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# **Report on the situation in the residential and commercial real estate market in Poland in 2017**

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The Report has been prepared at the Economic Analysis Department for the purposes of NBP authorities. Opinions expressed in this report are opinions of the authors and do not present the point of view of the authorities of Narodowy Bank Polski.

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## Summary

In 2017 the residential and commercial real estate sector saw the following developments and trends:

- In the analysed period offer and transaction prices of a square meter of housing in local primary and secondary markets continued on a slight upward trend. Prices in nominal terms were approaching the levels recorded in the period of tensions (2006-2008), whereas CPI deflated prices, despite a slight increase, remained below the 2006-2008 levels. The highest prices were recorded in the primary and secondary markets of Warsaw and the six largest voivodship cities (6M), especially in Gdańsk and Gdynia. Higher prices were noted in the case of transactions involving small dwellings (with an area up to 40 square meters) and large dwellings (with an area exceeding 80 square meters). On the other hand, in the market of the remaining 10 cities (10M) the highest prices per square meter of housing were recorded in the case of small dwellings.
- Average rents (offer and transaction) increased as compared to 2016, especially in Warsaw. This encouraged wealthier households to purchase rental housing for investment purposes.
- At the current level of rents, entities investing in rental housing earned rates of return (calculated as differences in interest rate levels) exceeding yields on bonds or bank deposits and similar to rate of return on investments in commercial real estate. It should be noted, however, that there are significant differences in liquidity, transaction costs and risk between bank deposits and investment in rental housing.
- The primary residential market of the analysed cities saw a significant rise in demand and supply. High demand for housing was driven by a strong growth in household wages, the persistence of historically low nominal interest rates (on both deposits and loans), acceleration of purchases of developer dwellings for own housing needs and for investment purposes due to the exhaustion of funds paid as subsidies under the government-subsidized housing scheme MDM.
- In 2017 growth in lending was positive (10.6% y/y) and stable and the value of housing loans in PLN increased to PLN 257.4 billion. Foreign currency loans are repaid on a regular basis. Additionally on the back of the appreciation of the zloty, the value of debt resulting from foreign loans decreased as compared to 2016 by 18.9% to PLN 131.1 billion.
- The home selling time in the primary market in the 7 cities (7M) decreased as compared to the previous year and at the end of 2017 amounted only to approx. 2.7 quarters. This means that dwellings put on sale were rapidly sold and buyers had less possibility to choose housing. On the other hand, the estimated home selling time in the secondary markets at

the end of the analysed period in the 6 cities (6M) was approx. 6 months, and in Warsaw increased to approx. 7.5 months while decreasing to approx. 5 months in the 10 cities.

- In 2017 approx. 178 thousand dwellings were completed and made available for occupancy (increase of 9.1% y/y), the construction of approx. 206 thousand new housing projects was commenced (increase of 18.4% y/y) and approx. 250 thousand building permits were issued (increase of 18.3% y/y). Activity in housing construction reached a record level; yet, due to high demand and sales levels no oversupply was noted in the housing market.
- A marked increase in demand in the housing market in 2017 had a positive impact on the financial condition of large real estate developers and aslightly smaller positive impact on the situation of smaller companies. The estimated share of developers' profit in the price of new housing continued at a high level. The structure of offered housing matching the preferences and financial possibilities of home buyers was a factor enabling real estate developers to earn high rate of return on equity. Growing prices of construction and assembly works and the shortage of qualified labour in housing construction, especially given a large number of sold dwellings, had a negative impact on real estate developers. Slowdown in housing construction at the end of 2017 may be the result of both lack of possibility to further increase production capacity (barriers on the side of workmanship) as well as real estate developers' cautious attitude driven by concerns about overinvestment. The BaRN survey results show that the price of land for multi-family construction in the largest cities increased, yet real estate developers did not forecast that land for housing construction could run out in the next few years. Real estate developers continued to finance construction with their own funds, bonds and loans and partly with delayed repayment of liabilities. Boom in the primary housing market and in infrastructural construction failed to bring considerable economic profits to large construction companies. Losses generated as a result of growing costs of construction materials and labour, limited the activity of some developers in the broadly understood construction services market. New contracts, covering smaller stages of works and thus signed for shorter terms, better account for growing risk of rising construction costs.
- The majority of local markets saw a further improvement in the economic and housing situation of households. The number of residents in the largest cities increased. On the other hand, smaller cities and towns saw an outflow of their population. The demographic burden ratio further worsened. In the group of the most populated cities, the level of satisfaction of housing needs was the highest, as measured with the saturation rate and population density indicator. In the majority of regional markets the number of new marriages and births increased. Yet, the improvement in the birth rate was not sufficient to mitigate the persisting negative trends. In the group of the largest cities developers continued to build smaller dwellings for another year. Warsaw, which noted for the first time since 2012 an increase in the average area of housing, was an exception.
- The office real estate market saw an increase in demand amid steadily growing supply. This reduced imbalances measured with the vacancy rate which declined in large cities.

