

November 2013

---

# **Information on home prices and the situation in the residential and commercial real estate market in Poland in 2013 Q2.**

Jacek Łaszek  
Hanna Augustyniak  
Krzysztof Olszewski  
Joanna Waszczuk  
Krzysztof Gajewski

## Summary

The analysis of the situation in the Polish real estate market in 2013 Q2 leads to the following conclusions:

- In Q2, the trends seen in the real estate market already in Q1 clearly deepened. The key phenomena included ever more visible signs of a slowing downward trend in home prices in the secondary market. The primary real estate market saw a modest rise in transaction prices. This resulted from a larger share of higher quality housing for sale. Currently, transaction prices in the primary market are higher than in the secondary market in all analysed cities.
- Falling market rates, following the decisions of the Monetary Policy Council (MPC), improved the availability of loan-financed housing. Nevertheless, the gross value of mortgage loan disbursements did not see any major changes – either in quarter-on-quarter or year-on-year terms. A strong downward trend in outstanding foreign currency denominated housing loans (in FX adjusted terms) continues since 2012. This is a result of repayments and, to a lesser extent, conversion into zloty loans. A stable home sale in the primary market was supported by cash transactions.
- Both the volume of real estate loans to enterprises and their quality remain stable. A slight drop has been observed in lending to real estate developers for housing construction projects, and the quality of those receivables has again slightly deteriorated.
- The number of housing units completed in H1 was similar as in the same period of the preceding year. The number of newly commenced investment projects and issued building permits was at their lowest since 2006. This was the fourth consecutive quarter of a falling number of unsold new housing units in 6 largest cities. The unsold new housing stock continues to exceed twice the level considered as balanced.
- Aggregate profit margins on newly commenced real estate projects remain stable, and housing construction is profitable. As in the past quarters, the situation of the majority of real estate development companies seems stable due to their business diversification (engagement in residential and commercial real estate) and a relatively low level of debt burden. Yet, the sector's need to finance a large stock of unsold housing is likely to generate problems, and also bankruptcies of the weakest market players having stock surpluses.

# Information on home prices and the situation in the residential and commercial real estate market in Poland in 2013 Q2.

The study provides a synthetic description of key developments affecting the housing market in Poland's largest cities in 2013 Q2.<sup>1</sup> It also contains an appendix with charts and figures presenting:

- 1) home prices (Figures 1–16),
- 2) housing availability, loan availability, availability of loan-financed housing (Figures 17–20)
- 3) loan disbursements and real interest rates (Figures 21–33),
- 4) operating profitability of housing and real estate development projects, costs of construction and assembly output and economic situation of real estate developers in Poland (Figures 34–62),
- 5) housing construction and the residential market in Poland (Figures 63–76).

The analysis of housing prices in the primary and secondary markets, offer prices, transaction prices and hedonic prices<sup>2</sup> relies on data from a housing market survey of the Real Estate Market Database (BaRN)<sup>3</sup>. As part of the new survey of commercial real estate, Commercial Real Estate Market Database (BaNK) data on rent, offer prices and transaction prices of commercial real estate are collected and analysed.

---

1 The information was prepared by the Economic Institute for the needs of the authorities of NBP and it presents the authors' opinions. This document should not be read as an advisory material, nor should it be the basis for any investment decisions.

2 The hedonic price of housing reflects the "pure" price, that is the price that results from other factors than the quality of housing. In this study, the hedonic price is an average price from the base period multiplied by the hedonic index. The price reflects an average level of prices of a specific housing samples from the base period (a fixed housing basket), after inclusion of the "pure" change in price of homes sold in consecutive periods. The hedonic price stated in the report says what the average price of the fixed home sample from a specific reference period would be, considering the real "pure" change in transaction prices. The difference between the hedonic index used to determine the hedonic price and the average or the median price growth is that the index does not react strongly to any change in the quality of homes sold over a certain period, (for instance the hedonic index should respond less to a larger number of small apartments with a higher price per square meter than the average or median price index). For more information, see article by M. Widłak (2010) entitled „Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr”, in *Wiadomości Statystyczne* no. 9.

3 See Programme for Surveys in Public Statistics for 2013. Annex to the Decree of the Council of Ministers of 9 November 2012 on the Programme for Surveys in Public Statistics for 2013 (Journal of Laws of 2012 item 1391). The survey of residential and commercial real estate prices in Poland's selected cities, survey symbol 1.26.09 (073) is run by the President of Narodowy Bank Polski. The reporting forms are announced in the Decree of the Prime Minister of 13 September 2013 on reporting forms, completion instructions and statistical questionnaires and survey forms used in surveys of public statistics for 2013 (Journal of Laws of 2013 item 1223). Since the survey is carried out by NBP, the Bank publishes the surveys on its website.

For the analyses, also data from PONT Info Nieruchomości (PONT) and SARFIN were used. We also relied on the analyses and reports of the Polish Financial Supervision Authority (KNF) and the collective credit data from the Credit Information Bureau (BIK). For the structural market analysis, data published by the Central Statistical Office (GUS) and many studies containing sector data were used.

-----

Home price declines in the secondary market in 2013 Q2 halted, however the trend differed across the local markets. Despite the fact that average prices adjusted by the hedonic index (showing the price trend of a fixed quality housing basket) in the largest secondary markets continued to show a minor downward trend (see Figure 9), average prices in 7 and 9 cities<sup>4</sup> remained stable. In Warsaw, a slight rise in the average price was observed for the second consecutive quarter, which was an effect of sales of higher quality homes to clients interested in purchasing housing for investment. In this case the key factor behind average price growth was a rising share of housing transactions in relatively good locations. Conversely, in the primary market of the largest cities, a gentle upward trend in prices is noticeable. Rises in average housing prices per sq. meter in those markets were caused by transactions in better locations and a larger share of smaller apartments.

The estimated change in the value of housing transactions in the primary markets in 7 cities in quarter-on-quarter and year-on-year terms was stable with a gentle upward trend (see Table 1), predominantly caused by larger loan disbursements. In consequence of larger loan disbursements, sales of housing rose, and the housing stock had shrunk the fourth consecutive quarter. It has to be noted that in 6 largest markets (REAS data) there is still a stock of unsold contracts of approx. 47 thousand. (see Figure 68).

In Q2, nominal interest rates of zloty denominated loans dropped by approx. 0.7pp to stand now at approx. 5 per cent (see Figure 29), which is the lowest all-time level and which reduced the cost of debt service of the zloty loan portfolio. CPI-deflated real rates stand at approx. 4 per cent, whereas rates deflated with nominal wage growth stand at approx. 1 per cent (see Figure 18). In consequence, loan availability improved significantly, which is calculated in relation to the current nominal wage (see Figure 19).

Falling interest rates with stable home prices sparked an increase in availability of loan-financed housing across all major markets (see Figure 20). The ratio came to the level seen early 2007. As demonstrated by the credit committee surveys, banks did not revise their lending policies (see Figure 19). So far, the above changes have only gently translated into increased loan disburse-

---

<sup>4</sup> Beginning with this quarterly information, we apply other city groupings, which results from similar trends in the housing markets. The main change involves separating the Warsaw market, which is the most mature housing market standing out against other markets. Analysis concerns two market groups : group of 7 cities, i.e. Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Wrocław and group of 9 cities, i.e. Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, and Zielona Góra.

ments but the increase in newly signed loan agreements was slightly higher than in the previous quarter (see Figure 25 and 26).

Falling interest rates also impact housing demand since investment purchases of rental housing may be an investment alternative, especially with so long a maturity. For households contemplating home purchase or rental to satisfy their own housing needs, lower interest rates on loans with stable market rents (see Figure 12) made the purchase more profitable (see Figure 15).

The above-discussed factors taken together should support housing demand in the upcoming months. In 2013 Q2, the fiscal effects of the government-subsidized housing scheme Family on their own (Rodzina na swoim – RNS) had practically faded away, however the government is completing legislative work on a new scheme, Home for the Young (Mieszkanie dla Młodych – MDM), to be launched early 2014. A new and much more extensive version of the scheme has been passed by the Sejm and Senate and signed by the President of the Republic of Poland. A great number of potential buyers may be awaiting the launch of the scheme, and the related accumulation of fiscal and monetary incentives may boost demand - and in consequence - home prices.

The calculation of the so-called replacement value on which the scheme relies (maximum cost of housing admitted to the scheme) was not well regulated since it relies on the same values as its predecessor, RNS. The values, as shown in the analysis in Figure 75 and 76, 2007–2008 (the first years of the scheme) were much lower than average market prices, therefore the option to use state subsidies was restricted only to non-prime location and lower standard housing. In 2009, however, in the time of crisis, limits were increased sharply and significantly exceeded average home prices. It was not until 2011 Q3 when the limits were reduced and came close to the average price. A simple analysis of the price limits under the RNS scheme demonstrates that these were set quite arbitrarily by each voivodship marshal and in isolation from market prices and actual replacement prices<sup>5</sup> (see Figures 73 - 76). In consequence, this meant that any form of financing of homes under the scheme was possible. This was a scheme of unfocused budget subsidies, which did not solve social problems and disrupted the functioning of the housing sector (it was supporting high real estate developer housing prices)<sup>6</sup>. It was not until 2011 Q3 when RNS limits seemed to be gently below the market price, and so they supported purchases of average homes. It could be concluded that an adequate<sup>7</sup> selection of price limits is the key for the MDM scheme if it is to provide financing to consumers and not the real estate developer's profit and to limit public funding of over luxury housing consumption.

---

<sup>5</sup> Replacement prices were calculated on the basis of Sekocenbud construction costs, costs of construction land and other costs, VAT and developer's profit of 15%.

<sup>6</sup> This issue is analysed in detail in Chapter 2.1 in the "Report on the residential and commercial real estate market in Poland in 2012."

<sup>7</sup> Adequate level should be the level below the average market price to finance modest, below average housing whose prices should be calculated at the replacement cost taking account of the developer's margin, depending on the market situation.

Interest rate cuts by the MPC also had a positive effect on banks' return on housing loans (see Figure 32). A faster drop in interest on deposits than loans gently added to the adjusted interest margin on loans to banks. In consequence, the model return on PLN mortgage loans improved and stands now at approx. 20% (see Figure 32).

Interest rates also impact the financial position of developers, especially when there is a significant stock of unsold contracts in the market. According to the Central Statistical Office, the financial position of developers in 2013 Q2 measured by ROE was the weakest since 2005 (see Figure 37). It has to be noted that rates of return in real estate development companies are calculated for completed and sold housing units – therefore they largely concern historical data. It could be assumed that the deterioration was driven by accelerated sales of housing units in past quarters within quite conservative RNS price limits. Currently, those units are sold, which impacts the accounting figures of real estate developers. Real estate developers also suffered some deterioration of liquidity (see Figure 56). Reduction of liabilities in the form of developers' bonds (see Figure 60 and 61) and a fall in bank financing could take their toll<sup>8</sup>. The share of loans in funding real estate developers at the end of Q2 was approx. 20 % (see Figure 54), and the value of debt burden of real estate developers facing problems declined (see Figure 55).

At the end of 2013 Q2, the value of real estate loans to corporates was approx. PLN 46bn (see Figure 59) and did not change much with respect to 2013 Q1. Those loans show a higher share of doubtful loans as compared to mortgage loans to households. The value of loans to real estate developers dropped gently, and the share of doubtful loans rose by more than 30 per cent. In Q2, good loans were being repaid (PLN 6.9 bn compared to PLN 7.2 bn in Q1), while doubtful loans remain at approx. PLN 3bn, increasing the share of doubtful loans in overall loans. Despite a high level, this does not pose any risk to the stability of the banking system, as the share of those loans in the assets of banks which extend the most real estate loans was less than 4%<sup>9</sup>. Bankruptcies of real estate developers are relatively rare (see Figure 35). The value and quality of corporate loans for office space and other real estate did not change significantly.

Developer loans are deteriorating (see Figure 55), although model returns on housing projects<sup>10</sup> have remained practically unchanged (see Figure 37), just like the realised margins of real estate developers (see Figures 38-43). The costs of construction and assembly production have not changed, either (see Figure 44 and 45). It has to be noted that interest rate cuts should lower the cost of financing of unsold housing stock in the case of real estate developers with debt burden.

---

<sup>8</sup> Finance obtained by real estate developers through bond issue became gently limited. The value of developer's bonds traded on the Catalyst market, on which only a portion of the issue is traded, (including banks, real estate developers and other companies) at the end of 2013 Q2 was PLN 1.8bn (see Figure 60). It has to be noted that the developer's bond market is very shallow and illiquid (in 2013 Q2 no transactions were concluded involving debt securities of many real estate development companies). In the absence of new securities issue and given the present developer's bond portfolio, their average maturity is shortened, which increases the liquidity risk of their issuers.

<sup>9</sup> Details will be provided in the Financial Stability Report, NBP July 2013.

