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# **Information on home prices and the situation in the residential and commercial real estate market in Poland in 2013 Q3.**

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## Summary

The analysis of the situation in the Polish real estate market in 2013 Q3 leads to the following conclusions:

- In 2013 Q3 the downward trend in transaction prices in secondary markets of Poland's main cities was significantly halted. On the other hand, the Warsaw primary and secondary market reported a slight increase in transaction prices. Currently, the average transaction prices in the primary market are higher than in the secondary market in all the analyzed cities.
- The decline in market interest rates, following the decisions of the Monetary Policy Council (MPC), contributed to a marked improvement in the availability of loan-financed housing. The gross value of mortgage loan disbursements was slightly higher as compared both to the previous period and to the corresponding period of the previous year. As regards foreign currency denominated loans, since 2012 there has been a strong downward trend in outstanding foreign currency housing loans (in FX adjusted terms). This is a result of their repayment and, to a lesser extent, conversion into PLN loans. The stable level of home sale transactions in the primary market was supported by cash purchases.
- The amount of corporate loans for real estate financing and the quality of those loans remain stable. The amount of real estate developer loans for home construction decreased slightly, while their quality have slightly improved.
- In the first three quarters of 2013 the number of completed dwellings was similar to their number recorded in the same period of the previous year. The total number of commenced investments hit the lowest level since 2005, yet increases recorded in Q3 are higher than those observed in the previous year. The number of issued building permits reached the lowest since 2006. For the fifth consecutive quarter, the number of homes pending sale dropped in 6 major cities.
- It follows from the Central Statistical Office (GUS) data that profitability ratios of real estate developers have deteriorated. However, NBP's analysis of the real estate development sector indicates that home construction is profitable, aggregate profit margins in the case of newly launched development projects remain stable or even start to increase. The number of bankruptcies in the real estate development segment is small in relation to other sectors. The situation of the majority of developers seems to be stable against the background of the entire economy. The observed financial problems faced by some large real estate development companies are mainly due to large debts and rising financial costs coupled with liquidity problems. Their lack of liquidity is due to declining home sales, which may be associated with mismatch between home offers and clients' expectations as regards the size and location of housing and its price.

The study provides a synthetic description of key developments affecting the housing market in Poland's largest cities in 2013 Q3.<sup>1</sup> It also contains an appendix with charts and figures presenting:

- 1) home prices (Figures 1–16),
- 2) housing availability, loan availability and availability of loan-financed housing (Figures 17–20)
- 3) mortgage 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 34–59),
- 5) housing construction and the residential market in Poland (Figures 60–69).
- 6) estimates concerning secondary residential market (Figures 70–73).

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. 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 the housing market survey of the Real Estate Market Database (BaRN)<sup>3</sup>. As part of the new survey of the commercial real estate market, Commercial Real Estate Market Database (BaNK) data on rent, offer prices and transaction prices of commercial real estate are collected and analysed.

Also data from PONT Info Nieruchomości (PONT) and SARFIN were used in the analysis. We also relied on the analyses and reports of the Polish Financial Supervision Authority (KNF) and the aggregate 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.

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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 the 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. Wiślak (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 2013*, 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.

In 2013 Q3, the major trends observed in the previous quarter, continued. The number of real estate development dwellings pending sale in Poland's largest housing markets was further reduced (see Figure 65). This was the result of growing number of home sale transactions and rationalization of developers' behaviour after the construction boom caused by the entry into force of the Real Estate Development Act. At the same time, profitability ratios of real estate developers (according to data of the Central Statistical Office (GUS)) deteriorated<sup>4</sup>. Cuts in interest rates led to an increase in the demand for credit and cash financed housing in major markets (see Table 1). Increasing demand and decreasing surplus of housing in the primary market halted the downward trend in home prices in the primary and secondary market. Prices in both markets stabilized, and the largest market in Warsaw saw its noticeable growth.

According to REAS, the number of transactions in the primary market of all the six largest housing markets in Poland increased as compared to the previous quarter of this year by over 18% and amounted to almost 9.6 thousand dwellings. This figure is comparable with the 2007/2008 housing boom. This was driven by housing demand and housing supply factors. On the supply side, real estate developers launched a number of projects sufficient enough to get through the initial period of implementation of the Law on the Protection of the developer's client without any major shocks and are currently adapting their current offer to the market needs. This applies both to the number of dwellings put on the market (see Figure 65), as well as their size (see Figure 68 and 69). It may be noted that for the past two years, real estate developers have been testing the market trying to push up prices of homes put on the market for the first time (see Figure 66). After previous attempts to raise prices slightly, in the past two quarters price expectations of real estate developers have stabilized. On the other hand, housing demand has increased, which is confirmed by the growing number of transactions (see Figure 65 and 72). Also the number of transactions in the primary market picked up. According to the analysis of housing markets in major cities (see Table 1), the increase in demand is quite evenly distributed between credit demand and cash demand. Growth in credit demand is the result of increased loan availability (see Figure 19) and higher availability of loan-financed housing (see Figure 20). Lowering the price of housing (paid monthly in the form of loan service) in relation to other goods increases the desire to purchase housing and spend on it a larger part of income. As a result, households who previously could not afford to buy a home, decide to enter the market. On the other hand, households who already intended and could purchase housing, buy more expensive (bigger or better quality) housing. Overall, 2013 Q3 saw growing number of transactions and higher demand for better housing, as shows the example of the quality<sup>5</sup> of homes sold on the Warsaw market (see Figure 11).

The availability of loan- financed housing indicator shows similar growth as home sales in the primary market (see Figure 67). This means that although approximately 50% of home purchase

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<sup>4</sup> These ratios include, among others, return on equity (ROE) and return on assets (ROA).

<sup>5</sup> Quality indicators for the Warsaw secondary market takes into account 6 main features determining home prices: i.e. location in a particular city district, year of construction, standard of finishing, ownership title, area and the number of room.

transactions are financed with a loan (see Table 1), the loan availability has a strong impact on housing demand. The increase in the estimated value and number of cash transactions amidst rather stable prices in the secondary market leads to the conclusion that a significant proportion of purchases are made in cash. It is difficult to analyse demand for cash home purchases due to the shortage of reliable statistical data. However, based on foreign experience it can be assumed that part of the transactions in the primary market concluded as cash transactions are, in fact, a form of reinvestment of funds obtained from the sale of household's current housing in the secondary market. The remainder of the funds are withdrawn cash deposits, that households accumulated to buy housing (used as the down payment for a housing loan), which is confirmed by the opinions of the market. The reason for such households' behaviour might be the temporary increase in the profitability of home purchase for households' own use as compared to renting (see Figure 15). It should be remembered that this analysis does not take into account the high transaction costs in the housing market and potentially long time needed to exit from such an investment. The cost-effectiveness ratio of rental of purchased housing (rent to purchase price) to the interest rate on deposits (see Figure 16) was also favourable. In the case of housing for rent, the risk arising from excessive tenant protection, which complicates the calculation of the investment profitability, adds to the long period necessary to finalize home sale transaction.

Another factor impacting the demand for loan-financed housing may be the mortgage loan limit, where the LtV<sup>6</sup> of 100 %, is to be imposed by the Financial Supervision Commission as at the beginning of the new year, the fact trumpeted by the media and credit intermediaries. This is confirmed by the data of the Polish Bank Association, pointing to the recently observed increase in the percentage of loans with LtV above 80%, and loans with maturities exceeding 25 years. This shows that banks have actually eased their lending policy to capitalize on growing demand. This is also shown by the aggregate indicator of NBP's housing loan policy (see Figure 19), which shows that the housing loan policy pursued by the bank credit committees has been getting more restrictive since 2012 Q2. It should be emphasized that growth in the LtV restriction is spread over three years<sup>7</sup> and should allow households to gather the necessary funds.

As a result of higher housing demand, the 5-year downward trend in real and nominal prices of housing (see Figures 1-4 and 7-8) has been halted<sup>8</sup>. In the case of Warsaw, slight increases in transaction prices in the secondary market have been recorded for the second consecutive quar-

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<sup>6</sup> LtV - Loan to Value, an indicator of the amount of credit or loan granted to the value of its collateral

<sup>7</sup> In accordance with the Recommendation S of 18 June 2013 – for mortgage-secured credit exposure which arose until 31 December 2014, LtV should not exceed the level of 95%, for mortgage-secured credit exposure which arose from 1 January 2015 to 31 December 2015, LtV should not exceed the level of 90% , for mortgage-secured credit exposure which arose from 1 January 2016 to 31 December 2016, LtV should not exceed the level of 85% or 90% in case part of exposure exceeding 85% of LtV is sufficiently collateralized or in case the borrower has provided an additional collateral in the form of blockade of funds on the bank account or pledge on zloty denominated debt securities of the State Treasury or NBP.

<sup>8</sup> In the quarterly information, we use the following classification of cities: Warsaw as a separate market which is the most mature housing market, clearly distinct from other markets, and the two groups of markets: the 7 cities namely Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Wrocław and 9 cities i.e. Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Zielona Góra.

ter, which is driven by a slight rise in demand in this market. Increases in average transaction prices in Warsaw are partially explained by better quality<sup>9</sup> of sold housing (see Figure 11). With adjustment for changes in the quality of sold housing, we may still observe a slight increase in the average price.

Slight increases in transaction prices in the secondary residential market in Warsaw are also confirmed by the analysis of the hedonic index<sup>10</sup>. The positive change in this ratio in Q3 2013 as compared to Q1 2013 testifies to the fact that regardless of the differences in the quality of dwellings sold, there was a slight increase in their prices. Analysis of the hedonic price index shows slight price increases on a quarterly basis also in other major cities in Poland (see Figures 9-10). The latter one is so insignificant that it is difficult to conclude, basing thereon, how long-lasting the change in the trend will be. Currently, the average transaction prices in the primary market are higher than in the secondary market in all the analyzed cities.

The slowing downward trend in prices, rising demand and declining surplus in home construction contracts are factors behind the improvement of the condition of the real estate development sector. The price elasticity of households' demand for housing is usually less than 1, so rises in home prices lead to improved performance of real estate development companies resulting from the sale of new contracts. As a result, given significant concentration of production (see Figure 46) prices of home construction contracts are considerably responsive to growth in demand. A smaller number of homes pending sale means smaller financial costs incurred by real estate developers to maintain them. At the same time, we have observed a slight downward trend of the actual construction and assembly costs (see Figures 44 and 45), which results from the poor situation of the construction firms and competition prevailing in this sector.

