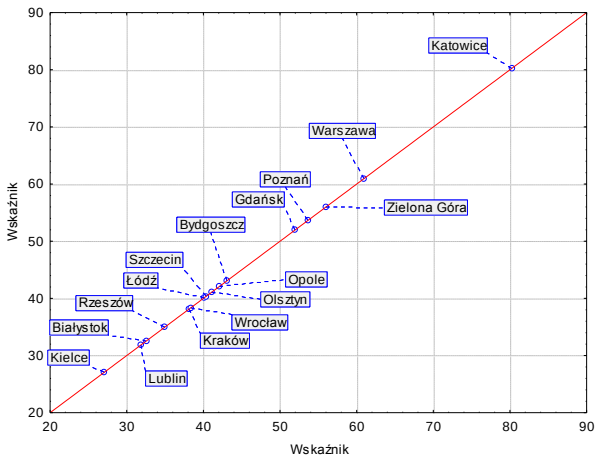
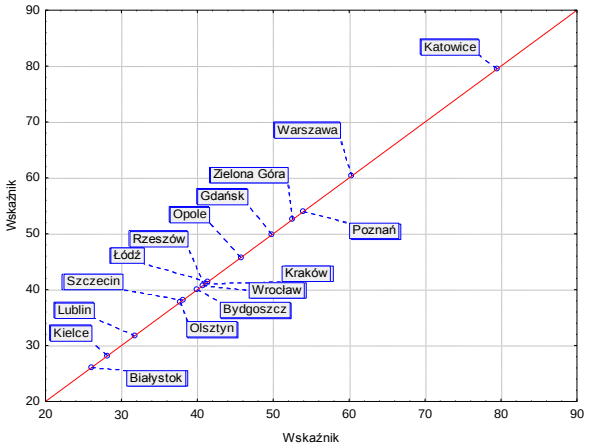


Figure 207. Consumer situation in the housing market in voivodeship capitals in 2010.



Source: NBP, Cetral Statistical Office.

Wskaźnik = ratio, Warszawa = Warsaw, Kraków = Cracow

7. Commercial real estate in Poland[41]

The analysis of the commercial real estate market has been included in the Annual Report for the first time. Therefore, apart from analysing the situation in the market in 2010, it also presents major events of the previous years[42]. The purpose of the Report is to present the main trends on the market against the macroeconomic background. The information was supported with the knowledge of experts of the particular agencies dealing with consulting, brokerage and commercial real estate management. It should be emphasised that the particular real estate brokers and advisors, whose data have been relied upon, may apply different definitions and measures of commercial real estate indices. The fact should be considered when drawing up conclusions with regard to the situation on the commercial real estate market in Poland.

Description of commercial real estate market

The commercial real estate market is quite different from the residential real estate market. Contrary to housing real estates that are mainly purchased for owner occupancy, modern commercial space is usually leased. Transactions are usually made between companies with large capital, often operating at the international scale. An important factor differing the commercial real estate market from the housing market is the repetitiveness and long-term nature of lease contracts, which has been described below. Often the lessor has many buildings in various cities and locations. Moreover, a significant part of the newly signed lease contracts includes renegotiations of prior agreements.

The main players in the commercial real estate market are owners of buildings and tenants of particular space. Owners are usually large international investors. The goal of the building owner is to gain profit from space lease, measured with the capitalisation rate[43]. The profit is affected by costs of building acquisition, building maintenance to meet the required standard, vacant spaces and rents received. The tenant is, on the other hand, interested in leasing space in a good location at a possibly low rent. Therefore, the commercial real estate market analysis concentrates on supply and demand for space, rent per square metre, vacant spaces and capitalisation rates in particular groups of commercial real estates. The listed variables reflect the main the economic aspects of commercial real estate and enable to identify tensions in that market.

An indirect method to assess of the risk of investing in the commercial real estate market is the analysis of the annual value of transactions conducted in that market (see: Figure 208) and the level of capitalisation rates for transactions in prime locations (see: Figure 209). In the second half of the past decade, four stages of development in the commercial real estate market may be distinguished: (1) a gradually growing value of transactions in pre-accession years; (2) acceleration in the years close to the EU accession, with the highest level in 2006; (3) a gradual drop in the years 2007–2008 under the intensifying financial market crises faced by many countries, to the lowest level of transactions recorded in Poland in the year 2009; (4) rebound of the upward trend in 2010, when transactions of approx. EUR 2 billion were conducted (see: data from the Report by Cushman & Wakefield, Marketbeat, Spring 2011). In that period investments in shopping centres accounted for the majority of investments (over

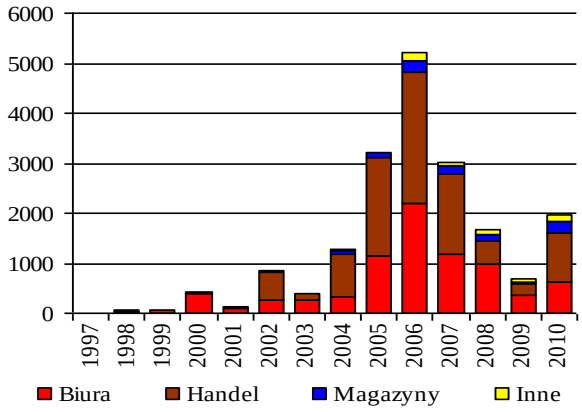
[41] The study focuses on modern commercial real estate as it is the object of transactions conducted by large real estate agencies and the scale of the transactions has a strong, direct impact on the domestic economy. Modern real estate enables the adjustment of space to the customers' needs.

[42] The analysis was prepared by the Economic Institute for the needs of the NBP authorities, based on data provided voluntarily by commercial real estate agents and real estate managers, as well as consulting companies, and expresses the opinions of its authors. Data and information provided by the following real estate brokers and advisors (in alphabetical order) have been used: CBRE, Colliers International, Cushman & Wakefield, DTZ, Jones Lang LaSalle, Ober-Haus. Moreover, data, definitions and information provided by the Retail Research Forum of the Polish Council of Shopping Centres and by the Warsaw Research Forum have been used.

[43] See the *Glossary of terms and acronyms*.

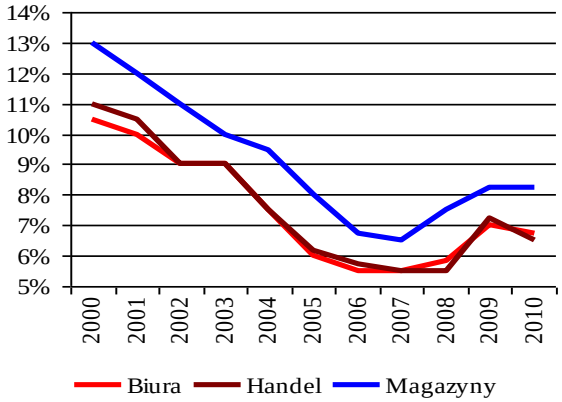
50%), about 32% were investments in offices and 11% in warehouses. 92.6% of transactions (in terms of value) were made by foreign investors, whereas the share of Polish investors in real estates compared to the share of foreign investors was one of the lowest in Europe (see: data from the Report by Cushman & Wakefield, Marketbeat, Spring 2011).

Figure 208. Value of investment transactions in EUR million.



Source: Cushman & Wakefield.
Biura = Offices, Handel = Shopping Centres
Magazyny = Warehouses, Inne = Other

Figure 209. Capitalisation rate for investments in real estates in prime locations.



Source: DTZ.
Biura = Offices, Handel = Shopping Centres
Magazyny = Warehouses

Commercial real estate is divided into four basic categories: offices, shopping centres, warehouses and hotels[44]. Generally, the location of the building from the point of view of the distance to the city centre is very important. Offices and shopping centres may be found both in the city centres and outside it. In the case of warehouse space in large agglomerations, zones depending on the distance from the city centre are identified. In Poland, warehouse space is located mainly along main European transport routes.

Another important aspect is the quality of the real estate and the possibility of its customization. Office space is categorised according to the building quality[45] and its possibility of fast customization. Also in the case of shopping and warehouse space, the quality of the building and the possibility to offer tailored space to the tenant have a positive impact on rents obtained.

Lease contracts are of paramount importance for the operation of the market and affect the business cycles. The main features of lease contract – according to the real estate agencies – are the following (see the Report by Jones Lang LaSalle, Warsaw City Report Q4, 2010):

- office, shopping and warehouse space lease contracts are usually denominated in EUR, while rent is payable in PLN in advance, on a monthly basis;
- office space is usually leased for 5 years, or for 3 years in older buildings; offices are tailored to client's needs; rent grace periods, usually ranging from 5 to 8 months are offered to encourage prospective tenants;
- retail space is leased for 5, 7 or 10 years with the possibility of extension up to 30 years; a rent depending on the turnover is applied (at the level of 6-8% of turnover), if it is higher than the basic rent;

[44] Hotels will be discussed in the next editions of the Report on the real estate market.
[45] See the *Glossary of terms and acronyms*.

- in the case of warehouse space the lease period ranges from 3 to 5 years for logistic companies; if the space is built-to-suit the tenant, e.g. a production company, the lease period ranges from 7 to 10 years.

According to the information provided by market experts, rents for offices may differ slightly even if two similar buildings are located next to each other. The rent value depends on the building's and the tenant's prestige. In the case of retail space, an important role is played by the anchor tenant, who attracts customers and other commercial space tenants; this is often a large retail chain. In the case of office space, the need to fulfil specific requirements, which often set at large international corporations may increase the rent.

Office space

At the end of 2010, in the 7 largest cities there were 5.3 million square meters of modern office space available, out of which 3.4 million square meters of office space was located in Warsaw (see: data by Jones Lang LaSalle). According to the data of Jones Lang LaSalle, Warsaw is the largest office space market in Central and Eastern Europe. Poland attracts a major part of foreign direct investment in our region. Many companies have their Central and Eastern Europe headquarters located in Poland, often in Warsaw. A factor generating a considerable demand for modern office space is the development of the modern business services sector (SSC/BPO, i.e. Shared Service Centres/Business Processes Outsourcing), locating their activities in many large cities. Poland is attractive owing to its qualified labour force, low wages and good location.

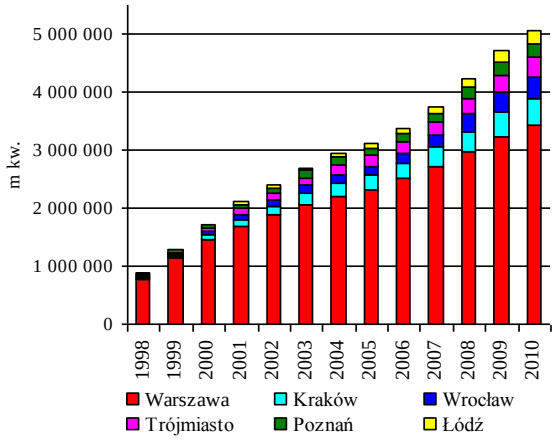
Strong growth of modern office space was observed in the markets of all large cities (see: Figure 210), which slowed down only as a result of the financial crisis. High activity of real estate developers was driven by stable or slightly falling vacancy rates[46] (see: Figure 211) and growing rents (see: Figure 212). The phenomenon of low vacancies and growing rents may reflect increased demand on the part of tenants. Rents in the Central Business District of Warsaw, already higher than in the rest of Poland, nearly doubled between 2006 Q3 and 2008 Q3. Rents in other markets showed a stable growth, however, owing to the crisis rents in particular cities were on decline and reached a similar level.

The share of vacant space in the total supply differs significantly across markets. By the end of 2008, the vacancy rate was low, however, from the beginning of 2009 started to rise slowly (see: Figure 211). In Łódź, significant growth in the vacancy rate was observed from 5% in 2006 to over 20% in 2010. This results from a very strong growth in the supply of new office space in the years 2008–2009, which, due to the crisis, did not meet sufficiently growing demand. In Wrocław, the upward trend in vacancies slowed down rapidly, and since the beginning of 2010 Wrocław has experienced the lowest vacancy level among all regional markets, which is related, among other things, to strong development of BPO centres and limited new supply.

Growth in capitalisation rates on prime real estate reflects the cycle in the market of investments in office real estates (see: Figure 213). From the beginning of listings in 2005 Q1, capitalisation rates in all markets were gradually dropping, which may be explained by growing prices of buildings resulting from positive expectations of owners as regards rent increase, as well as strong competition among potential buyers.

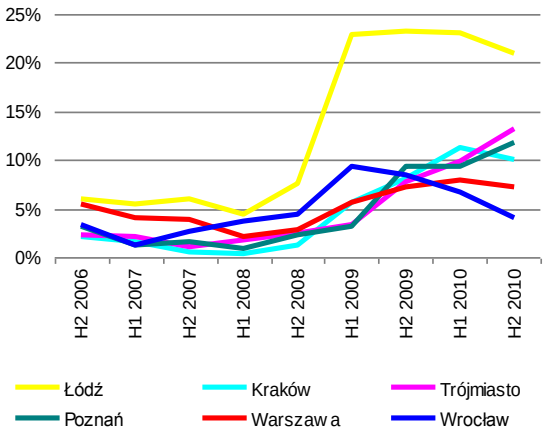
[46] See the *Glossary of terms and acronyms*.

Figure 210. Accumulated supply of modern office space.



Source: DTZ.
m kw = sq. m
Warszawa = Warsaw, Kraków = Cracow

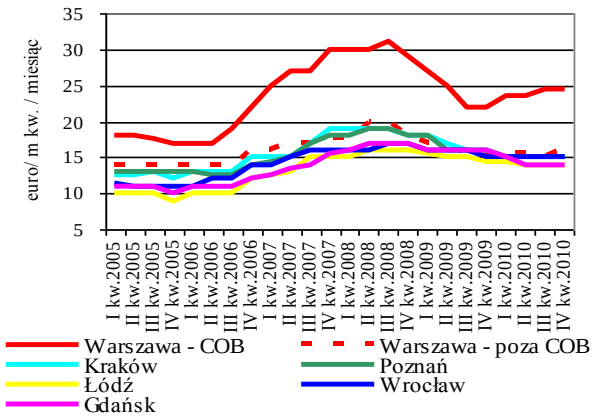
Figure 211. Office space vacancy rate.



Source: DTZ.
Kraków = Cracow, Warszawa = Warsaw

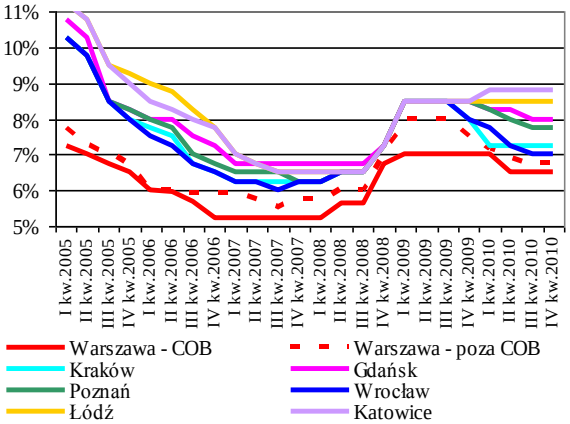
Amidst growing financial crisis (2008–2009), capitalisation rates suddenly increased, which considering rather stable rents meant decline in the prices of office real estates. However, as investors' expectations about the crisis stabilized, capitalisation rates started to fall in most markets. Generally, the situation differs considerably as regards location. Warsaw is the most mature and stable market. Offices in the Central Business District of Warsaw (further CBD) yield the lowest capitalisation rates, whereas the rates are higher in regional cities.

Figure 212. Office space rents in prime locations.



Source: Cushman & Wakefield.
euro/m kw/miesiąc = EUR/sq. m/month
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa - COB = CBA Warsaw
Warszawa - poza COB = Outside CBA Warsaw, Kraków = Cracow

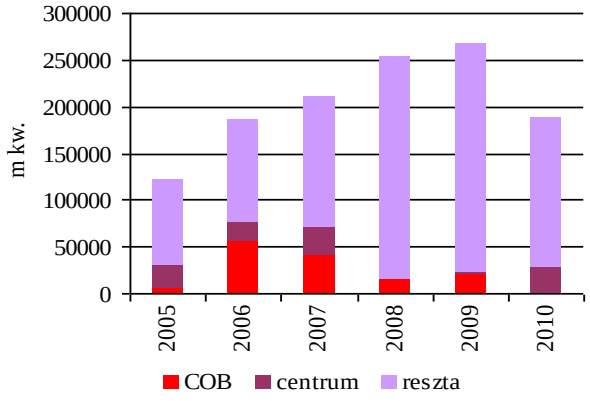
Figure 213. Capitalisation rates on investments in modern office space in prime locations.