<sup>10</sup> Rates of return are calculated according to the developer construction model presented in Annex 3 in the "Report on the residential and commercial real estate market in Poland in 2011" (NBP, 2012).

Real estate developers are better at adjusting their production to market demand (see Figure 71 and 72). Larger real estate developers have construction sites and investment projects ready to start new investment once there is demand and enough funds (see Figure 51). This only confirms the speed at which developers introduce new housing contracts once extra demand appears.

The housing construction sector in Poland sees a continuation of the current trends. In 2013 Q1, slightly more homes were completed than in the corresponding periods in the past three years. The number of newly commenced investment projects and issued building permits was smaller than in the corresponding periods of the last six years<sup>11</sup>. The absolute number of new development projects determining the number of future completed homes just like the number of building permits given were lower than those in the first half of the previous six years (see Figure 64). This is a good sign since there is still a certain quantity of unsold housing stock in the market and developers – as demonstrated by real estate developers' indices – are facing liquidity problems. Information obtained from market analysts shows that, in Poland's 6 largest markets, out of 10-12 thousand homes ready to be occupied and sold, 2-3 thousand homes are homes which fail to meet current buyers' needs (they were designed when the prices of factors of production were high and their size does not match the present market reality). It could be assumed that the housing unit will be sold gradually at a price lower than it would result from the costs. Some of them may be divided, for example, into 2 smaller units. The estimates<sup>12</sup> show that scale of the phenomenon is not significant for the real estate development sector. The annual costs of debt service resulting from retaining the unsold housing units are estimated at approx. PLN 50m, the cost of operation at approx. PLN 2m, while total developers' profits can be estimated at approx. PLN 1bn, with sales of housing units of approx. PLN 12bn. The share of costs of debt maintenance and service of completed, unsuitable, unsold housing units in gross profit is ca. 5 per cent. Provided no large number of those units is accumulated with a few real estate development companies, this is not significant for the real estate development sector.

The melting surplus of unsold housing contracts for construction of in the largest cities will help improve the situation of real estate developers and lower its risk but can result in upward trends in home prices.

To recapitulate, the current situation seems to be very favourable for the buyer. The analysis of the structure of the housing offer and contracts by the date of housing completion<sup>13</sup> shows that developers have a significant surplus of contracts as compared to their normal level (i.e. in ap-

---

11 Attention should be paid to a great number of building permits given to developers in the previous years. (see Figure 67).

12 When making the estimates, it was assumed that unsold housing stock in the market totals approx. PLN 1bn (2.5 thousand housing units, 70 square meters each at PLN 6 thousand per square meter). The maintenance cost includes service charges and heating of approx. PLN 11 per square meter. It was assumed that 60 per cent of those housing units were financed with loans, with interest rate reaching 8%. The sales of the whole sector were estimated assuming annual sales of 40 thousand housing units, of approx. 55 square meters each at approx. PLN 5.7 thousand per square meter.

13 Compare the Figure – structure of the offer by project completion date declared by the developer from REAS Polish Real Estate Market – 2013 Q2.

prox. one-year perspective). They also have new investments ready, which partly results from their wish to bypass the law on the protection of home buyer's rights (introduced last year) and partly from the need to get ready for stronger demand. The situation exerts pressure on the efficiency of real estate developers and market equilibration through sharper competition, which makes developers streamline costs and lower their margin. In consequence, housing becomes cheaper for the consumer.

In 2013 Q2, there was an equilibrium between the number of new investments and completed housing units. Therefore, if the present annual volume of new investments were to continue over a year, the number of completed units would be stable, and in the 8 largest cities would reach approx. 36 thousand, which is 4-5 thousand less than in the past two years.

Steady level of construction and work in progress are, however, not tantamount to market equilibrium, which means a relatively steady number of unsold housing units. In the Polish market, besides natural fluctuations in demand, the organisation of the real estate developer housing market is also of considerable importance. It is a home construction contract with a real estate developer who undertakes to build it, rather than a housing unit which is the object of transaction. Yet, it is sold when work is in progress, sometimes even quite advanced<sup>14</sup>. It has to be remembered that such contracts are sold at various stages of real estate development process which normally take 4-5 years and there are no fixed relationships between the number of unsold contracts and the number of constructed housing units (which results from the business plan and the banks' requirements for the so-called pre-sale of housing units, and the market situation). For the above reasons, the same level of involvement in real estate development projects (work in progress) can correspond to various numbers of contracts put on the market<sup>15</sup>. Demand for contracts changes over time and is the result by many factors affecting housing demand (e.g. demographics, income, availability and cost of credit), which – given a variable number of contracts put on the market – increases their overall number in the market.

In the present circumstances, the contract market is the key market for the sector, since the effective demand occurs there. On the other hand, the very construction phase<sup>16</sup> is adjusted to such changes with a time lag. Contracts can be put up for sale when the development has at least received a building permit, and usually, when it gets more advanced. This means that when no new investment projects are started, the number of new contracts in the market continues to

---

<sup>14</sup> During the boom, customers accepted even "holes in the ground", i.e. contracts for projects which had been given the approval for building, design, site location plans but the construction process was still at a very early stage.

<sup>15</sup> In addition, the degree of completeness of housing units covered by the contracts (e.g. building shell, finished housing unit, building accepted for operation) will change with the time.

<sup>16</sup> It has to be emphasised that the development is divided into the preparatory phase (design, land purchase), the direct construction phase and the final phase. The development process is described in more detail in Augustyniak et al. (2012) "Przedsiębiorstwo deweloperskie na rynku w Polsce oraz problemy jego analizy" (Real estate development enterprises in the Polish market and issues related to its analysis) in the "Report on the residential and commercial real estate market in Poland in 2011."

drop. Since the preparation of an investment project for its formal commencement (a building permit, construction log and the first entry) takes at least 4-6 quarters, the drop in the number of newly commenced investment projects may herald a later drop in the number of contracts, and in consequence, decline in their stock (assuming a fixed demand) and a rise in prices.

Since 2012 Q3, the market has been heading towards equilibrium, which is usually defined as a number of unsold housing units from approx. 4–5 quarters of production. This value results from the way in which investment projects are run in Poland and from market observations. These observations demonstrate that with the market level of the stock below one year, prices begin to increase, which boosts production in the subsequent periods.

Return to equilibrium also means a drop in the stock of unsold contracts. The trend may continue in the subsequent quarters, and may even intensify. Unlike in 2012 Q3, when the main factor fueling demand was the termination of the RNS scheme, currently demand is driven by NBP interest rate cuts, translating into lower interest rates on mortgage loans. This generates higher availability of mortgage loans to households and, as demonstrated by experience, will boost housing demand. Low home prices also foster demand – the effect of a 6-year drop in their real value. Conversely, the supply experiences a decline in the number of new contracts put on the market and falling construction production (a drop of new investment projects), which means a smaller volume of new investment contracts in the future. With the shrinking stock of home construction contracts and falling number of contracts put on sale in the future (fewer projects) amidst a slowly growing demand, the contract market will be heading towards an equilibrium. In such circumstances, too rapid changes in demand may destabilise the market. The number of new contracts is quite rigid (determined by the projects at a certain minimum delivery phase) since in the present circumstances, buyers no longer accept “holes in the ground”. In consequence, too high demand growth will boost prices, translating into overproduction of homes in the subsequent period and price drops, causing another small cycle in the market. The accumulation of two new government subsidy schemes in the sector – the new Housing for the Young (MDM) scheme and the promised rental housing scheme may be factors boosting demand.

## A survey of home prices in the residential and commercial real estate market in Poland's selected cities

Central banks and government institutions worldwide are looking for more precise data on the real estate market to faster identify tensions. The need to acquire such data emerged as early as at the beginning of the 1990s, and in 2001 the IMF published a list of financial soundness indicators for commercial real estate (see Heath, 2003). The recent crisis sparked by excessive loan availability, and, in consequence, the real estate market boom, accelerated the improvement both in the transparency of the real estate market and the quality of the acquired data. In April 2009, G20 requested the Financial Stability Board and the IMF to deliver a list of the missing data and to collect the necessary data, which urged those authorities to undertake further actions, described in FSB and IMF 2009, 2010, 2011a and 2011b. In 2011, the Inter-Secretariat Working Group on Price Statistics began to work on a handbook on commercial real estate prices. The task is coordinated by the Eurostat (FSB and IMF 2011a), and the deliverables will help improve the analyses of the real estate market and the evaluation of the impact of risk related to the commercial real estate market on the financial market. A key aspect is to adapt the collected data to suit the analyses. Another step was the joint BIS – ECB – Eurostat – IMF – OECD (2012) conference on commercial property price indicators (CPPIs). Hiebert and Wredenburg (2012) claimed that the data should be collected in all EU and non-EU countries since European banks may be engaged in real estate in those countries. The data should pertain to office space, retail space, warehouse space and residential real estate, incl. the value of the real estate (both transaction value and real estate appraisal) and rent, vacancy rates and any other data necessary for the analysis. It is advisable that the data be collected quarterly.

Narodowy Bank Polski had joined in and since 2006 Q3 has conducted research on the residential real estate market, which in 2009 was entered into the public statistics programme. The results are presented in NBP reports, and home prices in the primary and secondary markets of 16 cities are available at NBP website. Since 2011, NBP has also been analysing the commercial real estate market. In 2013, the survey of residential and commercial real estate prices in selected Polish cities was entered as obligatory to the Programme for Surveys in Public Statistics for 2013. Detailed data on the commercial real estate market will help create similar indices to those used in the residential market. The data will be aggregated in such a way that neither the respondent nor the real estate nor the tenant or buyer will be identifiable. The research becomes part of the surveys currently conducted in the EU and worldwide.

The residential and commercial real estate research in selected Polish cities was announced by the Decree of the Council of Ministers of 9 November 2012 on the Programme for Surveys in Public

Statistics for 2013 (Journal of Laws of 2012 item 1391) no. 1.26.09 (073)<sup>17</sup>. The obligation to provide statistical data is imposed by Article 30 clause 3 of the Public Statistics Act of 29 June 1995 (Journal of Laws of 2012 item 591) and the quoted Decree of the Council of Ministers. The reporting forms are published in the Decree of the Prime Minister of 13 September 2013 on reporting forms, completion instructions and statistical questionnaires and survey forms used in surveys of public statistics for 2013 (Journal of Laws of 2013 item 1223). The results of the surveys provide the basis for analysing the situation in the real estate market, conclusions are presented to NBP authorities and the averaged data are published on NBP website. Various research papers and publications rely on the surveys and the published time series.

All information provided by respondents is legally protected. This is guaranteed both by the Public Statistics Act of 29 June 1995 and the Act on the National Bank of Poland of 29 August 1997. The acquired data will be aggregated in such a way so as to prevent any identification of the respondent and the particular real estate.

#### **Literature:**

Heath R. (2003). Real estate prices as financial soundness indicators. BIS Paper 21.

BIS – ECB – Eurostat – IMF – OECD (2012) International Conference on commercial property price indicators (CPPIs), 10/11 May 2012, the European Central Bank, Frankfurt am Main. The Presentations are available at: [http://www.ecb.int/events/conferences/html/20120511\\_cpqi.en.html](http://www.ecb.int/events/conferences/html/20120511_cpqi.en.html).

Hiebert P. and S. Wredenberg (2012). Commercial property analysis: an ECB perspective. International conference on commercial property price indicators, 10/11 May 2012, the European Central Bank, Frankfurt am Main.

FSB and IMF (2009). The Financial Crisis and Information Gaps. Report to the G-20 Finance Ministers and Central Bank Governors.

FSB and MFW (2010). The Financial Crisis and Information Gaps. Progress Report. Action Plans and Timetables.

FSB and MFW (2011a). The Financial Crisis and Information Gaps. Implementation Progress Report.

FSB and MFW (2011b). Macroprudential Policy Tools and Frameworks Progress Report to G20.

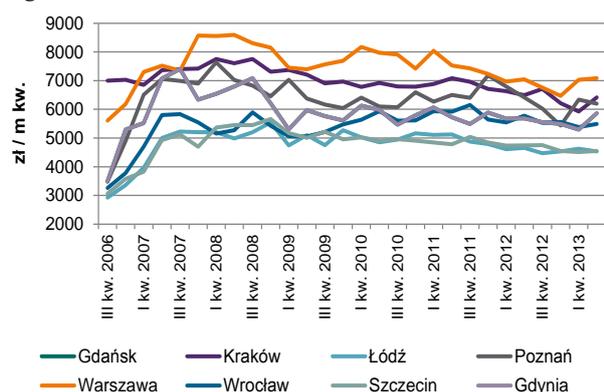
---

<sup>17</sup> Since the survey is run by the President of Narodowy Bank Polski, NBP publishes the draft surveys and instructions on its website:  
[http://nbp.pl/home.aspx?f=/publikacje/rynek\\_nieruchomosci/ankieta.html](http://nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/ankieta.html).