The above factors should have a positive impact on real estate development companies both as regards completion of the ongoing investment projects, as well as profitability of new investment projects. This is reflected in the rate of return on newly started projects (see Figure 37), which,

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<sup>9</sup> Figure 11 presents indicators of the structure of housing characteristics for the Warsaw market. The structure indicator was determined using constant prices of housing with fixed characteristics (we adopted average prices of 2011 which was the period of the most stable prices) and variable share of dwellings with particular characteristics in the analysed transaction sample. Thus, the indicator of the structure of housing characteristics shows how the total value of homes sold differed in subsequent periods, solely as a result of changes in the structure of housing characteristics (constant prices). For the secondary market we set 6 different indicators of the structure, reflecting the change in the following housing characteristics: location in a particular city district, year of construction, standard of finishing, ownership title, the number of rooms and surface. Then, using the results of hedonic price models, we set the weight for each of the feature and calculated the overall structure indicator. In the primary market, the structure indicator reflects only changes relative in location in a particular city district (in the secondary market, the weight of location in a particular city district is 60 %).

<sup>10</sup> Hedonic index is less susceptible to changes in quality (bigger or smaller number of more expensive housing) in the analysed sample of housing units than methods based on positional measures of central tendency in this respect (average, average weighted with districts, median).

with the exception of Łódź<sup>11</sup>, showed an improvement as compared to the previous quarter and oscillates within the range of 15-20%.

It should be noted that ROE and ROA ratios of large real estate development companies hit the lowest level since 2004, which means that those companies suffered losses on some investments or failed to realize the assumed profits<sup>12</sup>. We still remember problems faced by three large companies listed on the stock market as a result of defaulting or delayed payment of liabilities resulting from real estate developer bonds. In one of the cases it ended with bankruptcy with an option of arrangement. Problems faced by real estate developers are usually driven by the lack of liquidity, followed by insolvency. The lack of liquidity of developers results from the decline in home sales, which may be related to the mismatch between home offers and client expectations as regards size, location, prices, etc.

The analysis of the profitability of housing construction, based on a typical business plan of a home construction project<sup>13</sup>, shows that housing production is profitable ( see Figure 37) , developers' profit margins in home price are high as compared to other industries and sufficient to cover the real estate developer risk (see Figures 38-43 ). It should be noted, however, that in reality, real estate developers do make mistakes (e.g. buy too expensive construction materials, purchase too much building land, fail to adequately assess future market demand or opportunities and costs of obtaining credit, etc. ) and the investment process stretches over several years. During the investment process, there are significant changes in prices and costs resulting from the cyclical nature of the market. According to the GUS (Central Statistical Office) data, those companies are highly capitalized (see Figure 54) , and according to the COFACE data, the number of bankruptcies is small as compared with other sectors (see Figure 35). The overall condition of the real estate development sector is assessed as stable against the background of the whole economy. Stock market indices of companies listed on the Warsaw Stock Exchange have remained, since 2011, at a stable low level showing a slight upward trend in the recent years (see Figure 34).

As a result, real estate developers launch new housing projects (see Figures 51-52). The value and the number of loans of real estate development companies facing difficulties ceased to grow, however, due to the reclassification of accounts receivable<sup>14</sup>, it is difficult to determine the scale of

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11 The city of Łódź is a structural outlier as compared to other large cities. It is characterized by very low ROA and ROE rates, which results from excessive housing stock offered on the secondary market as compared to demand for housing in the primary market.

12 These losses were incurred on previous years' investments, which are currently completed and sold and shown in the income statement (this problem was analysed in the previous quarterly information).

13 See article A3 „Przedsiębiorstwo deweloperskie na rynku w Polsce oraz problemy jego analizy” [“Business development in the Polish market and problems of its analysis”] in the Report on the situation in the residential and commercial real estate market in Poland in 2011 (NBP) [Raportu o sytuacji na rynku nieruchomości mieszkaniowych i komercyjnych w Polsce w 2011 r. (NBP).]

14 Improving condition of real estate developers is reflected in the NPL ratio in part caused by a change in banks' reporting on large companies, introduced as of 1 September 2013.

the improvement (see Figure 56). The actual reason behind the deterioration of profit-based indicators is the fact that real estate developers complete housing sold at a low price or constructed at high cost<sup>15</sup>. The analysis of the breakdown of real estate developers in terms of their solvency (defined as a positive difference between receivables and liabilities) shows that the share of insolvent companies does not exceed 10%, with a slight upward trend observed in the past few quarters. It should be noted, however, that liabilities exceeding receivables in the balance sheets of some companies does not automatically mean their insolvency.

Other processes in the housing market continued in line with the previously observed trends. The share of foreign currency loans in the total loan portfolio continued to show a slight downward trend, as banks had virtually ceased to grant foreign currency denominated loans (see Figure 27) and loan repayments continued. Interest rates on zloty denominated mortgage loans were at historically lowest levels despite a small increase observed in 2013 Q3 (see Figure 29). Amidst falling interest rates on deposits and rates in the interbank market, banks could raise margins on mortgage loans. Margins based on WIBOR 3M in 2013 Q3 amounted to 2.5 percentage points, whereas margins on deposits amounted to 2.7 percentage points (see Figure 30). Mortgage lending in zloty was profitable for the banking system in the analysed period, and the related model return on equity (ROE) of mortgage loan portfolios extended in zloty, non-financial costs excluded, was approximately 20%.

The size of housing construction (home completions) is now at a relatively high level, which is the fading effect of the small 2010-2011 boom.

The total number of newly commenced home constructions in the first two quarters of 2013 decreased (see Figure 61-64), while in 2013 Q3 the downward trend was reversed and we saw an increase in the number of investment starts as compared to 2012 Q3. This phenomenon was confirmed in financial reports of real estate developers. Should this short-term upward trend prove long-lasting, then, in two years' time, the market would see more housing, and price growth would be limited. This phenomenon should be further monitored.

Estimates regarding the situation in the secondary housing market in Warsaw (based, among others, on data from the Register of Real Estate Valuation/Appraisal and Pricing) show similar number of transactions in the past few quarters.

Comparison of the structure of housing units actually sold with their offer in the secondary market in Poland's 8 largest cities shows the phenomenon already observed in the primary market, involving surplus of larger dwelling (over 50 square meters) with a shortage of smaller ones (less than 50 square meters) (see Figures 70-71). While in the case of the primary market, this disparity may be eliminated over the period of 2-4 year, by changing the structure of real estate develop-

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15 As we concluded in the previous information, this may be related to the sale of new flats sold under the RNS scheme. This may also be the consequence of the sale of homes built at high cost in 2008-2009 and failing to meet the current standards as regards home area and quality.

ers' production, supply on the secondary market is determined by the structure of the existing stock, and it takes decades to change it. This mismatch is the function of changes in the structure of households (bigger number of smaller size households), their greater mobility (reluctance to invest in illiquid housing) and what is the primary factor, their credit worthiness. The latter defines an approx. 50 meter apartment as the one that is within reach of a wealthier household. The factor behind the longer time of home sale in this market (see Figure 73) is the higher competition in the primary housing market and a better match in terms of customers' expectations.

The commercial real estate market (office, retail and warehouse space) recorded investment transactions of approx. EUR 1.9 billion in the first three quarters of 2013, which, according to Comparables.pl data constituted a 19% increase as compared with the corresponding period of 2012. As in the previous years, office and retail real estate transactions accounted for approximately 45% of the value of transactions, warehouse real estate transactions constitute the remaining 10%. International investors account for the majority of all transactions, and a considerable part of transactions are concluded in the secondary market (which means, that already operating and rented commercial building changes ownership). Yields in the office space market were in the range of 6-7% and around 7% in the commercial space market.

At the end of 2013 Q3, Poland had 6.24 million square meters of office space. The majority of office space is offered in Warsaw (4.07 million square meters). The vacancy rate in this segment stood at 10.9%, as compared to 8.1% in the corresponding period of the last year<sup>16</sup>. According to a report by Colliers International, approximately 1 million square meters of office space is under construction. It may be concluded on the basis of the above data and the general economic situation that the vacancy rate will continue to rise, especially in older or poorly located buildings. Rents in the office space market all over Poland remain stable (in Warsaw the highest asking rents in prime locations are approx. EUR 25 euros per square meter per month), yet, growing supply of office space could exert a downward pressure on some markets<sup>17</sup>. During the discussed period, more than 65 thousand square meters of retail space, located only in big cities, were completed. At the end of 2013 Q3, the total supply of retail space was 9.5 million square meters.<sup>18</sup> Commercial rents in prime locations remain stable all over Poland, with the exception of Warsaw where they increased by approx. 5% to reach EUR 85-100 per square meter per month<sup>19</sup>. It may be concluded from the report by Jones Lang LaSalle that tenant demand for commercial space in prime locations in large cities remains stable, while smaller cities or towns with a high degree of retail space saturation, are likely to see a downward pressure on rents.

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16 See Colliers International Report „Przegląd Rynku Nieruchomości – Rynek biurowy III kw. 2013” [„Real Estate Market Report – Office market in 2013 Q3”]

17 See Cushman&Wakefield Report „MarketBeat Office snapshot Q3 2013”.

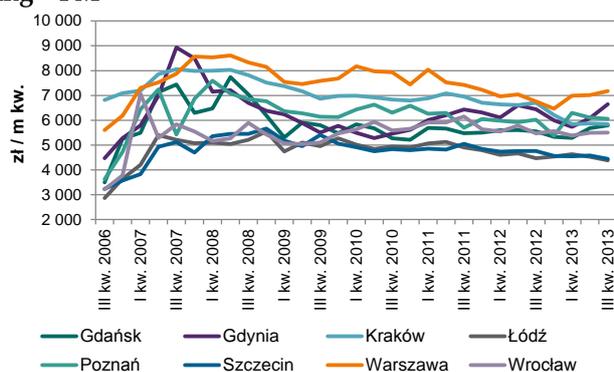
18 See Colliers International Report „Przegląd Rynku Nieruchomości – Rynek handlowy III kw. 2013” [„Real Estate Market Report – Commercial market in 2013 Q3”]

19 See Jones Lang LaSalle Report „Rynek Handlowy w Polsce w III kw. 2013” „Commercial real estate market in Poland in 2013 Q3”.