Source: Cushman & Wakefield.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa - COB = CBA Warsaw
Warszawa - poza COB = Outside CBA Warsaw, Kraków = Cracow

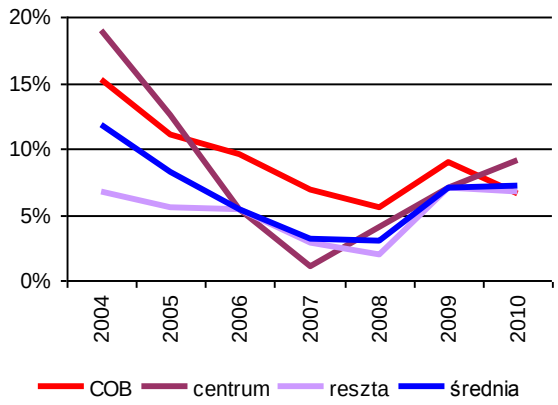
The above analysis shows that the Warsaw market is significantly different from the rest of Poland. Because of the importance and the size of Warsaw, the Warsaw Research Forum[47] makes a distinction between the Central Business Area and the rest of the city. Under such a division of the city area, one can see that in the past few years the overwhelming part of new space was built outside the city centre (see: Figure 214). This surely results from the high availability of relatively cheaper land and improving transport conditions in the rest of the city. Tenants who have no direct contacts with customers, select buildings with lower rents. This may also be affected by investors' problems in raising funding from banks in the years 2008 and 2009 to finance costly projects, and growing vacancy rate. Vacancy rate may be higher in the case of buildings that had not been designed sufficiently well or whose rental conditions differ considerably from the rest of the market. It should be noted that despite growing supply, vacancy rates dropped significantly in all parts of Warsaw (see: Figure 215). Nevertheless, the vacancy rate started to increase in Warsaw already in 2007. This may be explained by tenants shifting to equally attractive but definitely cheaper office buildings located outside the very centre of the city. It should be considered that many attractive buildings were completed but the crisis threat prevents prospective tenants from signing an a lease contract. In 2010, vacancy rate in most parts of Warsaw stabilised and remains low.

Figure 214. Annual sales of new office space in Warsaw (sq. m).



Source: Jones Lang LaSalle.
m kw = sq. m,
COB = CBA, centrum = city centre, reszta = the rest of the city

Figure 215. Vacancy rates in particular parts of Warsaw.



Source: Jones Lang LaSalle.
COB = CBA, centrum = city centre, reszta = the rest of the city
średnia = average

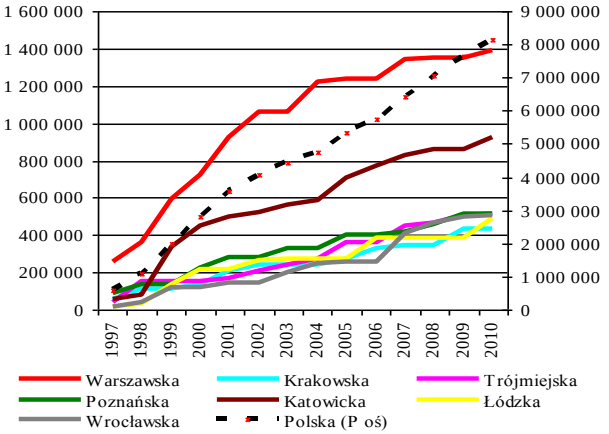
Modern retail space – shopping centres

Development of modern retail space began along with the transformation in the 1990s. Subsequent generations of modern retail space started to emerge on the market. The past few years – as a result of growing saturation with retail space in the largest cities (with over 200,000 residents) – brought a shift in investors' interest to medium-sized cities (50,000–200,000 residents) or smaller towns. In those cities and towns, higher income of their residents translated into growing demand, whereas the costs of land and further operating costs were lower than in large cities. Only the recently experienced economic slowdown and deterioration in the labour market, which hit smaller cities, suppressed this trend. However, this does not mean that well-adjusted projects, in terms of size, quality and form of retail space to the needs of the local market, are not ongoing.

[47] The Warsaw Research Forum is a forum of real estate brokers and advisory companies consisting of: CBRE, Colliers, Cushman & Wakefield, DTZ, Jones Lang LaSalle, Knight Frank and Savills.

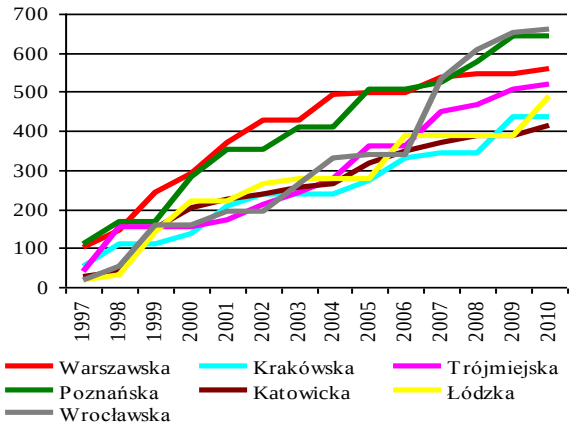
Accumulated supply of space in shopping centres[48], as reported by the Retail Research Forum of the Polish Council of Shopping Centres, was continuously growing starting from 1997 (see: Figure 216) and in 2010 it reached the total of 4.8 million square meters. In other parts of Poland, the total supply was 3.4 million square meters. The majority of large agglomerations saw a strong increase in retail space supply. The supply of retail space per 1,000 inhabitants grew analogously (in that case a strong differentiation of markets may be observed – Figure 217). In 2010, the Wrocław and Poznań agglomerations recorded the largest ratio of square meters per 1,000 inhabitants. The figures presented in the chart are estimates, as the number of people that may potentially visit shopping centres may be higher than the number of agglomeration inhabitants officially announced by the Central Statistical Office (GUS). As compared to the results observed in the Western European markets, the saturation ratio in agglomerations is still low and shows a significant potential of the Polish market. Nevertheless, major differences in purchasing power of residents in various agglomerations and particular countries, resulting from their wealth measured by GDP per capita, need to be taken into account.

Figure 216. Accumulated supply of modern retail space in large agglomerations (sq. m).



Note: The data refer to agglomerations. The accumulated supply for Poland (on the right axis) is the total of all shopping centres taken into account by the Polish Council of Shopping Centres.
Source: The Polish Council of Shopping Centres.
Warszawska = Warsaw, Poznańska = Poznań
Wrocławska = Wrocław, Krakowska = Cracow
Katowicka = Katowice, Polska (P oś) = Poland, right-hand axis
Trójmiejska = Gdańsk, Gdynia, Sopot, Łódzka = Łódź

Figure 217. Accumulated supply of modern retail space in large agglomerations (sq. m per 1,000 inhabitants).

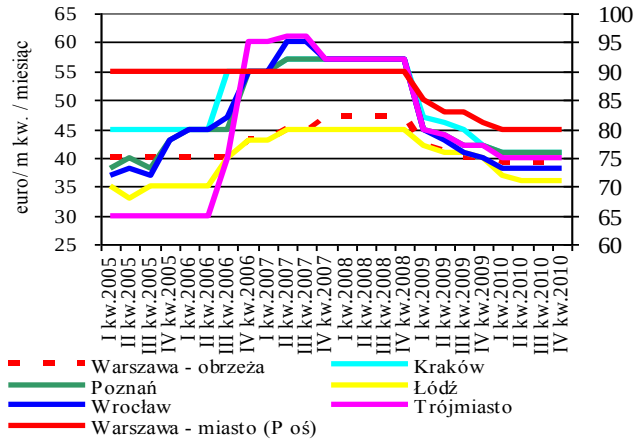


Note: The data refer to agglomerations.
Source: The Polish Council of Shopping Centres.
Warszawska = Warsaw, Poznańska = Poznań
Wrocławska = Wrocław, Krakowska = Cracow
Katowicka = Katowice, Trójmiejska = Gdańsk, Gdynia, Sopot
Łódzka = Łódź

[48] The definition of shopping centres prepared by the Polish Council of Shopping Centres is presented in the *Glossary of terms and acronyms*. The Retail Research Forum of the Polish Council of Shopping Centres has been working on the standardisation of the knowledge of the market.

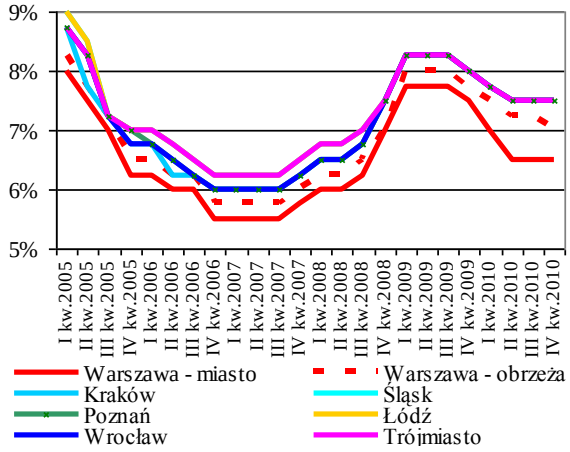
Changes in the rent level in prime locations in the period from 2005 to 2010 indicate changes in the relationship between demand and supply in the commercial real estate market (see: Figure 218). Shortly before Poland's accession to the European Union, rents outside Warsaw reflected stable growth or hikes. In Warsaw, the highest rents remained stable for a long time, which was driven by high rent rates fixed in the Złote Tarasy shopping centre. The rental process that started long before the opening of the Złote Tarasy shopping centre affected rents in Warsaw prime locations. The phenomenon was observed despite rapidly growing supply throughout Poland. Positive expectations regarding future rents led to sinking capitalisation rates (see: Figure 219). This meant a significant growth of the market value of shopping centres. What is interesting, starting from the end of 2008, a strong convergence of capitalisation rates in markets outside the Warsaw agglomeration could be observed. The Warsaw agglomeration usually sees the lowest capitalisation rates in Poland, which starting from the end of 2009 continued a downward trend. Also other markets experienced a decline in capitalisation rates. Sinking capitalisation rates confirm growing interest of investors in shopping centres in Poland, supported with better funding availability. In the opinion of CBRE analysts, decline in capitalisation rates in Poland results from a major fall in capitalisation rates in Western Europe. Therefore, foreign investors start to channel higher amounts of foreign capital to the Polish market, which leads to higher competition and growth in real property prices. Falling capitalisation rates in major agglomerations may urge investors to enter also small local markets. Local markets may be more risky, however, lower competition contributes to higher capitalisation rates.

Figure 218. Rents* per sq. m of retail space at shopping centres in prime locations.



Note: *Rents refer to space of about 100 sq. m, on ground floor, in the clothes and accessories segment.
Rent for the city of Warsaw has been presented on the right axis.
Source: Cushman & Wakefield.
euro/m kw/miesiąc = EUR/sq. m/month
I kw. = Q 1, II kw. = Q 2, III kw. = Q 3, IV kw. = Q 4
Warszawa - obrzeża = Outskirts of Warsaw
Warsazawa - miasto (P oś) = City of Warsaw (right axis)
Kraków = Cracow, Trójmiasto = Gdańsk, Gdynia, Sopot

Figure 219. Capitalisation rate for investments in retail space in prime locations.



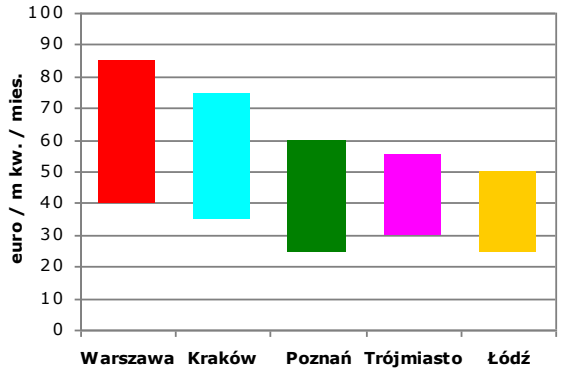
Source: Cushman& Wakefield.
I kw. = Q 1, II kw. = Q 2, III kw. = Q 3, IV kw. = Q 4
Warsazawa - miasto = City of Warsaw
Kraków = Cracow
Warszawa - obrzeża = Outskirts of Warsaw
Śląsk = Silesia
Trójmiasto = Gdańsk, Gdynia, Sopot

Other retail space

Apart from shopping centres described above, shopping streets account for a major part of the market. Space at shopping streets is located on ground floors of old buildings and other

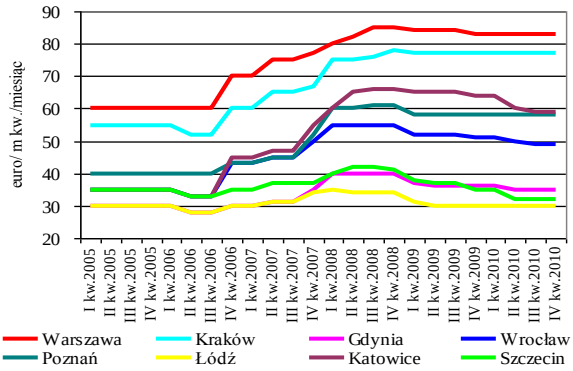
buildings owned by the cities, individuals or even institutional investors. They differ from the modern retail space by much smaller size and owing to architectural reasons it is harder to customize the space. However, due to its attractive location, many customers are interested in such space, which is reflected in higher rents. Rents in the best shopping streets may be comparable to or higher than those at shopping centres. A major part of retail sales takes place in such spaces, and rents feed through into prices of goods and services. Similarly as in the case of modern shopping space, rents are differentiated and depend on the city and location within the city. Figure 220 shows the ranges of rents in main shopping streets in 2010. Figure 221 presents the highest rents in shopping streets in the years 2005–2010. As in other previously analysed markets, rents differed across cities. Moreover, the highest rents, which grew at the beginning and after the outbreak of the crisis were stable or started to decline slowly in some cities.

Figure 220. Rents in main shopping streets in 2010.



Note: The highest and the lowest rents.
Source: Ober-Haus.
euro/m kw/mies. = EUR/sq. m/month
Warszawa = Warsaw, Kraków = Cracow

Figure 221. Highest rents in main shopping streets.



Source: Cushman & Wakefield.
euro/m kw/miesiąc = EUR/sq. m/month
I kw. = Q 1, II kw. = Q 2, III kw. = Q 3, IV kw. = Q 4
Warszawa = Warsaw, Kraków = Cracow

Warehouse space

Warehouse space supply saw a strong growth in 2005–2010, and its accumulated value at the end of 2010 reached approx. 6.2 million square meters (see: the data by Cushman & Wakefield). The total warehouse space supply in Central and Eastern Europe outside Poland was 7.7 million sq. m in 2010, which indicates the importance of Poland as a logistic centre in that part of the European Union (see: the Report by Jones Lang LaSalle, *Warehouse Market in Poland: Summary for the Year 2010 and Development Forecast*).

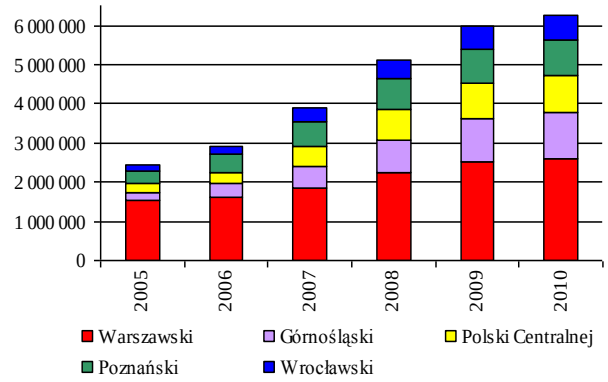
Warehouse space is located in the vicinity of the largest agglomerations and along international transport routes. The main locations include the Warsaw region, Upper Silesia, Łódź region, Poznań region and Lower Silesia. The annual growth of space in 2010 was lower than the one observed previously, which partly resulted from the crisis and a slowdown in speculative investments (see: Figure 222).

