

December 2014

---

# Information on home prices and the situation in the residential and commercial real estate market in Poland in 2014 Q3.

Jacek Łaszek  
Hanna Augustyniak  
Krzysztof Olszewski  
Joanna Waszczuk

## The analysis of the situation in the Polish real estate market in 2014 Q3 leads to the following conclusions:

- **The residential real estate sector remained balanced.** Although the index of pending home sales increased somewhat and the home sale time got longer, there was a slight rise in transaction prices in the primary markets. These developments may be driven by a natural mismatch of the housing offer with buyers' expectations and insufficient competition in the primary market, yet they should not be interpreted as signs of mounting structural imbalance. **At the same time, the commercial real estate market, especially the office and retail real estate market, continued to post a growing imbalance** between demand for space and space supply resulting from the implementation of new investment projects. This resulted in growing vacancy rates.
- **Transaction prices per square meter of housing in the primary markets of 16 largest cities posted a slight increase. At the same time, prices per square meter of housing in the secondary markets were stable.** In all the cities prices in the primary market exceeded those in the secondary market. Average transaction prices per square meter of housing in the secondary market, in real terms, (deflated with CPI) showed a slight increase both in the primary and the secondary market which was caused by a slight deflation of consumer prices in 2014 Q3. The secondary Warsaw market saw a minor rise in hedonic<sup>1</sup> prices, which means that prices of comparable housing showed a slight upward trend. In the previous years, the decline in hedonic prices in Warsaw was slower than that of transaction prices, which means that price decline was driven by sales of a large number of lower quality dwellings (e.g. housing in poorer location, in worse technical condition). Other markets recorded hedonic price stability. Rents have remained stable in all the cities.
- **The availability of credit and housing virtually did not change** which was the result of only minor increases in property prices, stable interest rates on housing loans, slight growth in nominal income, higher in real terms due to recorded deflation. The average availability of housing in major cities remained at the level of 0.82 square meter per average monthly wage in the corporate sector, and thus was by 0.33 square meter higher as compared to 2007 Q3.
- **Return on investment in rental housing now stands higher than the interest rate on bank deposits or yield on 10-year Treasury bonds and is close to the profit obtained from an investment in the commercial real estate market.** The housing loan servicing costs to rent ratio continues to allow to finance the cost of credit with income from rent. It should be noted, however, that these ratios may and will change over time. Moreover, investment in housing is also characterized by low liquidity and potentially long exit from investment, high transaction costs in the residential market as well as many other risks which may be considerably detrimental to the actual profit from such an investment.
- **Bank lending was stable.** Household debt resulting from mortgage loans continued to rise as a result of regular disbursements of PLN loans. The share of loans denominated in foreign curren-

---

<sup>1</sup> 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 sample from the base period (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 wyznaczenia hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr”, in Wiadomości Statystyczne no. 9.

cies steadily declines in the currency structure of banks' portfolios, which is advantageous in terms of financial and macroeconomic stability. This is the result of both the end of foreign currency lending and shorter loan maturity (early repayment and refinancing). The share of doubtful mortgage loans is less than 4%. The geographical structure of housing loans granted to households shows a long-term downward trend as regards the share of Warsaw.

- **Profitability of housing investment continues at a high level.** It is associated with the advantageous for real estate developers ratio of home prices to costs of building materials and construction works, being on the decline for several years. The estimated profitability of home construction projects undertaken by developers continues at a sound level which is confirmed by the launch and subsequent marketing of new investment projects. The number of bankruptcies in the real estate development industry is on the decline. Financial data of real estate developers usually show low profitability of their business, which is also reflected in the stock exchange quotations of the largest companies in the industry.
- **The number of new home construction contracts and homes under construction is on the rise.** This is the consequence of the previously launched housing projects. As a result of high profit margins and rates of return on residential projects there is a growing number of applications and issued building permits. Also the number of dwellings whose construction has already started is rising.
- **The stock of unsold housing increased again.** The supply of unsold housing is not absorbed by the market despite a higher demand and even when factoring in the effect of interest rate cuts. Consequently, the home sale time in the primary market began to get longer again.
- **We note a slight, cyclical decline in the number of completed dwellings.** This is due to the growth rate in the housing market and has merely a slight impact on current business processes in the real economy, as these dwellings were, for the most part, purchased 2-3 years ago<sup>2</sup>. Real estate developers continue to manage to correctly adjust the structure of housing demand, as opposed to the secondary market, where supply results from the structure of the housing stock.
- **Upper limits of prices per square meter of housing admitted to the government-subsidized housing scheme MDM – Mieszkanie dla Młodych [Housing for the Young] were raised in some large cities.** This limit was reduced in Gdańsk only. The new limits raised the annual rate of return on real estate projects sold under this scheme from 10% to 11% in Cracow, from 11% to 13% in Wrocław and 14% to 16% in Warsaw. On the other hand, in Gdańsk the annual rate of return fell from 17% to 15%.
- **The commercial real estate market has seen a further slow decline in the value of real estate,** which is reflected in falling valuations of shares in closed-end investment funds investing in commercial real estate in Poland. The Warsaw office real estate market posts **a gradual growth in the vacancy rate**, standing at nearly 14%. Despite such a high vacancy rate, **real estate developers continue to engage in office building construction.**

---

<sup>2</sup> The housing market in Poland has hitherto been the market for the sale of home construction contracts. The category "completed housing" used by the Central Statistical Office (GUS) is the statistical information about completion of construction reported by the investor to the district construction supervision authority, which has not objected - by a decision, or the use of which the contractor obtained a permission in the form of decision of a competent construction supervision authority.

### Box 1. Evaluation of the attributes of commercial real estate in Poland and construction of its price index based on the NBP (BaNK) database<sup>3</sup>

The box shows the preliminary results of the hedonic analysis of transaction prices, which was performed for the Polish commercial real estate market for the first time. The analysis of prices of office and retail space was carried out using the data collected under the BaNK survey conducted by Narodowy Bank Polski, supplemented with data from the Comparables.pl database. Attributes of buildings were supplemented with data from web pages of buildings' owners and administrators, and professional websites. The analysis of the office space sector covered the period from 1999 to mid-2014 (the 2014 data are preliminary only) and the analysis of the retail space sector the period from 2002. The office and the retail space sector are analyzed using two separate regressions, as by factoring in the differences in quality and price fluctuations in the analyzed period we see a steady upward trend in the prices of office space and a the long-term stability in the prices of retail space. The commercial real estate sector is highly diversified, and the number of transactions recorded each year is relatively small. The hedonic approach is therefore necessary to perform a thorough analysis of transaction prices of the commercial real estate and use the obtained results to assess the stability of the financial system<sup>4</sup>. As suggested by Fisher et al.<sup>5</sup>, in order to estimate the transaction price, attributes of a particular buildings, such as their location in the city and within the country, were included. Dummy variables capturing transactions in a given year (higher frequency of data is not possible due to an insufficient number of transactions in each quarter or a half-year period), allow to create a hedonic price index for these two sectors.<sup>6</sup>

The dependent variable is the logarithm of a price per square meter in euro  $\ln(p_i^t)$ , because the vast majority of transactions are conducted in that currency, and the use of logarithms enables to capture the price elasticity. The authors estimated the following model, consisting of a part capturing the buildings' attributes  $\beta_k z_{ik}^t$  and pure price changes in a given period  $\delta^t D_i^t$ . The model adjusts the transaction price of each property to account for its hedonic attributes and calculates for each year the increase in net prices, using dummy variables. The detailed breakdown of the model is presented in the table showing the results.

$$\ln(p_i^t) = \beta_0 + \sum_{\tau=1}^T \delta^{\tau} D_i^{\tau} + \sum_{k=1}^K \beta_k z_{ik}^t + p_i^t$$

The findings of the empirical analysis (see: Table R1) confirm that growth in prices per square meter of leasable office space differs significantly between Warsaw and other cities. Strong differences in price levels occur between offices in the Central Business District (CBD) of Warsaw and outside the CBD. The class of the building is of considerable importance for the valuation. There are marked differences in prices between A class buildings and B and C class buildings (the latter ones are considered together in the analysis). Another price factor is the age of the building or its modernization as older buildings get lower prices than newer ones. The price per square meter of leasable space also increases with the number of parking places. Probably, this number goes hand in hand with the building's general

<sup>3</sup> The analysis constitutes continuation of the market analysis, as presented in Box 2. "Valuation of attributes of commercial real estate as the starting point to estimate the market value based on the NBP database (BaNK)" in the Report on the situation in the residential and commercial real estate market in Poland in 2013", NBP

<sup>4</sup> See Olszewski, K. (2013). The Commercial Real Estate Market, Central Bank Monitoring and Macroprudential Policy. Review of Economic Analysis, 5(2), 213-250.

<sup>5</sup> Fisher, J., Geltner, D., & Pollakowski, H. (2007). A quarterly transactions-based index of institutional real estate investment performance and movements in supply and demand. The Journal of Real Estate Finance and Economics, 34(1), 5-33.

<sup>6</sup> The methodology is described in detail in the article by Olszewski and Leszczyński (2014) *A Commercial Property Price Index for Poland*. NBP mimeo.

technical condition and its architectonic form, which are very important price factors, yet not always easy to measure. Also the category of the building is of importance for its price.

The empirical analysis of the retail space sector confirms, as in the case of office space, price differences between Warsaw and other voivodship cities (agglomerations). Likewise, buildings located in a city's business centers get a much higher price than those on the outskirts. Older premises get significantly lower prices than the newest or recently modernized ones. In the case of retail space, the price per square meter decreases with a growing average size of shops located in a shopping centre and is positively correlated with the number of parking spaces in the building. The type of retail space is reflected in its price. Shopping centres get the highest prices.

To calculate the hypothetical price we used the constant from the regression model summed with the value of the dummy variable and then we exponent this value to obtain a nominal value in a given year. The year 2004 was used as a base year to calculate growth rates. The hedonic prices of commercial real estate take into account the changing share of Warsaw and other cities in respective years in the analysed sample.

The analysis of these two segments of the market indicates that office real estate showed a different growth in Warsaw and in other cities. Prices in the Warsaw market followed a steady upward trend while in other cities prices remained stable. It should be emphasized that despite the relatively stable prices, the office real estate market enjoyed a strong space boom, which led to significant vacancy rates.