Statistical annex

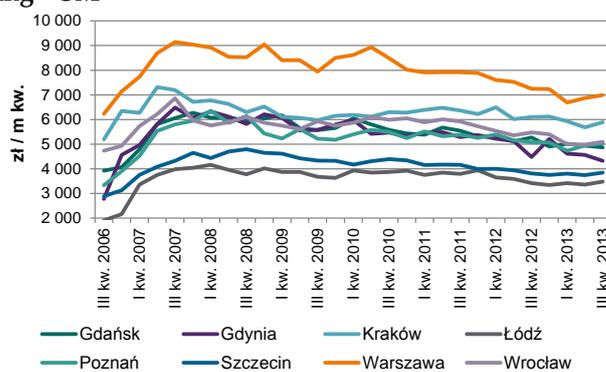
Transaction, hedonic<sup>20</sup>, and offer prices of housing, the primary market (PM), and the secondary market (SM)

Figure 1 Transaction prices per square meter of housing – PM



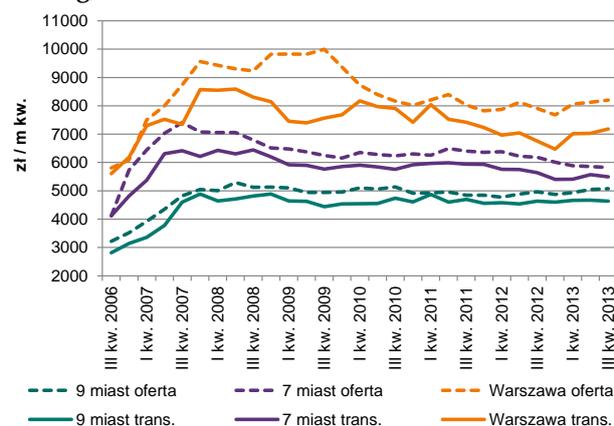
Source: NBP.

Figure 2 Transaction prices per square meter of housing – SM



Source: NBP.

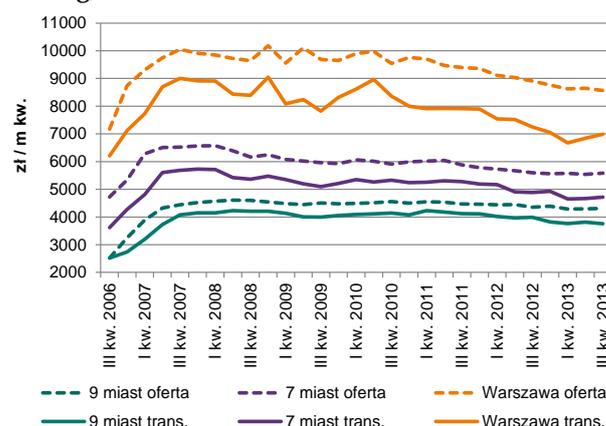
Figure 3 Weighted average price per square meter of housing, offers and transactions – PM



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.

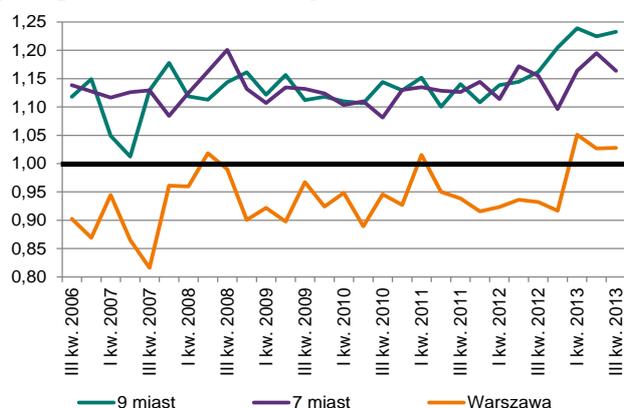
Figure 4 Weighted average price per square meter of housing, offers and transactions – SM



Source: NBP.

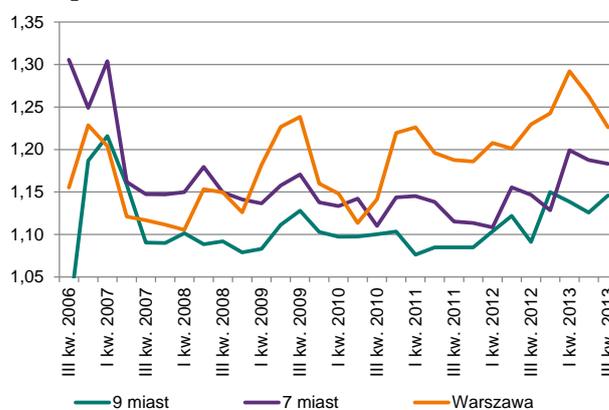
<sup>20</sup> The hedonic price of housing reflects the "pure" price, that is the price that results from other factors than the quality of housing. The analysis always pertains to the price of a standardized apartment constructed on the basis of the econometric model. It adjusts the average price from 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**



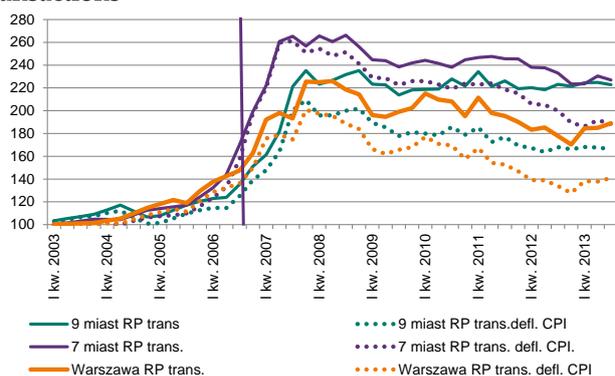
Source: NBP.

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

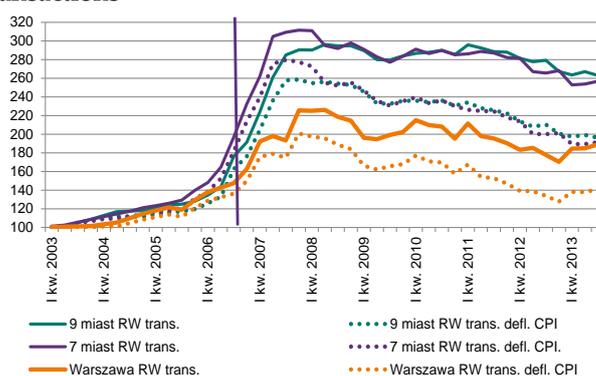


Source: NBP.

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



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

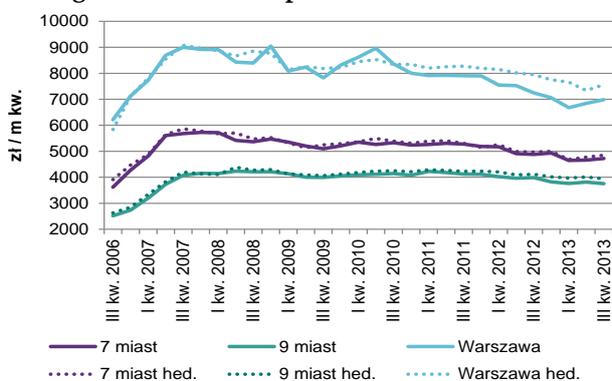


Note: the home price database of NBP (BaRN) has existed since 2006 Q3; the purple line separates BaRN data from PONT Info price estimates.

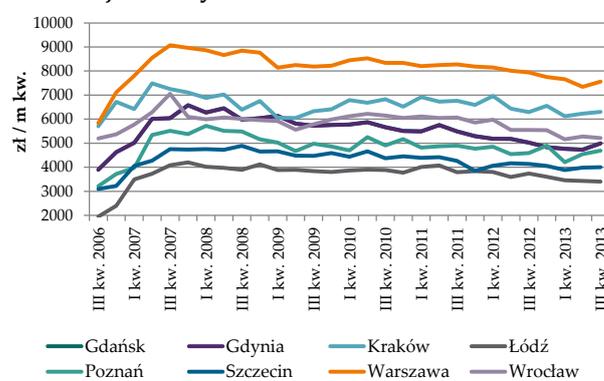
Source: NBP, PONT Info, GUS.

Source: NBP, PONT Info, GUS.

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



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

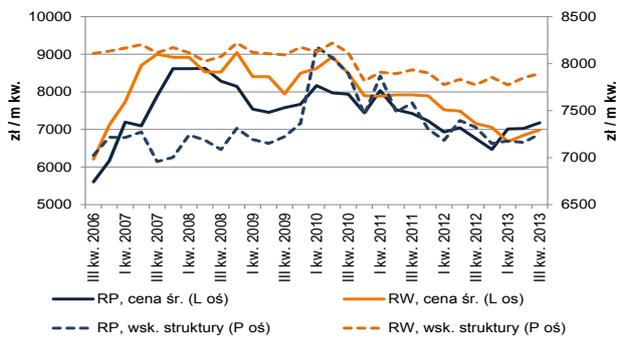


\* / price of one square meter of housing in the reference period adjusted for the price growth index accounting for changes in housing quality in subsequent quarters.

Source: NBP.

Source: NBP.

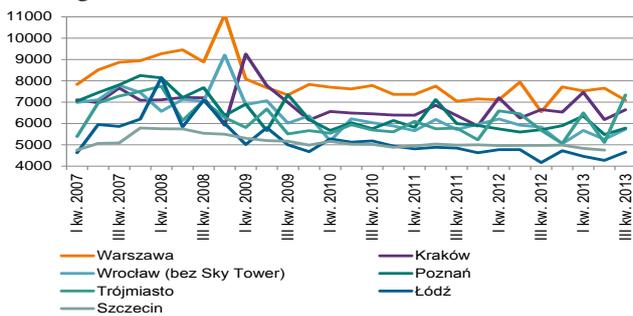
**Figure 11 Average transaction prices of housing and structure indicator for Warsaw (PM and SM)**



Note: The structure indicator for the primary market takes into account housing location in a particular city district. The structure indicator for the secondary market takes into account 6 main features determining home prices (location in a particular city district, year of construction, standard of finishing, ownership title, area of housing and the number of rooms). These indicators are expressed in constant prices of 2011.

Source: NBP

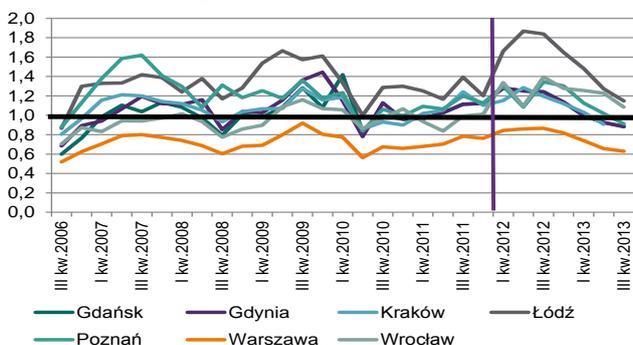
**Figure 13 Average offer prices per square meter, new housing contracts – PM (Warsaw and 7 markets)**



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

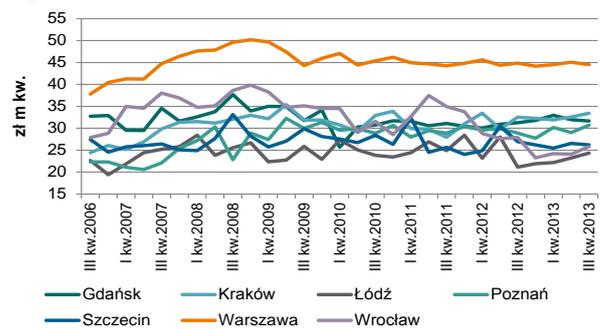
Source: NBP i REAS.