Amid low interest rates in the euro area, investors are interesting in launching new projects. The retail real estate market saw, for another consecutive year, a decline in the area of retail space put on the market. This may suggest that the stock of office space on the market is sufficient to meet demand for this kind of space. Growing supply of commercial real estate may cause rents to decline which will impact owners' income and may make it difficult for them to repay the debt. Foreign investors raising funding outside Poland continued to play a major role on the market of large commercial real estate for rental.

- In 2017 transaction rents for A class office space (quoted in EUR price/square metre/month) remained stable in Warsaw and in other cities. Transaction rents for B class office space (quoted in EUR/square meter/month) in Warsaw and Łódź followed a slight upward trend and remained stable in other cities. Transaction rents in commercial centres located in economically important parts of the city (measured in EUR/square meter/month) in large cities remained stable or followed a slight downward trend and increased slightly in Warsaw.



# 1. Introduction

The real estate market is of key importance for the stability of the financial system and, in general, for the macroeconomic stability. Excessive credit growth and related imbalances in asset prices, mainly real estate prices, are generally the major source of systemic risk. The most expensive financial crises were largely the result of booms in the loan-financed real estate market<sup>1</sup>.

The residential real estate sector affected by the financial sector and the regulatory environment comprises the construction of new dwellings and the sale and purchase of the existing housing stock. On the other hand, the commercial real estate sector comprises the construction of new buildings, administration of the existing buildings (including major modernization and extensions) and rental of commercial space. The real estate market and other sectors of the economy are strongly correlated; consequently, they affect the country's macroeconomic and financial situation.

It is therefore extremely important for the stability of the financial system to monitor and assess the situation in the residential and commercial markets on an ongoing basis.

The aim of the Report is to present complex results of analyses of the developments in the residential and commercial real estate markets in 2017 and to provide information to interested entities, including real estate market participants.

The Report is mainly focused on the 2017 developments, but some of the analyses goes beyond that period. It highlights the main directions of changes in the real estate markets and identifies selected factors behind these changes. The Report also draws attention to the financial capacities of home buyers and discusses the way in which housing demand is impacted by the government-subsidized housing scheme MDM scheduled to terminate in 2018. The Report describes the phenomenon of heightened housing demand and high production of developer dwellings, exceeding the scale from the period of tensions in the years 2006-2008. The Report also discusses the trends in offer and transaction prices in the primary and secondary markets of the analysed cities and growing rent rates in the rental market. It also addresses the economic and financial situation of real estate developers. Additionally, the Box A describes findings of the studies on land for multifamily construction and changes in local area development plans. The Report also presents the situation in the commercial real estate market which has seen decreasing imbalances, especially in the office market where growing demand has been observed. The Boxes C and D address potential threats for owners of commercial real estate for rent resulting from e-commerce and sharing of retail space and present a simplified analysis of investment in office space.

Due to the local nature of housing and commercial markets the Report provides an in-depth analysis of sixteen voivodship cities and Gdynia. In the majority of analyses the data concerning housing markets are broken down into: Warsaw, 6 cities (6M: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław) and 10 cities (10M: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn,

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<sup>1</sup> Crowe C. et al. [2011], Policies for macrofinancial stability: options to deal with real estate booms, IMF Staff Discussion Note, IMF, 25 February 2011.

Opole, Rzeszów, Szczecin, Zielona Góra). Such a breakdown is justified by the comparable size and degree of development of the real estate markets.