Changes in the prices of retail property showed the same trend in the entire market in Poland. This segment of the market experienced a boom in the years 2004 – 2008 followed by a marked slowdown in the following two years, and a subsequent rebound in prices which reached a short-term peak in 2012. The research covering the period of the past two years points to price declines and price levels slightly higher than the ones recorded in the base year.

Tabela R1 The results of the estimation of factors affecting transaction prices per square meter of rental office and retail space in Poland. Dummy variables are shown with rd.

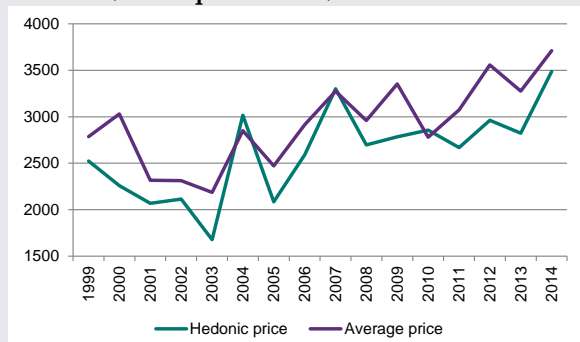
ln_price_p.sq.m_EUR	Office space			Retail space		
	indicator	Standard error	5significance	indicator	Standard error	5significance
Cities other than Warsaw	-,3172921	,089939	***	-,3150525	,0968297	***
A class offices	,1595498	,0548867	***	-	-	
Office building outside the CBD	-	,0572225	***			
Commercial real estate in the centre	-	-		,1984759	,0675651	***
Aged below 5 years	,2138898	,0482952	***	,2491349	,0735024	***
Ln leasable area	-	,0365891				
Ln average shop area	-	-		-0,308856	,031553	
Ln sum of parking lots	,0462278	,0248401	*	0,296668	,011394	***
Type shopping center	-	-		,0916646	,0717348	
rd1999 – Warsaw	-	,3064132		-	-	
rd2000 – Warsaw	-	,1825278		-	-	
rd2001 – Warsaw	-	,1666817	**	-	-	
rd2002 – Warsaw	-	,1344496	***	-	-	
rd2003 – Warsaw	-,585419	,1464297	***	-	-	
rd2005 – Warsaw	-	,091258	***	-	-	

rd2006 – Warsaw	-,152374	,1068863		-	-	
rd2007 – Warsaw	,0905876	,1033939		-	-	
rd2008 – Warsaw	-	,126727		-	-	
rd2009 – Warsaw	-	,1688775		-	-	
rd2010 – Warsaw	-	,0899643		-	-	
rd2011 – Warsaw	-,122218	,1046826		-	-	
rd2012 – Warsaw	-	,1084537		-	-	
rd2013 – Warsaw	-	,1205994		-	-	
rd2014 – Warsaw	,1452011	,1935992		-	-	
rd2002 – outside Warsaw	,2418318	,0651671	***	-	-	
rd2005 – outside Warsaw	-	,1330718		-	-	
rd2006 – outside Warsaw	-	,1129562	*	-	-	
rd2007 – outside Warsaw	-	,116478	*	-	-	
rd2008 – outside Warsaw	,2397631	,0859445	***	-	-	
rd2009 – outside Warsaw	-	,2462728		-	-	
rd2010 – outside Warsaw	,0627872	,0474518		-	-	
rd2011 – outside Warsaw	-	,1159669	***	-	-	
rd2012 – outside Warsaw	,1239187	,0839016		-	-	
rd2013 – outside Warsaw	,0126396	,2371602		-	-	
rd2014 – outside Warsaw	-	,0798056		-	-	
rd2002	-	-		,2865651	,3341109	
rd2003	-	-		-,0064781	,1385451	
rd2005	-	-		,0944681	,1704013	
rd2006	-	-		,3828735	,1340276	
rd2007	-	-		,5262377	,1365059	***
rd2008	-	-		,7891098	,133479	***
rd2009	-	-		,6709464	,1802419	***
rd2010	-	-		,3815177	,1658245	**
rd2011	-	-		,4156449	,1197159	***
rd2012	-	-		,6098364	,2247684	***
rd2013	-	-		,4431801	,1559835	***
rd2014	-	-		,3005705	,2044876	
constant	8,015076	,2894896		7,019554	,260027	

\*\*\*, \*\*, \* The statistical significance level: 1%, 5% or 10%.

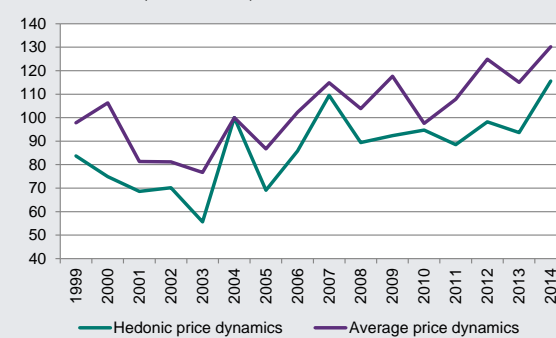
The regression was performed by the least squares method. The total of 257 transactions involving office space and 136 transactions involving retail were taken into account; the coefficient of determination for the regression was 48% and 37% respectively.

**Figure R1 Transaction prices of office space in Warsaw (EUR/square meter)**



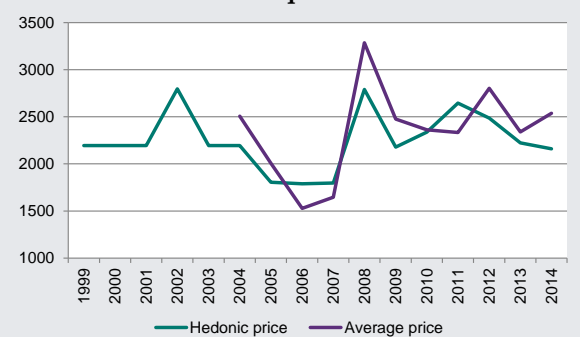
Source: NBP.

**Figure R2 Growth in the prices of office space in Warsaw (2004=100)**



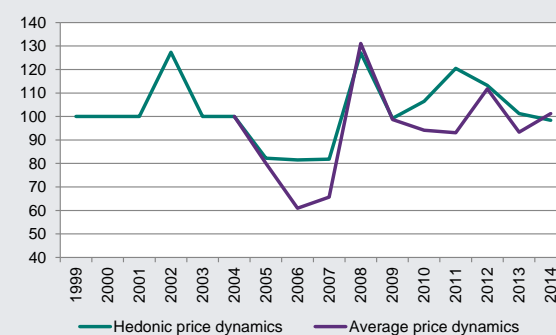
Source: NBP.

**Figure R3 Transaction prices of office space outside Warsaw (EUR/square meter)**



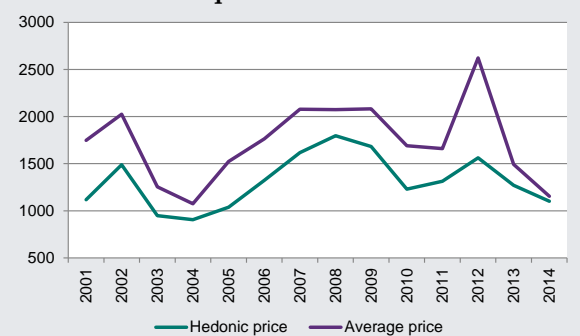
Source: NBP.

**Figure R4 Growth in the prices of office space outside Warsaw (2004=100)**



Source: NBP.

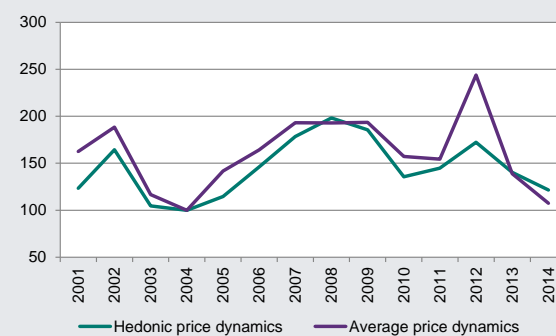
**Figure R5 Transaction prices of retail space in Poland (EUR/square meter)**



Note: weighed with the number of transactions in Warsaw and outside Warsaw.

Source: NBP.

**Figure R6 Growth in the prices of retail space in Poland (2004=100)**



Note: weighed with the number of transactions in Warsaw and outside Warsaw.

Source: NBP.

The figures below present the most important developments in the housing market in Poland's major cities in 2014 Q3.<sup>7</sup> Charts and figures present:

- 1) home prices (Figures 7–19),
- 2) housing availability, loan availability, availability of loan-financed housing, profitability of housing investment (Figures 20-25),
- 3) mortgage loan disbursements and interest rates (Figures 26–34),
- 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 35–50),
- 5) housing construction and the residential market in Poland (Figures 51–63).
- 6) housing policy in Poland (Figures 64-67).

The analysis of housing prices, offer prices, transaction prices and hedonic prices in the primary and secondary markets relies on the data from the housing market survey of the Real Estate Market Database (BaRN)<sup>8</sup>. As part of the 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 analyzed.

Also data from PONT Info Nieruchomości (PONT), AMRON, SARFIN Polish Banks' Association and Comparables.pl were used in the analyses. 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.

---

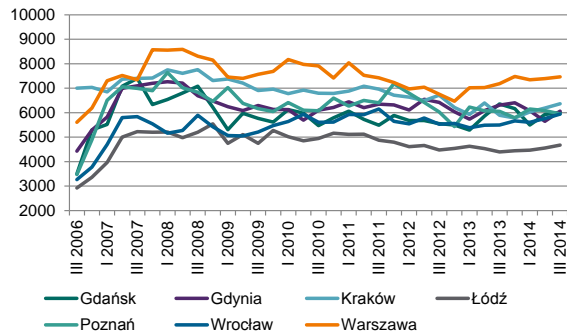
<sup>7</sup> The information was prepared by the Financial Stability Department for the needs of the authorities of NBP and it presents the authors' opinions. This document should not be read as an advisory material, nor should it be the basis for any investment decisions.