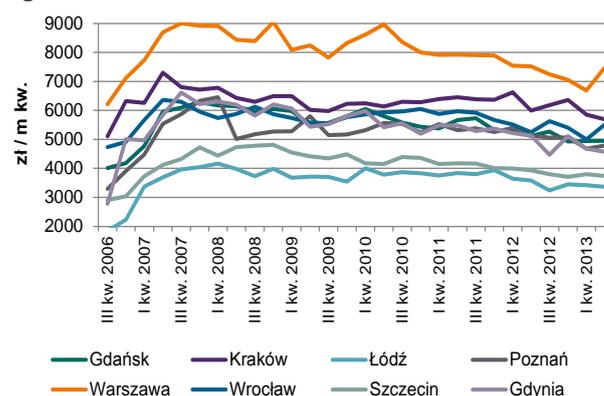
# Statistical appendix

## 1. Transaction, hedonic<sup>18</sup>, and offer prices of housing, the primary market (PM), and the secondary market (SM)

**Figure 1 Transaction prices per square meter of housing – PM**

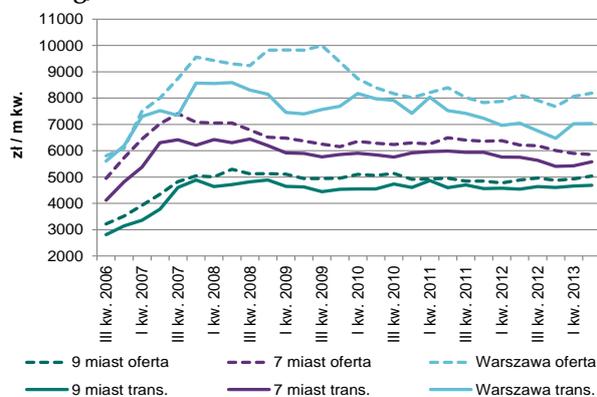


**Figure 2 Transaction prices per square meter of housing – SM**



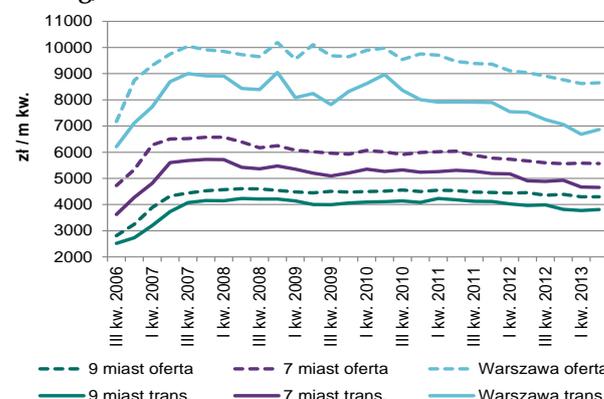
Source: NBP.

**Figure 3 Weighted average price per square meter of housing, offers and transactions – PM**



Source: NBP.

**Figure 4 Weighted average price per square meter of housing, offers and transactions – SM**



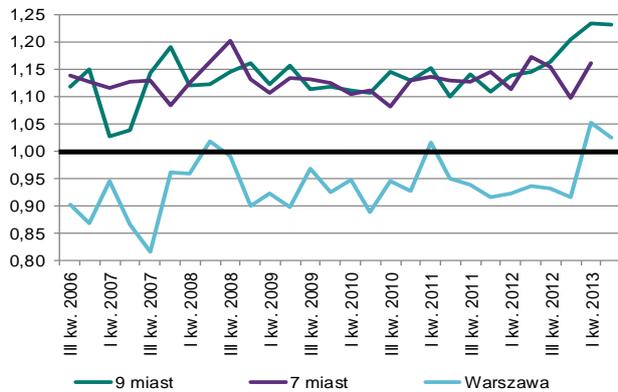
Note to figures 3–9: the price weighted with the share of housing in the market stock, the average price for Warsaw. Prices collected from developers and intermediaries and included in the BaRN database; description of the database in the 2012 annual report; **7 cities**: Gdańsk, Gdynia, Cracow, Łódź, Poznań, Szczecin, Wrocław; **9 cities**: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Zielona Góra.

Source: NBP.

Source: NBP.

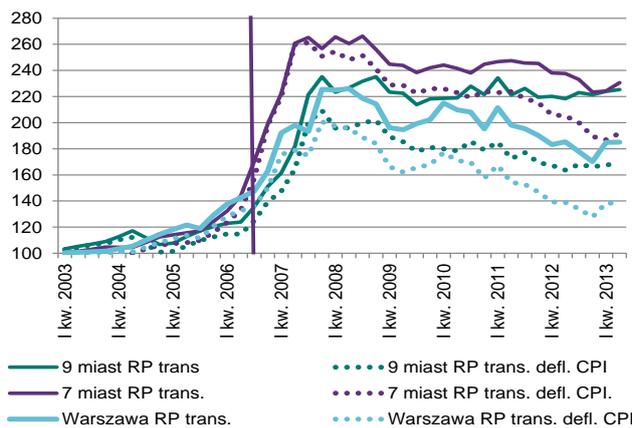
<sup>18</sup> The hedonic price of housing reflects the "pure" price, that is the price that results from other factors than the quality of housing. The analysis always pertains to the price of a standardized apartment constructed on the basis of the econometric model. It adjusts the average price from the sample taking into account the change in the quality of housing from a given sample in each quarter. It is different from the average or the median price growth, which would react strongly to any change in the sample's composition, for instance a larger number of small apartments with a higher price per square meter. For more information, see M. Wiślak's (2010) article entitled "Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr", in *Wiadomości Statystyczne* no. 9.

**Figure 5 Ratio of the average weighted transaction price per square meter of housing – PM to SM**



Source: NBP.

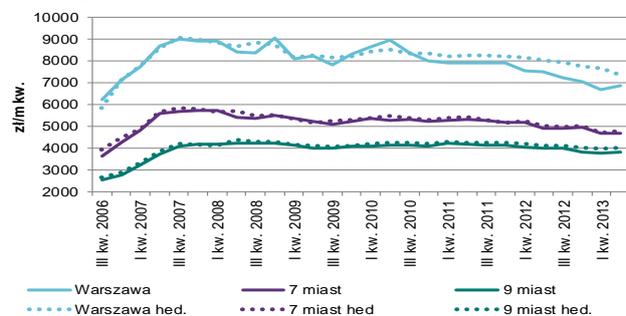
**Figure 7 Weighted average price per square meter of housing and CPI-deflated price (2002 Q4 = 100) – PM, transactions**



Note: the home price database of NBP (BaRN) has existed since 2006 Q3; the purple line separates BaRN data from PONT Info price estimates.

Source: NBP, PONT Info, GUS.

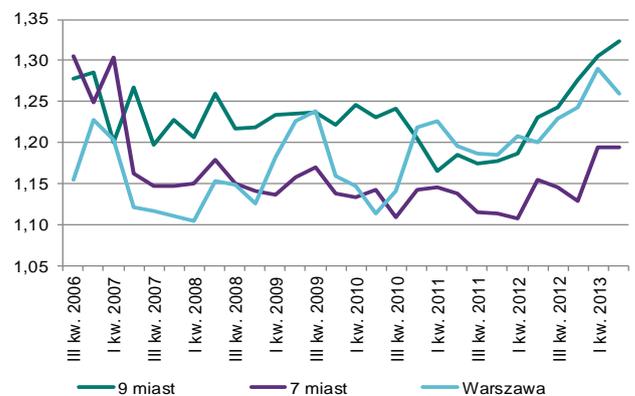
**Figure 9 Weighted average price per square meter of housing and the hedonic price\*/ – SM, transactions**



\*/ price of one square meter of housing in the reference period adjusted for the price growth index accounting for changes in housing quality in subsequent quarters.

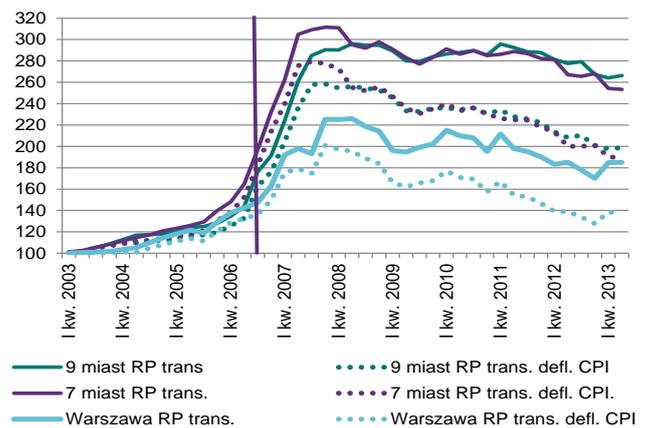
Source: NBP.

**Figure 6 Ratio of the average weighted transaction price per square meter of housing, offer price to transaction price – SM**



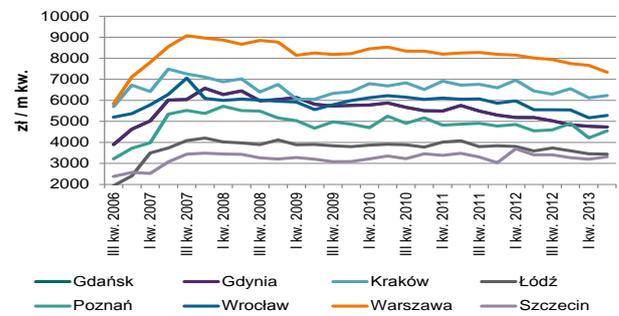
Source: NBP.

**Figure 8 Weighted average price per square meter of housing and CPI-deflated price (2002 Q4 = 100) – SM, transactions**



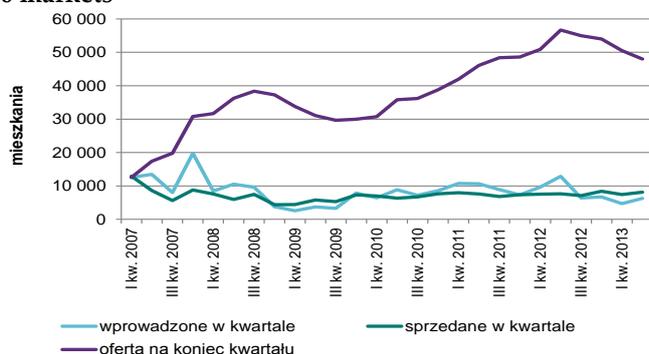
Source: NBP, PONT Info, GUS.

**Figure 10 Housing transaction price per square meter in SM, adjusted by the hedonic index\*/, in 8 cities**



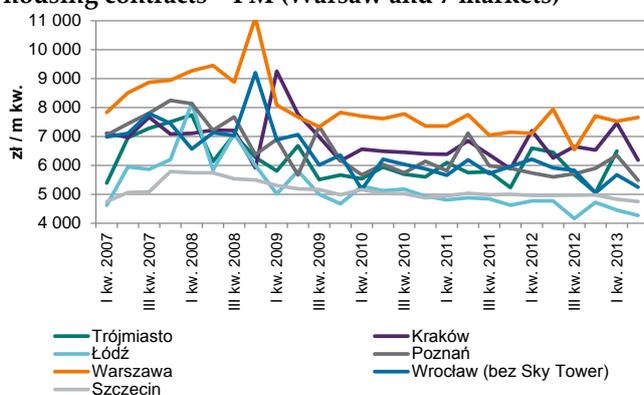
Source: NBP.

**Figure 11 Homes put on the market, sold and offered in 6 markets**



Source: REAS.

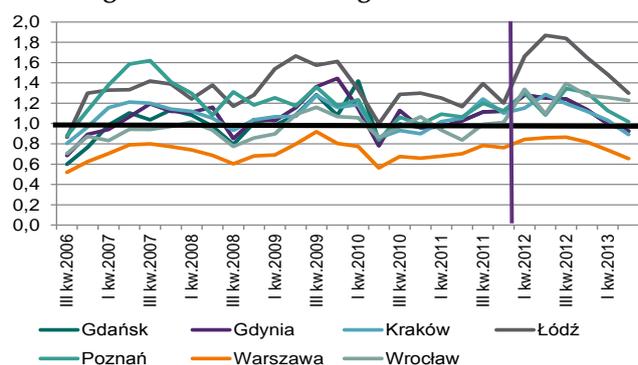
**Figure 13 Average offer prices per square meter, new housing contracts – PM (Warsaw and 7 markets)**



Note: prices refer only to new contracts put on the market for the first time. Prices for Szczecin from BaRN.

Source: NBP and REAS.