The warehouse space market reflects strong concentration. Five largest real estate developers hold the total of 79% of the existing space (see: the data by Jones Lang LaSalle). Warehouse space is created quite fast, and in the times of worse economic situation it is usually built-to-suit, whereas during the boom period, speculative projects are carried out.

The analysis of the growth rate of average rents shows that before the crisis rents continued on an upward trend in all regions of Poland (see: Figure 223). The crisis resulted in considerable differentiation of rents across regions. Rents in Gdańsk, Katowice, Wrocław and

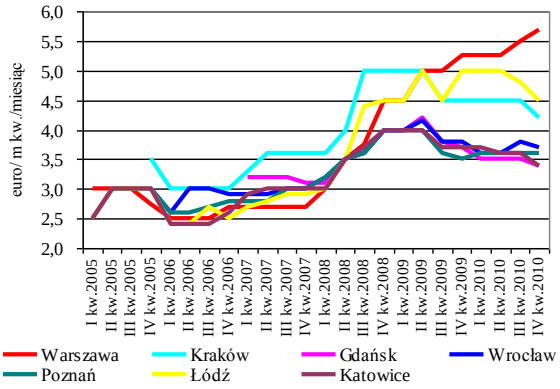
Poznań reflected a slight downward trend. It may result from a slight decline in demand for warehouse space with its concurrent high supply. In Cracow and Łódź rents , to some extent, continued to grow and remained at a high level. The Łódź market is characterised with high supply matched with high demand due to the very favourable transport location. In Warsaw the rent upward trend continued. According to the data by Colliers International, new supply in 2010 reached 272,000 square meters. Real estate developers significantly limited their operations and the built-to-suit space prevailed among the newly completed projects.

Figure 222. Accumulated warehouse space supply in the regions of Poland (in sq. m).



Source: Cushman & Wakefield.
Warszawski = Warsaw region, Poznański = Poznań region
Górnośląski = Upper Silesia, Wrocławski = Wrocław region
Polski Centralnej = Central Poland

Figure 223. Rents per sq. m of space in prime location (in EUR).



Source: Cushman & Wakefield.
euro/m kw/miesiąc = EUR/sq. m/month
I kw. = Q 1, II kw. = Q 2, III kw. = Q 3, IV kw. = Q 4
Warszawa = Warsaw, Kraków = Cracow

Part II. Analytical Annexe

A1. Cycles affecting the residential real estate markets in Poland

The cycles affecting the housing markets of the largest cities of Poland were very similar to those in other countries, including the USA, as regards their course and general relationships. The basic difference between the Polish market and other markets, hit by the economic slump more, was a fast price growth as a result of the credit boom and the relatively mild and spread-over-time collapse. When analysing the boom stage from the perspective of the financial sector, the following funding stages may be distinguished: bridge financing (short-term loan), speculative financing, and, to a small scale, – financing of loan repayment with a new loan[49]. Apart from lower financial leverage used by most companies in the market and the related lower level of development of the financial instruments market, the basic reason behind the relatively smooth transition through the crisis seems to be the delayed scale of the bubble and price growth in the market as compared to the most developed countries. In consequence, the crisis outbreak in the USA put an end to the growing imbalance in the Polish markets and limited the consequences of the lending boom.

Boom and breakdown in the years 2005–2009

The basic factors behind the boom and resulting price bubbles in the markets of the largest cities of Poland in the years 2005–2007 included growing loan availability to households and larger number of deposits than that of bank loans, as well as the banks' willingness to finance the sector. At the same time, fundamental (demographic) factors exerted their impact, such as migration and increasing number of new households, wage growth and rising optimism among the public.

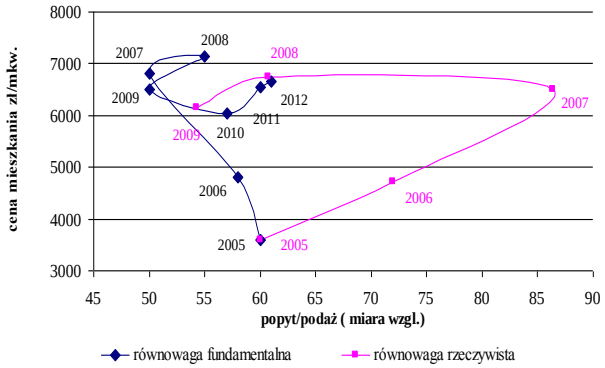
The main instrument increasing housing availability were CHF denominated loans with a lower interest rate and unhedged FX risk that burdened the borrower. Apart from the much higher availability (effect of interest rate disparity) they were more profitable to the banking sector on a short-term basis[50]. Easing of the banks' lending policy was also an important factor. Those factors played only the role of the boom catalyst, whereas the main driving forces were speculation and collective behaviour. In the expert's model of the housing real estate market in Warsaw, fundamental equilibrium until the year 2005 was assumed on the basis of on-going monitoring. In order to estimate the fundamental demand curve, the curve of the availability of loan-financed housing was used, accounting for the change in home price conditions, household income and mortgage loan granting criteria. The curve, calculated based on the GUS sample, representative for Warsaw, shows the income effects of interest rate fluctuations and home price changes without substitution effects, which result in a slight underestimation of the decline in demand. The curve was adjusted for demographic variables (growth in the number of marriages) and migration. The supply curve was estimated based on selling prices and the structure of offers in the housing market. The equilibrium points were calculated numerically. Figure 224 illustrates the results of the analysis of short-term market equilibriums for the aggregated markets of the 6 largest cities of Poland, estimated based on the expert's equilibrium model. The actual observed values of prices and home sales were compared with the results of the theoretical market equilibrium path. It should be mentioned that the fundamental value of sales of housing construction contracts, amidst the observed prices, should fall within the range of 50–60 thousand units, whereas the actual sales

[49] The phenomenon is known in literature as the Ponzi scheme.

[50] The subject is discussed in more detail in Chapter 4. *Interrelations of the financial sector and housing real estate sector*.

exceeded 85 thousand contracts in 2007, including mainly those presenting high risk level owing to the very early stage of investment project execution. The behaviour is known in the literature as speculative lending and it explains the second phase of the boom.

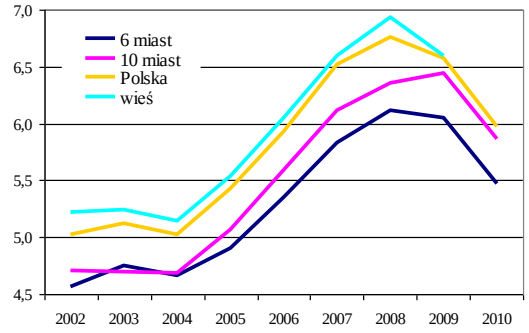
Figure 224. Equilibrium path of the primary housing market (actual status and forecasts for 6 cities).



6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
Source: Central Statistical office, NBP.
cena mieszkania zł/m kw = housing price in PLN/sq. m
popyt/podaż (miara wzgl.) = demand/supply (relative measure), równowaga fundamentalna = fundamental equilibrium
równowaga rzeczywista = actual equilibrium

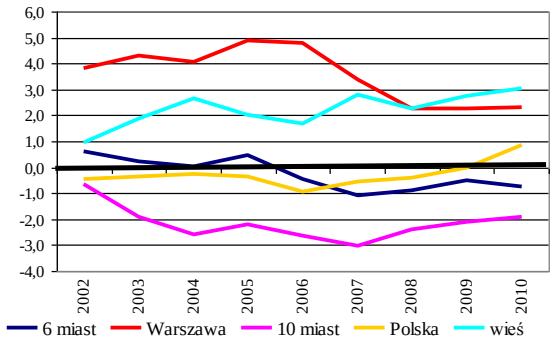
In the largest Warsaw market, the cycle mechanism followed the typical course for those phenomena, whereas the cycles in the individual six largest cities reflected some differences. They resulted from the local nature of the key factors affecting the cycles. Income growth, falling interest rates and margins, as well as less stringent bank lending requirements were directly translated into loan availability and demand for loans. In consequence, loan balances in the banking system started to grow quickly, which had a direct impact on housing demand. Another important element of growth in housing demand were demographic factors, and particularly the rise in the number of newly celebrated marriages and increased migration to the largest cities stimulated by a good economic situation, including mainly economic opportunities[51] (see: Figure 225–Figure 228).

Figure 225. Marriages per 1,000 inhabitants in Poland.



Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław,

Figure 226. Migration, net per 1,000 inhabitants in Poland.



Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław,

[51] The subject is discussed in more detail in Chapter 6. *Development trends in local markets – comparative analysis* and Part III *Monographs of 16 Cities in Poland*.

Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical office.
6 miast = 6 cities, 10 miast = 10 cities, Polska = Poland, wieś = villages

Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical office.
6 miast = 6 cities, Warszawa = Warsaw, 10 miast = 10 cities, Polska = Poland, wieś = villages

Figure 227. Birth rate and migration, net per 1,000 inhabitants in Poland

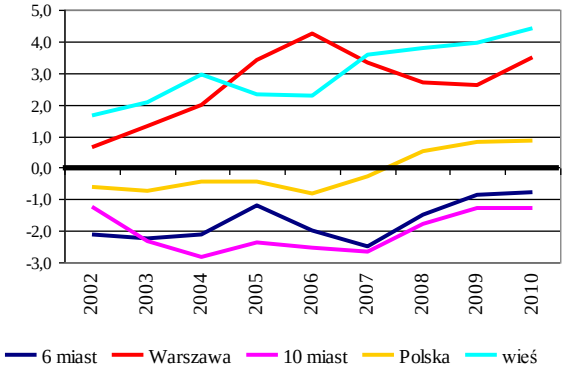
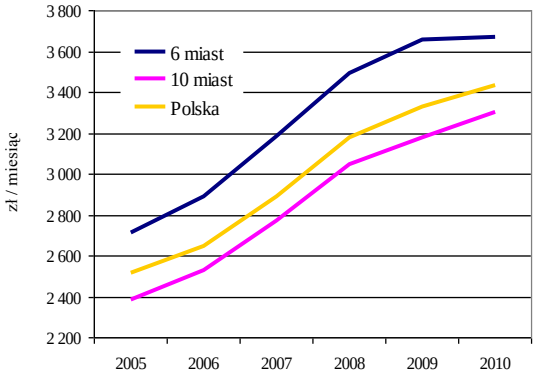


Figure 228. Average gross wage in the enterprise sector in Poland.



Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical office.
6 miast = 6 cities, Warszawa = Warsaw, 10 miast = 10 cities
Polska = Poland, wieś = villages

Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.
Source: Central Statistical office.
zł/miesiąc = PLN/month,
6 miast = 6 cities, 10 miast = 10 cities, Polska = Poland

The fastest growth was recorded in the prices in the largest cities and only afterwards the growth reverberated to the markets of smaller voivodeship capitals and other towns and villages. The initial price impulse originated in the existing stock market and was then transferred to the primary market. The largest delay was seen in the costs of construction, which resulted from high competition in the construction sector (see Figure 229 and Figure 230).

Figure 229. Growth rate of home asking prices (Y/Y) in the primary and existing stock markets (corresponding period of the preceding year = 100).

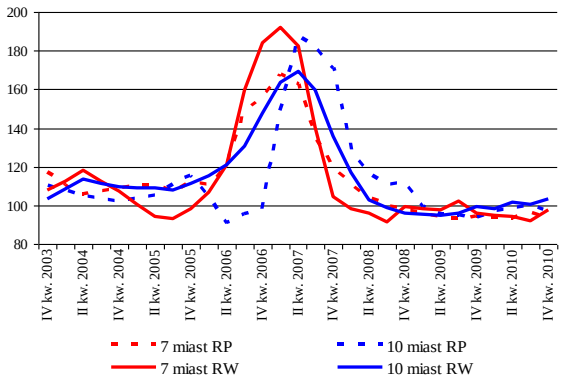
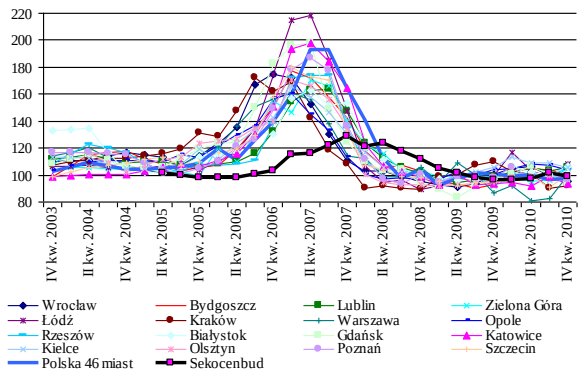


Figure 230. Growth rate of home asking prices (Y/Y) in the existing stock market (corresponding period of the preceding year = 100).



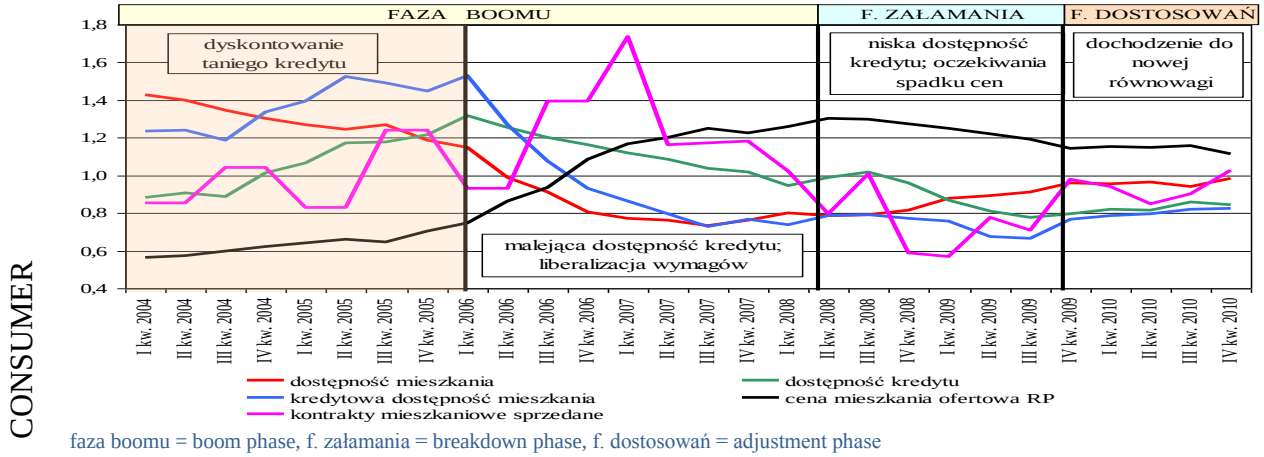
Note: 7 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk including Gdynia.