<sup>8</sup> See Programme for Surveys in Public Statistics for 2014. Annex to the Decree of the Council of Ministers of 9 August 2013 on the Programme for Surveys in Public Statistics for 2014 (Journal of Laws of 2013, item 1159), symbol 1.26.09 (078). The survey of residential and commercial real estate prices in Poland's selected cities is conducted by the President of Narodowy Bank Polski. The reporting forms were announced in the Decree of the Prime Minister of 5 February 2014 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.

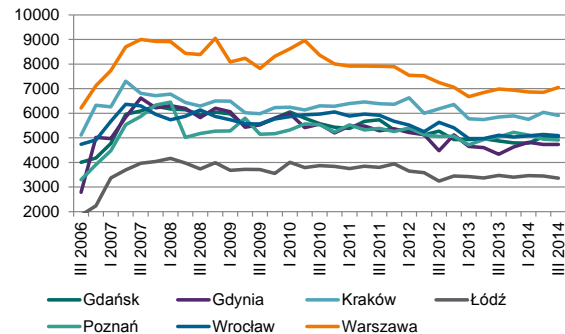


### 1. Transaction, hedonic and offer prices of housing in the primary market (PM) and in the secondary market (SM)

**Figure 7 Transaction prices per square meter of housing – PM (PLN/sq. m)**



**Figure 8 Transaction prices per square meter of housing – SM (PLN/sq. m)**

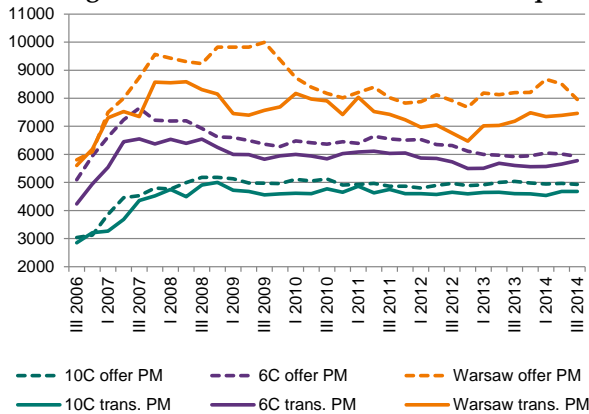


Note: the home price database of NBP (BaRN) has existed since 2006 Q3; description of the database may be found in the 2013 Annual Report;

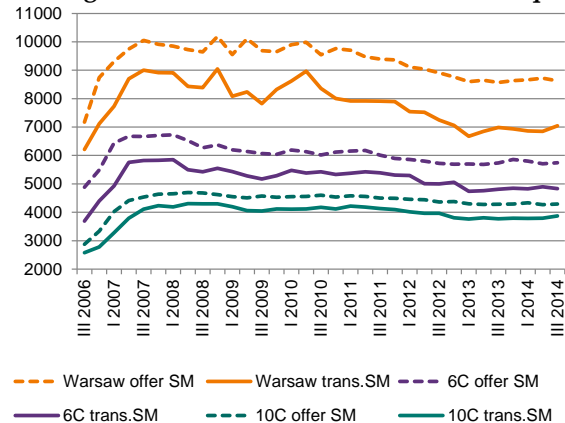
Source: NBP.

Source: NBP.

**Figure 9 Weighted average price per square meter of housing, offers and transactions – PM (PLN/sq. m)**



**Figure 10 Weighted average price per square meter of housing, offers and transactions – SM (PLN/sq. m)**

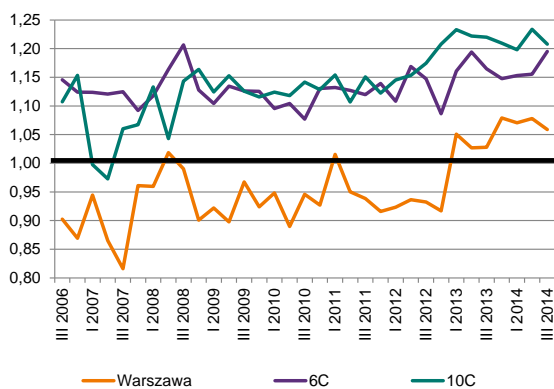


Note to Figures 3–13: the price weighted with the share of housing in the market stock, the average price for Warsaw. 6 cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław; 10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra.

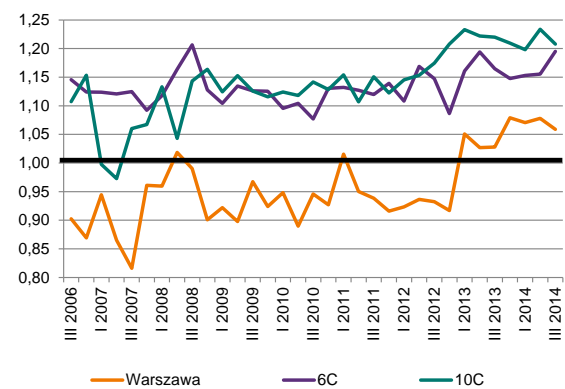
Source: NBP.

Source: NBP.

**Figure 11 Ratio of the average weighted transaction price per square meter of housing – PM to SM**



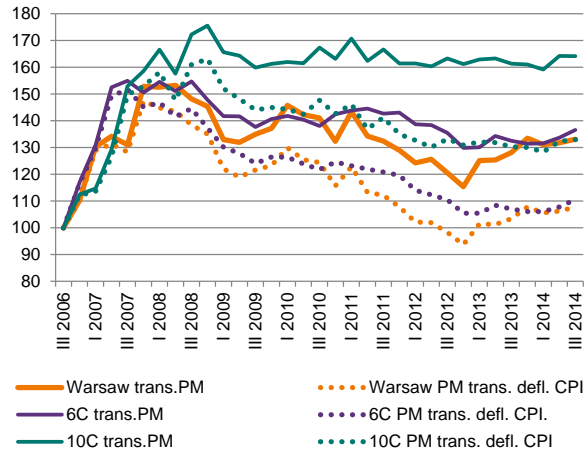
**Figure 12 Ratio of the average weighted transaction price to offer price per square meter of housing – SM**



Source: NBP.

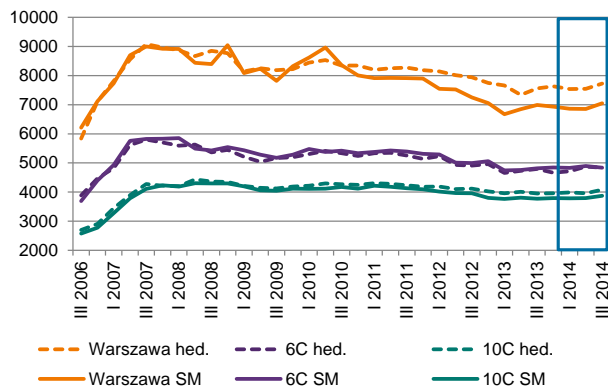
Source: NBP.

**Figure 13** Weighted average and real price per square meter of housing in the primary market to CPI-deflated price (2006 Q3 = 100)



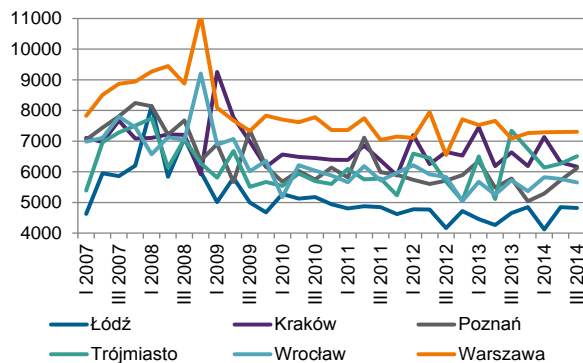
Source: NBP, AMRON, GUS.

**Figure 15** Weighted average price per square meter of housing adjusted by the hedonic price index – SM, transactions (PLN/sq. m)



Source: NBP.

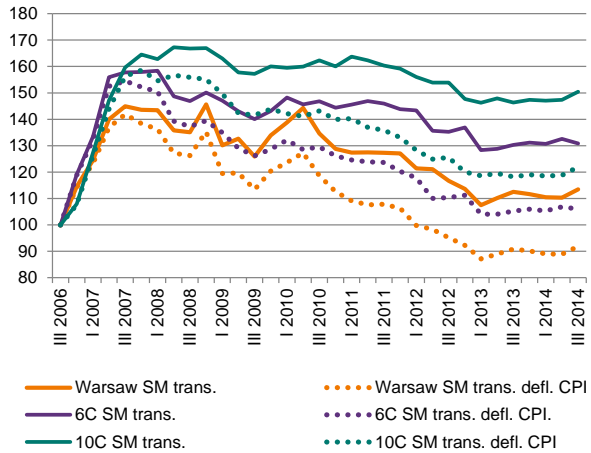
**Figure 17** Average offer prices per square meter, new launched housing contracts – PM, selected markets (PLN/sq. m)



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

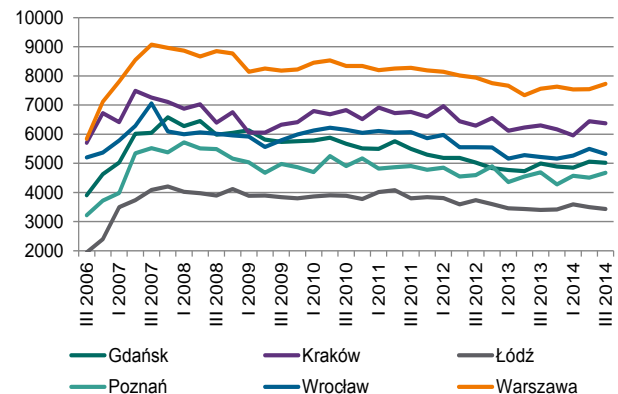
Source: Real Estate Advisory System (REAS).

**Figure 14** Weighted average and real price per square meter of housing in the secondary market to CPI-deflated price (2006 Q3 = 100)



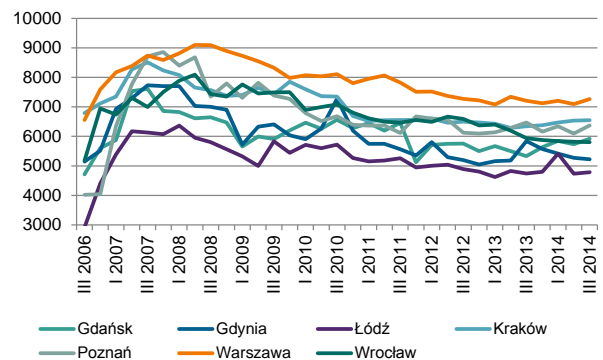
Source: NBP, AMRON, GUS.