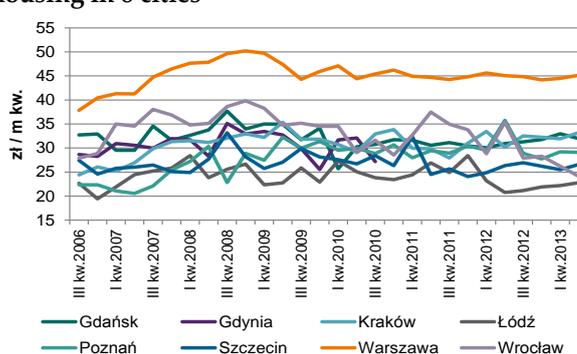
**Figure 15 Relation of interest expenses on loans for the purchase of one square meter of housing to the rental price of one square meter of housing (exclusive of service charges) in the case of weighted loans in 7 cities**



Note: in Figure 15 values exceeding 1 denote higher profitability of housing rental than its purchase for a household to satisfy own housing needs. In Figure 16 values exceeding 1 denote higher profitability of purchasing real estate for rental than other capital investment.

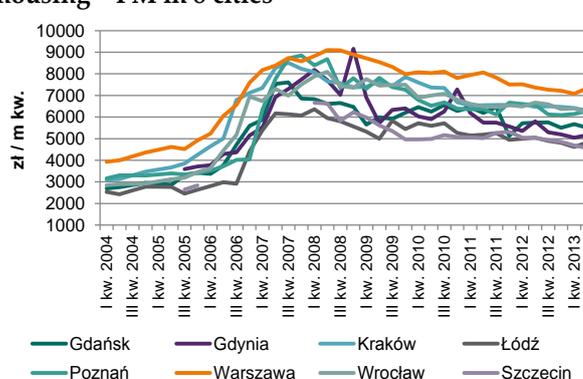
Source: NBP, GUS.

**Figure 12 Average rent rates per square meter of housing in 8 cities**



Source: NBP.

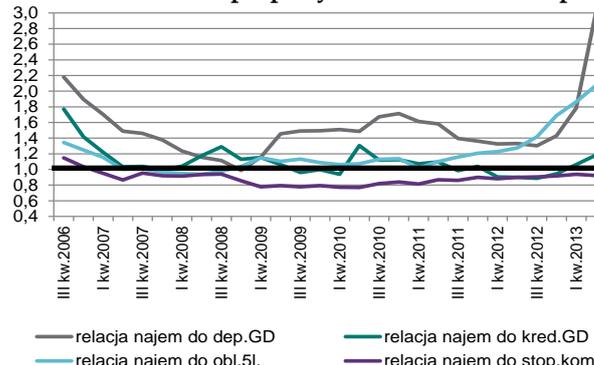
**Figure 14 Average offer prices per square meter of housing – PM in 8 cities**



Note: prices are collected from all available sources.

Source: PONT Info Nieruchomości.

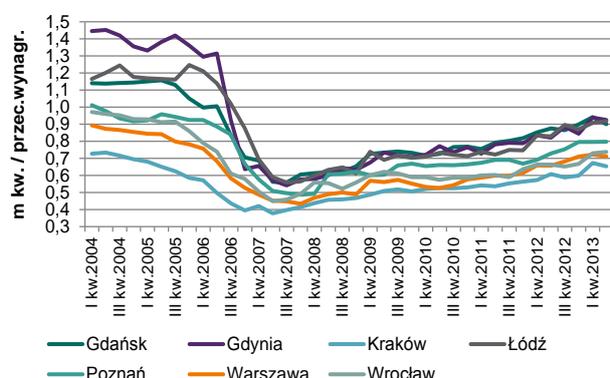
**Figure 16 Profitability of home rental (average housing in 7 cities) as compared with bank deposits and loans, 5-year Treasury bonds and rate of capitalization of commercial property (offices and retail space)**



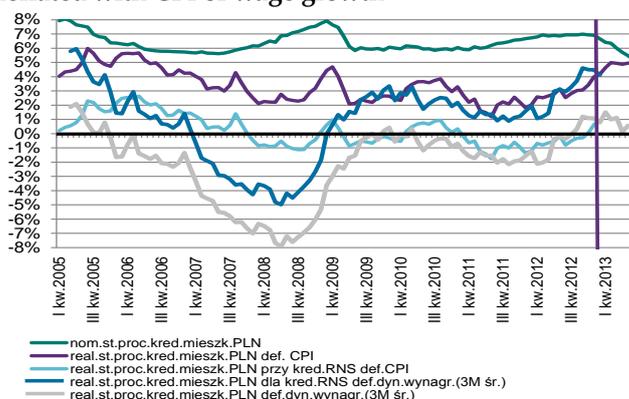
Source: NBP, GUS.

## 2. Housing availability, loan availability, availability of loan-financed housing

**Figure 17 Housing availability in terms of one square meter of housing for an average wage in the enterprise sector**



**Figure 18 Costs of PLN housing loans for consumer as deflated with CPI or wage growth**

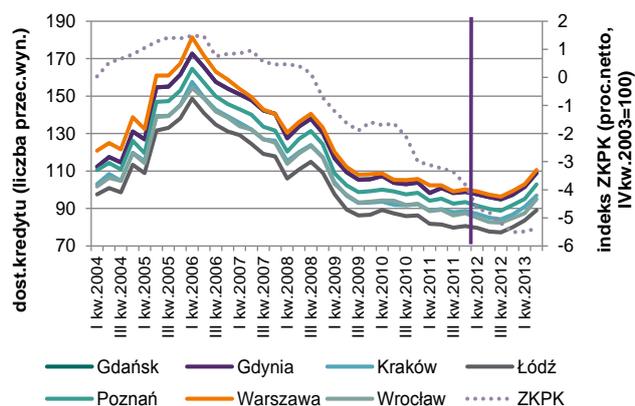


**Housing availability** – a measure of potential availability to purchase housing space at the offer price for an average wage. It expresses the number of square meters of housing that can be purchased for an average wage in the enterprise sector in a particular city (GUS), at an average transaction price in a particular market (1/3 in the PM and 2/3 in the SM) (NBP). Note: The purple line separates the termination of the RNS scheme.

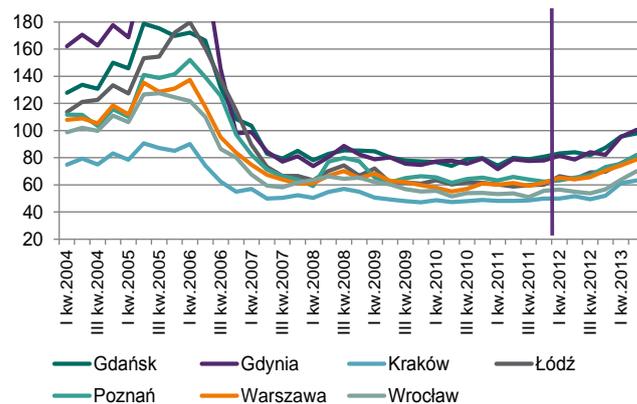
Source: NBP, GUS.

Source: NBP, GUS.

**Figure 19 Available weighted\* mortgage loans and accumulated index of banks' housing loan policy (ZPKK)**



**Figure 20 Availability of loan-financed housing per one square meter (weighted loans\*)**



**Available housing loan** – a measure specifying the potential maximum housing loan; expressed as multiplication of the monthly wage in the enterprise sector in a particular market, taking into account banks' lending requirements and loan parameters (interest rate, amortization period, minimum wage, as the minimum income after payment of loan instalments).

**Availability of loan-financed housing** – a measure specifying how many square meters of housing may be purchased at an average offer price in a particular market (BaRN), with a mortgage loan obtained basing on an 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 payment of loan instalments). The pace of changes of the index and differences between particular markets provide important information.

**ZPKK Index** – accumulated index of changes in banks' lending policy criteria; positive values mean easing, and negative values tightening of lending policy as compared to the initial period i.e. 2003 Q4. Computing methods are described in the Financial stability report, December 2012, NBP.

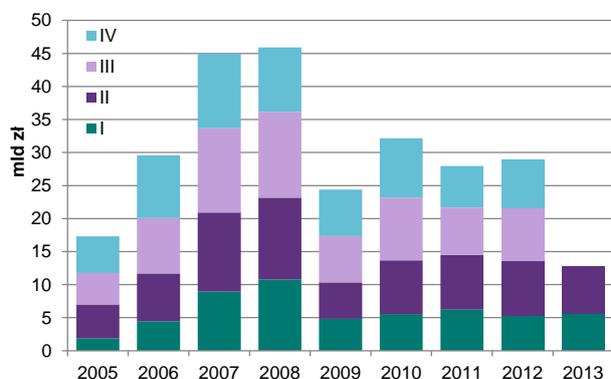
Note: weighting with the currency structure of the quarterly loan increase: the purple line separates weighted values from values expressed in PLN only recorded since the beginning of 2012.

Source: NBP, GUS.

Source: NBP, GUS.

3. Disbursement of housing loans, interest rates

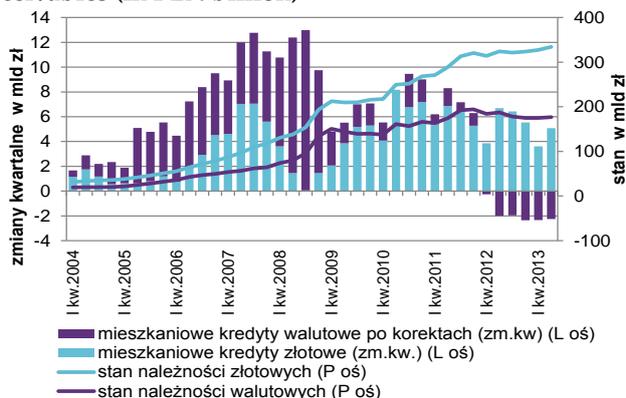
Figure 21 Quarter-on-quarter increases in housing loan receivables from households in FX and repayment adjusted terms (in PLN billion)



Note: The increase in receivables means the actual change in the amount of household debt, as it takes into account the actual disbursement of housing loans and their repayment.

Source: NBP.

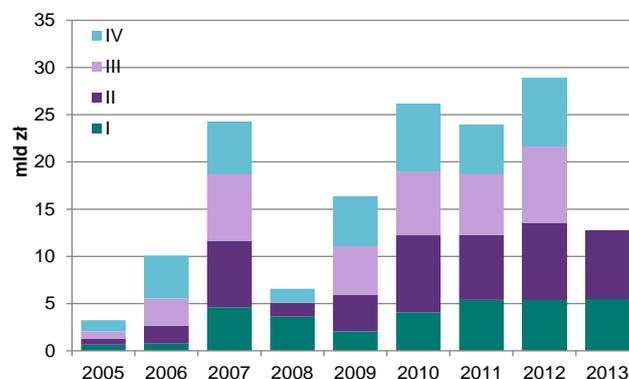
Figure 23 Structure of housing loan receivables from households after adjustments and currency structure of quarter-on-quarter increases in housing loan receivables (in PLN billion)



Note: The increase in receivables means the actual change in the amount of household debt, as it takes into account the actual disbursement of housing loans and their repayment.

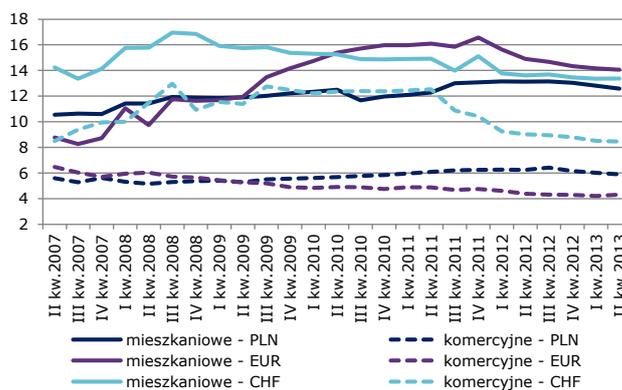
Source: NBP.

Figure 22 Quarter-on-quarter increases in housing loan receivables from households in PLN only and repayment adjusted terms (in PLN billion)



Source: NBP.

Figure 24 Average maturity of residential and commercial real estate loans weighted by total value of loans in a particular quarter



Source: NBP.