**Figure 1 Relation of the cost of interest on loan for the purchase of 1 square meter of housing to the price of rent per 1 meter of housing (without service charges) in the case of weighted loan in 7 cities**



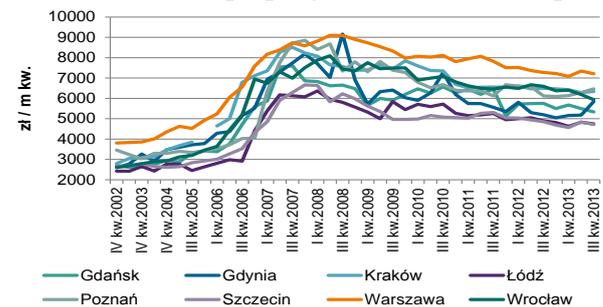
Note: in Figure 15 values exceeding 1 denote higher profitability of housing rental than its purchase for a household to satisfy own housing needs.

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



Source: NBP.

**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)**



Note: prices are collected from all available sources.

Source: PONT Info Nieruchomości.

**Figure 2 Profitability of home rental (average in 7 cities) as compared with deposits, mortgage loans, 5-year bonds and capitalization rates on commercial real estate (office and retail space)**

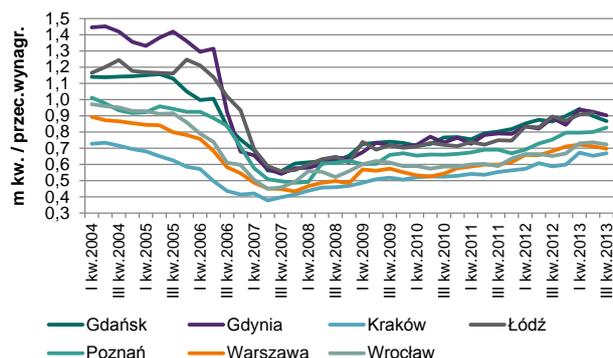
ing needs. In Figure 16 values exceeding 1 denote higher profitability of purchasing real estate for rental than other capital investment.

Source: NBP, GUS.

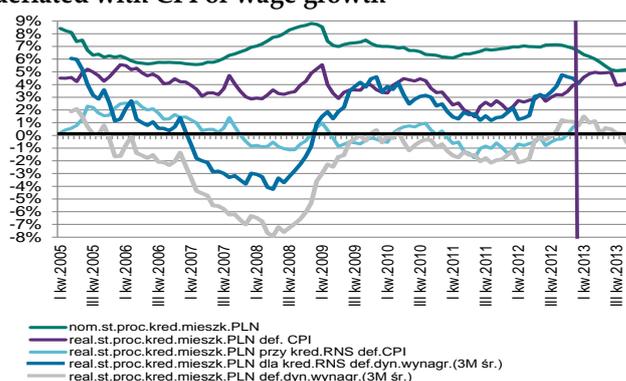
Source: NBP, GUS, .

## 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**

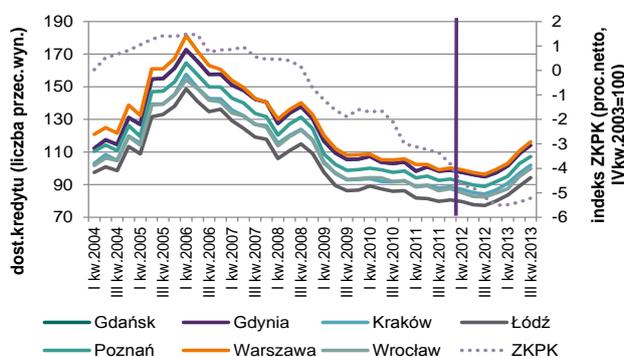


**Housing availability** – a measure of potential availability to purchase housing space at the offer price for an average wage. It expresses the number of square meters of housing that can be purchased for an average wage in the enterprise sector in a particular city (GUS), at an average transaction 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..

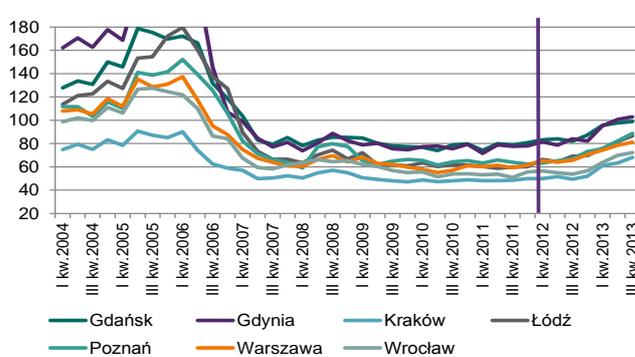
Source: NBP, GUS.

Source: NBP, GUS.

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



**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.

**ZPKP 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.

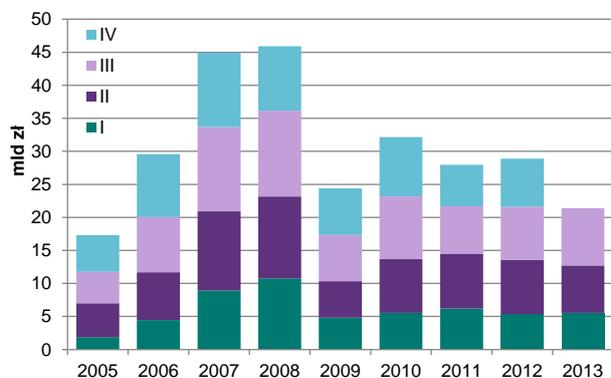
Note: weighting with the currency structure of the quarterly loan increase: the purple line separates weighted values from values expressed in PLN only recorded since the beginning of 2012.

Source: NBP, GUS.

Source: NBP, GUS.

### 3. Disbursement of housing loans, interest rates

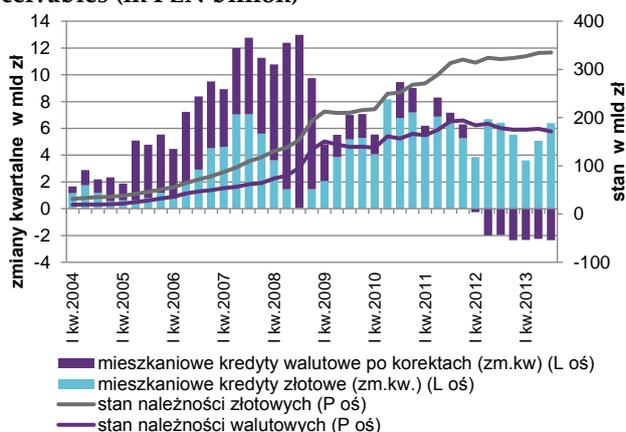
**Figure 21 Quarter-on-quarter increases in housing loan receivables from households in FX and repayment adjusted terms (in PLN billion)**



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.

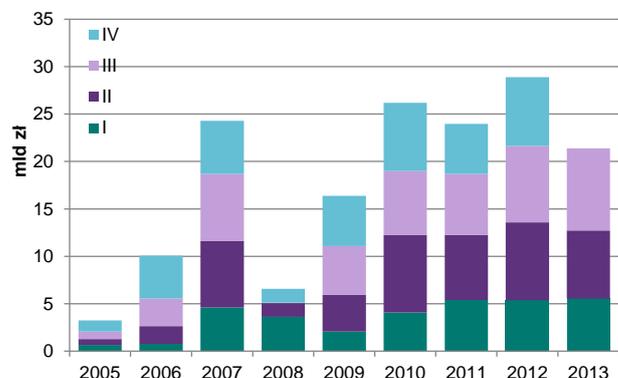
**Figure 23 Structure of housing loan receivables from households after adjustments and currency structure of quarter-on-quarter increases in housing loan receivables (in PLN billion)**



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

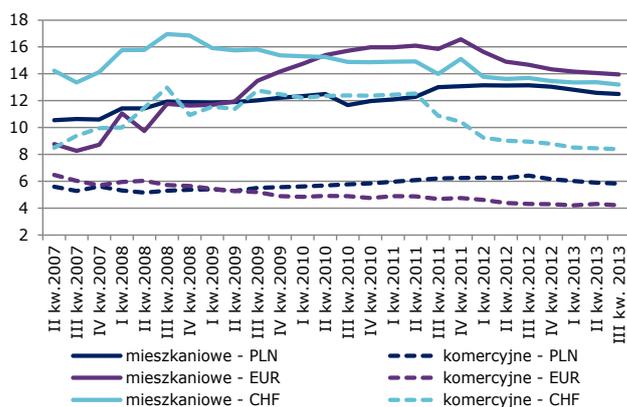
Source: NBP.

**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**



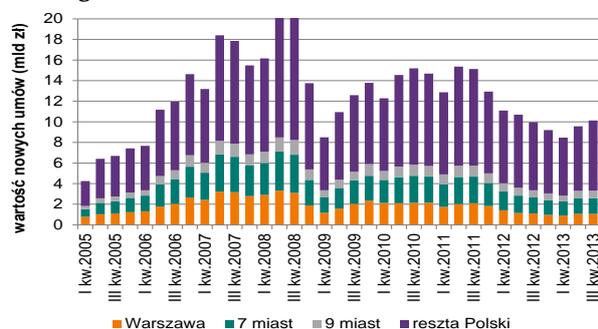
Source: NBP.

**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)

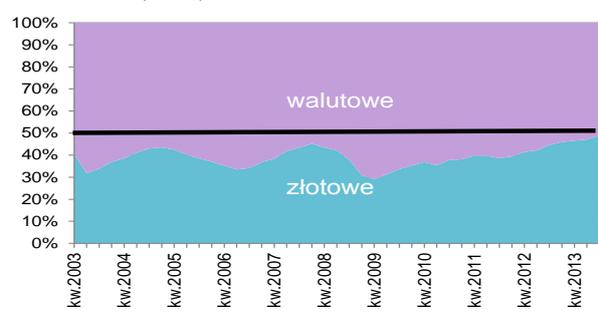
Date	Estimated amount of disbursed housing loan in Poland	Estimated value of housing transactions in the PM in 7 cities	Estimated amount of disbursed housing loans with client's down-payment for home purchase in the PM in 7 cities	Estimated amount of cash home purchases in the PM in 7 cities	Estimated share of cash home purchases in the PM in 7 cities
2012 Q	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
2013 Q3	8 645	3 438	1 480	1 957	0,57

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 amortization 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.