Source: NBP, Sekocenbud.
III kw. = Q3, IV kw. = Q4
Polska 46 miast = Poland, 46 cities, Kraków = Cracow

10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra. Warszawa = Warsaw
Source: NBP, PONT Info.
III kw. = Q3, IV kw. = Q4
7 miast RP = 7 cities, primary market
7 miast RW = 7 cities, existing stock market
10 miast RP = 10 cities, primary market
10 miast RW = 10 cities, existing stock market

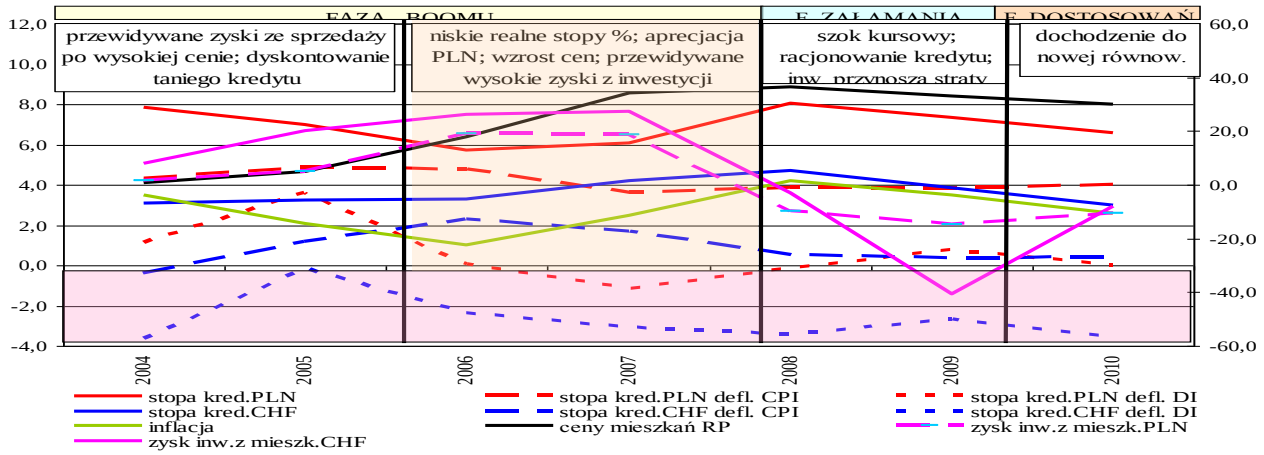
During the first stage of the cycle in the years 2004–2006, growing availability of loans resulted in the increase of their disbursements and, in consequence, growth in housing demand, which combined with the rigid supply led to home prices increases. Growing household income and falling interest rates caused, however, that despite rising home prices the availability of loan-financed housing (understood as the number of square metres that can be financed from the available loan) went up as well. In consequence, the ownership cost index (being the inverse of the availability of loan-financed housing index) reflected a drop, which meant that the costs of loan servicing to be borne by a household for the housing purchased were falling in absolute terms as a result of lower interest rates, and further – in relative terms compared to the income, as a result of income growth. The consequence of decline in the of home ownership was a further growth in housing demand, which amidst rigid supply resulted in further increase in home prices (see: Figure 231). In 2006 Q2, loan availability started to drop. Nevertheless, demand continued to grow, fuelled by the expectations of further price increases and the related speculative purchases. In the same period the demand in the housing market faced a rigid supply (2–4-year period of construction project completion), which resulted in price growth acceleration. Due to growing inflation, the real interest rates on loans were falling and the zloty appreciation was very strong. As a result of drop in real funding costs (real interest rates) and growth in capital profits (prices of housing and foreign exchange differences) investment in residential property brought significant short-term profits (see: Figure 75, Figure 85, Figure 86 and descriptions thereto). Intensified purchases in the housing market affected the behaviour of real estate developers. In order to accelerate the finalization of construction projects and boost related profits, some of real estate developers decided to repurchase projects that were already under completion and prepared construction sites, and finance the transactions with loans.

Figure 231. Cycle mechanism in Warsaw.



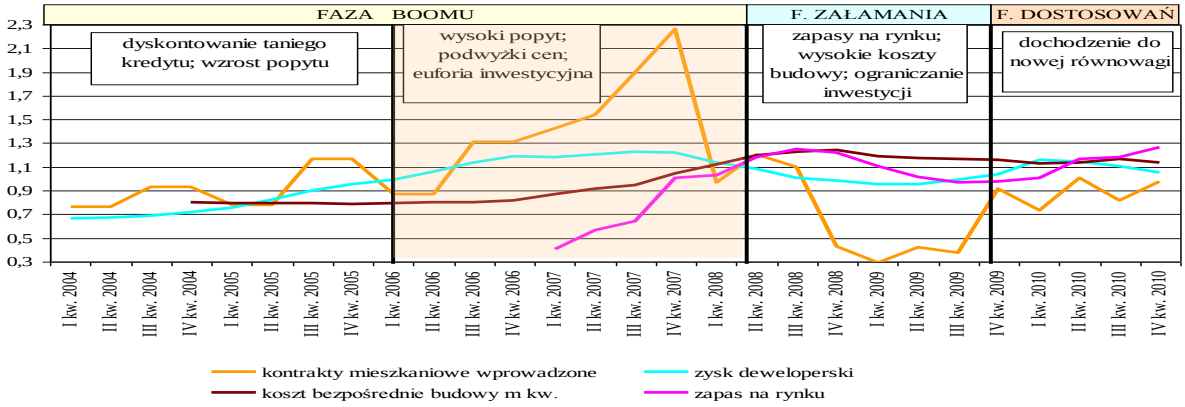
faza boomu = boom phase, f. załamania = breakdown phase, f. dostosowań = adjustment phase
dyskontowanie taniego kredytu = cheap loan discount,
malejąca dostępność kredytu, liberalizacja wymogów = falling loan availability, less stringent requirements
niska dostępność kredytu, oczekiwania spadku cen = low loan availability, price drop expected
dochodzenie do nowej równowagi = reaching new equilibrium
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
dostępność mieszkania = housing availability
kredytowa dostępność mieszkania = availability of loan-financed housing
kontrakty mieszkaniowe sprzedane = housing construction contracts sold
dostępność kredytu = loan availability
cena mieszkania ofertowa RP = asking price of housing in the primary market

INVESTOR



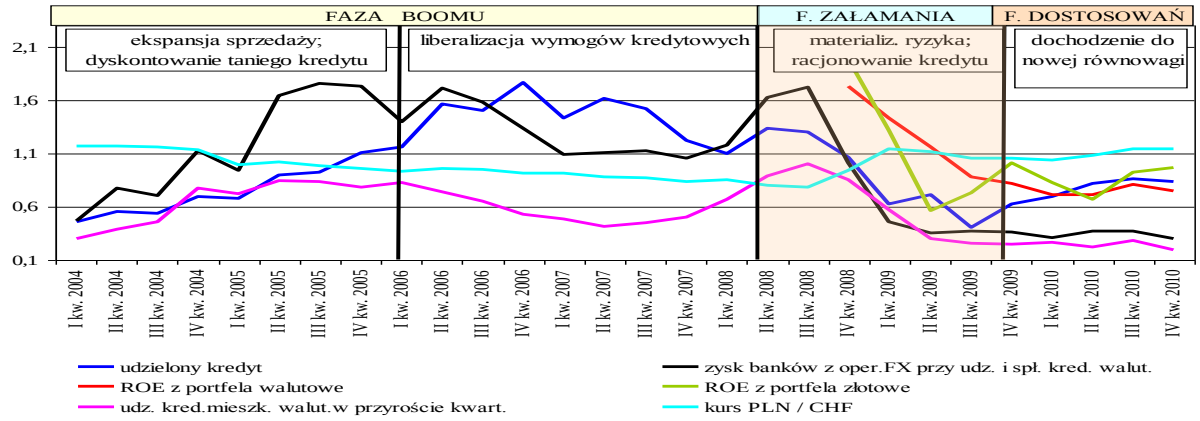
faza boomu = boom phase, f. załamania = breakdown phase, f. dostosowań = adjustment phase
przewidywane zyski ze sprzedaży po wysokiej cenie, dyskontowanie taniego kredytu = expected profits from the sales at high price, cheap loan discount
niskie realne stopy %, aprecjacja PLN, wzrost cen, przewidywane wysokie zyski z inwestycji = low real interest rates, PLN appreciation, growth of prices, expected high profits on investments
szok kursowy, racjonowanie kredytu, inw. przynoszą straty = FX shock, loan rationing losses on investments
dochodzenie do nowej równowagi = reaching new equilibrium
stopa kred. PLN = interest rate on PLN loans
stopa kred. CHF = interest rate on CHF loans
inflacja = inflation
zysk inw. z mieszk. CHF = profit on investment in housing, CHF
stopa kred. PLN def. CPI = interest rate on PLN loans deflated with the CPI
stopa kred. CHF def. CPI = interest rate on CHF loans deflated with the CPI
ceny mieszkań RP = housing prices in the primary market
stopa kred. PLN def. DI = interest rate on PLN loans deflated with the DI
stopa kred. CHF def. DI = interest rate on CHF loans deflated with the DI
zysk inw. z mieszk. PLN = profit on investment in housing, PLN

DEVELOPER



faza boomu = boom phase, f. załamania = breakdown phase, f. dostosowań = adjustment phase
dyskontowanie taniego kredytu, wzrost popytu = cheap loan discount, growth in demand
wysoki popyt, podwyżki cen, euforia inwestycyjna = high demand, price increases, investment euphoria
zapasy na rynku, wysokie koszty budowy, ograniczenie inwestycji = stock in the market, high construction costs, limited investment
dochodzenie do nowej równowagi = arrival at new balance
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
kontrakty mieszkaniowe wprowadzone = new housing construction contracts
koszt bezpośredni budowy m kw. = direct cost of construction of one square meter
zysk deweloperski = real estate developer's profit
zapas na rynku = stock in the market

BANK



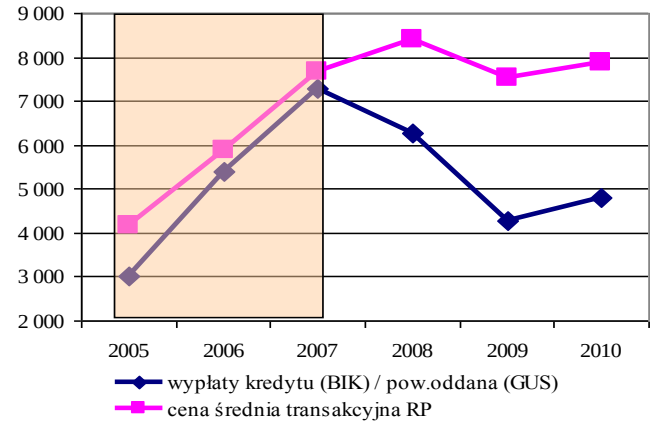
faza boomu = boom phase, f. załamania = breakdown phase, f. dostosowań = adjustment phase
ekspansja sprzedaży, dyskontowanie taniego kredytu = sales expansion, cheap loan discount
liberalizacja wymogów kredytowych = less stringent lending requirements
materializ. ryzyka, racjonowanie kredytu = risk materialisation, loan rationing
dochodzenie do nowej równowagi = reaching new equilibrium
I kw. = Q.1, II kw. = Q.2, III kw. = Q.3, IV kw. = Q.4
udzielony kredyt = loan granted
ROE z portefla walutowe = RoE for the FX portfolio
udz. kred. mieszk. walut w przysoście kwart. = FX housing loans granted in quarterly increments
zysk banków z oper. FX przy udz. i spł. kred. walut. = banks' profit on FX operations, for granting and repayment of FX loans
ROE z portfela złotowe = RoE for the PLN portfolio
kurs PLN/CHF = PLN/CHF exchange rate

Values for the consumer, real estate developer and bank compared to the 2004–2010 average.
Source: NBP, PONT Info, Central Statistical Office, REAS, BIK.

The growing loans disbursements, combined with falling creditworthiness at the end of 2006 and the beginning of 2007 (see: Chapter 4, Figure 92–Figure 95) meant that the banking sector joined the speculative game and granted loans, more on the basis of growing value of collateral than on creditworthiness. In fact, both risks coincided, due to the fact that the value of collateral – and in consequence debt quality – was becoming problematic. The banks were assessing the value of real estate, being the object of the loan, by the so-called comparative method, i.e. comparing the prices of the real estate being the object of the loan with the level of prices of other real estates. In fact, by increasing loans disbursements, banks shaped the level of real estate prices in the market. The phenomenon has been illustrated on the example of Warsaw in Figure 232, presenting prices in the primary housing market and hypothetical prices obtained by dividing the newly completed residential property by the loan disbursements for that market, taking into account the LTV[52]. The ratio makes sense in annual terms, owing to the natural construction process. It is worth mentioning that housing prices, showing perfect flexibility to demand growth, became rigid after demand declined, the phenomenon observed after 2007. The growing gap between the real and hypothetical price represents unsold housing and own funds of population.

[52] See the *Glossary of terms and acronyms*.

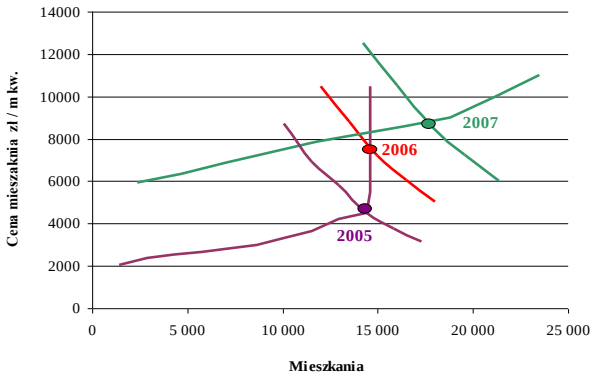
Figure 232. Warsaw – average selling price (per sq. m) in the primary market vs. hypothetical equilibrium price.



Source: Central Statistical Office, NBP.
wypłaty kredytu (BIK)/pow. oddana (GUS) = loan disbursements (acc. to BIK)/completed space (acc. to CSO)
cena średnia transakcyjna RP = average selling price in the primary market

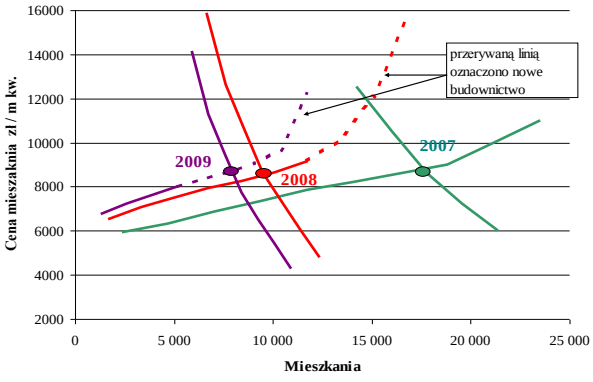
In 2007 supply begun to get flexible due to the elapse of time necessary to prepare investment projects to be put on the market. Due to the market boom, in most cases these were projects at very early stages of construction, burdened with high risk. In stabilised market conditions such projects are characterised with a higher risk premium and a lower price, which means that the actual price growth in 2007 was higher than presented by the statistics (sub-standard goods were sold at standard prices – hedonic price). High demand in the preceding period also led construction companies and construction materials manufacturers to expect price growth; in consequence, prices of construction and assembly, as well as construction materials, began to increase with a time lag. Also the growth of supply was delayed. Increasingly higher prices of housing accompanied by growing supply led the stock of unsold housing to build up (see: Figure 233).

Figure 233. Demand and supply in the housing market in Warsaw – boom phase.



Source: NBP, PONT Info, Central Statistical Office, REAS.
cena mieskania zł/m kw. = housing price in PLN/sq. m
mieszkania = housing

Figure 234. Demand and supply in the housing market in Warsaw – adjustment phase.



Source: NBP, PONT Info, Central Statistical Office, REAS.
cena mieskania zł/m kw. = housing price in PLN/sq. m
mieszkania = housing
przerywaną linią oznaczono nowe budownictwo = the dotted line refers to new construction projects

In 2008 the previously observed trends reversed, which was driven by the collapse in the balance relationships between the increase in housing construction contracts and the growth in loans to finance them. Although prices in the years 2007–2008 were not growing so dramatically as in the previous years, additional supply of new investment projects appeared on the market. The additional supply exceeded the previously observed supply by 50%–80%, whereas the supply of loans in the said period was practically stable, as the banking sector started to suffer problems inducted by the financial crisis, including liquidity barriers. In 2008 Q3, the zloty started to depreciate suddenly and the "deposit war" started, which resulted in higher interest rates on PLN loans. In consequence, investments in housing started to generate losses (see: Figure 85–Figure 88). The stock of unsold new housing in the market of the six largest cities grew from about 12,000 (at the beginning of 2006) to over 30,000 (in 2008), to exceed 38,000 in 2010 Q3. In 2008, as a result of intensifying impact of the financial crisis, banks started to limit loan availability and, thus, loan supply fell excessively as compared to decline in creditworthiness, which was indeed lower in 2006–2007, yet stable in 2008[53]. The situation – due to further growth in supply mismatch – resulted in a pressure on housing construction contract prices, which began to slightly drop. The prices proved, however, quite rigid and the mechanism of market adjustment started to operate through supply limitation. In consequence, real estate developers would freeze the ongoing projects and suspend new projects, awaiting a boom revival (see: Figure 234).

The activities of real estate developers brought about limited results, as there was a concurrent negative demand shock triggered by further bank lending constraints and expectations of consumers who suspended their purchases in anticipation of a further price fall. Also the demand for investments declined, and some of investors put their investment projects on sale.

The analysis of the cycle affecting the Polish residential real estate market allows to conclude that the specific character of the real estate market and reasonable short-term decisions of market players are sufficient to explain the mechanism of the cycle.