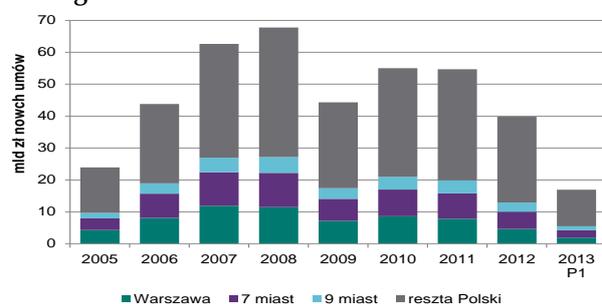
**Table 1** Estimated gross mortgage loan disbursements to households in Poland and estimated value of cash and loan-financed purchase transactions involving real estate developer housing in the 7 largest markets (in PLN million)

Date	Estimated amount of housing loan disbursements in Poland	Estimated value of housing transactions in the PM in 7 cities	Estimated disbursements of loans with own equity for home purchases in the PM in 7 cities	Estimated value of cash transactions involving home purchases in the PM in 7 cities	Estimated share of cash transactions involving home purchases in the PM in 7 cities
2012 Q1	5 354	2 726	917	1 809	0.66
2012 Q2	8 231	2 783	1 409	1 374	0.49
2012 Q3	8 036	2 510	1 376	1 134	0.45
2012 Q4	7 268	2 839	1 244	1 595	0.56
2013 Q1	5 530	2 610	947	1 662	0.64
2013 Q2	7 191	2 899	1 231	1 667	0.58

Note: The estimates are based on the following assumptions: the estimated value of newly granted loans in Poland in particular quarters was based on increases in the volume of loans to households adjusted for loan amortisation and flows between the foreign currency loan portfolio and the zloty loan portfolio, available in the NBP reporting. The entire banking system was taken into account, incl. credit unions SKOK. In order to calculate the estimated value of the primary market in 7 cities, the average home price was multiplied by the average home size in square meters and the number of housing units sold, based on REAS data. Based on BIK data it was assumed that half of the volume of mortgage loans for home purchases in 7 cities were granted for primary market transactions. The estimated value of cash transactions was calculated as the differences between transactions in 7 markets and disbursements of loan with down-payment.

Source: NBP.

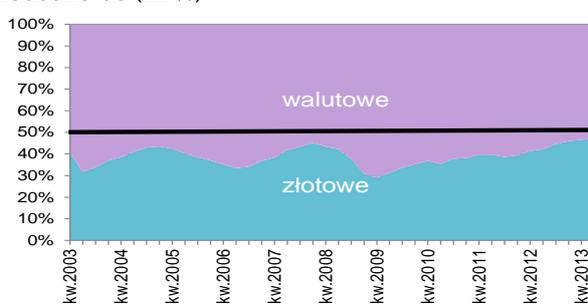
**Figure 25** Geographical breakdown of value by new housing loan contracts in Poland



Note: NBP estimates based on BIK data; BIK data do not cover the total housing loan disbursements;

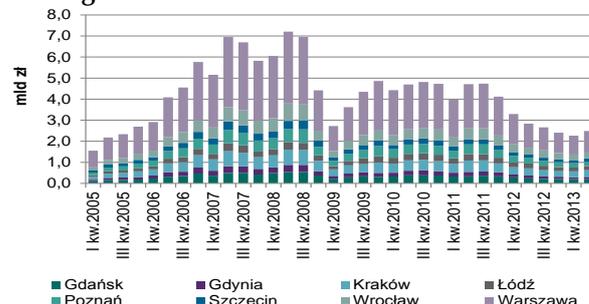
Source: NBP based on BIK data.

**Figure 27** Structure of housing loan receivables from households (in %)



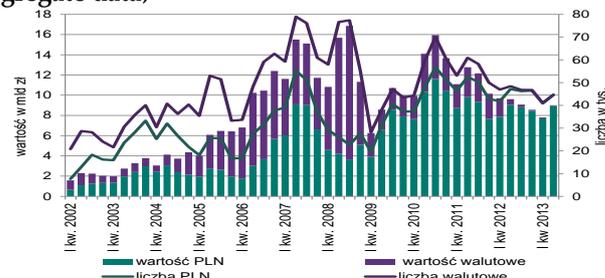
Source: NBP.

**Figure 26** Geographical breakdown of value by new housing loan contracts in Poland's 8 cities



Source: NBP based on BIK data.

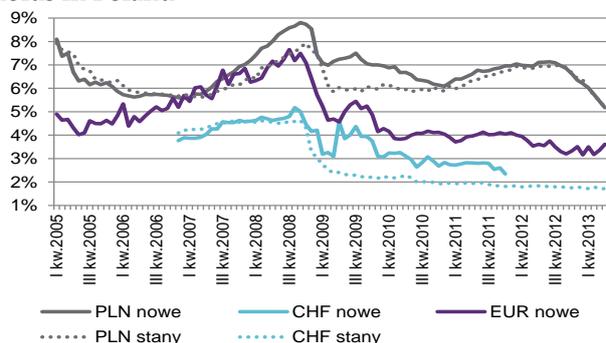
**Figure 28** New housing loan contracts in terms of values and figures; quarter-on-quarter changes (aggregate data)



Note: Data provides information on the concluded loan contracts and not the actual loan disbursements.

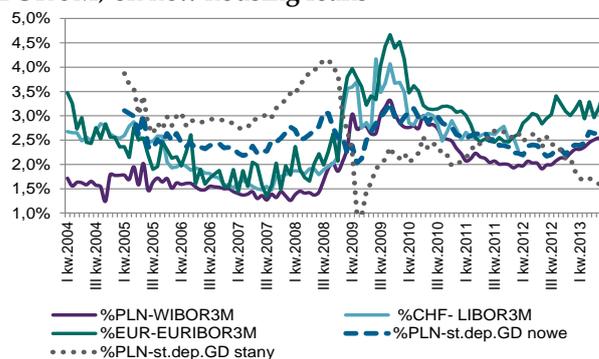
Source: ZBP.

**Figure 29 Interest rates on housing loans to households in Poland**



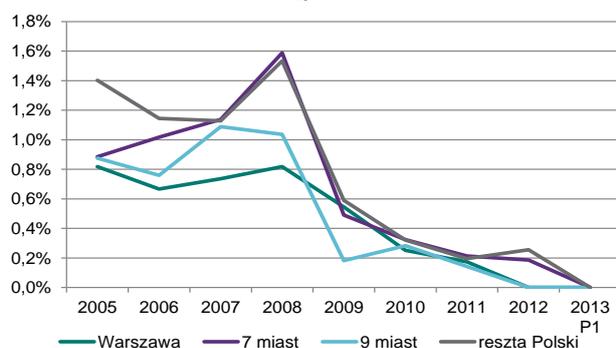
Note: CHF-denominated loans ceased to be granted in 2012.  
Source: NBP.

**Figure 30 Bank margins (to WIBOR, LIBOR, EURIBOR 3M) on new housing loans**



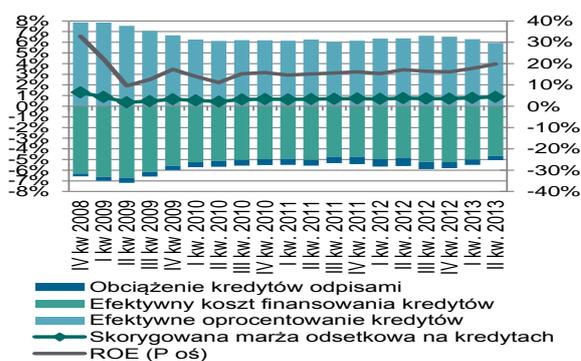
Note: Bank margin is the difference between housing loan rate (NBP data) and the LIBORCHF3M rate, the EURIBOR3M rate or WIBOR3M rate.  
Source: NBP.

**Figure 31 Quality of the mortgage loan portfolio in Poland (recorded in 2013 Q2)**



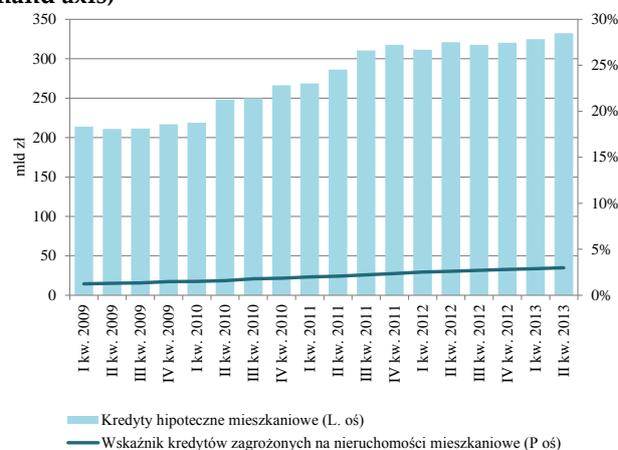
Note: Quality is defined as a percentage of non-performing mortgage loans being in arrears for more than 91 days in the total of mortgage loans in a particular period for a particular city.  
Source: NBP based on BIK data.

**Figure 32 Estimated banks' return on PLN mortgage loans in Poland**



Note: Income and costs related to the mortgage loan portfolio. Estimated ROE (Return on Equity) is calculated as the adjusted interest margin on mortgage loans with respect to the minimum required down-payment. The minimum equity requirement is assessed on the basis of LTV estimate derived from the AMRON data and capital requirement for mortgage loans as set by the Polish Financial Supervision Authority (KNF). The adjusted interest margin is the result of all income being added and all costs being deducted. The effective cost of financing was computed based on the WIBOR rates by adding estimative costs related to bank's own financing.  
Source: NBP, AMRON.

**Figure 33 Housing loans to households (in PLN billion, left-hand axis) and doubtful loans (% , right-hand axis)**

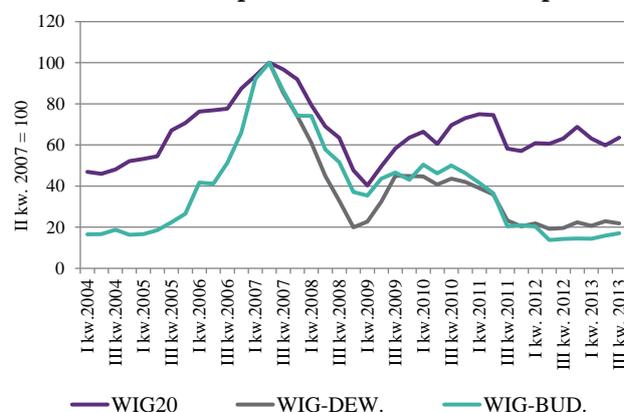


Notes to Figures 33 and 55: Receivables (loans) with determined loss of value – receivables from B portfolio, in the case of which there are objective premises for a loss of value and fall in the expected value of future cash flow (at banks using International Financial Accounting Standards, IFAS) or which have been classified as doubtful in accordance with the Decree of the Minister of Finance concerning creation of provisions for risk related with banks' activity (at banks using the Polish Accounting Standards).

Source: NBP.

**4. Operating rate of return on housing and real estate development projects, costs of construction and assembly production and economic situation of real estate developers in Poland**

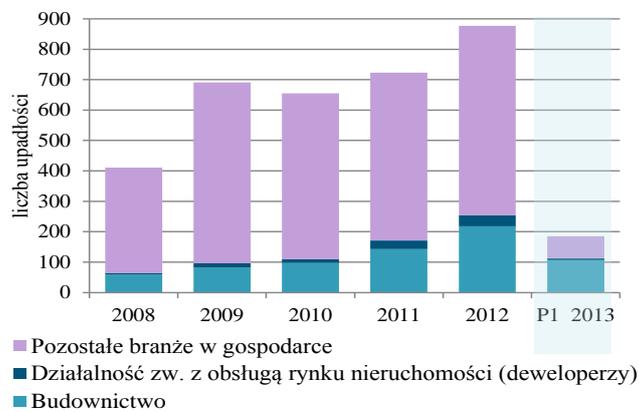
**Figure 34 Growth in stock exchange indices: WIG20 and for real estate developers and construction companies**



Note: harmonized data, 2007 Q2 = 100. The WIG index for real estate developers has been recorded since 2007 Q2.

Source: Warsaw Stock Exchange

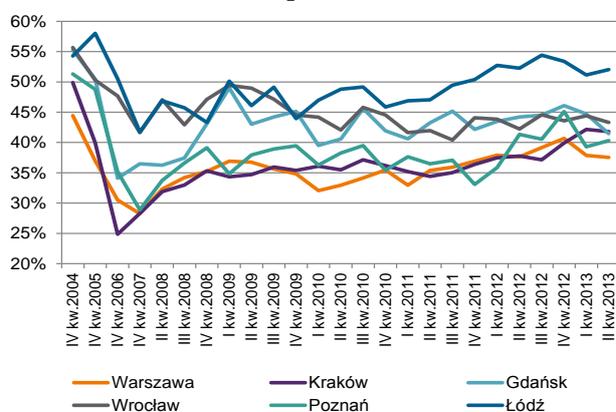
**Figure 35 Number of bankruptcies in the sectors**



Note: Breakdown according to the first entry to the National Court Register (KRS)

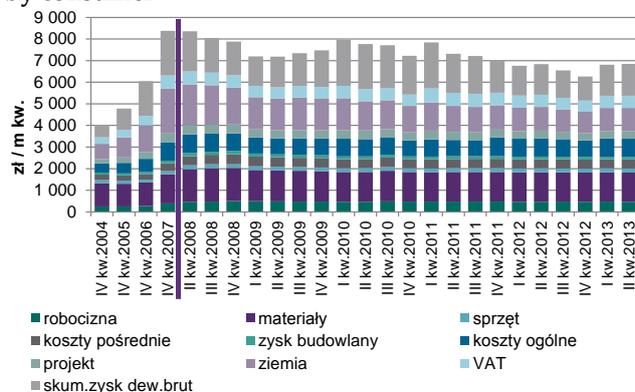
Source: Coface Poland.