**Figure 16** Transaction price per square meter of housing in SM, adjusted by the hedonic price index, in the largest cities (PLN/sq. m)



Source: NBP.

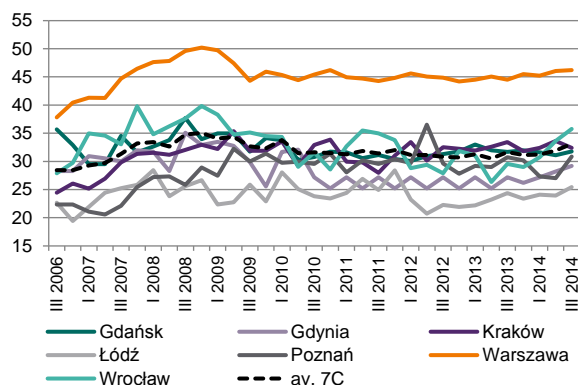
**Figure 18** Average offer prices per square meter, new housing contracts – PM in 7 cities (PLN/sq. m)



Note: prices are collected from all available sources.

Source: PONT Info Nieruchomości.

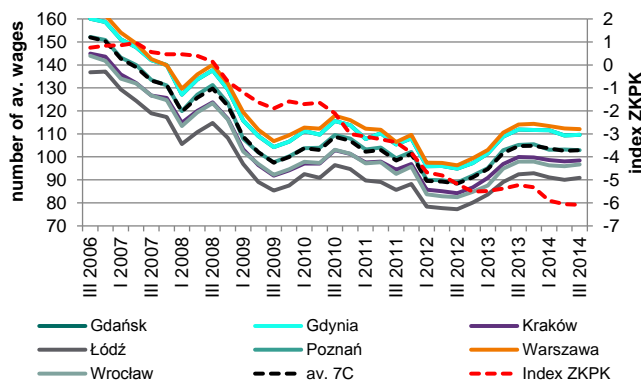
**Figure 19 Average rent rates (offers and transactions) per square meter of housing in 7 cities (PLN/sq. m)**



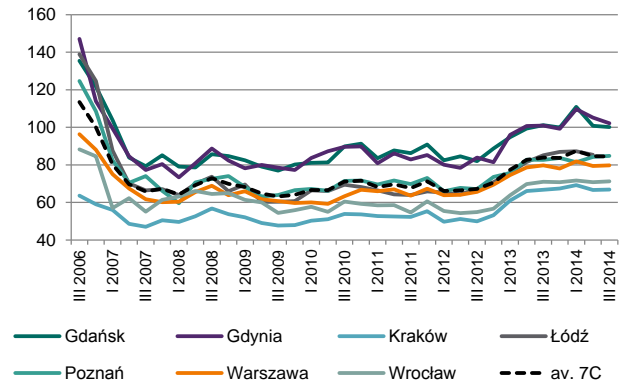
Source: NBP.

**2. Housing availability, loan availability, availability of loan-financed housing, profitability of housing investment**

**Figure 20 Available weighted\* mortgage loans and accumulated index of banks' housing loan policy (ZKPK)**



**Figure 21 Availability of loan-financed housing per one square meter (weighted loans\*); (square meter/ average wage)**



Note: weighting with the currency structure of the quarterly housing loan increase; since the beginning of 2012, practically only zloty mortgage loans have been granted.

**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).

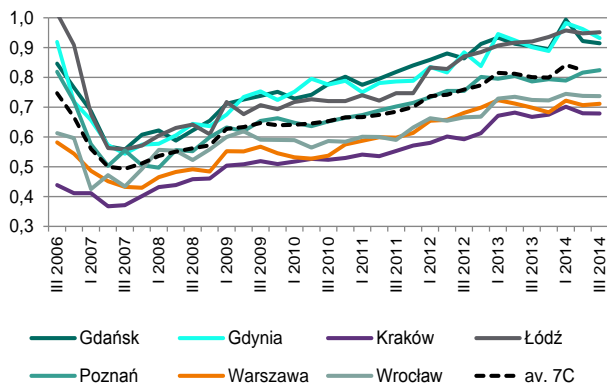
**Availability of loan-financed housing**– a measure specifying how many square meters of housing may be purchased with a mortgage loan obtained basing on an average monthly wage in the enterprises sector in a particular market (GUS), in view of bank's lending requirements and loan parameters (interest rate, depreciation period, social minimum understood as the minimum income after payment of loan instalments) at an average transaction price of housing (40% in the primary market and 60% in the secondary market) in a particular market (BaRN). The pace of changes of the index and differences between particular markets provide important information.

**ZKPK 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 of the index are described in the *Situation in the credit market, senior loan officer opinion survey, 2014 Q4*.

Source: NBP, GUS.

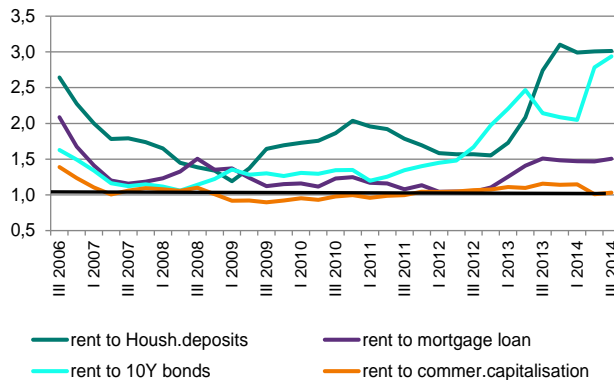
Source: NBP, GUS.

**Figure 22 Housing availability in terms of one square meter of housing for an average wage in the enterprise sector**



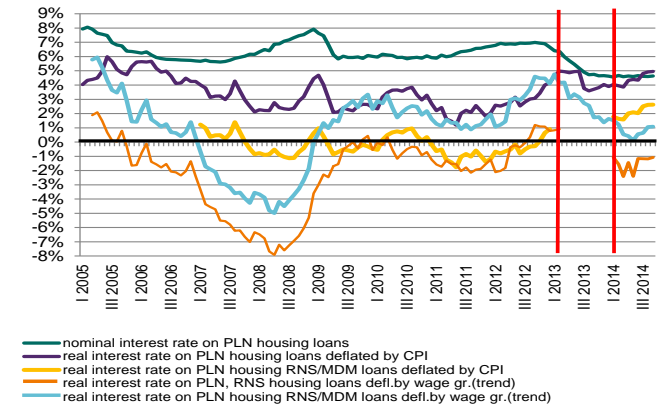
**Housing availability** – a measure of potential availability to purchase housing space at the transaction price for an average wage in a particular city. It expresses the number of square meters of housing that can be purchased for an average wage in the enterprise sector in a particular city (GUS), at an average transaction price in a particular market (40% in the PM and 60% in the SM) (NBP).  
 Source: NBP, GUS.

**Figure 24 Profitability of home rental (average in 8 cities) as compared with bank deposits and loans, 10-year Treasury bonds and rate of capitalization of commercial property (offices and retail space)**



Note: values exceeding 1 denote higher profitability of purchasing property for rental than other capital investment. This analysis does not take into account high transaction costs in the housing market and potentially long payback periods.  
 Source: NBP, GUS.

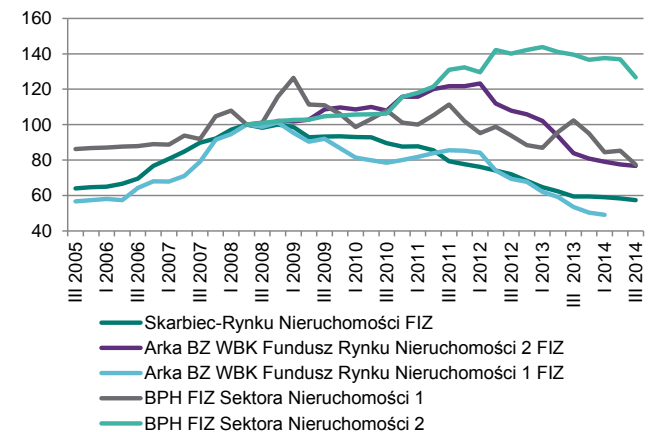
**Figure 23 Costs of PLN housing loans for consumer as deflated with CPI or wage growth in the enterprise sector**



Note: values below 0 denote negative real interest rate for the borrower; the red line separates the period of the absence of the government subsidized housing scheme (RNS till Dec. 2012, MDM since Jan.2014).

Source: NBP, GUS, BGK.

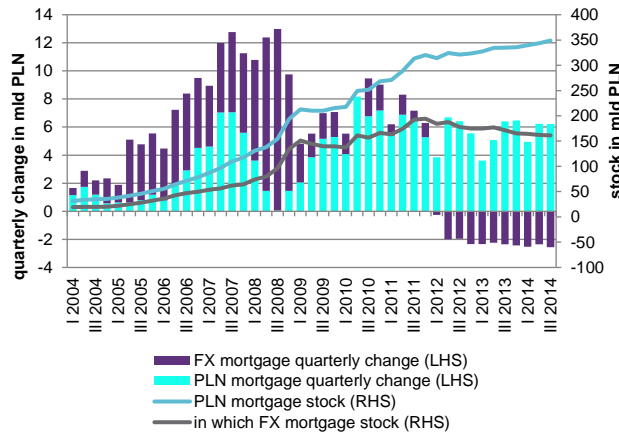
**Figure 25 Performance indicators of closed-end real estate investment funds operating on the commercial real estate market (Q2 2008 = 100)**



Note: in the case of investment funds Arka BZ WBK and Skarbiec the valuation is for the end of January, April, July and October, whereas it is presented as the quarterly valuation.  
 Source: internet pages of closed-end investment funds.