Consumers, who feel their housing needs are satisfied to a low extent only, react reasonably by increasing home purchases when cheap FX loans appear. This concerns, in particular, young consumers who had just married. They extrapolated their lack of negative experience with FX risk to the subsequent 30 years. Also their behaviour in response to rapidly growing home prices – the effect of demand being shifted to the rigid end of the supply curve – was short-sighted – "better buy housing today instead of buying much more expensive housing in the future". It is also the case of speculators' expectations and their investments, as they bring profits.

The banking sector granted loans denominated in foreign currencies, as they were more available to households, they were in high demand and highly profitable. Implementation of less stringent lending requirements and the LTV was also justified on a short-term basis, as the value of collaterals increased.

Real estate developers increase their housing production, as prices – meaning higher profit and higher rates of return – grow rapidly/

The risk analysis shows that in a longer time perspective all processes are reversible, however, all entities rely upon a short-term analysis. In consequence, without any external intervention, the bubble grows in the sector, which is bound to burst and bring about significant economic problems.

The basic problem of the market intervention in the sector is its political nature. Contrary to other consumer goods, home prices growing up, to end up with collapse, are welcome by the majority of the society, businesses and politicians. Although growing prices affect buyers

[53] See Chapter 3. *Proportions, mechanisms and processes in the Polish private housing sector*.

of new housing, this is partially set off with cheaper loans and their belief in gaining an advantage, as the price growth continues. For banks, real estate developers and brokers operating in that market, this situation means high, extraordinary profits. For the other part of the society this means growth in the value of personal assets, contributing to higher expenditures and supporting a good economic situation. In consequence, also politicians support the process, expecting that things will go different and there will be no collapse or a good explanation will be found for the collapse. From the practical point of view this means that more stringent anti-cyclic regulations, particularly those referring to the banking sector, should be implemented before the boom.

Basic development trends after 2009

The situation in the housing real estate sector in Poland after 2009 may be described as a further adjustment following the negative demand shock, triggered by the 2005–2007 lending boom.

This process affected mainly markets in the largest cities, being the main real estate development markets and important lending markets, particularly as regards traditional mortgage loans. Practically in all those markets prices of housing grew significantly, and in some of them (Warsaw, Cracow, Wrocław) speculative bubbles appeared (see: charts in Sub-chapter *Inflation, tensions and availability in the housing market*). The basic consequence of such phenomena, apart from adjustment processes ongoing in the housing market, was the decline in the quality of housing portfolio resulting from the implementation of less stringent lending requirements, on which the materialised FX risk is imposed now, as well as the risk of drop in the value of collaterals.

The discussed adjustment in the housing market covers both the attempts to achieve the long-term equilibrium point based on fundamental factors, as well as short-term adjustments related to the imperfection of this market and the economic policy.

On the markets of small and medium-sized towns, with prevailing individual owner-constructed housing, the impact of the discussed phenomena was insignificant. Despite a large share (50%) in the quantity of completed housing construction, these markets have no speculative nature, and small loans granted are only supplementary to owners' own contributions. Housing markets are highly illiquid, and prices do not significantly affect the size of construction projects or the quality of portfolios. The basic factors in this respect are prices of construction materials and income growth in the economy.

On the markets of the largest cities, the internal cycle mechanisms coincided with the impact of the financial crisis, which shortened the crisis. The crisis largely contributed to lower housing loans supply, as well as the general economic slowdown, bringing a downward revision in expectations. Moreover, it triggered supervisory actions in the banking system. An important and apparently long-lived change as regards fundamental factors was growth in mortgage loan interest rates, driven by a change in their structure, i.e. major decline in the share of newly granted housing loans with lower interest rates. In consequence, availability of loans, being a measure of housing demand, fell by approx. 25%[54]. In 2010, loan supply increased slightly, albeit remained significantly lower than in the peak years of 2007–2008. Also some fundamental factors (migration to the largest cities, income growth, increase in the number of newly celebrated marriages) proved to be pro-cyclical or of short-term nature.

In response to the drop, prices became rigid, and some markets saw their slight decrease. Real estate developers limited their output and reduced the number of new investment projects. Rigid prices in real estate developer market were the consequence of the good standing of real estate developers that built homes financed with down-payments made by future buyers, without any pressure from financial institutions. Moreover, output

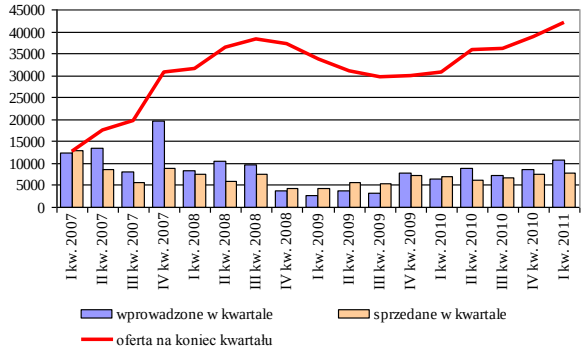
[54] See charts in Chapter 6. *Development trends in local markets*.

concentration was high in the sector. Additionally, the traditional financial buffer for real estate developers is the possibility of finance with amounts payable to construction companies. Of considerable importance was also the government-subsidized housing program -"Rodzina na Swoim", which assumed very high home prices to be financed with loans subsidised by the government. In fact, the programme changed into a programme supporting real estate developers and protecting them against the consequences of the economic slump. In the last two years, the programme significantly extended in Poland, from PLN 1.3 billion at the end of 2008, to PLN 14.8 billion at the end of 2010.

As a result of high prices of housing, related profit margins and high profitability of real estate developers' output, from 2009 Q4 new developers began to appear on the market, supported by falling construction costs and good access to construction land[55].

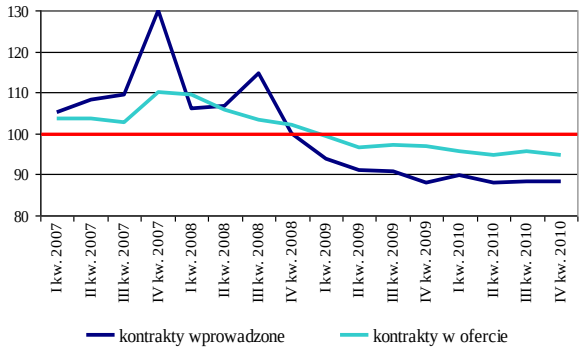
New projects were embarked on by some of the large companies. As a result of supply growth amidst limited demand, the number of unsold housing construction contracts increased again (see: Figure 235). It should be remembered, however, that prices of housing throughout the analysed period were falling in real terms, mitigating tensions in the market.

Figure 235. Housing contracts (implemented, sold and waiting for a buyer) in 6 largest cities of Poland.



Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
Source: REAS.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
wprowadzone w kwartale = implemented in the quarter
oferta na koniec kwartału = offer at the end of the quarter
sprzedane w kwartale = sold in the quarter

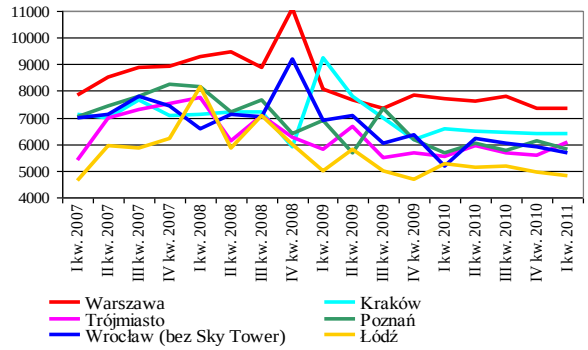
Figure 236. Index of housing contract prices in 6 largest cities of Poland (2007 Q1 = 100).



Note: 6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.
Source: REAS.
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
kontrakty wprowadzone = contracts implemented
kontrakty w ofercie = contracts offered

[55] See charts in Chapter 5. *Developers' and construction sectors*.

Figure 237. Prices of housing contracts implemented in the primary market in the six largest cities of Poland.

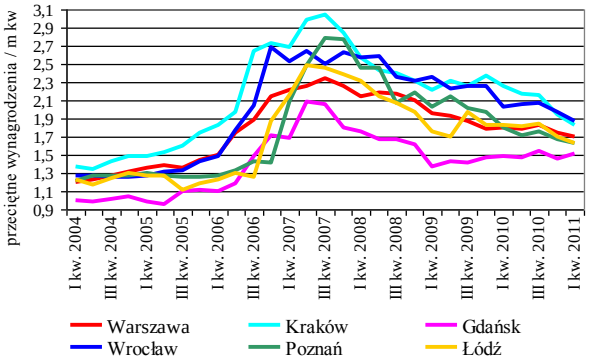


6 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk.

Source: REAS.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Warszawa = Warsaw, Trójmiasto = Gdańsk, Gdynia, Sopot
bez Sky Tower = without Sky Tower, Kraków = Cracow

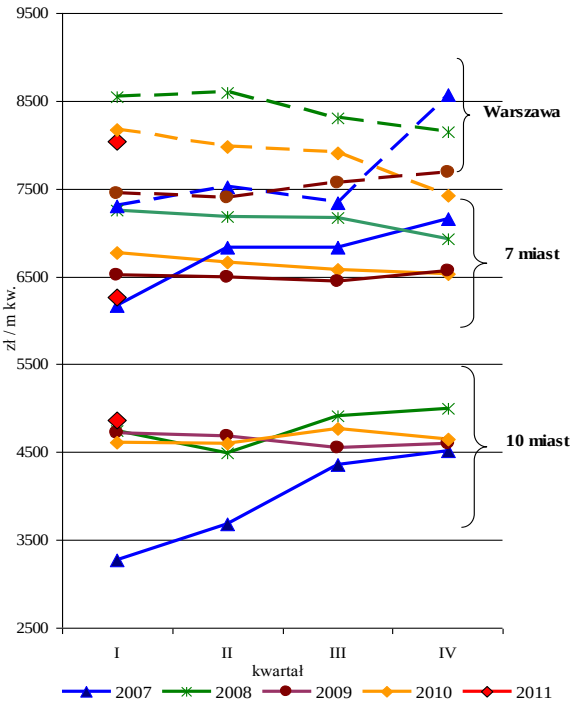
Figure 238. Housing prices vs. average wage in the enterprise sector.



Source: Central Statistical Office, PONT Info, NBP.

przeciętne wynagrodzenie/m kw. = average wage level/sq. m
I kw. = Q1, III kw. = Q3
Warszawa = Warsaw, Kraków = Cracow

Figure 239. Weighted average price of housing – selling prices in the primary market.

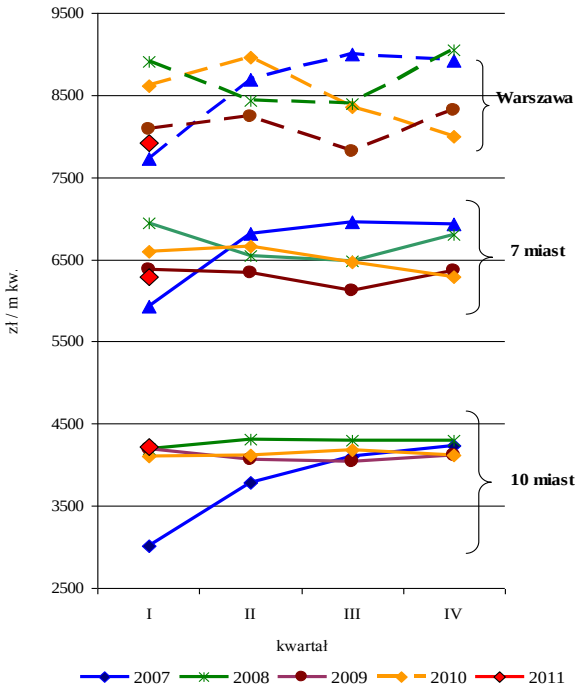


Warsaw as the largest and most developed housing market was additionally presented separately.
7 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.

Source: NBP.

zł/m kw = PLN/sq. m
Warszawa = Warsaw, 7 miast = 7 cities, 10 miast = 10 cities
kwartał = quarter

Figure 240. Weighted average price of housing – selling prices in the existing stock market.



Warsaw as the largest and most developed housing market was additionally presented separately.
7 cities: Warsaw, Cracow, Łódź, Poznań, Wrocław, Gdańsk, Gdynia.
10 cities: Białystok, Bydgoszcz, Kielce, Katowice, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.

Source: NBP.

zł/m kw = PLN/sq. m
Warszawa = Warsaw, 7 miast = 7 cities, 10 miast = 10 cities
kwartał = quarter

The discussed processes continued in 2010 and 2011 Q1[56]. The growing supply pressure resulted in slight nominal drops in prices per housing construction contract in the largest cities and prices in the existing stock market[57] (see: Figure 239 and Figure 240). In consequence, tensions in the largest markets are still on the decline[58] (see: Figure 238*)*. Real estate developers made their price expectations more realistic, which may be clearly seen in the index of the first listed housing construction contracts (see: Figure 237). New housing units are smaller and cheaper, and thus better adjusted to the current market situation. The analysis of demand and supply structure presented in Chapter 6 and a more detailed analysis of particular cities presented in Part III shows a come-back to the M3 (a flat for 3) standard of the 1970s.

The discussed factors largely determine the situation in the sector for the coming few months. Therefore, further supply pressure may be expected, which amidst limited demand will result in a downward pressure on home prices . This may bring about problems to those real estate developers that made excessive investments in the boom period. Generally, however, the situation of the real estate development sector is stable[59].

Over the long-term horizon, the situation in the sector and related risks are much more complex. The housing market, particularly in the situation of the financial sector liberalization, is very sensitive to speculation. The relatively safe development of the sector in the EU countries in the post-war period was the result of strong regulation, particularly as regards the financial sector. In such conditions, major collapses were generally the result of evident errors in economic policy. As a result of liberalization of the financial sector and its global nature housing is often treated as investment rather than consumer good, as it is intended by the housing policy. So far, the Polish housing real estate market has not undergone any serious slump, which apart from serious economic losses would be a factor limiting the risk of speculations, taken into account by the financial sector. At the same time, the share of housing loans in the banking sector assets becomes significant from the point of view of its stability, particularly when related problems coincide, as it is often the case, with other economic problems.

The analysis of the previously experienced real estate crises shows that Poland faces two main risks. The first risk is related to the existing portfolio of loans denominated in foreign currencies, which generate FX risk for the banking system, which may be transformed into liquidity and lending risk. The other one (known from the period of 2006–2008) is related to the sudden growth in demand, which amidst rigid short-term supply may trigger price growth mechanism, further fuelled by the expectations of their further growth and financed with loans. Such risk is especially related to the scenario of foreign capital inflow and financing housing loans denominated in foreign currencies from that source. Factors contributing to the absence of equilibrium may include fast economic growth, which will, again trigger migration to the cities, income growth and optimism as well as housing policy increasing availability of housing, so generally factors that had already been observed before. In the coming months, the probability of such a scenario does not seem high. Although the liberal monetary policy in the USA and the EU results in high liquidity in the financial markets, it is hardly probable that another lending boom based on instruments denominated in foreign currencies would not be restricted by the financial supervision authorities.

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[56] The subject is discussed in more detail in the NBP publication *Information on the prices of housing and situation in the housing real estate market in Poland in 2011Q1.*.

[57] More information in Chapter 3, Sub-chapter *Inflation, tensions and availability in the housing market*.

[58] More information in Chapter 6. *Development trends in local markets – comparative analysis* and Part. III *Monographs of 16 local markets*.

[59] More information in Chapter 5. *Real estate development and construction sectors*.

A2. Housing policy and the regulatory environment of the housing sector

Despite over twenty years of transformation, no effectively operating housing sector has been created. This would be that one that would best satisfy housing needs of the society, in consideration of the existing material limitations resulting from the level of economic development of Poland. The main barriers were always the strong sector interests, on the one hand, and the political nature of the sector used in political fights via populist promises. Therefore, while assessing regulatory changes in the sector, attention should focus not only on the current problems but also the required shape of the sector.

In highly simplified terms, it may be assessed that the basic system dysfunction is the housing policy, which does not ensure housing availability to the broad spectrum of the society and still incomplete transformation of the financial system.

The problem of housing availability should be considered in two aspects: statistically and dynamically. Statistically homelessness or very bad housing conditions are not a social problems. In Poland these criteria are fulfilled. A much more difficult problem is the availability of housing from the dynamic point of view. This means that households searching for housing are able, for various reasons, to find housing adequate to their financial standing and their needs, without putting an excessive burden on their budgets or without the need to accept very bad housing conditions. In developed economies this objective is achieved by a developed system of satisfying housing demand and housing policy providing assistance to the lower income population.