**Figure 36** Share of direct construction costs per square meter of the residential building's usable area (type 1121<sup>19</sup>) in the transaction price - PM



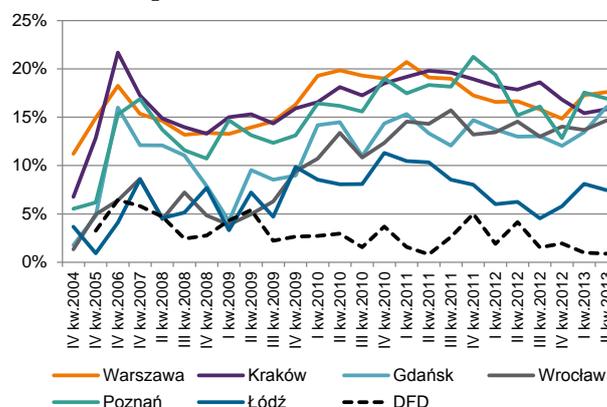
Source: NBP based on Sekocenbud.

**Figure 38** Warsaw – structure of price per one square meter of housing usable area (type 1121<sup>19</sup>) to be paid by consumer



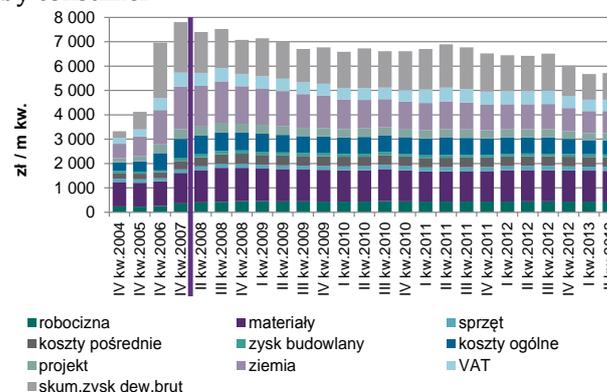
Note: data in figures 38–43 presented in quarter-on-quarter terms since 2008 Q2; previously, the data published in year-on-year terms.  
Source: NBP based on Sekocenbud, REAS.

**Figure 37** Rate of return on equity in investment projects in 6 cities and the actual rate of return of real estate developers



Note: The rate of return on equity from typical new investment projects assuming the currently applicable interest rates, banks' requirements and production costs; calculated on the basis of the diagram included in Annex 3 of the "Report on the situation of the Polish market of residential and commercial real estate in 2011" LD – ROE of an average large real estate developer (GUS).  
Source: NBP based on Sekocenbud, GUS (F01).

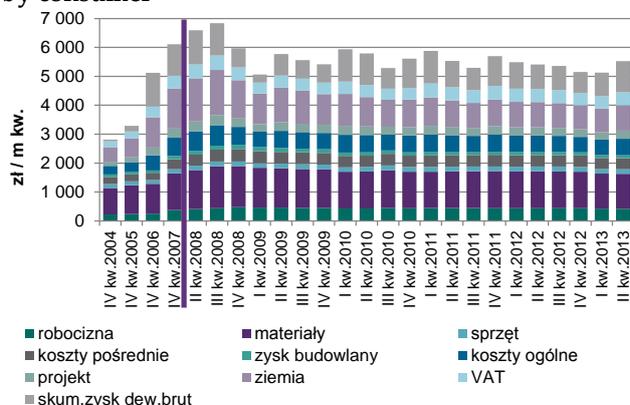
**Figure 39** Cracow - structure of price per one square meter of housing usable area (type 1121<sup>19</sup>) to be paid by consumer



Source: NBP based on Sekocenbud, REAS.

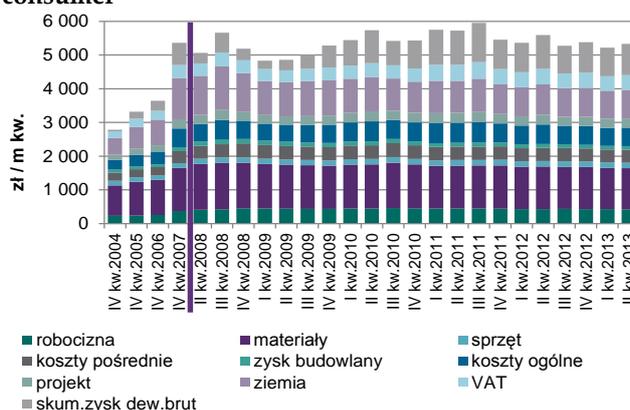
**19 Building (type 1121)** monitored by NBP since the second half of 2004 as an average residential multi-family five-storey building with an underground parking space and retail premises on the ground-floor; traditional construction (overground part made from ceramic bricks). For the sake of convenience, it has been assumed that construction costs of one square meter of parking space and retail space are close to the costs of housing sold in shell condition; Real price of 1 square meter of housing, based on construction costs, depends on the share of outer space [building's common area], different for various buildings; when calculating the price of 1 square meter of usable housing area to be paid by consumer, we have assumed 20% share of outer space [building's common area] with respect to housing area and by this figure we have adjusted upward the price of 1 square meter of housing. Data adapted to the new developer's model of the construction process described further in Article 3 of the "Report Report on the situation of the Polish market of residential and commercial real estate in 2011.

**Figure 40 Gdańsk – structure of price per one square meter of housing usable area (type 1121<sup>19)</sup> to be paid by consumer**



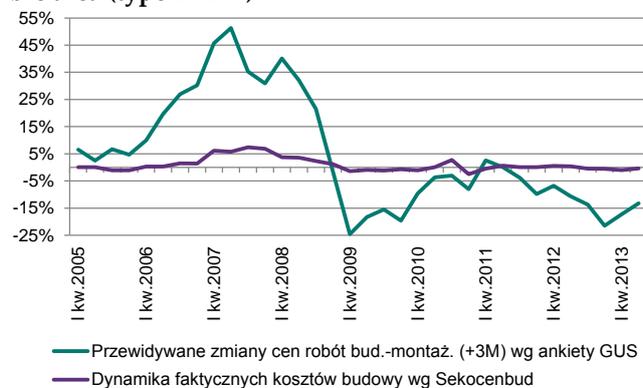
Source: NBP based on Sekocenbud, REAS.

**Figure 42 Wrocław – structure of price per one square meter of housing usable area (type 1121<sup>19)</sup> to be paid by consumer**



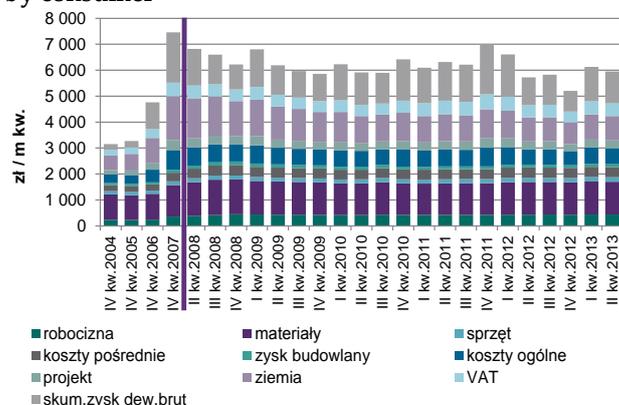
Source: NBP based on Sekocenbud, REAS.

**Figure 44 Anticipated changes in the price of construction and assembly production (+M3) and growth in the costs of construction of the residential building's usable area (type 1121<sup>19)</sup>**



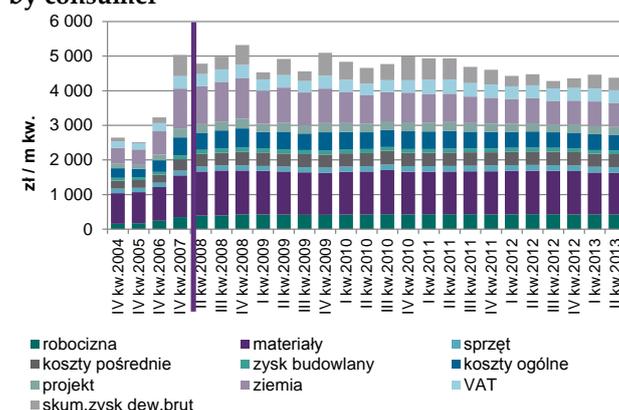
Source: NBP based on GUS data (business conditions survey), Sekocenbud.

**Figure 41 Poznań – structure of price per one square meter of housing usable area (type 1121<sup>19)</sup> to be paid by consumer**



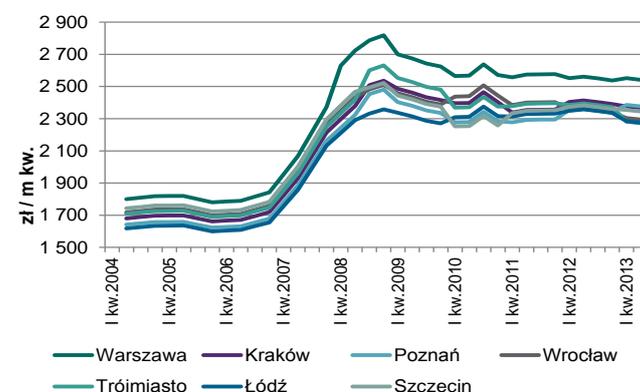
Source: NBP based on Sekocenbud, REAS.

**Figure 43 Łódź – structure of price per one square meter of housing usable area (type 1121<sup>19)</sup> to be paid by consumer**



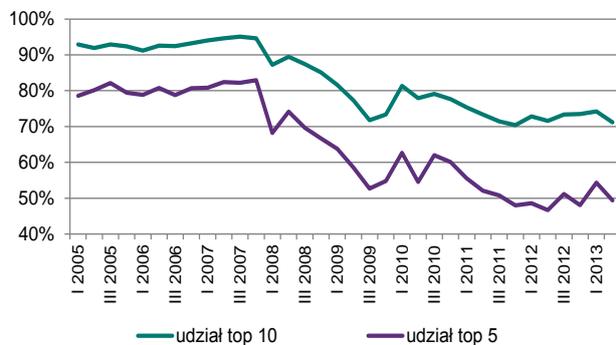
Source: NBP based on Sekocenbud, REAS.

**Figure 45 Cost of construction of one square meter of the residential building's usable area (type 1121<sup>19)</sup>**



Source: NBP based on Sekocenbud.

**Figure 46 Share of sales of 5 and 10 largest real estate development companies in total sales (calculations based on financial reports)**



Source: NBP.

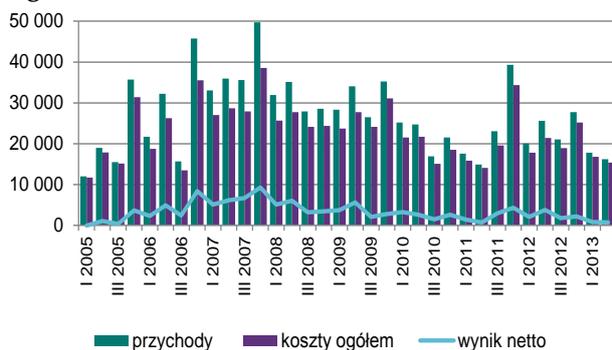
**Figure 48 Share of own costs in the costs incurred by a large real estate development company (LD) and the share of real estate developer's return in the price per square meter of housing in PM**



Note: share of the real estate developer's return until 2007, in relation to the fourth quarters only.

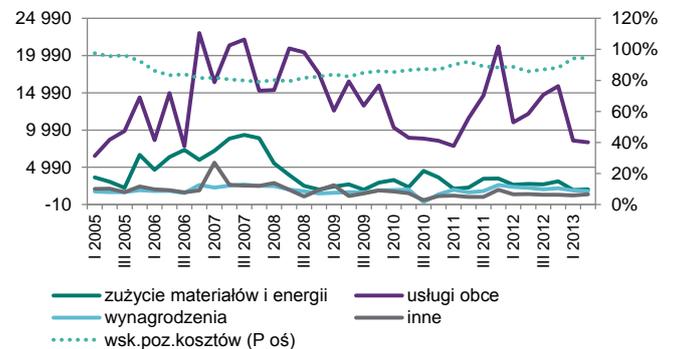
Source: NBP based on GUS (F01) and Sekocenbud.

**Figure 50 Economic indicators of LDs**



Source: NBP based on GUS (F01).