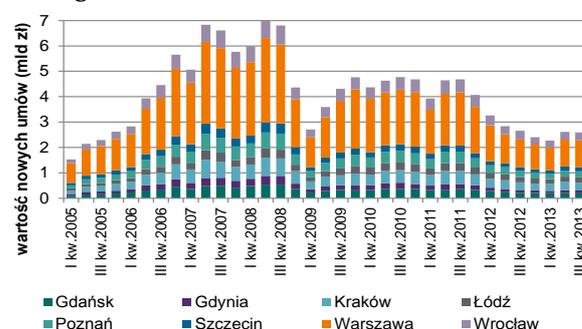
Source: NBP.

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


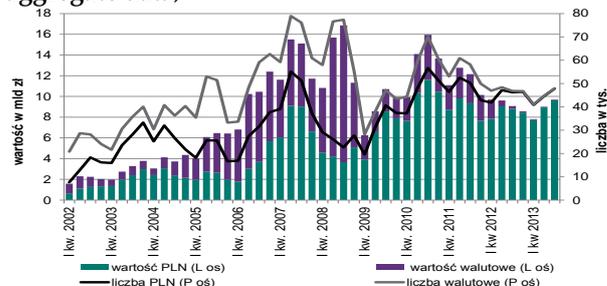
Source: NBP based on BIK data.

**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**


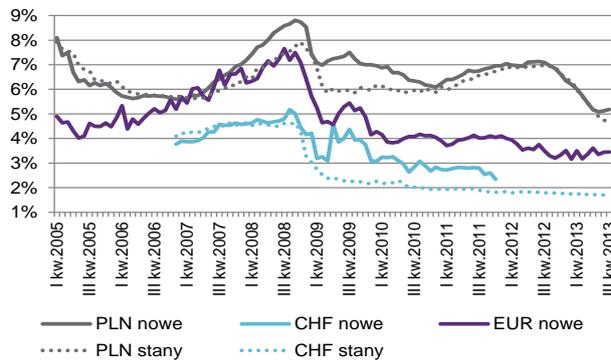
Source: NBP based on BIK data.

**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.

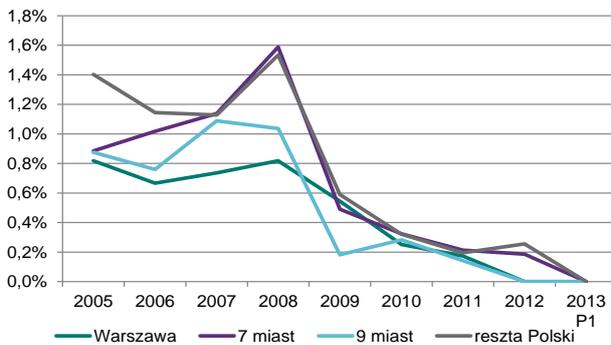
Source: ZBP.

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



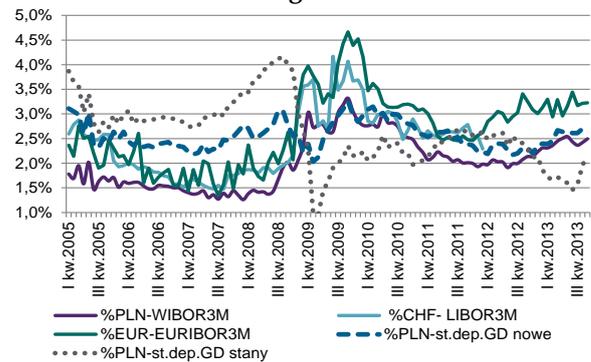
Note: CHF-denominated loans ceased to be granted in 2012.  
Source: NBP.

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



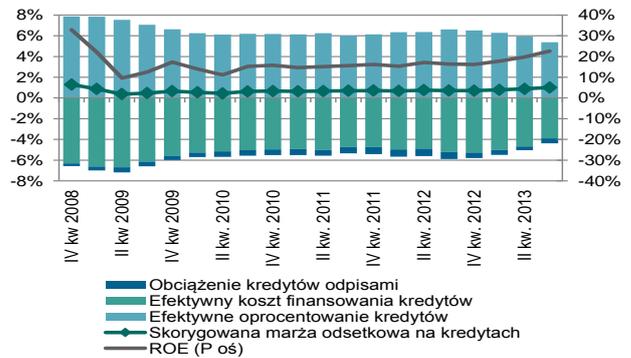
Note: Quality is defined as a percentage of non-performing mortgage loans being in arrears for more than 91 days in the total of mortgage loans in a particular period for a particular city. These values are not comparable with NPL figures from Figure 33.  
Source: NBP based on BIK data.

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



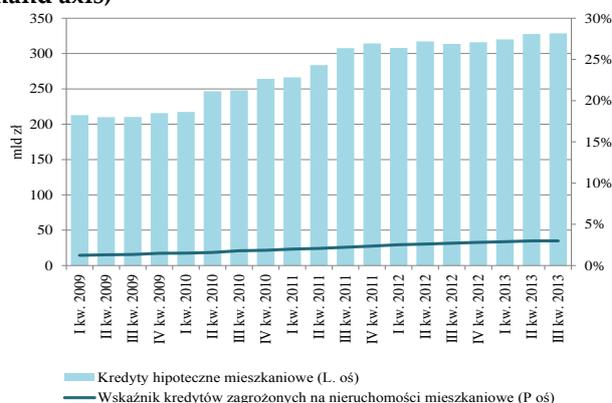
Note: Bank margin is the difference between housing loan rate (NBP data) and the LIBORCHF3M rate, the EURIBOR3M rate or WIBOR3M rate.  
Source: NBP.

**Figure 32 Estimated banks' yield on zloty denominated 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)**

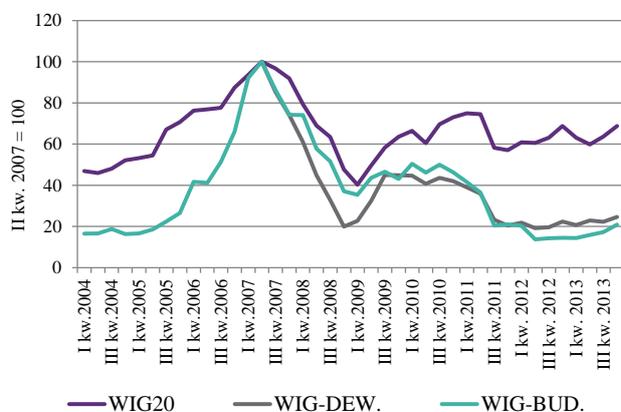


Notes to Figure 33: Receivables (loans) with determined loss of value – receivables in the case of which there are objective premises for a loss of value and fall in the expected value of future cash flow (at banks using International Financial Accounting Standards, IFAS) or which have been classified 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

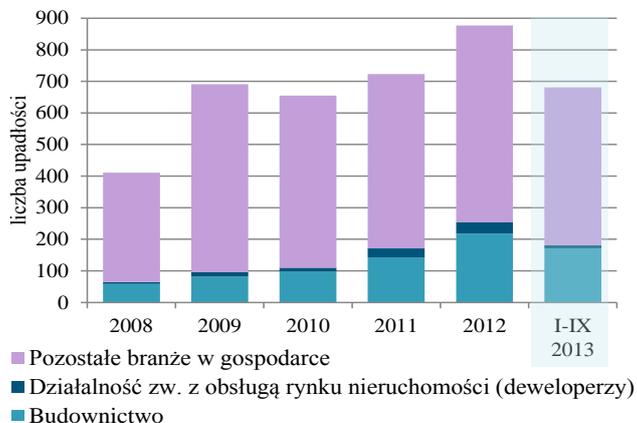
**Figure 34 Growth in stock exchange indices: WIG20 and for real estate developers and construction companies**



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

Source: Warsaw Stock Exchange

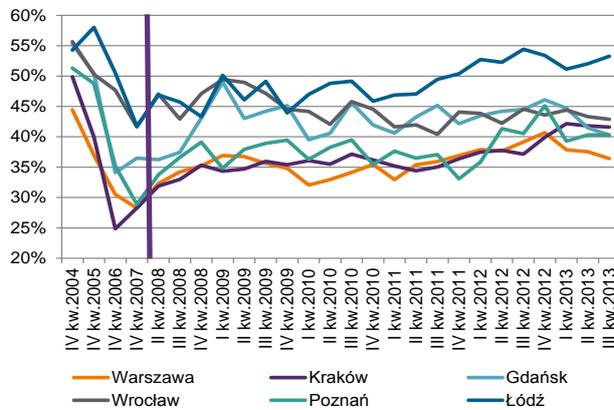
**Figure 35 Number of bankruptcies in the sectors**



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

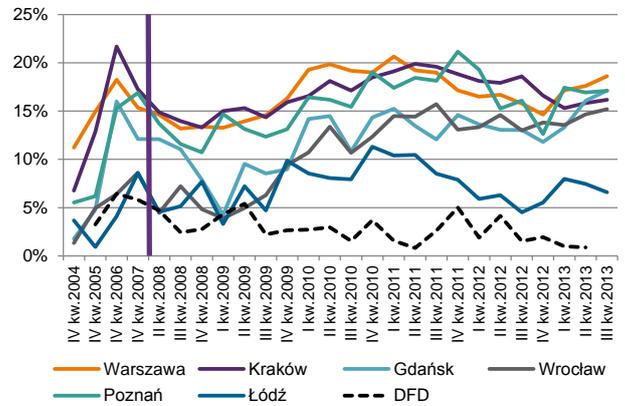
Source: Coface Poland.

**Figure 36 Share of direct construction costs per square meter of the residential building's usable area (type 1121<sup>21</sup>) in the transaction price**



Source: NBP based on Sekocenbud.

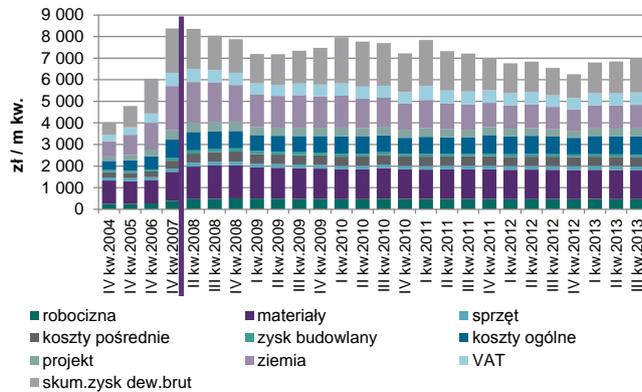
**Figure 37 Rate of return on equity in investment projects in 6 cities and the actual rate of return of real estate developers**



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).