Despite major differentiation, the systems of satisfying housing needs in developed countries are similar as regards the general philosophy of construction and the general structure. In the case of the middle class it is private owner-occupied housing. The basic form of government's intervention on the market is to create conditions for mortgage loan development, which is the basis for home financing. This housing stock competes with the market rental stock – an important factor behind the flexible labour market. In this case investors include more affluent individuals and investment funds.

Both systems are sometimes subsidised, however, subsidies are usually capitalised by the market in the prices. Much more effective are subsidies directed to less affluent households with limited expectations regarding the home standard, which make the system more accesible.

In countries facing the strongest social tensions, another segment is represented by government-supported construction projects, often called social housing construction. This is usually present in the rental version, with the possibility to acquire home ownership. There are limitations as regards the home standard and the forms of support include mainly loan-based financing.

The poorest households usually rely on munipical housing. The public housing construction sector and municipal housing construction usually compete for funds with the system of allowances, often being a system supporting private housing for rental. That system is considered to be the best from the social point of view, as it prevents from gathering the poorest households in a kind of ghettos. In the variant supporting private housing for rental, this system is too expensive, particularly when it is the main system of social support. The system usually includes all of the previously discussed types of stock, except for municipal housing stock, where rents are very low.

In Poland, there is no housing stock for rental, particularly specialized housing, which results from the unreasonable restrictiveness of the Tenants Protection Act. This limits housing supply and results in a higher risk premium, followed by high rents and insufficient housing stock supply. Another barrier is the phenomenon typical for the recent years. The

housing boom and high home prices make rental hardly profitable, as rates of return are close to yields on government bonds. This shows how important it is to increase competitiveness in the real estate developer market. As a result of the shortage of such a stock, people migrating for work are forced into costly ownership housing and the related growth of lending risk and social tensions in weak economic situation.

Social housing is represented by municipal housing, cooperative housing and TBS housing, whereas the private stock consists of flats in housing communities and single-family buildings. Public housing is part of municipal housing stock and the stock created in towns for this purpose after the transformation.

Generally, in Poland there is no coherent policy integrating all the housing stock and capable of creating, based on the stock, a uniform system of satisfying housing needs. In consequence, the municipal housing stock, which is government-subsidised and in which rents are regulated, and at the same time tenants' rights are strongly protected, is occupied by many people with an average level and high income, who could afford to purchase their own flats or at least pay the full costs of flat maintenance. The basic disproportion refers to the municipal stock, treated as a political tool. This is still a large housing stock – its share equals 10% – which could cover the social needs in Poland. In consequence, there is no social housing for the poorest households. Therefore, the simplest social reform is to increase rents to the level of costs in that stock, ensuring, at the same time full protection of the poorest through payment of housing allowances.

Another problem is the shortage of housing for new households with average level income or lower, namely those who do not qualify for social housing but are too poor for developer housing. Such flats were supposed to be providedunder the TBS programme, however, owing to its faulty conception it has never achieved a significant size. In consequence, those people have no chances for modest but independent housing and are forced into owner-occupied housing segment, similarly as those who migrate for work.

Problems are also present in the relatively best prospering private stock constructed by real estate developers, which does not require any special housing policy programmes but mainly a reasonable macroeconomic policy. Therefore, the best housing policy is the balanced fiscal policy, allowing for low nominal and real interest rates and, thus, ensuring high loan availability – a policy limiting the risk, including sector risk, of banking operations involving mortgage lending, enabling to apply low risk premiums, reasonable competition in the banking sector and high competition in the real estate developerand construction sector to limit the prices of the housing constructed.

The basic problem is the low competition among real estate developers (see Chapter 2, Figure 20) and no competition for social construction, which leads to high prices. The government housing programme, which was supposed to support families, changed in fact into one supporting real este developers and limiting competition in that sector. Another problem is the absence of protection of developers' clients, which is related to the system of construction being financed with down-payments made by future owners - a system which operates in Poland and in some of the former Eastern Bloc countries. Such a system functions well in the period of a good economic situation, but in an economic slump period leads to problems, when real estate developers end up going bankrupt. It should be emphasised that under normal conditions the bankruptcy of a developer company is a frequent and natural phenomenon and ensures a better allocation of resources and – in consequence – cheaper housing. Thanks to the simplicity of the real estate development process, unlike in the case of companies dealing with complex production, bankruptcy does not lead to wastage of resources and loss of intangible capital. Therefore, state intervention should focus on accelarating that process, rather than limiting it. As a result of the generally applied system of financing real estate development with down-payements made by future home buyers, developer bankruptcies translate into the political sphere, as people lose their savings,

including usually loans taken out, so they will have justified claims against politicians. The problems may be tested, to a limited scale, in the nearest future.

The analysis enables to identify the necessary changes to be implemented and thus, to assess the importance of normative acts being proposed and adopted. Those particularly desired should include acts that:

– limit the excessive restrictiveness of tenant protection, enabling the development of private housing for rent and increasing the protection of developers' clients;

– order the municipal housing stock towards its transformation into a social stock and limitation of related subsidies to households with higher income;

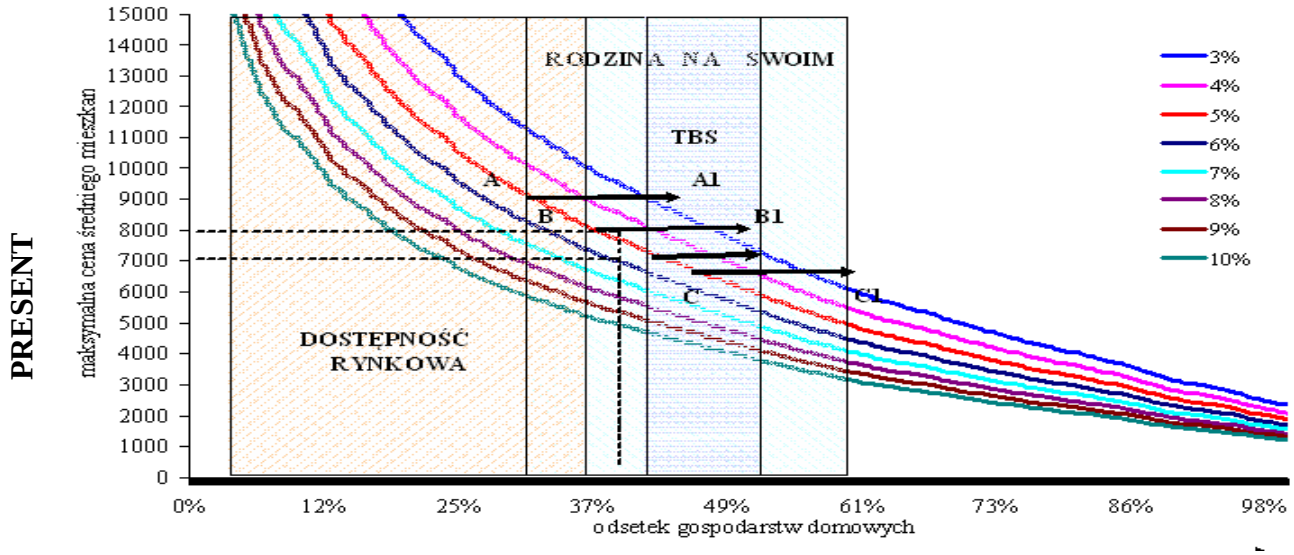
– support the development of housing construction addressed to lower income social groups;

– increase competition in the real estate developer and construction market, which will result in a drop of prices of the housing constructed;

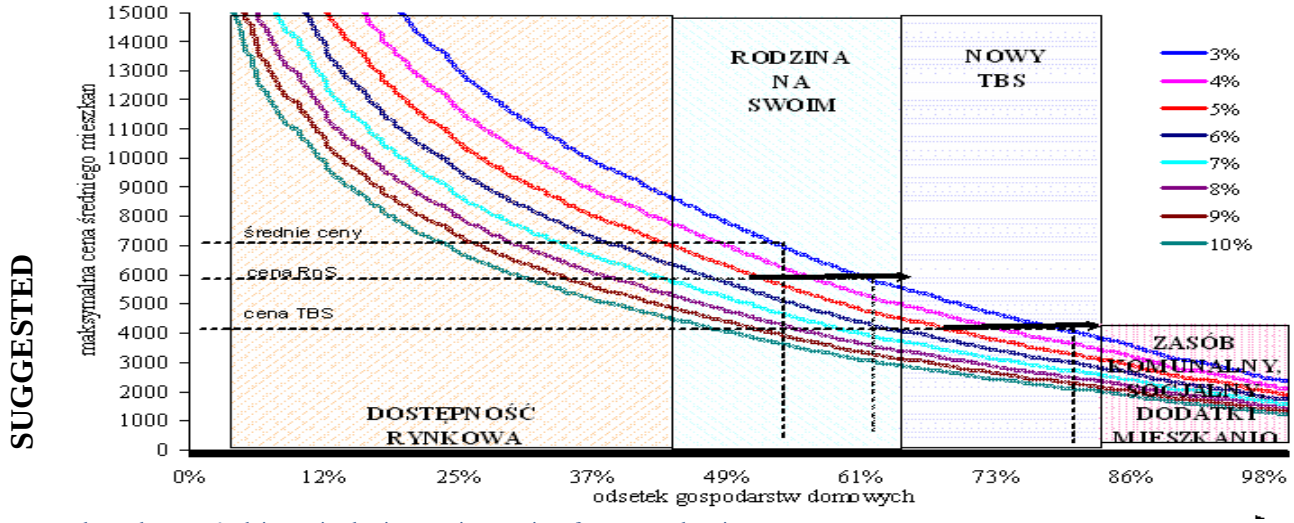
– limit the object subsidies for the stock, increasing the subject subsidies intended for the target groups.

Figure 241 shows the current and likely-to-achieve availability of various forms of satisfying housing needs of the residents of Warsaw, being the largest housing market in Poland. In order to illustrate the problem of housing availability, the charts present the availability curves showing the percentage of households for which average size housing is available (60 sq/ m in the case of Warsaw), when financed with a loan, at a particular level of construction costs and interest rates on loans. The analysis of the first of the said charts shows that the government- subsidized programme Rodzina na Swoim (RnS) and TBS programme are, in fact, addressed to the same social groups. Additionally, the RnS programme is not effective, as it largely finances housing and buyers that would otherwise make the transactions without government support. The lower chart shows a possible housing programme based on the principle of housing availability. The programme of subsidies for owner-occupied housing starts when the market availability of housing ends, and concerns cheaper housing of moderate standard. In consequence, the availability of owner-occupied housing is shifted to point A1 and covers over 60% of households. The TBS programme refers to housing of a moderate standard, constructed without real estate developer's participation and, therefore, the cost line is additionally decreased, which along with interest subsidies ensures the availability of housing to nearly 80% of households. The bottom end of the TBS system is social construction, the restructured municipal stock and housing allowances.

Figure 241. Availability of various forms of housing in Warsaw (present and suggested).



maksymalna cena średniego mieszkania = maximum price of an average housing unit
odsetek gospodarstw domowych = percentage of households
DOSTĘPNOŚĆ RYNKOWA = MARKET AVAILABILITY



maksymalna cena średniego mieszkania = maximum price of an average housing uni
odsetek gospodarstw domowych = percentage of households
średnie ceny = average prices
cena RnS = RnS price
cena TBS = TBS price
DOSTĘPNOŚĆ RYNKOWA = MARKET AVAILABILITY
NOWY TBS = NEW TBS
ZASÓB KOMUNALNY, SOCJALNY, DODATKI MIESZKANIO = MUNICIPAL AND SOCIAL STOCK, HOUSING ALLOWANCES
Source: Own studies based on the data of the GUS and the NBP.

When assessing the housing policy pursued in 2010 from the point of view of the above discussed problems, only a few positive aspects may be found. On of such positive aspects is the announced abandonment of the government- subsidized programme Rodzina na Swoim (RnS) at the end of 2012, as the programme is expensive, limits competition and is not effective from the social point of view[60]. The final (as it may be assumed) version of the Act

[60] In accordance with the provisions updated by the Parliament on 10 June 2011, within 14 days of the Act announcement: – the coefficient creating the price-cost limit qualifying a real estate to be covered by financial support will be changed from the present 1.4 to 1.0 in the case of primary market and to 0.8 in the case of

was passed on 10 June 2011 but discussions were held throughout 2010. The announced reduction of coefficients adjusting the allowed costs of housing under the programme, from 1.4 level to 1.0 level, should be given a positive assessment. There seems to be no alternative to that programme, as the document entitled *The main problems, objectives and directions of the housing construction development support programme until 2010* passed by the Parliament on 4 March 2011 cannot be considered as such an alternative, as it is too general and rather wishful thinking in nature. The document provides for, in the coming 10 years, enhanced measures to assist municipal housing construction. This means the creation of municipal housing, night shelters or houses for the homeless (construction, extension, reconstruction or adaptation of the existing buildings, purchase of premises or apartment buildings). A draft act is being preparedact which provides for the system of construction of housing for rental,with the target transfer of ownership to the tenant – the formula of social housing groups. Such form of housing is addressed to people and families who cannot afford to take out a commercial loan, as well as young people planning to establish a family in the future. Such solutions are to replace the current RnS programme.

Unlike the housing policy, the progress in the development of the financial system is worth mentioning. The idea to base this system on universal banks and deposit finance was basically the result of the position held by those banks, rather than – as in the case of a major part of systems in developed countries – a conscious choice of the economic policy. Specialised systems of the sector funding are usually subject to more stringent regulations than the universal ones that mitigate the sector risk. The system of real estate financing, if based on strong banks with high deposit base, offers variable interest loans, the share of housing loans does not exceed 20–30% of the portfolio and basic prudential requirements related to mortgage loans are applied, should not pose any threat to the system stability. A higher share of housing loans requires diversification of the sources of funding, including, in particular, the development of long-term financial instruments. In Poland there are practically no such instruments, although discussions whether these should be mortgage bonds or other instruments are pending. However, the basic problem is the higher cost of relying on the capital market, which must be reflected in banks' performance, the more so because they are network banks and higher costs of funds may not be compensated with the lower costs of fundraising by withdrawing from the network of branches. The scale of mortgage finance is, nevertheless so high that the problem is slowly being perceived by the supervising authority.

Another important problem is the growing portfolio of loans denominated in foreign currencies. The portfolio presents significant FX risk, which is further translated into credit risk. Limitation of the credit risk by FX rates amortisation leads to banks suffering losses, the scale of which is significant given the existing size of the portfolio. A rational analysis shows that the risk related to FX loans is of hazardous nature and, therefore, the instruments may be available to affluent households that may gain lower costs but also cover losses in the event of failure.

The Recommendation T (issued in February 2010 by the Polish Financial Supervisory Authority (Polish abbreviation: KNF) which came into force on 23 December 2010) limited access to such loans for the lower income population by imposing the requirement under which not more than 50% of income may be used to service the loan debt and not more than

existing stock; – people who are not married will be included in the group entitled to apply for a preference loan (whereas the floorage of the premises in their case may not exceed 50 sq. m and the loan subsidy will vest solely for up to 30 sq. m); – the age limit of up to 35 years will be introduced for borrowers (the target borrower should submit the application by the end of the calendar year, in which they become 35, at the latest); – the catalogue of people that may join the loan if the target borrower has no sufficient creditworthiness will be extended; – starting from January 2013 the programme will be gradually extinguished, applications for preference loans will be accepted until 31 December 2012.

65% in the case of people with income above the national average. It also imposed the requirement to provide at least 20% of own contribution in the case of loans denominated in foreign currencies. As a result of the Recommendation, housing demand will drop and the banking system security will increase. The coefficients introduced by the Recommendation are still liberal but when excceed, pose excessive risk to the banking sector.

On 25 January 2011 the Recommendation S II was introduced, whereas discussions on the Recommendation lasted throughout 2010. The Recommendation suggests reducing customer exposure to FX risk, conducting a reliable and through creditworthiness assessment, verifying the portfolio quality and establishing adequate collaterals. In particular:

- the maximum level of client's expenditure on loan liabilities in foreign currencies should not exceed 42% of their net income;
- in the case of loans with maturity exceeding 25 years, the client will have to prove their creditworthiness that would be required in the case of a loan granted for 25 years;
- if during the repayment period, the borrower will reach the retirement age, the bank should, when assessing their creditworthiness, take into consideration a change in theincome level.