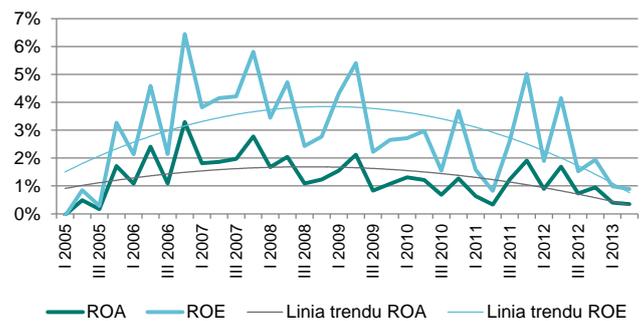
**Figure 47 Costs incurred by a standard large real estate development company (LD)**



Note: according to the GUS, a large company employs an average of more 50 persons; related to Figures 47-55.

Source: NBP based on GUS (F01).

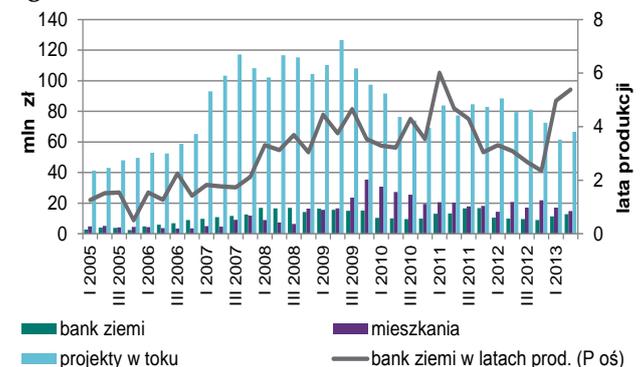
**Figure 49 ROE and ROA of large real estate developers**



Note: net result in a given quarter as compared to assets (equity) at the end of a given quarter.

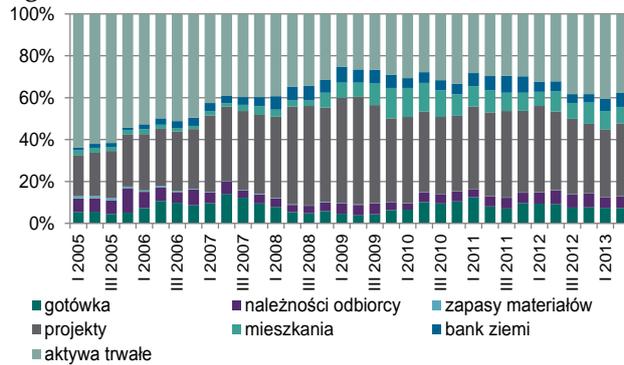
Source: NBP based on GUS (F01).

**Figure 51 Situation of LDs**



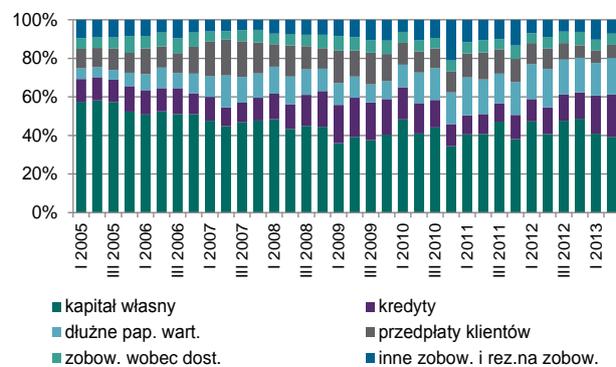
Source: NBP based on GUS (F01).

Figure 52 Structure of LD assets



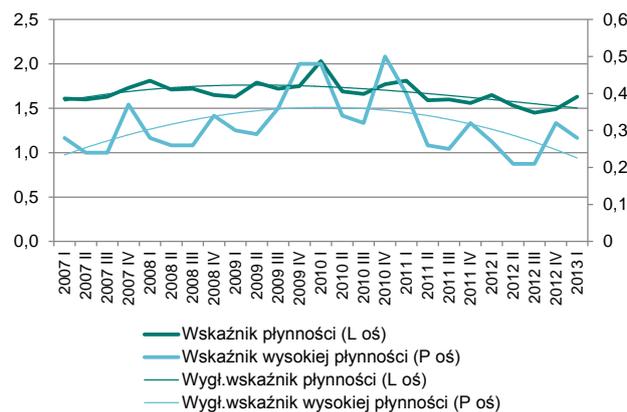
Source: NBP based on GUS (F01).

Figure 54 Structure of LD financing



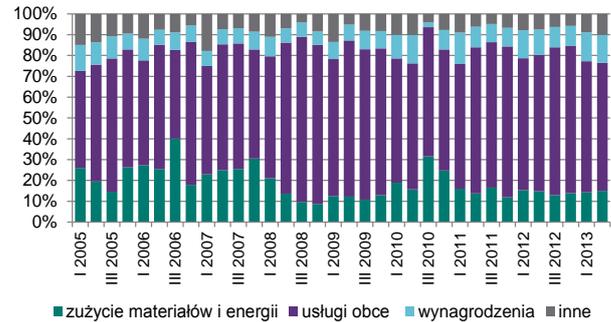
Source: NBP based on GUS (F01).

Figure 56 Liquidity of real estate development companies



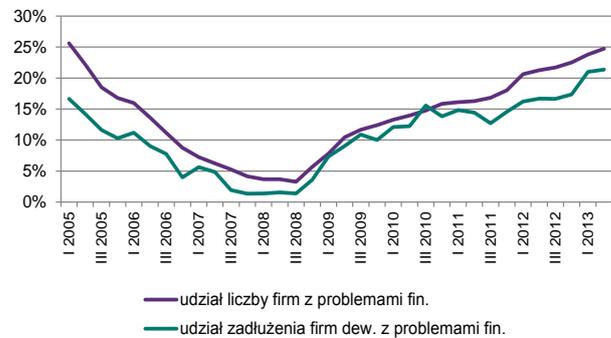
Source: NBP based on GUS (F01).

Figure 53 Structure of LD costs



Source: NBP based on GUS (F01).

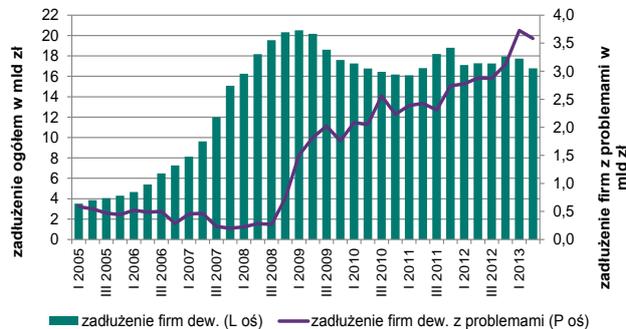
Figure 55 Real estate development companies facing financial problems



Note: companies whose liabilities have been classified by banks as non-performing (this refers to large-scale liabilities, exceeding the value of PLN 500 thousand).

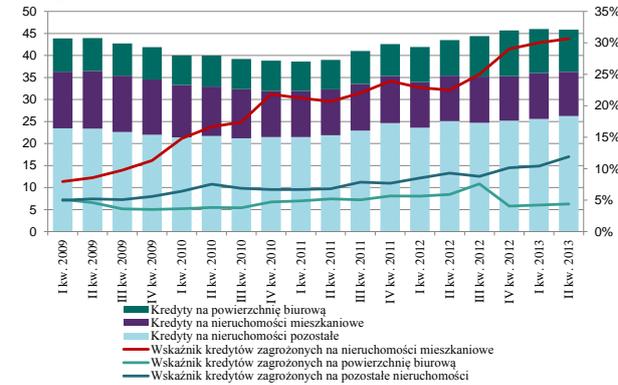
Source: B300.

**Figure 57 Value of real estate developers' debt (commercial banks) and debt of real estate developers facing financial problems**



Source: B300; only large loans exceeding PLN 500 thousand.

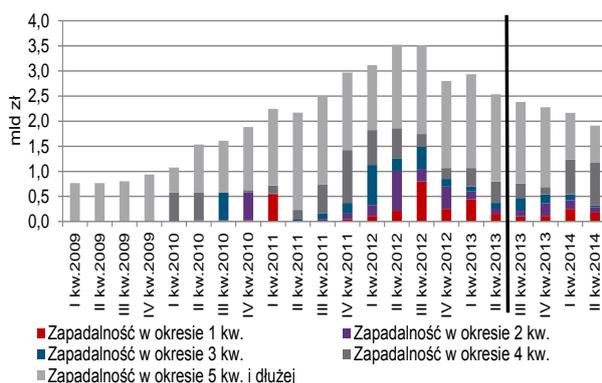
**Figure 59 Real estate loans to corporations (in PLN billion, left-hand axis) and share of doubtful loans (in %, right-hand axis)**



Note: data exclusive of BGK.

Source: NBP.

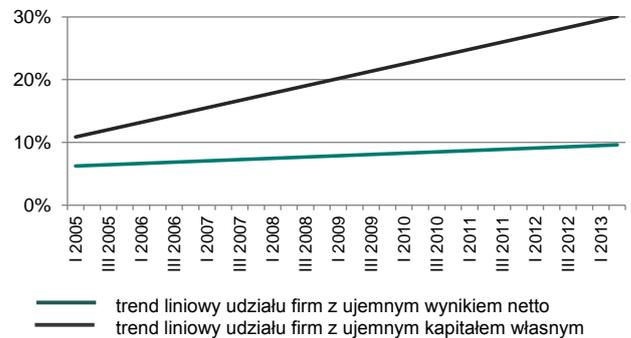
**Figure 61 Structure of developer's bonds in terms of maturity (in PLN billion)**



Note: in Figure 61 and 62, the black line separates the structure of bonds in terms of maturity, assuming that since then no new bonds will be issued.

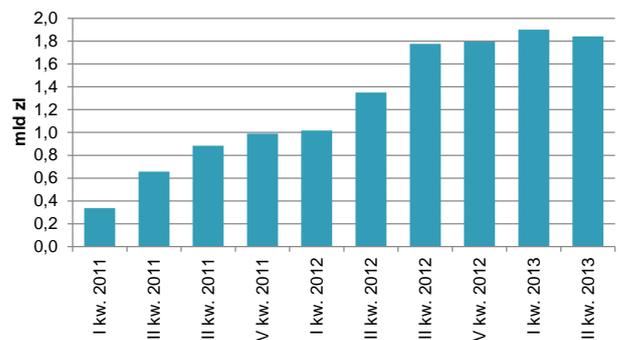
Source: FitchRatings.

**Figure 58 Share of real estate development companies with negative financial result and negative equity**



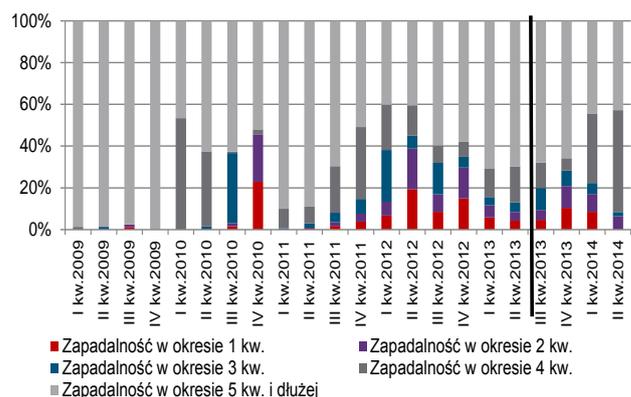
Source: B300; only large loans exceeding PLN 500 thousand.

**Figure 60 Value of debt securities of large real estate developers listed in the Catalyst Stock Exchange (in PLN billion)**



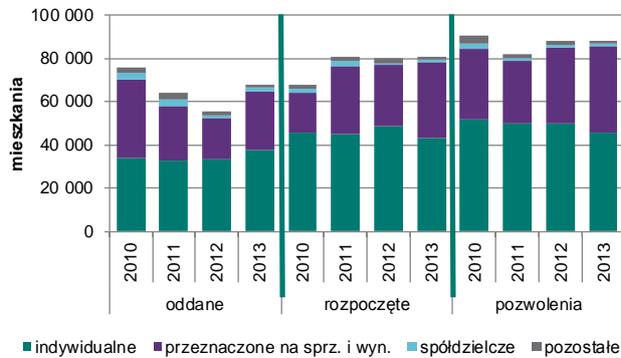
Source: GPW Catalyst.