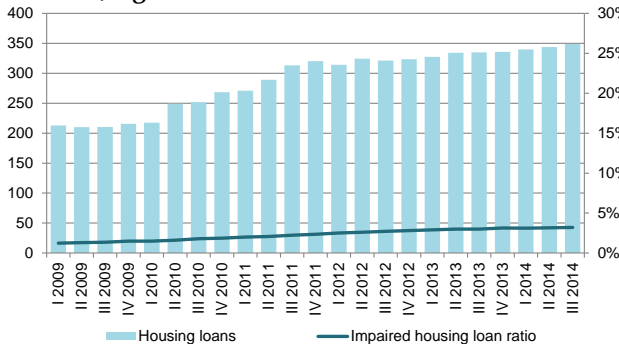
### 3. Disbursement of housing loans, interest rates

**Figure 26 Balance and quarter-on-quarter changes in housing loan receivables from households after adjustments and the currency structure of quarter-on-quarter increases in housing loan receivables (in PLN billion)**



Source: NBP.

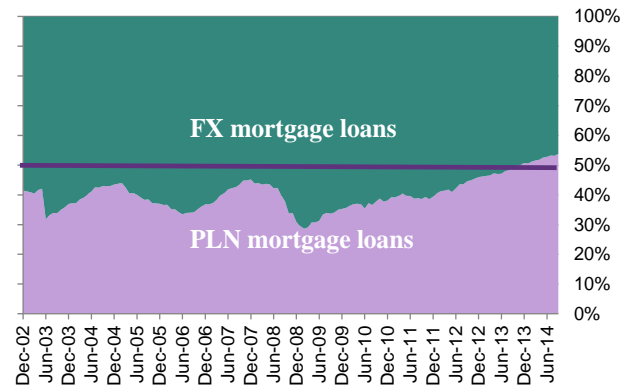
**Figure 28 Housing loans to households (in PLN billion, left-hand axis) and the indicator of doubtful loans (% , right-hand axis)**



Note: receivables (loans) with determined loss of value – receivables from portfolio B, in relation to which objective premises of loss in value were observed and a decrease in the expected value of future cash flows (in banks using the IFRS) or which were deemed as doubtful receivables in accordance with the Ordinance of the Minister of Finance on establishing provisions against the risk associated with banking activities (in banks using the Polish Accounting Standards)

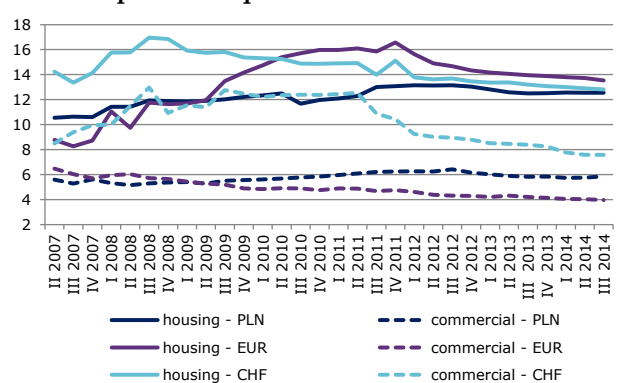
Source: NBP.

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

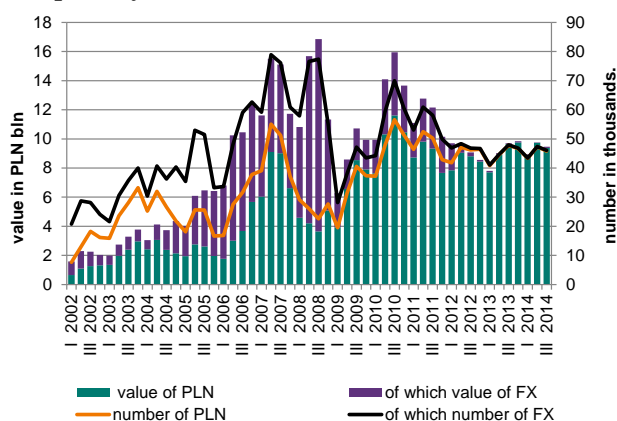
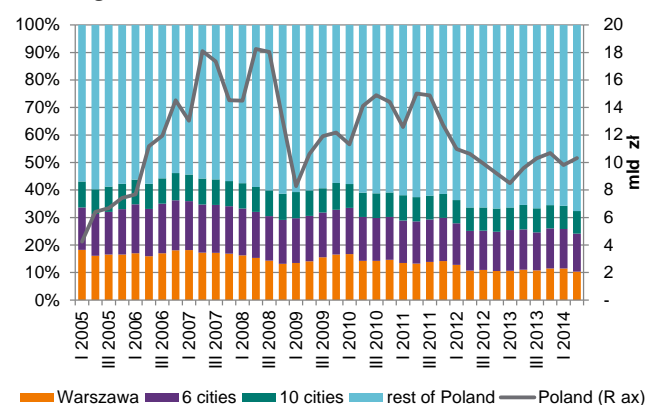


Source: NBP.

**Figure 29 Average maturity of residential and commercial real estate loans weighted by the total value of loans in a particular quarter**



Source: NBP.

**Figure 30 New housing loan contracts: quarterly value and quantity**

**Figure 31 Geographical structure of value of new housing loan contracts in Poland**


Note: the data inform about signed housing loan contracts and not the actual disbursement of housing loans.

Source: ZBP.

Source: BIK.

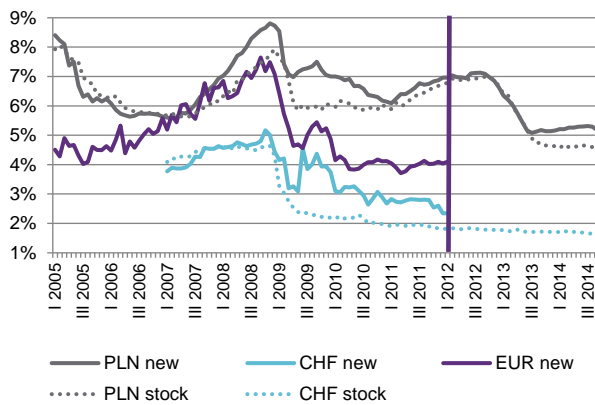
**Table 2 Estimated gross mortgage loan disbursements to households in Poland and estimated value of cash and loan-financed purchase transactions involving real estate developer housing in 7 largest markets (in PLN million)**

Date	Estimated value of disbursed housing loans in Poland	Estimated value of housing transactions in the PM in 7 cities	Estimated amount of disbursed loans with client's down-payment for home purchases in the PM in 7 cities	Estimated value of cash home purchases in the PM in 7 cities	Estimated share of cash home purchases in the PM in 7 cities
2012 Q1	5 354	2 726	917	1 809	0,66
2012 Q2	8 227	2 783	1 409	1 375	0,49
2012 Q3	8 032	2 510	1 375	1 134	0,45
2012 Q4	7 290	2 839	1 248	1 591	0,56
2013 Q1	5 566	2 610	991	1 618	0,62
2013 Q2	7 237	2 899	1 314	1 585	0,55
2013 Q3	8 703	3 438	1 609	1 828	0,53
2013 Q4	8 895	3 947	1 736	2 210	0,56
2014 Q1	7 466	3 971	1 457	2 514	0,63
2014 Q2	8 805	3 779	1 719	2 060	0,55
2014 Q3	8 887	3 848	1 735	2 114	0,55

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, including credit unions SKOK. In order to calculate the estimated value of the primary market in 7 cities (Gdańsk, Gdynia, Cracow, Łódź, Poznań, Warsaw, Wrocław), 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). On the basis of BIK data it was assumed that the value of newly granted loans for the purchase of housing in the primary markets of 7 cities accounted for 50% of the value of housing loans in those cities, whereas at the end of 2013 this share amounted to approx. 57%. The estimated value of cash transactions was calculated as the differences between transactions in 7 markets and disbursements of loans with down-payment. 7 cities: Gdańsk, Gdynia, Cracow, Łódź, Poznań, Warsaw, Wrocław.

Source: NBP.

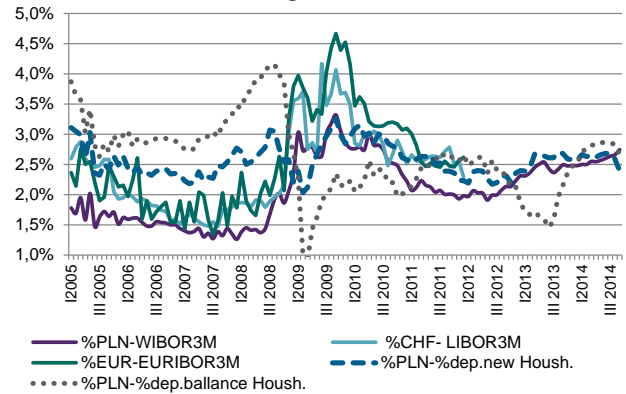
**Figure 32 Interest rates on housing loans for households in Poland**



Note: foreign currency loans practically ceased to be granted in 2012.

Source: NBP.

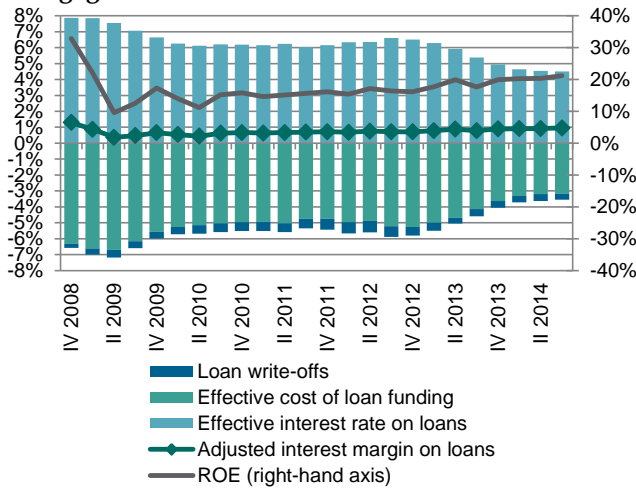
**Figure 33 Bank margins (to WIBOR, LIBOR, EURIBOR 3M) on new housing loans**



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

Source: NBP.