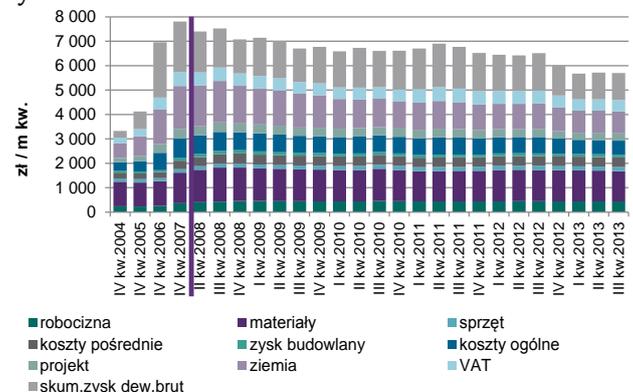
**Figure 38 Warsaw – structure of price per one square meter of housing usable area (type 1121<sup>19</sup>) to be paid by consumers**



Note: data in figures 38-43 since 2008 Q2 in quarter-on-quarter terms, previously annual data.

Source: NBP based on Sekocenbud, REAS.

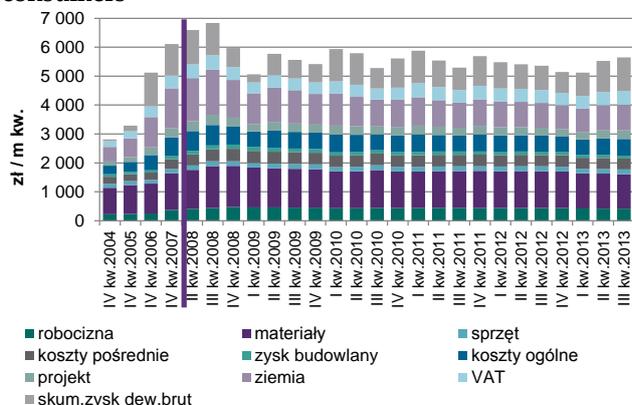
**Figure 3 Cracow - structure of price per one square meter of housing usable area (type 1121<sup>20</sup>) to be paid by consumers**



Source: NBP based on Sekocenbud, REAS.

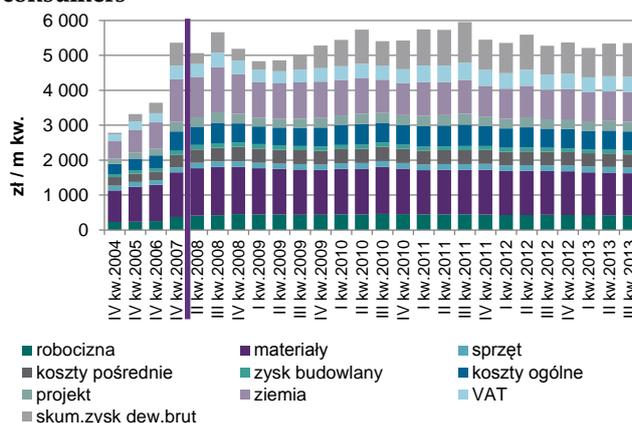
**21** Building (type 1121) monitored by NBP since the second half of 2004 as an average residential multi-family five-storey building with an underground parking space and retail premises on the ground-floor; traditional construction (overground part made from ceramic bricks). For the sake of convenience, 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 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>20</sup>) to be paid by consumers**



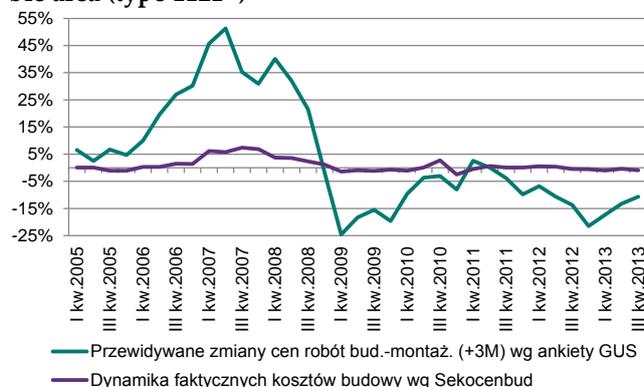
Source: NBP based on Sekocenbud, REAS.

**Figure 42 Wrocław – structure of price per one square meter of housing usable area (type 1121<sup>20</sup>) to be paid by consumers**



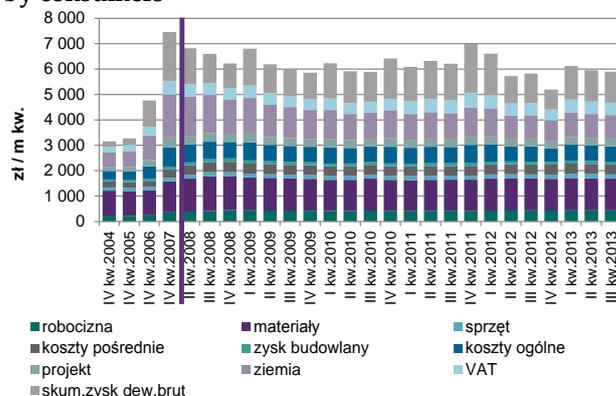
Source: NBP based on Sekocenbud, REAS.

**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>20</sup>)**



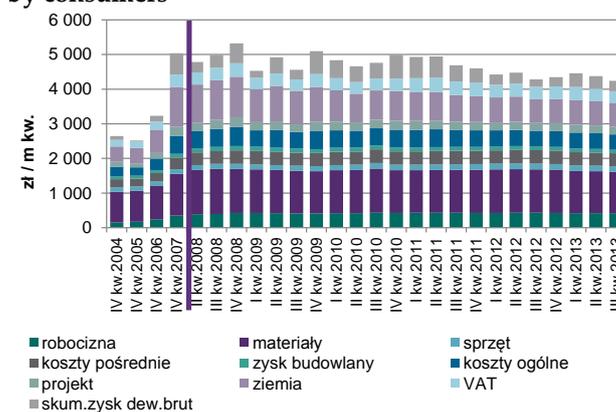
Source: NBP based on GUS data (business conditions survey), Sekocenbud.

**Figure 41 Poznań – structure of price per one square meter of housing usable area (type 1121<sup>20</sup>) to be paid by consumers**



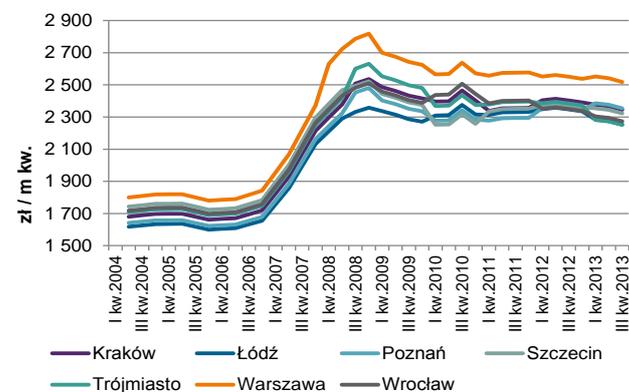
Source: NBP based on Sekocenbud, REAS.

**Figure 43 Łódź – structure of price per one square meter of housing usable area (type 1121<sup>20</sup>) to be paid by consumers**



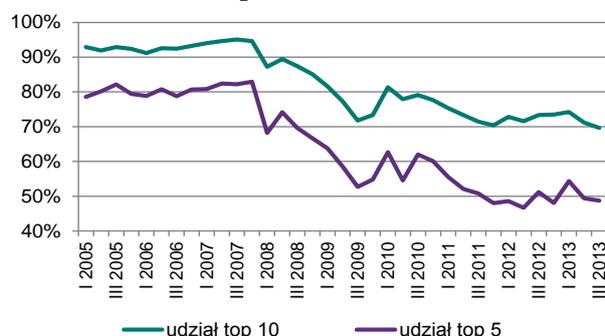
Source: NBP based on Sekocenbud, REAS.

**Figure 45 Cost of construction of one square meter of the residential building's usable area (type 1121<sup>20</sup>)**



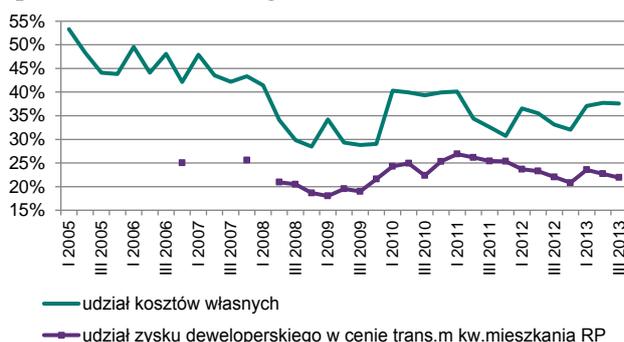
Source: NBP based on Sekocenbud, REAS.

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



Source: NBP.

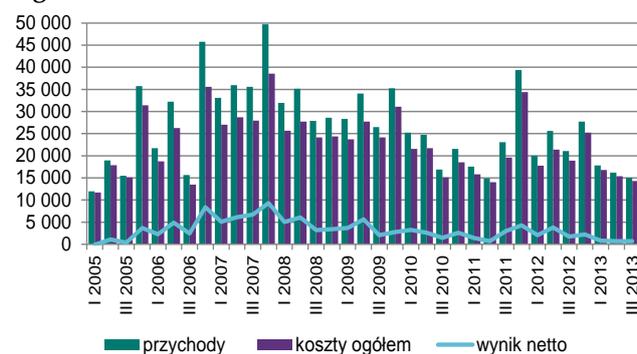
**Figure 48 Share of own costs in the costs incurred by a large real estate development company (LD) and the share of real estate developer's return in the price per square meter of housing in PM**



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

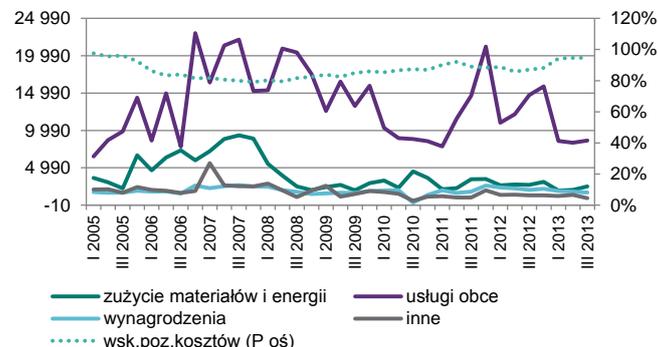
Source: NBP based on GUS (F01) and Sekocenbud.