**Figure 62 Structure of developer's bonds in terms of maturity (shares in %)**



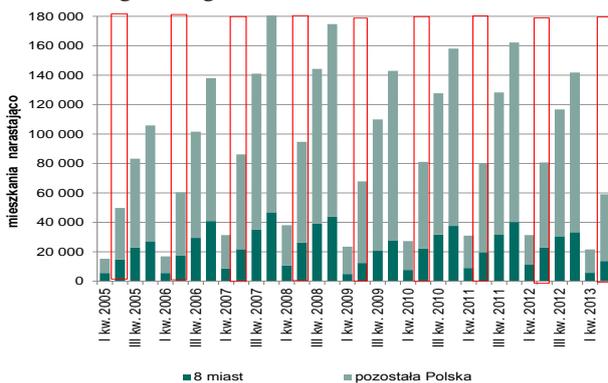
5. Residential construction and housing market in Poland in selected cities

Figure 63 Poland – structure of housing construction investors in H1 in 2011–2013



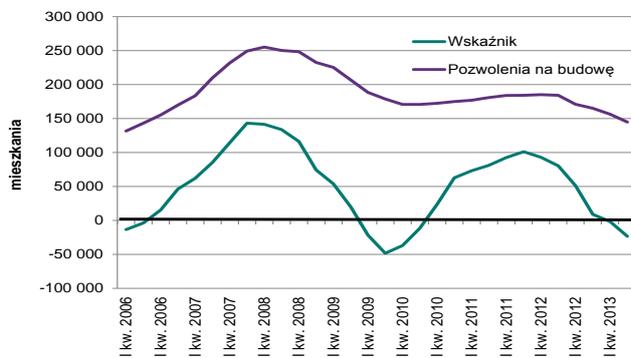
Source: GUS

Figure 65 Poland – housing whose construction has started, in growing order in Poland's 8 cities



Source: GUS

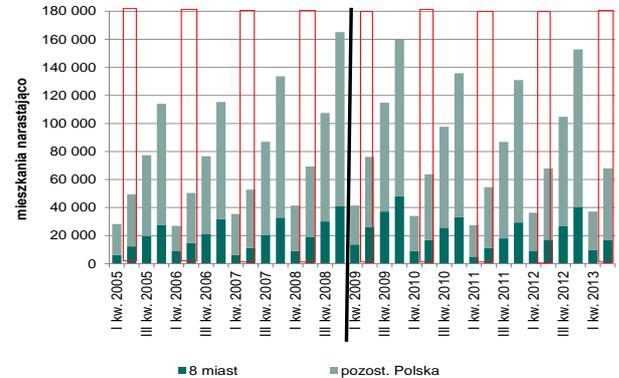
Figure 67 Housing market indicator in Poland and Poland's 8 cities\* (housing under construction minus completed housing)



Note: The index is a 12-month rolling figure. \*Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Warsaw, Wrocław.

Source: NBP based on PABB and GUS.

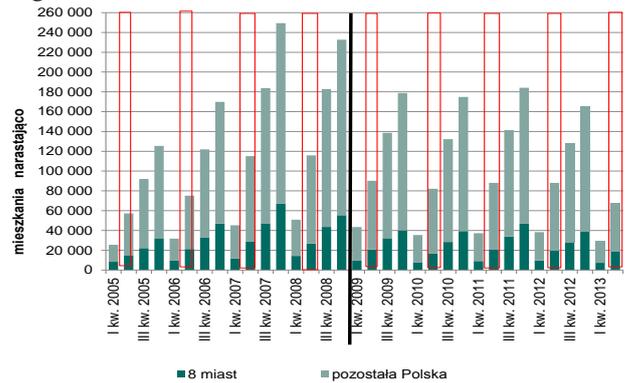
Figure 64 Poland – completed housing, in growing order in Poland's 8 cities



Note to figures 64-66: only second quarters marked; the black line separates data for 6 cities from data for 8 cities.

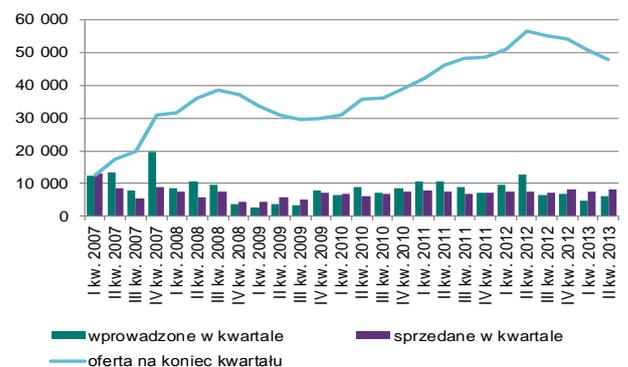
Source: GUS

Figure 66 Poland – issued building permits, in growing order in Poland's 8 cities



Source: GUS

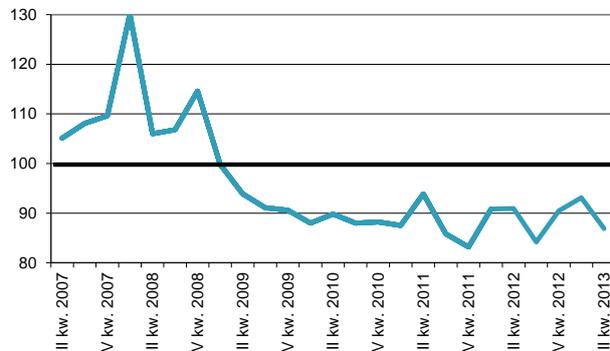
Figure 68 Number of housing units put on the market, both sold and offered for sale in Poland's 6 largest markets\*



\*Warsaw, Cracow, Gdańsk-Sopot-Gdynia, Wrocław, Poznań, Łódź.

Source: REAS.

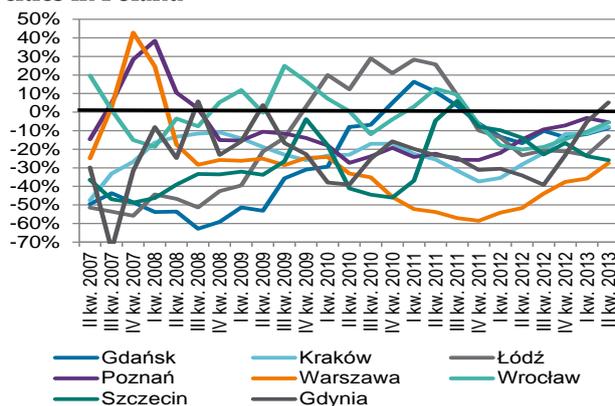
**Figure 69 Growth in the average price per one square meter of housing put on sale in PM in Poland's 6 largest cities\* (2007 Q1 = 100)**



\*Warsaw, Cracow, Gdańsk-Sopot-Gdynia, Wrocław, Poznań, Łódź.

Source: REAS.

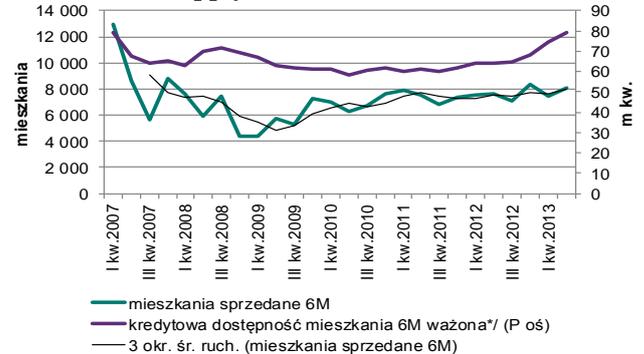
**Figure 71 Structure of supply and demand\* for housing with an area ≤ 50 square meters, PM in 8 selected cities in Poland**



Note: Figure 71 presents a mismatch (in %) between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the housing unit's size, according to the data from the BaRN database. The mismatch is calculated as the ratio of the share of housing units with usable area of up to 50 square meters offered for sale to the number of transactions involving housing units with a total area of up to 50 square meters (the average figure for the last four quarters). The positive result (above the black line) indicates a surplus of housing of this particular size, whereas the negative result indicates a shortage thereof. Figure 72 is parallel.

Source: NBP.

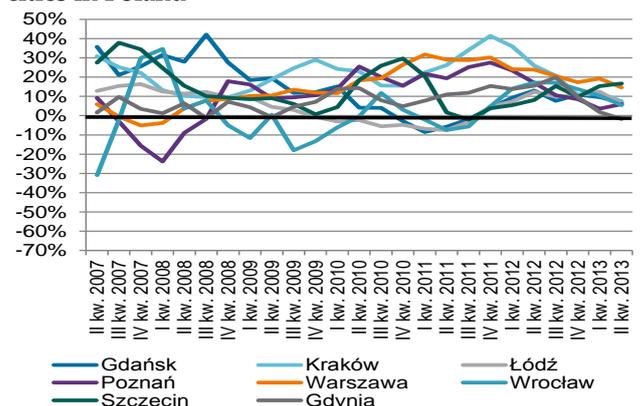
**Figure 70 Availability of loan-financed housing versus housing units sold in Poland's 7 largest cities\* (demand and supply estimates)**



\*Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Warsaw, Wrocław. Loan-financed housing availability measured with the currency structure of quarterly increases in housing loan.

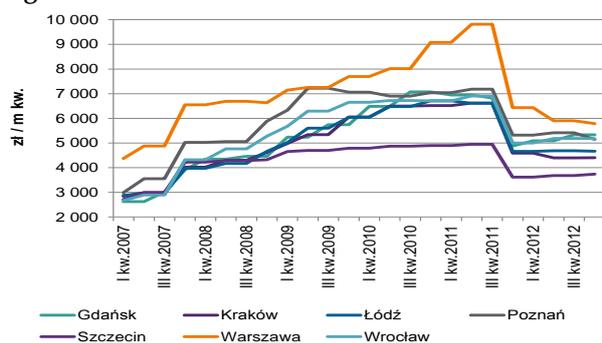
Source: NBP based on REAS.

**Figure 72 Structure of supply and demand\* for housing with an area >50 square meters, PM in 8 selected cities in Poland**



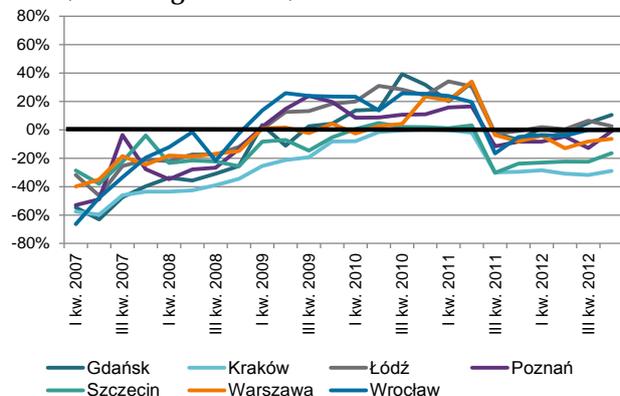
Source: NBP.

Figure 73 Price limit in RNS – PM



Source: NBP, BGK.

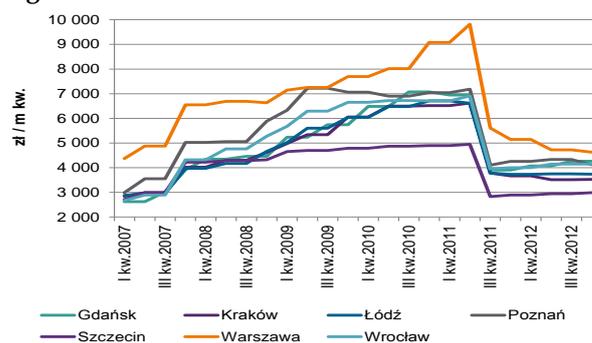
Figure 75 The gap between the limit under RNS housing scheme in relation to the median transaction price - PM (according to BaRN)



The gap is calculated as the difference between the maximum (limit) of the RNS housing scheme and the median transaction price in PM in relation to the median transaction price. A positive difference means that the scheme finances housing with prices higher than the median, whereas the negative difference means the opposite situation.

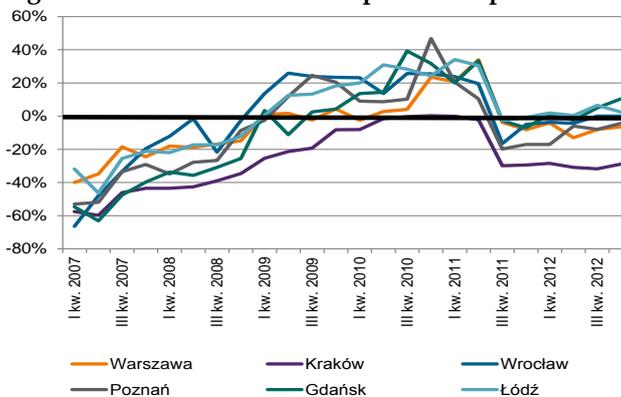
Source: NBP, BGK.

Figure 74 Price limit in RNS – SM



Source: NBP, BGK.

Figure 76 The gap between the limit under RNS housing scheme in relation to the replacement price



The gap is calculated as the difference between the maximum (limit) of the RNS housing scheme and the replacement price, calculated on a basis of Sekocenbud costs. A positive difference means that the scheme finances housing with prices higher than the replacement price, whereas the negative difference means the opposite situation.

Source: NBP, BGK, Sekocenbud.

---

[www.nbp.pl](http://www.nbp.pl)