**Figure 34 Estimated bank yield on zloty denominated mortgage loans in Poland**

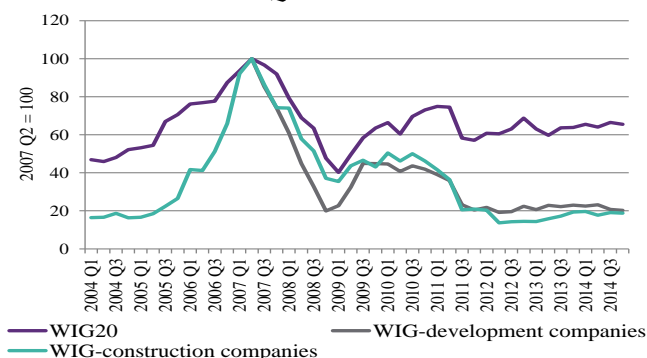


Note: Income and costs related to the mortgage loan portfolio. Estimated ROE (Return on Equity) is calculated as the adjusted interest margin on mortgage loans with respect to the minimum required down-payment. The minimum down-payment requirement is assessed on the basis of LTV estimate derived from 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, ZBP.

#### 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

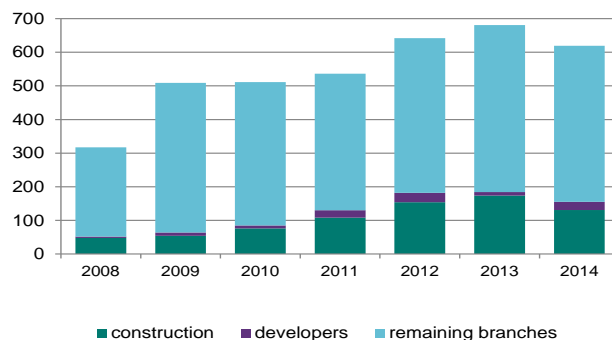
**Figure 35 Stock exchange indices: WIG20 and for real estate developers (WIG-DEW) and construction companies (WIG-BUD) (2007 Q2 =100)**



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

Source: Warsaw Stock Exchange.

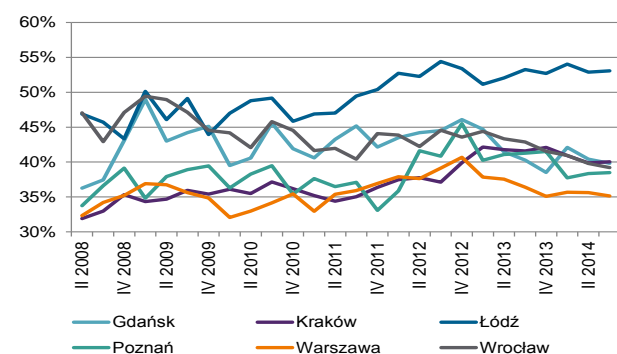
**Figure 36 Number of bankruptcies in the sectors (as at the end of September)**



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

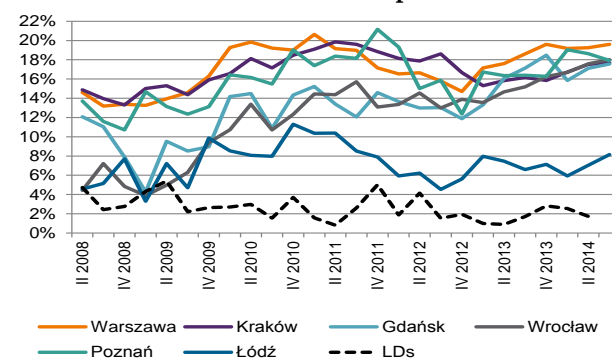
Source: Coface Poland.

**Figure 37 Share of direct construction costs per square meter of the residential building's usable area (type 1121<sup>9</sup>) in the transaction price in the primary market**



Source: NBP based on Sekocenbud.

**Figure 38 Rate of return on equity from investment projects (type1121<sup>9</sup>) in the largest cities and the actual rate of return of real estate developers (LDs)**

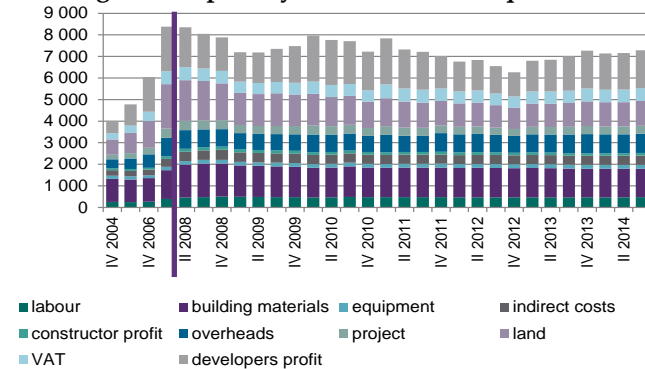


Note: The rate of return on equity from typical new investment projects assuming the currently applicable interest rates, banks' requirements and production costs; calculated on the basis of the diagram included in Annex 3 of the "Report on the situation of the Polish market of residential and commercial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

<sup>9</sup> 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".

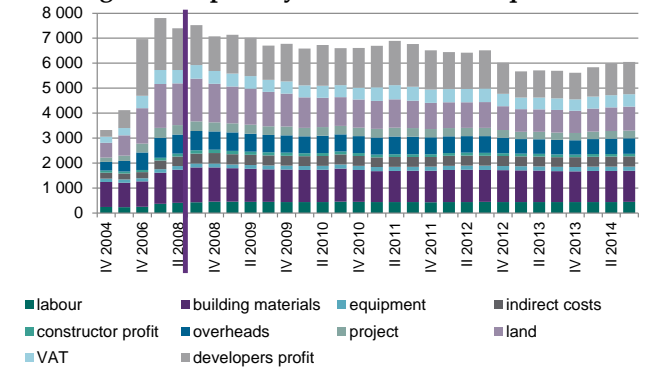


**Figure 39 Warszawa – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



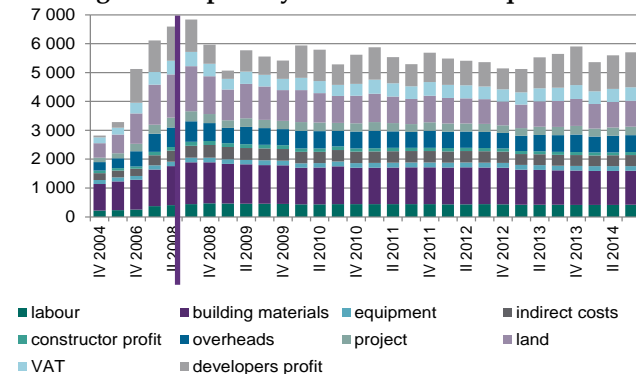
Note to Figures 39-44 until 2008 Q2 – annual data only.  
Source: NBP based on Sekocenbud, REAS.

**Figure 40 Kraków – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



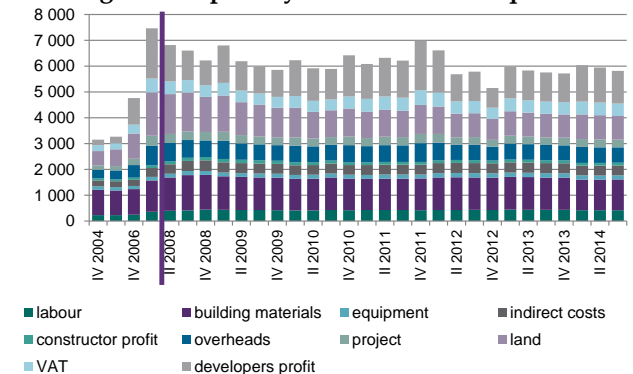
Source: NBP based on Sekocenbud, REAS.

**Figure 41 Gdańsk – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



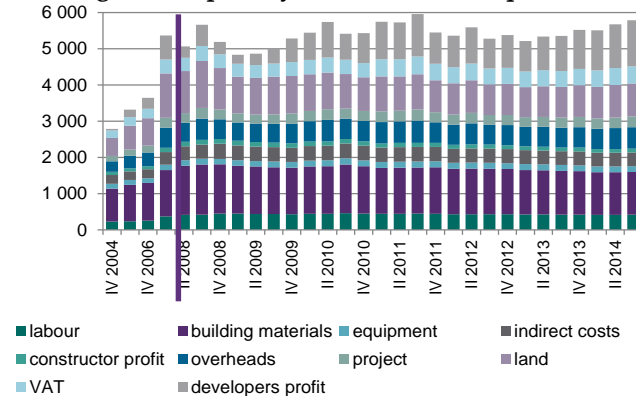
Source: NBP based on Sekocenbud, REAS.

**Figure 42 Poznań – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



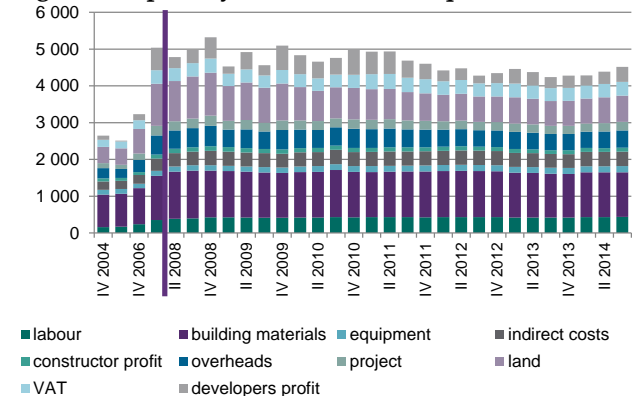
Source: NBP based on Sekocenbud, REAS.

**Figure 43 Wrocław – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



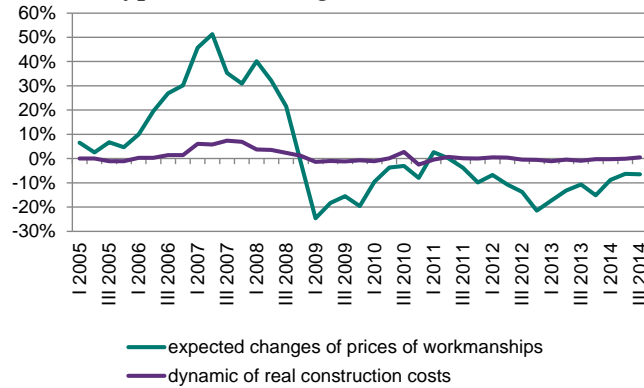
Source: NBP based on Sekocenbud, REAS.