Since 1 January 2011 a new preferential 5% VAT rate has been applicable, however, exclusively to flats with a floorage up to 150 sq. m and houses with a floorage not exceeding 300 sq. m (qualified as the so-called social construction). For each additional square metre of space 23% VAT must be paid. Moreover, the increase in VAT rate on construction materials from 22% to 23% may result in a slight growth in construction costs. We estimate that the scale of home price growth on account of VAT increase will be insignificant.

On 20 February 2011 the *Act of 26 June 2009 amending the Act on Land and Mortgage Registers and Mortgage and some other acts* entered into force. Despite shortage of information upon the inmplementation of the Act, amendment of the provisions – after 25 years from the entry into force of the provisions of the previous Act – constitute, in the opinion of many lawyers, a throughout reform and adjustment of the principles of the mortgage to the market needs. The new Act not only thoroughly modifies the current mortgage (removes the division into ordinary mortgage and mortgage securing an existing or future claim, which shall facilitate formalities to be accomplished by the borrower) but also introduces new institutions, which have not been so far known in the Polish law. The amendment brings about positive changes for banks, both in the case of financing the real estate purchase by individual clients and under a larger-scale investment process, which will enable more effective securing of the banks' receivables. The most important modification is the possibility to secure many receivables of the same person with the same mortgage, and appointment of the mortgage administrator. The amended provisions shall also increase the security of the developer's customer, as the developer will be required to disclose any encumbrances imposed on the housing unit.

The amendment of the *The Consumer Loan Act*, passed by the Parliament on 12 May 2011 and awaiting signing by the President, will come into force within 6 months after its announcement. Changes ensure larger protection of borrowers than that provided by the current regulations. The standardisation of the information disclosed by the banks (the European Uniform Credit Form), among other things, will improve the transparency of information provided to the borrower but will also increase the costs of loans. Although the Act refers to mortgage-secured loans and housing loans to some extent only (loans up to PLN 255,500 or its equivalent in foreign currencies) but in the Polish conditions it will concern most loans granted outside the largest cities.

A3. Prices of Owner-Occupied Housing (OOH) and the Harmonised Index of Consumer Prices (HICP) for Poland

Inclusion of housing prices in the general consumer price index is disputable owing to the specific nature of housing as a good (consumer and investment good, purchased with a loan, long-lasting). In consequence, the literature applies four main approaches to housing price integration, which give different results. The problem is less visible in the case of minor changes in the housing market, however, in the case of major changes, the approaches may bring about not only divergent results but also results non-compliant with the market developments and their social perception. Therefore, only some countries decided to include housing prices in the consumer price indices. The Imputed Rent Approach and User Cost of Housing assume, as the starting point, the method of treating housing and housing consumption recommended by the UN (1997) in the SNA approach. Housing is treated as a fixed asset generating a stream of services for households. Actually, the services do not 'pass' through the market but their value may be determined, for example, by analysing market rents – the solution is used in the Imputed Rent Approach. In the User Cost Approach (UCA), material costs related to use, repairs and renovation, as well as taxes and other costs of home maintenance include also the financial costs of insurance and loans and costs alternative to own capital[61]. An alternative of the aforesaid approach is the Payment Approach (PA) applied in Ireland. It treats housing as a consumer good purchased with a loan. Apart from material costs, taxes and insurance, it includes interest costs actually paid by households in connection with loan repayment. The method is applied in two scenarios (hereinafter referred to as MO1 and MO2), whereas in MO2 the costs alternative to the costs of capital are included. MO2 is very similar to the User Cost Approach but excludes capital gains. Finally, the Net Acquisition Approach (NAA) was developed by statisticians in order to fulfil the HICP requirements. Thorough analysis of the method leads to problems with the economic explanation what is actually measured by the approach. The approach takes into consideration only prices of newly constructed housing, net of land, which is treated as a financial asset. The weight of OOH in the CPI basket is the ratio of the value of newly constructed housing to other goods purchased by households in the analysed period.

When simulating the consequence of OOH inclusion in the CPI applied in Poland, or the HICP calculated in parallel by the GUS, we face technical problems related to data availability. In Poland the official, professional rental market is hardly representative. The basic problem is the statutory tenant protection, which results– apart from risk premium – in the absence of publicly available information and, as a result, shortage of professional investors. In such situation it is hard to assess whether considerable fluctuations in the level of rents in the largest cities (see: Figure 42) is the effect of low representativeness of the sample and its high diversity or whether the rents present considerable fluctuations due to the reasons

[61] The calculation may be performed from the point of view of a household (microeconomic) or based on macroeconomic data according to the following formula: UC = RM + iE + D + RC – K, where:
UC – user cost of housing,
RM – interest on mortgage loans,
iE – alternative costs of investing in other assets,
D – depreciation,
RC – other costs such as taxes, insurance, repairs, current upkeep,
K – capital profits on housing appreciation.

described above. In consequence, the Imputed Rent Approach may not be reasonably applied, as such high fluctuations of housing prices are absent.

The relatively low popularity of mortgage loans makes the Payment Approach (PA) hardly applicable in the form applied in Ireland, as there appears a problem of weight and the basket of loans, whose structure on a mature market is different than on a developing market. The solution to that problem may be to adopt some reliable assumptions about the shape of the home financing system in Poland at the more mature stage and make calculations based thereon. In this study the index was calculated both for the existing loan portfolio and for a virtual portfolio, assuming that the mortgage market has reached a higher stage of development.

The application of the Net Acquisition Approach and the User Cost Approach creates relatively the fewest problems, although also in those cases simplifications and estimations are necessary.

To have a complete picture, the simulation was made based on the User Cost Approach taking into account capital gains (UCA1) and in a hybrid scenario – without capital gains (UCA2).

As regards the NAA, particularly in the case of estimated calculations, practically all necessary pieces of information are available, although in order to obtain some of them more specialised, non-public sources of data have to be relied upon.

In order to calculate the index according to the NAA, the study assumed the breakdown of new housing construction into 3 components for which statistics of floorage of completed owner-occupied housing c[62], prices and costs are available. The components include: six largest cities of Poland (shortly called 6M in the charts), other voivodeship capitals and small towns (in the cities/towns chart they are treated collectively, and shortly termed RM), plus villages (shortly termed W). For the cities the value of newly constructed housing was calculated based on the available data on asking and selling prices in the primary market (source: BaRN and PONT databases). In the case of villages, the value of new single-family owner-constructed housing was estimated based on the construction costs by Sekocenbud (replacement costs). Figure 242 and Figure 243 present the levels of prices in the particular groups, as well as the value of the HICP for Poland with and without the OOH (NAA) component. Figure 244 presents the differences in the HICP before and after OOH (NAA) inclusion. Growth rate of all the indexes was presented in annual terms.

The results of NAA application are in line with the expectations. The weights are close to the weights obtained in the studies of other countries, the cyclical nature of the HICP does not change considerably, fluctuations are limited. A major difference between the HICP without OOH and with OOH results from an unprecedented increase in prices observed in the years 2006–2007, which brought about growth of construction costs. This was driven by both the market price component in large cities but also the construction price component in smaller towns and villages. This latter component of significant weight shifted the price effect to the year 2008, when the boom in the markets of the largest cities came to an end. The prices of land in real estate development projects discounted the growth of prices relatively weakly and in consequence, the index reflected a high variability.

The User Cost Approach (UCA1) assumed, in accordance with the results of the sector analyses, that the stock depreciation amounts to 1% of its replacement value per year, and the costs of repairs and renovation amount to 3%. Interest costs were calculated based on the balance of housing loans, the currency structure of housing loans and interest rate statistics based on the NBP data. The costs alternative to the costs of capital were calculated on the

[62] The calculations of the value of owner-occupied housing wealth were made based on GUS statistics. These include housing construction for sale and rental, half of cooperative housing construction, assuming that approximately such part is transformed into owner-occupied housing, as well as individual housing construction.

basis of interest rates on 5-year treasury bonds and the market value of owner-occupied housing stock calculated based on the BaRN and PONT housing price databases and data regarding the construction costs by Sekocenbud. The data were also the basis for capital gains estimation. The weight of the aggregate was calculated as the ratio of the user cost of housing to household consumption, plus intangible costs of housing (alternative costs), as they are not included in GDP calculation and household consumption. In the modified User Cost Approach (UCA2), capital gains were left out. Figure 247 presents the HICP without OOH and with OOH in accordance with the User Cost Approach, in both scenarios.

The analysis of the basic components of the aggregate affecting the aggregate variability leads to interesting conclusions. What is interesting is the very high (in relation to material costs) share of alternative costs (interest), which shows how undervalued housing consumption is in the countries registering only the material component in the GDP. In consequence, interest rate changes will cause a significant variability of the aggregate.

In the OOH method (UCA1), in the years 2006–2008, we observe a major impact of capital gains from housing appreciation on the value of the weight, resulting from a drastic change of housing prices. The weights growth affects further the hikes in the value of the HICP with OOH (UCA1) included. This is the effect of the extraordinary situation, namely the lending boom, and very high housing price appreciation in that period. Under normal conditions, i.e. long-term appreciation at the level of 1%–3% on an annual basis, the capital gains component offsets the costs of the stock maintenance, at most. In the price shock periods observed on the Polish market in 2006–2008, growing capital gains lead to a paradoxical result – the OOH index declined instead of growing. In other words, price growth causes that the HICP reflects deflation, as capital gains exceed cots (instead of a dropping costs change rate we arrive at a growing profits change rate). Therefore, we arrive at a question, how or with what sign the phenomenon should be reflected in OOH. It seems that it should be reflected with a negative sign (similarly as the downward trend in costs), as it is a continuation of falling costs, whereas capital gains are not a cost category. In the calculations, the negative sign was applied in the 2007 and 2009 growth rate, in order to specify the actual impact of capital appreciation (gains on housing ownership were much higher than the related costs). Regardless of the sign, in each case capital gains considerable increase the variability of the HICP aggregate. In the OOH (UCA2) method, the capital gains component has been omitted.

As it has been assumed, the rapid – nearly double – growth of home prices in the largest markets and their significant growth in other markets resulted in a very high impact of the capital gains component on the index. In consequence, the gains dominate the other cost items, whereas housing consumption shows high profits instead of costs. In effect, the OOH index reflects high deflation, as we deal not only with less expensive consumption but even income on consumption. In the method excluding capital gains, high prices have only indirect impact by virtue of higher base for the calculation of interest on loans or alternative costs. In such solution OOH does not reflect such paradoxes, and its variability is even lower on that observed in the OOH (NAA) method.

In the Payment Approach (PA), the basis for calculation is the existing value and of the debt structure, which is equivalent to the application of the basket of loans including FX loans, PLN loans, existing loans and newly granted loans (similarly as in Ireland) and calculation of interest costs for them, to which the material costs related to stock maintenance are added. The main problem in the Polish conditions is the determination of weights. If weights are determined on the basis of the share of interest on housing loans in households' expenditures this will result in a low share of the OOH aggregate, owing to the initial stage of the Polish mortgage market development. Therefore, in the simulations, apart from such a calculated index, another scenario of the approach was included, assuming that in 2004 the housing stock was burdened in 60% with debt with equally spread maturity, the average LTV

was 80% and loan maturity period was 20 years. To such a calculated initial debt, the actual growth of loans occurring in the subsequent years was added. As regards the above assumptions, a measure of OOH indebtedness of 25% was obtained. The result seems to be realistic taking into account the current OOH indebtedness of approx. 8%. Therefore, in the second scenario of the Payment Approach (PA), a simulation was conducted to see the impact of the credit boom observed in Poland in the past few years on the OOH index, if the housing market was more developed. Figure 248 presents the HICP without OOH and with OOH included, with the use of the PA method in both scenarios. What is interesting is the major difference and index growth both under the PA1 and PA2 scenario. For evident reasons, under the PA2 scenario, the impact is much stronger and significantly boosts inflation, showing possible behaviour of the index, should we have a developed mortgage loan market. What is interesting, the direction of changes and the path of the index are very close to the HICP without OOH. Results are affected, to some extent, by the annual aggregation of data. Index growth results from the rapid increase in the balance of housing loans in the discussed period, which is translated into higher interest costs. Fluctuations of the index are, to a major extent, the effect of interest rate changes and the structure of housing loans (both PLN and FX loans). Owing to the fact that loan substitution and loan refinancing – being the response to interest rates changes – have not reached a significant scale, the effect of interest rate change prevails. The effect of PLN loan substitution with FX loan was highly represented in the case of new loans, yet, the impact of that phenomenon on the indebtedness of the whole stock was not high. In consequence, growing inflation may urge the central bank to increase interest rates and the resulting growth of the interest costs index owing to housing loans indexing with short-term interest rates. From the point of view of the central bank, the behaviour of HICP upon OOH inclusion according to the Payment Approach is paradoxical, as the interest rates increase aimed at inflation reduction brings about a contrary effect – growth of the inflation index.

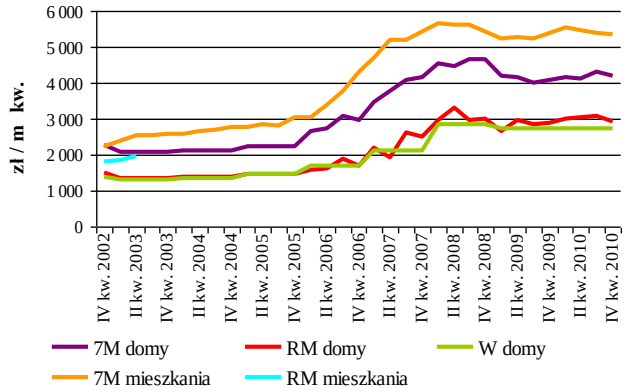
Figure 249 presents all the methods of including the OOH component in the general HICP and their impact on the index. Differences both in the nature and the scale of the impact are clearly visible. The differences between the measures reach 11 p.p., with the variability of the HICP itself of 2 p.p. Also the direction of growth changes considerably.

Joint specification of the indices provides a good opportunity for their comparison with the actual OOH price changes in Polish major markets. Figure 250 presents the hedonic indices for selling prices in the existing stock markets in 16 voivodeship capitals of Poland, which are the best measure of price developments. Unfortunately, they are available only from 2007, so approximations in the form of asking price indices were used in the analysis of longer time series (see: Figure 251). Additionally, the chart presents growth rate of asking prices in other 46 cities/towns of Poland and growth rate of construction costs according to Sekocenbud. The first category may be an approximation of the price changes in other cities of Poland, whereas the other is an approximation of price changes in the smallest cities/towns and in villages. The analysis of price growth rate corroborates the already known conclusion that in the stabilisation periods the local nature of the market is clearly visible: prices in particular cities often change in opposite directions and their aggregate does not correctly reflect the changes. In the boom period, price growth significantly accelerated in all markets, however, differences were significant. Taking into account the strength and direction of the changes, they are not reflected in the HICP modified by OOH.

The above simulations refer to the inclusion of the OOH component in the general HICP for Poland when applying various approaches to the OOH index determination. The results show that the modified HICP may significantly deviate from its initial value depending on the phase of the cycle in the real estate market, applied method and technical solutions. The smallest changes in HICP value are observed by applying the User Cost Approach without capital gains (UCA2) and the similar Payment Approach (PA1). Nevertheless, neither

approach provides a good representation of the situation in the owner-occupied housing market. The User Cost Approach (UCA1) drastically changes the HICP value leading to paradoxical conclusions in the situation of growing value of housing wealth resulting from a sudden rise in prices. Similar behaviour is presented in the second Payment Approach scenario (PA2) constructed for the virtual reality, although the changes of indices go in two opposite directions. The Net Acquisition Approach (NAA) does not result in such drastic change of the HICP value but it reflects an inverse dependence on the housing market prices in 2008, measuring the growth rate of output costs and developers' rather than the actual price changes in the housing market.