**Figure 50 Economic indicators of LDs**



Source: NBP based on GUS (F01).

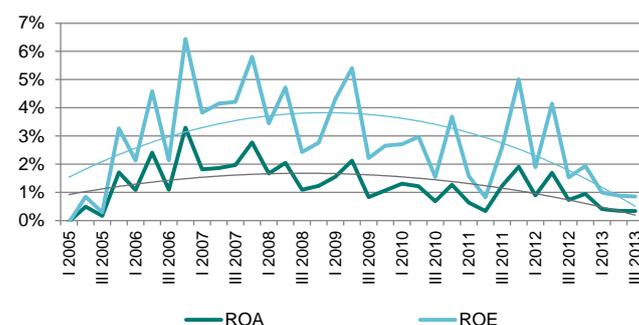
**Figure 47 Costs incurred by a standard large real estate development company (LD)**



Note: according to the GUS, a large company employs an average of more 50 persons; related to Figures 47-54.

Source: NBP based on GUS (F01).

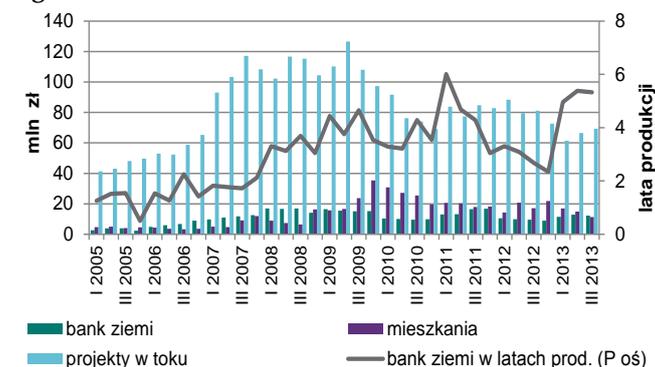
**Figure 49 ROE and ROA of large real estate developers**



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

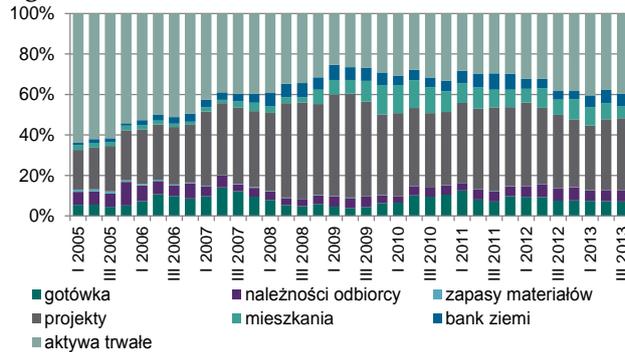
Source: NBP based on GUS (F01).

**Figure 51 Situation of LDs**



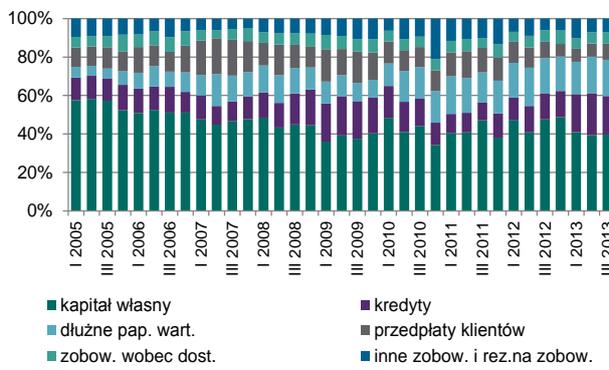
Source: NBP based on GUS (F01).

Figure 52 Structure of LD assets



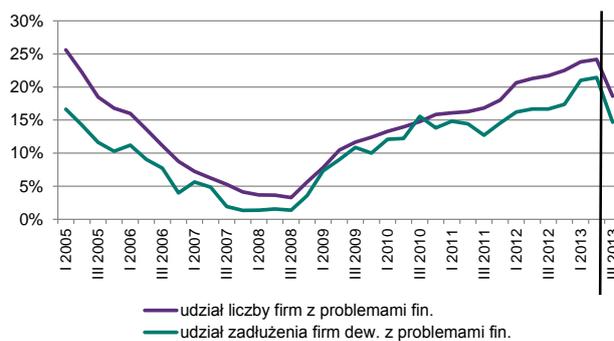
Source: NBP based on GUS (F01).

Figure 4 Structure of LD financing



Source: NBP based on GUS (F01).

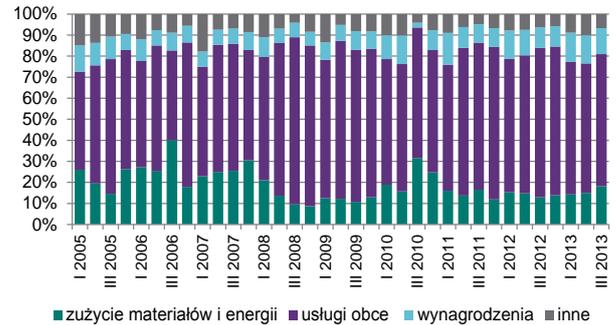
Figure 56 Real estate development companies facing financial problems



Note: companies whose liabilities have been classified by banks as non-performing (this refers to large-scale exposure, exceeding the value of PLN 500 thousand); starting from 2013 Q3, apart from slight decline in the exposure of indebted companies, the data may differ from the previous ones due to changes in large exposure reporting.

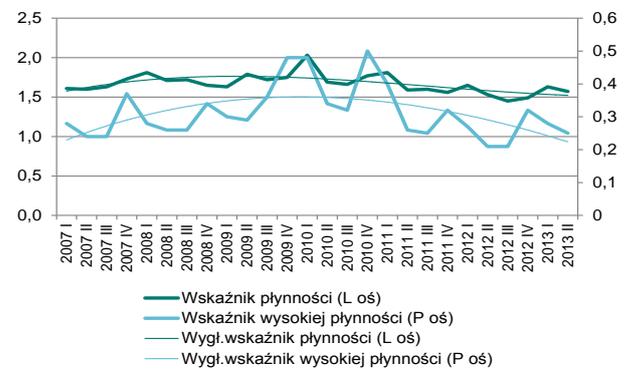
Source: B300; only large loans exceeding PLN 500

Figure 53 Structure of LD costs



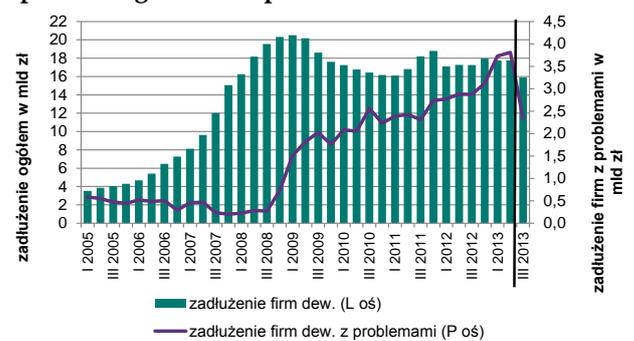
Source: NBP based on GUS (F01).

Figure 55 Liquidity of real estate development companies



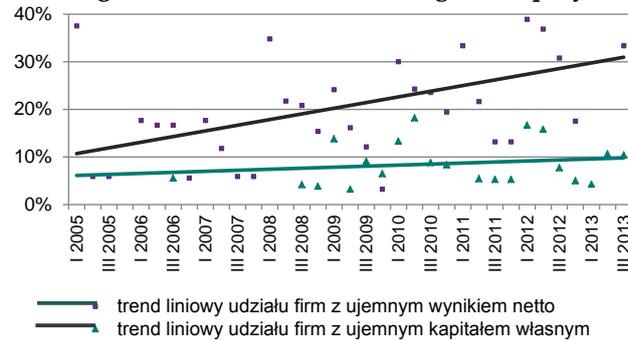
Source: NBP based on GUS (F01).

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



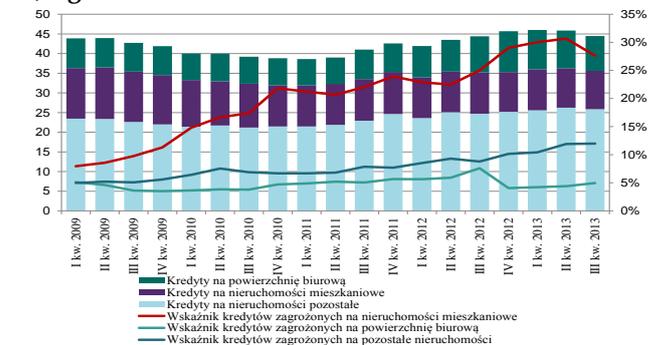
Source: B300; only large loans exceeding PLN 500

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



Source: B300; only large loans exceeding PLN 500

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

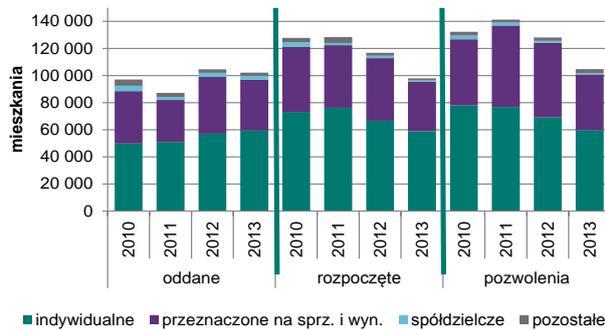


Note: data exclusive of BGK.

Source: NBP.

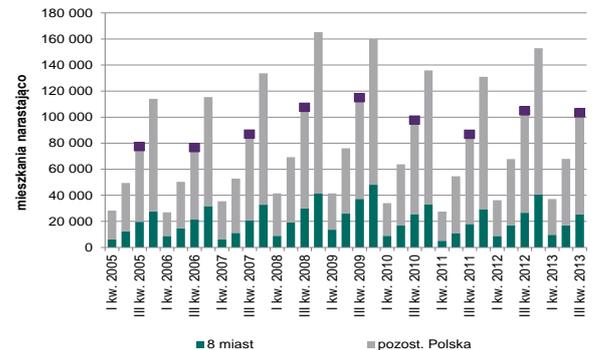
## 5. Residential construction and housing market in Poland in selected cities

**Figure 60 Poland – structure of residential construction investors in H1 in 2011–2013**



Source: GUS.