**Figure 44 Łódź – structure of price per one square meter of housing usable area in the PM (type 1121 building <sup>9)</sup>) to be paid by consumer (PLN/sq. m)**



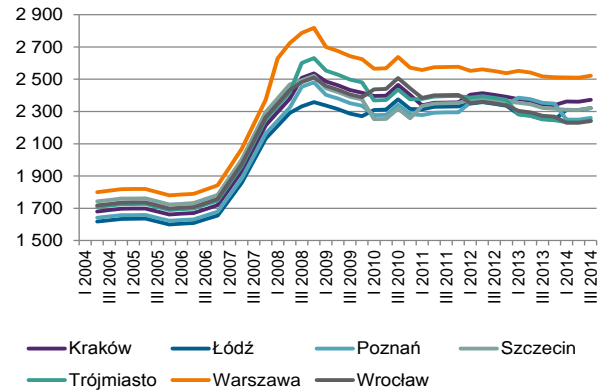
Source: NBP based on Sekocenbud, REAS.

**Figure 45 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 building %)**



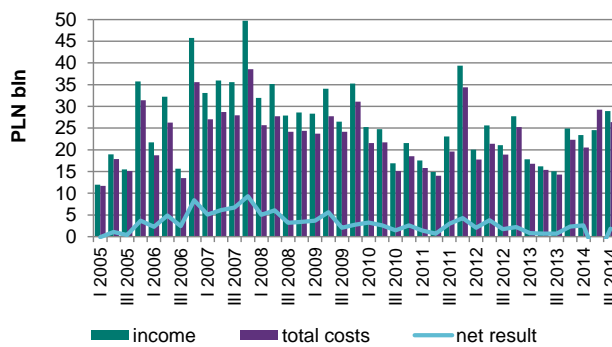
Source: NBP based on the Central Statistical Office (GUS) data (business conditions survey), Sekocenbud.

**Figure 46 Cost of construction of one square meter of the residential building's usable area (type 1121 building %) (PLN/sq. m)**



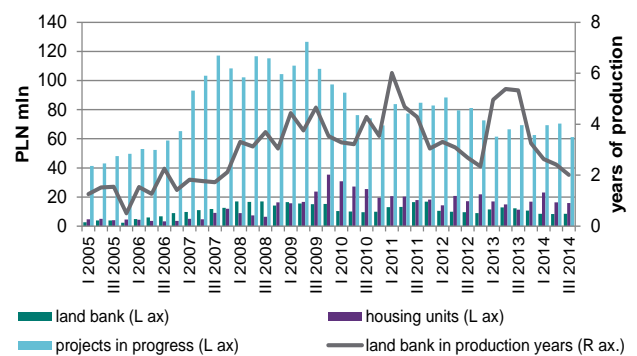
Source: NBP based on Sekocenbud.

**Figure 47 Economic indicators of Large Developers (LDs)**



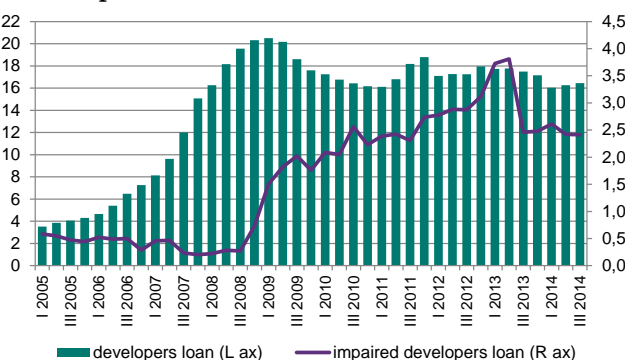
Source: NBP based on GUS (F01).

**Figure 48 Situation of LDs**



Source: NBP based on GUS (F01).

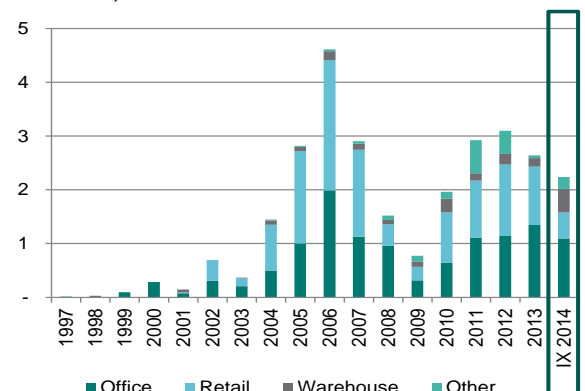
**Figure 49 Value of real estate developers' debt (commercial banks) and debt of real estate developers facing financial problems (bln PLN)**



Note: companies whose debt has been classified by banks as doubtful debt (this refers to large-scale exposure only, 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.

Note: data exclusive of BGK. Source: NBP.  
 Source: NBP.

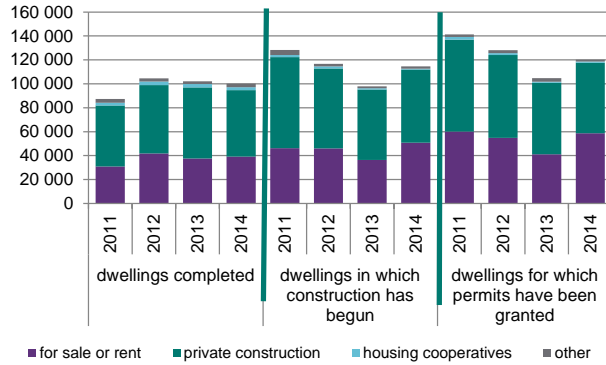
**Figure 50 Value of investment transactions (EUR billion)**



Source: Comparables.pl

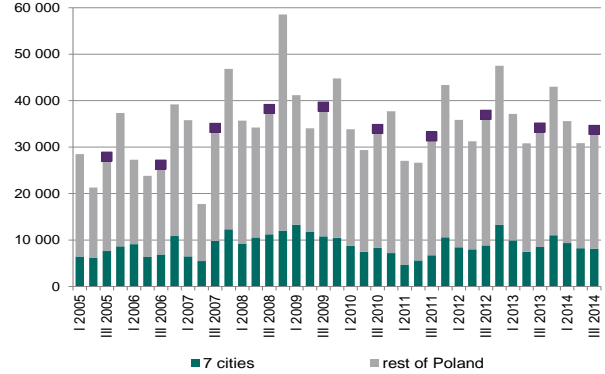
### 5. Residential construction and housing market in Poland's selected cities

**Figure 51 Structure of housing construction investors in Poland in three quarters in 2011-2014**



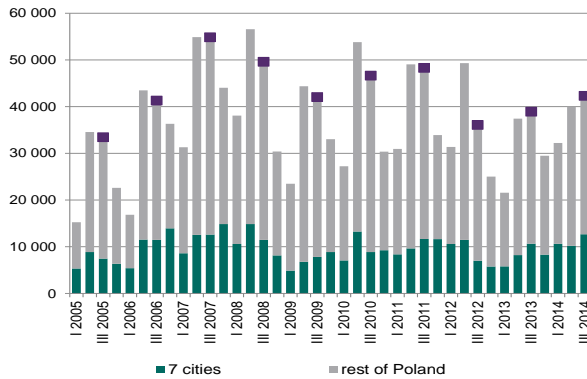
Source: GUS.

**Figure 52 Completed housing in Poland, in quarter-on-quarter terms (housing units)**



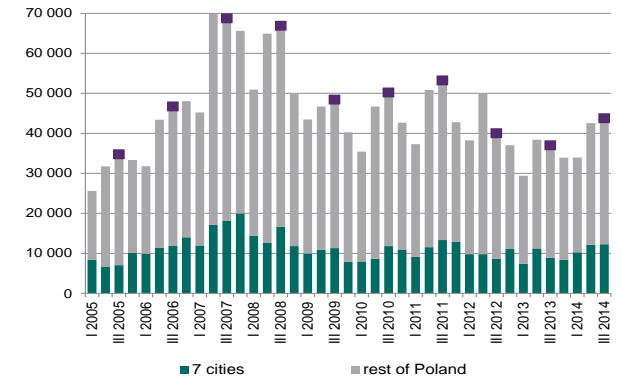
Note to Figures 52–54: in violet colour only third quarters have been marked;  
Source: GUS.

**Figure 53 Housing under construction in Poland, in quarter-on-quarter terms (housing units)**



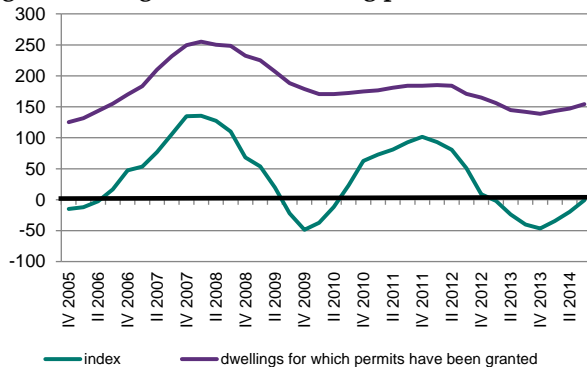
Source: GUS.

**Figure 54 Issued building permits in Poland, in quarter-on-quarter terms (housing units)**



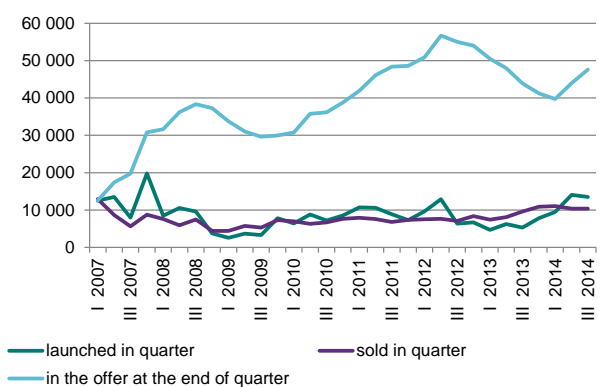
Source: GUS.

**Figure 55 Home construction indicator in Poland (housing under construction minus completed housing, in housing units) and housing permits**



Note: rolling figures for the subsequent quarters.  
Source: NBP, GUS.