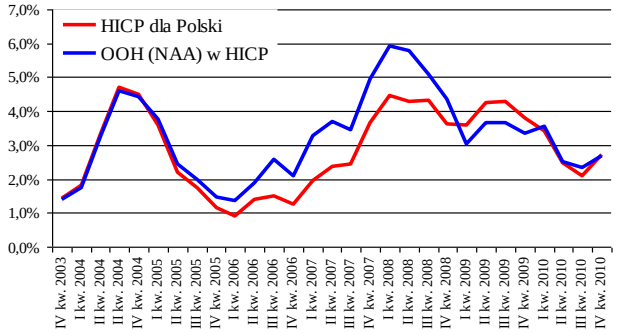
Figure 242. Price levels of particular components of OOH (NAA) user cost of housing included in the HICP



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

zł/m kw = PLN/sq. m
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
7M domy = houses, 7 cities, 7M mieszkania = flats, 7 cities,
RM domy = houses, other cities, RM mieszkania = flats, other cities,
W domy = houses, villages

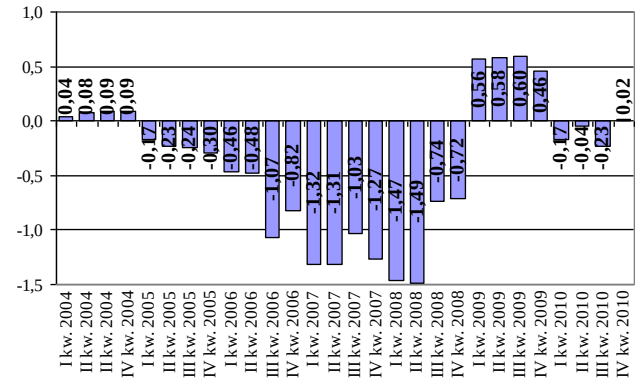
Figure 243. Changes in the HICP with and without OOH (NAA) user cost of housing.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

HICP dla Polski = HICP for Poland
OOH (NAA) w HICP = OOH (NAA) in HICP
I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

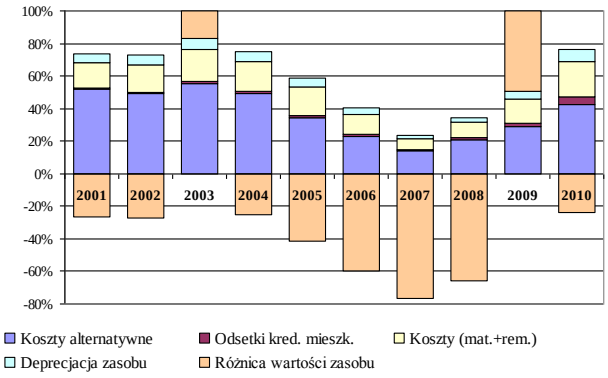
Figure 244. Differences between the HICP with and without OOH (NAA) user cost of housing.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4

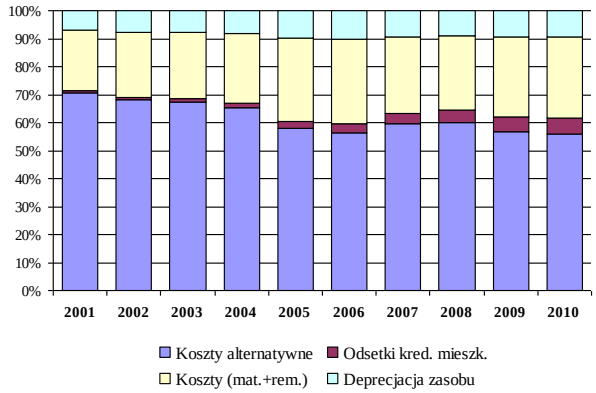
Figure 245. Structure of user cost of housing components in the total weight of the OOH component (UCA1 scenario).



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

Koszty alternatywne = Alternative costs
Deprecjacja zasobu = Stock depreciation
Odsetki od kred. mieszk. = Interest on housing loans
Różnica wartości zasobu = Stock value difference
Koszty (mat.+rem.) = Costs (materials + renovation)

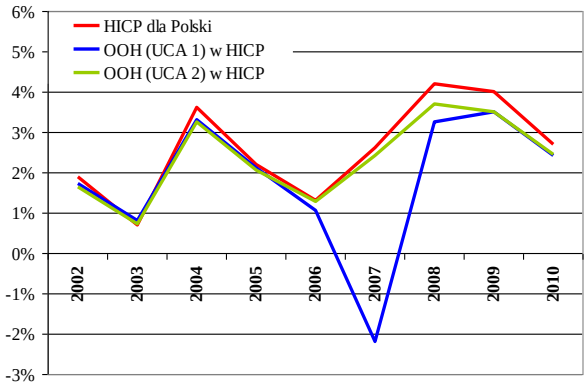
Figure 246. Share of the basic components of the user cost of housing in the total weight of the OOH (UCA2) component.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

Koszty alternatywne = Alternative costs
Koszty (mat.+rem.) = Costs (materials + renovation)
Odsetki od kred. mieszk. = Interest on housing loans
Deprecjacja zasobu = Stock depreciation

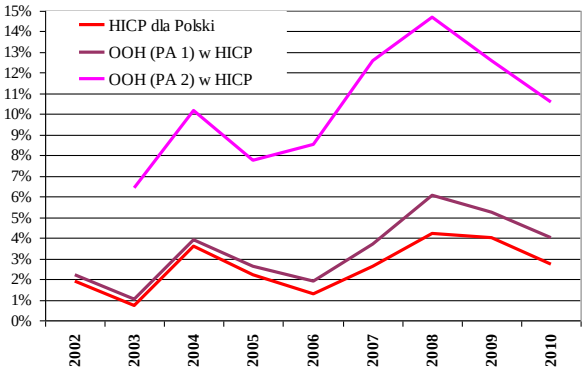
Figure 247. HICP with and without OOH (UCA1) and OOH (UCA2) user cost of housing.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

HICP dla Polski = HICP for Poland
OOH (UCA1) w HICP = OOH (UCA1) in HICP
OOH (UCA2) w HICP = OOH (UCA2) in HICP

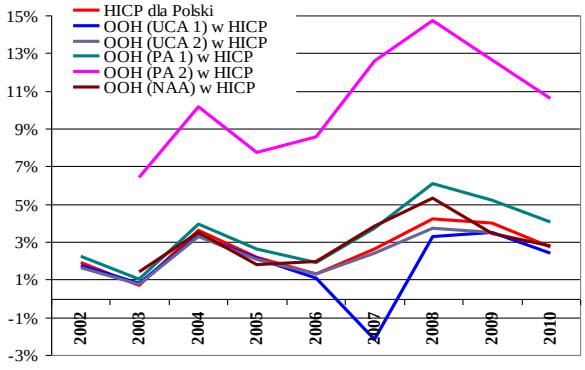
Figure 248. Changes in the HICP before and after the inclusion of OOH (PA1) and OOH (PA2) user cost of housing.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

HICP dla Polski = HICP for Poland
OOH (PA1) w HICP = OOH (PA1) in HICP
OOH (PA2) w HICP = OOH (PA2) in HICP

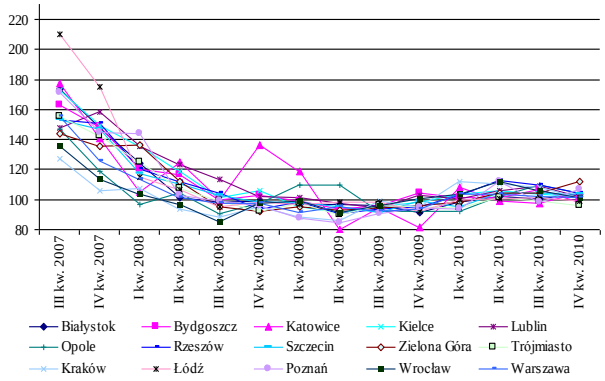
Figure 249. Various methods of including OOH user cost of housing in the HICP for Poland.



Source: Central Statistical Office, Sekocenbud, PONT Info, NBP.

HICP dla Polski = HICP for Poland
OOH (UCA1) w HICP = OOH (UCA1) in HICP
OOH (UCA2) w HICP = OOH (UCA2) in HICP
OOH (PA1) w HICP = OOH (PA1) in HICP
OOH (PA2) w HICP = OOH (PA2) in HICP
OOH (NAA) w HICP = OOH (NAA) in HICP

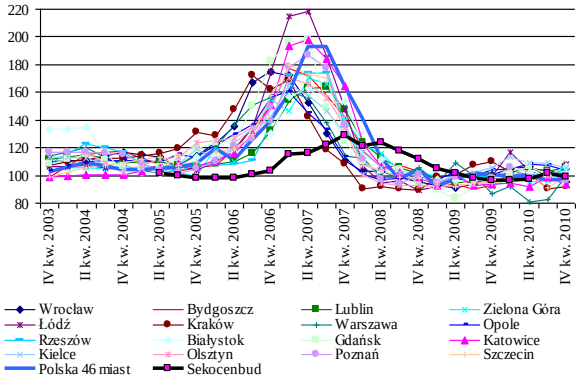
Figure 250. Hedonic index (Y/Y) of selling prices in the existing stock market.



Source: NBP.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Kraków = Cracow
Trójmiasto = Gdańsk, Gdynia, Sopot, Warszawa = Warsaw

Figure 251. Growth rate (Y/Y) of housing asking prices in the existing stock market.



Source: PONT Info.

I kw. = Q1, II kw. = Q2, III kw. = Q3, IV kw. = Q4
Polska 46 miast = Poland, 46 cities
Kraków = Cracow, Warszawa = Warsaw

Glossary of terms and acronyms

AMRON – System for Analysis and Monitoring of Real Estate Market Transactions.

BaRN – Real Estate Market Database. A database that includes asking and selling prices of housing in the markets of 16 voivodeship capitals of Poland. It also holds data on market rents. The data come from real estate brokers, housing cooperatives and real estate developers who volunteered for the study and partially also from the Registers of Prices and Values of Real Estate kept by particular counties. The data are gathered and verified by the Regional Branches of the NBP.

BIK – Credit Information Bureau.

Shopping centre – retail real estate that has been planned, constructed and managed as a single retail entity, consisting of common parts, with a minimum gross leasable area (GLA) of 5,000 sq. m, as well as minimum 10 shops (definition created by the Polish Council of Shopping Centres).

Loan availability – a measure of potential loan available at a specific interest rate, depreciation, lending requirements (social minimum), average monthly wage in the enterprise sector. It expresses the amount of loan that the borrower is able to obtain for the average monthly wage in the enterprise sector in a particular market (GUS), in view of bank's lending requirements and loan parameters (interest rate, depreciation period, social minimum understood as the minimum income after the payment of loan instalments). The growth rate and regional differentiation provide important information rather than the value of the indicator alone.

Housing availability – a measure of the potential ability to purchase housing space at the asking price for the average monthly wage in the enterprise sector. It expresses the number of square metres of housing with an average asking price in a particular market (PONT Info) that can be purchased for the average wage in the enterprise sector in a particular city (GUS).

Ten cities – Szczecin, Katowice, Bydgoszcz, Opole, Olsztyn, Rzeszów, Kielce, Zielona Góra, Białystok, Lublin.

Financial leverage – the ratio of liabilities and provisions for liabilities to equity.

PONT Info Nieruchomości (PONT Info) – a database holding data on real estate asking prices. The data are gathered by the company of PONT Info.

Global creditworthiness – a measure specifying overall creditworthiness (housing loans) of all households in the cities/towns of Poland. It is calculated based on individual household disposable income (household budgets according to GUS) as well as bank lending requirements and loan parameters.

Hedonic housing price index – a measure reflecting the 'pure' price change, i.e. a change resulting from factors other than home quality differences. The index accounts for changes in the quality of housing in the study samples in each quarter, which distinguishes it from the growth rate of an average price median[63].

Weighted average index – a measure reflecting price growth adjusted for one of the most important home quality variables – location. Home price growth is calculated

[63] More information in the article entitled *Hedonic price indexes determination as the method of goods quality change control*, M. Widłak (2010), Wiadomości Statystyczne (Statistical News) No 9.

independently for selected locations (districts) and then aggregated in the weighted average formula.

Product innovations – modern banking products; a number of instruments, including brokerage services, selling products of other parties (mutual funds, insurance companies) and particularly issuing services (issuance of securities, servicing and underwriting of the issuance of shares), managing clients' investment portfolios and deposit certificates (debt securities issued by banks with guaranteed time and price of repurchase).

Availability of loan-financed housing – a measure specifying how many square metres of housing at an average asking price in a particular market (PONT Info) may be purchased for a housing loan obtained based on average monthly wage in the enterprises sector in a particular market (GUS), in view of bank's lending requirements and loan parameters (interest rate, depreciation period, social minimum understood as the minimum income after the payment of loan instalments). Also index growth rate and spreads between particular markets provide important information

LTV (Loan to Value) – the ratio of the value of the loan granted to the value of the loan repayment collateral.

Small and large real estate developers – real estate development companies analysed were selected, based on economic activity classification number PKD2007. They were divided into large and small ones taking into account both the headcount and the value of revenues. Companies employing less than 50 people are treated as small, others are large.

MDR (Mortgage Debt Ratio) – percentage share of housing loans repayments in the borrower's budget.

Cities 200+ – stands for all cities in Poland with a population of at least 200 thousand.

Financial market surplus liquidity – the surplus of financial capital that has not been distributed by financial institutions.

Building 1121 – a residential multi-family five-storey building, which since 2004 has served as the basis for monitoring the average price of construction of one square metre of an average housing unit (see: the Construction Prices Bulletins by Sekocenbud).

P/I (Price to Income) – the ratio determining the relationship of the price of an average housing unit in a particular year to the average disposable income.

Sub-rental (or occasional rental) –temporary rental by home owner of the whole or part of his real estate for the determined fee.

PSBD – Polish Association of Home Builders.

Credit rationing – restricted loan granting by banks resulting from their own assessment of growing risk. In specific situations this may cause declines in the value of newly granted loans, despite the absence of major changes in the current creditworthiness of the borrower, which may lead to self-fulfilling forecast.

Recommendation S – a collection of good practices regarding mortgage-secured credit exposures. It was introduced in 2006 by the Commission for Banking Supervision, based on Article 137 clause 5 of the Banking Law Act (Journal of Laws No. 72/2002, item 665, as amended).

Recommendation T – a collection of good practices in managing the risk of retail loan exposures. It was introduced in 2010 by the Polish Financial Supervision Authority, based on Article 137 clause 5 of the Banking Law Act (Journal of Laws No. 72/2002, item 665, as amended).

Sales profitability – the ratio of net result to sales revenues.

RoA (Return on Assets) – the ratio of net result to assets at the end of the period.

RoE (Return on Equity) – the ratio of net result to equity at the end of the period.

Rodzina na Swoim (RnS) (*Family's Own Place*) – government-subsidized programme intended to support housing construction.

SARFIN – Analytical System for the Real Estate Financing Market.

Sekocenbud –publication gathering data on costs in the construction sector; the team makes use of the quarterly Construction Prices Bulletins (BCO) – part for enclosed structures.

Office real estate standard – office space is classified according to the standard offered. Classification depends on the age of the building, its location, possibility to customize the space, technical specification (e.g. raised floors or suspended ceilings), underground and over ground parking lots and other factors important from the tenant's point of view.

Capitalisation rate – quotient of net operating income that may be gained on the market and the market price of real estate (in accordance with the General Domestic Valuation Principles).

Six cities – Warsaw, Cracow, Wrocław, Poznań, Gdańsk, Łódź (whenever **seven cities** are mentioned, Gdynia is included in the group).

TBS (*Social Building Society*) – is a company operating based on the Act of 26 October 1995 on Some Forms of Housing Construction Support (consolidated text in Journal of Laws No. 98/2000, item 1070, as amended). The object of the company's operation is housing construction and its rental, provision of management and administration services and conduct of business related to housing construction and accompanying infrastructure. It was planned that TBS offer would be addressed to non-affluent families eligible to use the loan subsidised by the state budget from the National Housing Fund (KFM). The tenants pay rent, which is usually higher than in municipal housing (because loan is repaid from the rent) but lower than the market rent.

TDR (Total Debt Ratio) – percentage share of loan repayment in the borrower's budget.

Vacancy ratio – relation of non-rented space to the accumulated (total) supply of commercial space in a particular location, e.g. town or district.

Specialized rental – lease of housing space constructed particularly for that purpose. The owner of the stock for rental may be both a legal person (municipality, local government, real estate fund) and a private individual. In Poland the market is small and decapitalised.

ZBP – Polish Bank Association.

Part III. Monographs of 16 cities in Poland