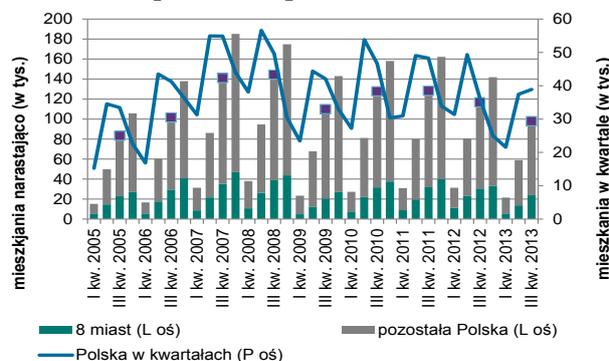
**Figure 61 Poland – completed housing, in growing order**



Note to figures 61-63: in violet colour only second quarters have been marked;

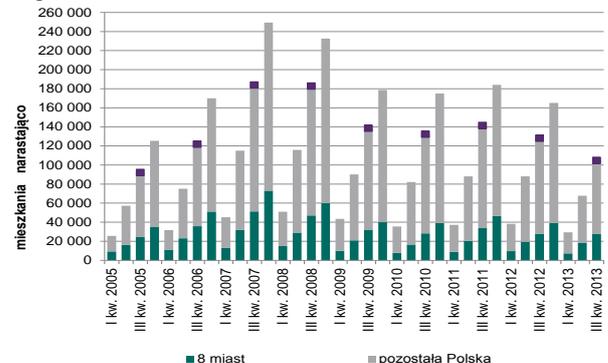
Source: GUS.

**Figure 62 Poland – completed housing, in growing order and in quarter-on-quarter terms**



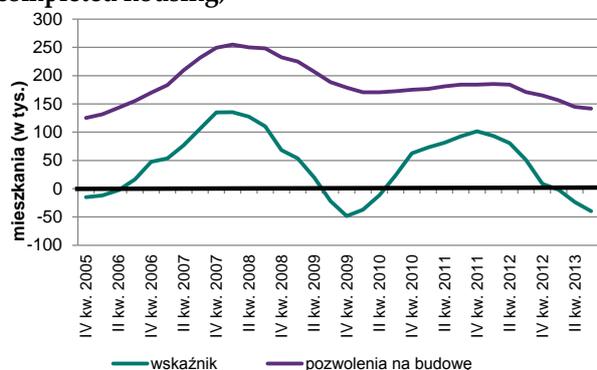
Source: GUS.

**Figure 63 Poland – issued building permits, in growing order**



Source: GUS.

**Figure 64 Housing market indicator in Poland and Poland's 8 cities\* (housing under construction minus completed housing)**

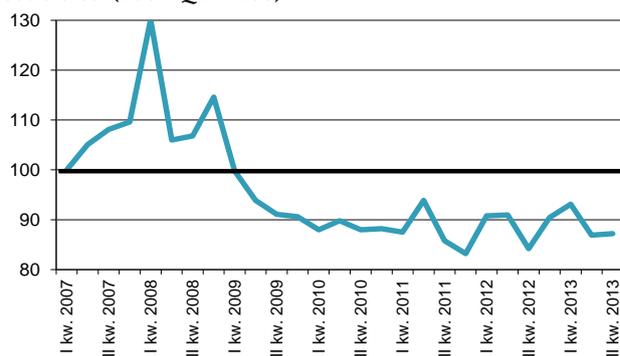


Note: The index is a 12-month rolling figure.

\*Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Warsaw, Wrocław.

Source: NBP based on PABB and GUS.

**Figure 66 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)**

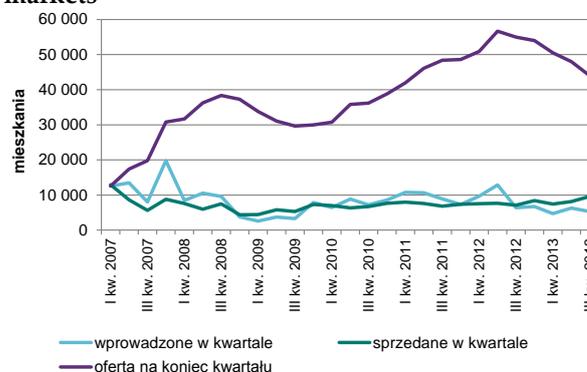


Note: this index reflects current expectations of real estate developers regarding the possibility to obtain a good price per 1 square meter of housing put on the market for the first time.

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

Source: REAS.

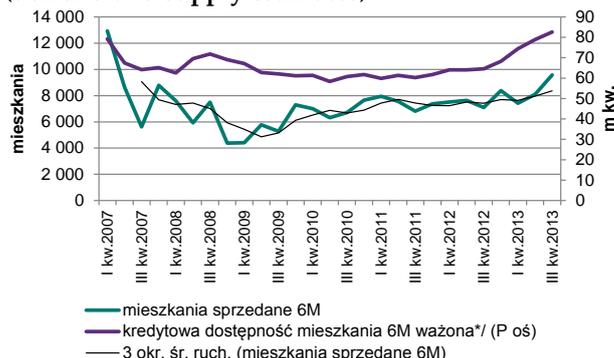
**Figure 65 Number of housing units put on the market, both sold and offered for sale in Poland's 6 largest markets\***



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

Source: REAS.

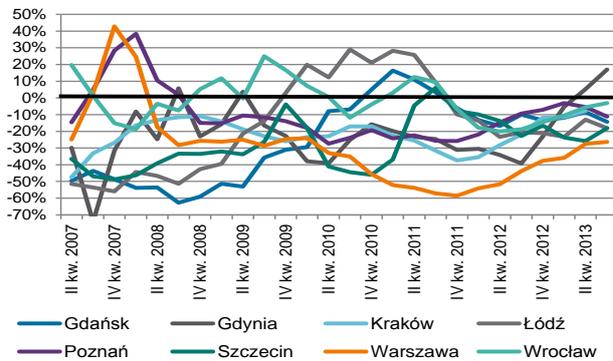
**Figure 67 Availability of loan-financed housing versus housing units sold in Poland's 7 largest cities\* (demand and supply estimates)**



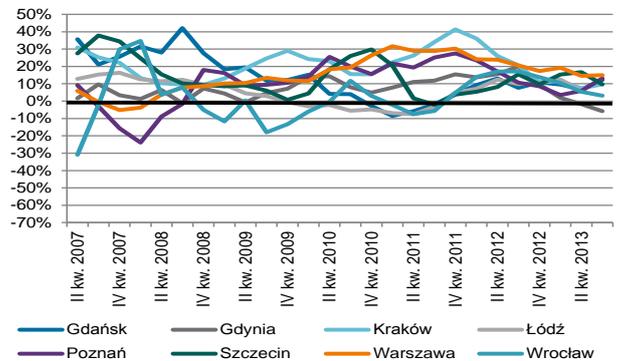
\*Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Warsaw, Wrocław. Availability of loan-financed housing weighted with the currency structure of the quarterly rise in mortgage loan.

Source: NBP based on REAS.

**Figure 68 Structure of supply and demand\* for housing with an area ≤ 50 square meters, PM in 8 selected cities in Poland**



**Figure 69 Structure of supply and demand\* for housing with an area >50 square meters, PM in 8 selected cities in Poland**



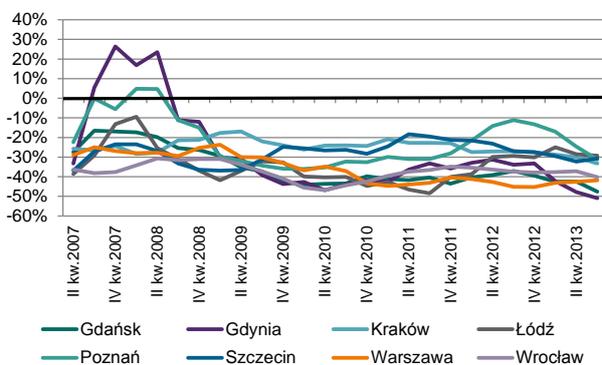
Note: Figure 68 presents a shorty-term mismatch (in %) between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the dwelling's size, according to the data from the BaRN database. The mismatch is calculated as the ratio of the share of housing units with usable 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 71 is parallel.

Source: NBP.

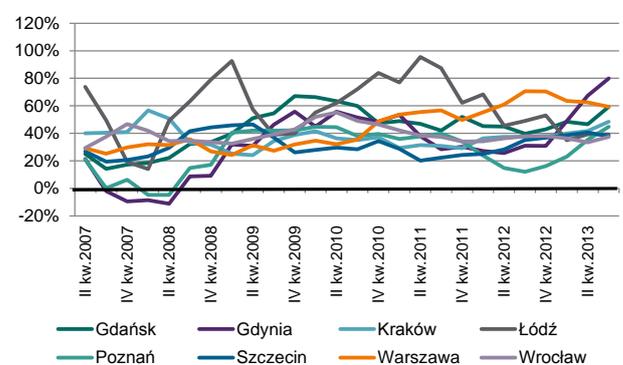
Source: NBP.

## 6. Estimates concerning the secondary housing market

**Figure 70 Structure of supply and demand\* for housing with an area ≤ 50 square meters, SM in 8 selected cities in Poland**



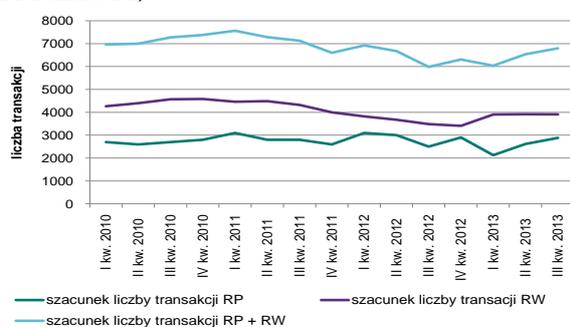
**Figure 69 Structure of supply and demand\* for housing with an area >50 square meters, SM in 8 selected cities in Poland**



Source: NBP.

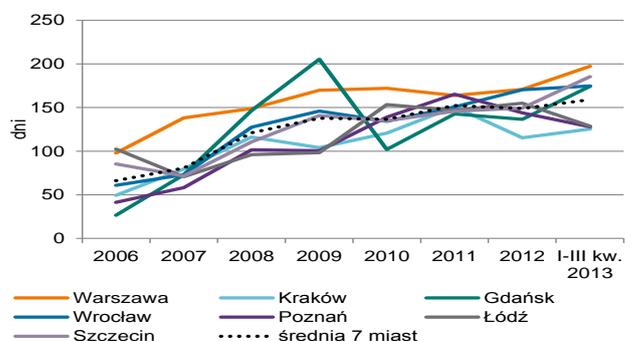
Source: NBP.

**Figure 5 Estimated number of transactions in Warsaw (PM and SM)**



Source: NBP.

**Figure 6 Average time of home sale in the SM**



Source: NBP.

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