**Figure 56 Number of housing units put on the market, both sold and offered for sale in Poland's 6 largest markets\***



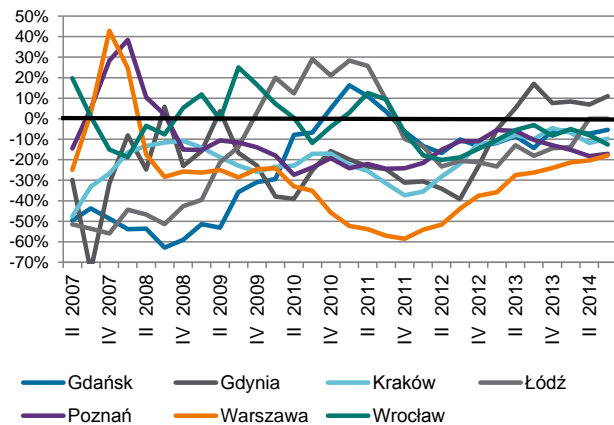
\*Warszawa, Kraków, Tri-city agglomeration (Gdańsk, Gdynia, Sopot), Wrocław, Poznań, Łódź.  
Source: REAS.

**Figure 57 Availability of loan-financed housing versus housing units sold in Poland's 6 largest cities \* (demand and supply estimates)**

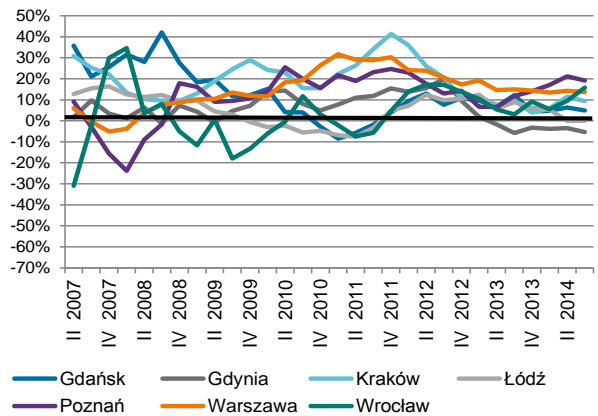


\* Gdańsk, Gdynia, Łódź, Cracow, Poznań, Szczecin, Warszawa, Wrocław. Availability of loan-financed housing weighted with the currency structure of the quarterly rise in mortgage loan.  
Source: NBP na podstawie REAS.

**Figure 58 Structure of supply and demand \* for housing with an area ≤ 50 sq. m, PM in Poland's selected cities**



**Figure 59 Structure of supply and demand \* for housing with an area >50 sq. m, PM in selected cities in Poland**

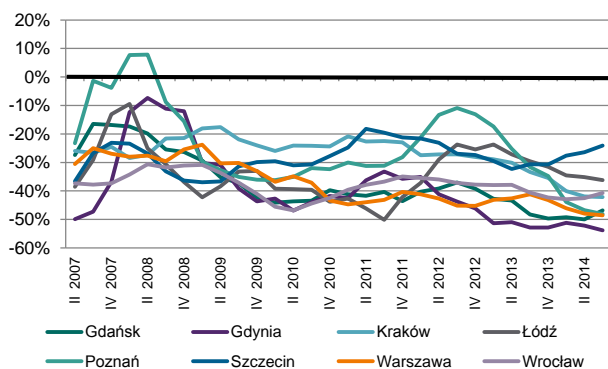


Note: Figure 58 presents, in percentage terms, a short-term mismatch in the primary market between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the dwelling's size, according to the data from the BaRN database. The mismatch is calculated as the ratio 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 59 is parallel. Figures 60-61 are parallel, only for the secondary market.

Source: NBP.

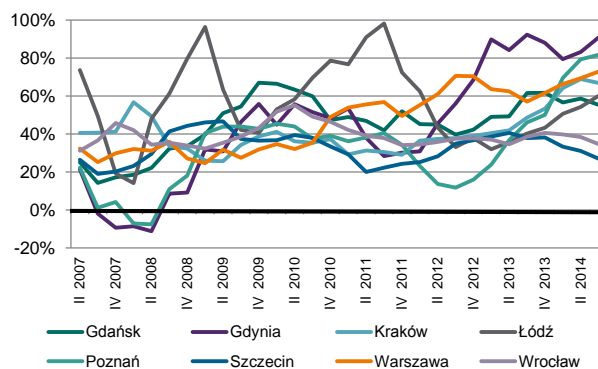
Source: NBP.

**Figure 60 Structure of supply and demand \* for housing with an area ≤ 50 sq. m, SM in Poland's selected cities**



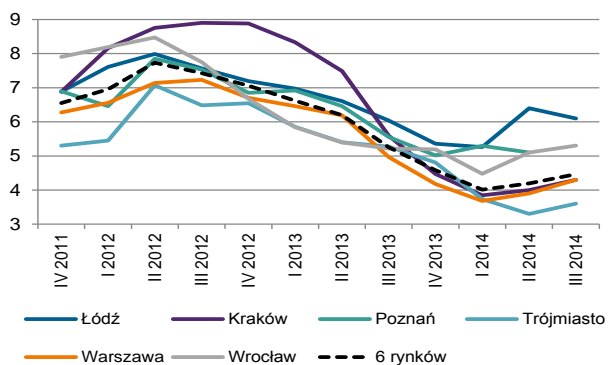
Source: NBP.

**Figure 61 Structure of supply and demand \* for housing with an area >50 sq. m, SM in Poland's selected cities**



Source: NBP.

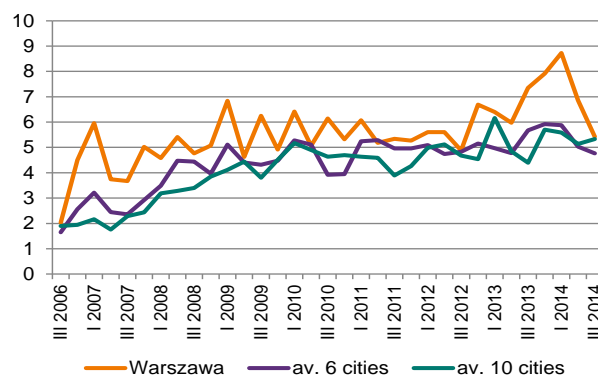
**Figure 62 Estimated selling time of housing on offer in the primary market in quarters 1 in Poland's selected cities**



Note: selling time calculated in quarters as the number of housing units on offer at the end of the quarter in relation to the average sales recorded in the previous year.

Source: NBP based REAS.

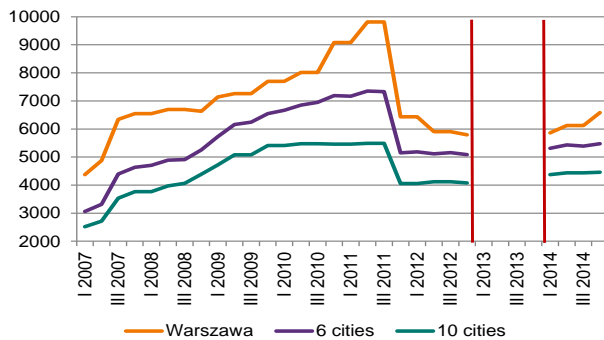
**Figure 63 Estimated selling time of housing on offer in the secondary market in quarters 1 in Poland's selected cities**



Source: NBP.

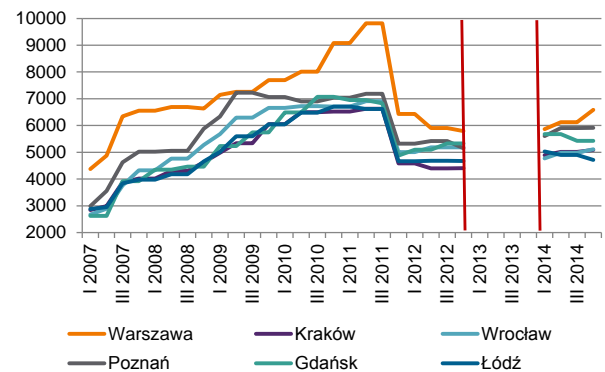
## 6. Housing policy in Poland

**Figure 64** Upper limits of prices per square meter of housing in the PM within thresholds set under the government-subsidized housing scheme in Poland's largest cities



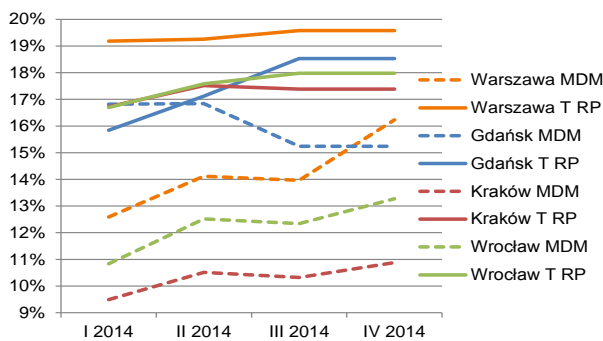
Note to Figures 64-65: czerwone linie oddzielają okres bez rządowych programów wspierania nabywania mieszkań. Source: NBP.

**Figure 65** Upper limits of prices per square meter of housing in the PM within thresholds set under the government-subsidized housing scheme in Poland's largest cities



Source: NBP.

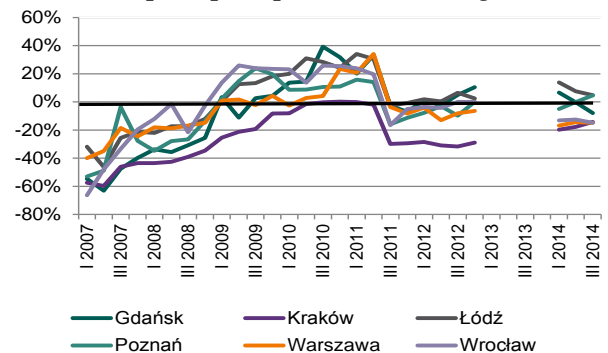
**Figure 66** Estimated effectiveness of developers' housing investment (IRR- Internal Rate of Return) under the MDM housing scheme and without it



Note: assumed stabilization of prices per square meter of housing in 2014 Q4.

Source: NBP.

**Figure 67** Gap in the limit of government-subsidized housing schemes as compared to the median of transaction price per square m of housing in the PM



Source: NBP.

---

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