The analysis of offer, transaction and hedonic prices per square meter of average housing in the primary and secondary market and the analysis of the commercial real estate market are based on the data obtained by analysts from the Regional Branches of Narodowy Bank Polski in the survey of the housing market Real Estate Market Database (BaRN)<sup>2</sup> and the commercial real estate market (Commercial Real Estate Database (BaNK). As the survey covered a variety of agents operating in the market (agents, real estate developers, housing co-operatives, municipal offices, consulting companies), this allowed the authors to obtain extensive information. The study also relied on the database of PONT Info Nieruchomości (PONT) containing data on offer home prices in Poland, the SARFIN database (containing data on housing market financing in Poland) and AMRON database (containing data on housing appraisal and transaction prices of mortgage-financed housing) belonging to the Polish Banks Association, as well as REAS data on the primary residential market. The authors drew on the reports issued by the Polish Financial Supervision Authority (KNF) as well as aggregate credit data released by the Credit Information Bureau (BIK). The statistical data published by the Central Statistical Office (GUS) and the analyses including sectorial data have been used in the structural analysis.<sup>3</sup> The authors also used the results of the surveys of CBOS and TNS Polska. The information about the commercial real estate market is also based on the data provided by commercial real estate brokers, as well as real estate management and consulting companies operating in this market. The analysis was supported with data and information of particular agencies<sup>4</sup>.

Technical terms have been marked with # and defined in the glossary of terms and abbreviations. In the absence of data or in the case of insufficient quality of data, the authors relied on estimates verified on the basis of expert and specialist opinions.

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<sup>2</sup> See: „Programme of statistical research of public statistics for 2018. Decree of the Council of Ministers of 19 December 2017 concerning the programme of statistical surveys of public statistics for 2018 (Journal of Laws of 2017, item 2471)”. The study of residential and commercial property prices, study reference number 1.26.09 (080), was conducted by the President of Narodowy Bank Polski. See: *Monographic articles, NBP, 2018*

<sup>3</sup> This concerns, in particular, the study of Sekocenbud on the structure and costs of construction, study of the Polish Agency for Construction Research (Polska Agencja Badawcza Budownictwa (PAB) concerning the construction sector and many other organizations and associations operating in this market, among others, Polish Federation of Real Estate Market (Polska Federacja Rynku Nieruchomości) and Association of Employers - Manufacturers of Building Materials (Związek Pracodawców-Producentów Materiałów dla Budownictwa).

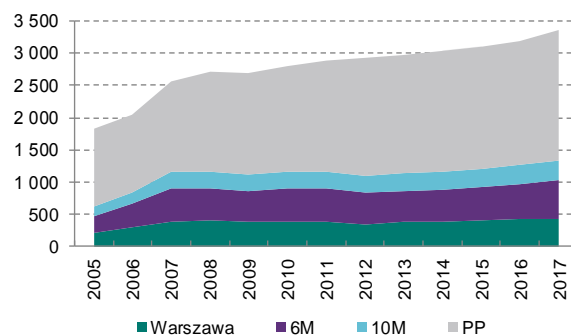
<sup>4</sup> The authors relied on the data and information of the following agencies: CBRE, Colliers International, Cushman & Wakefield, JLL, Knight Frank and associations: Retail Research of the Polish Council of Shopping Centres (Retail Research Forum Polskiej Rady Centrów Handlowych), Polish Office Research Forum. The data concerning transactions in the commercial real estate market are drawn from database of NBP and Comparables.pl. database.

## 2. Real estate market sector in Poland

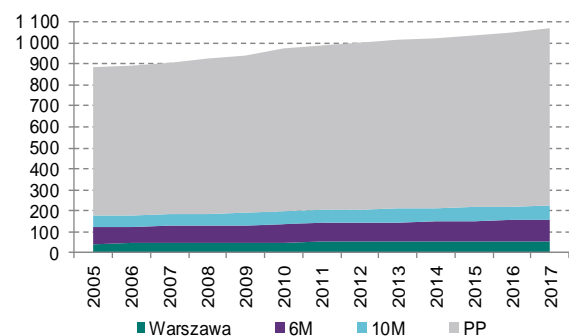
Since the transition period the housing stock in Poland has been on a steady rise. The housing stock growth picked up for the first time in the period directly preceding and following Poland's accession to the EU. The last acceleration in the housing stock growth started in 2015 amid the historically low nominal interest rates. Commercial real estate assets have been on the rise since 2012, especially in the office and warehouse space market.

The estimated value of residential real estate assets in Poland at the end of 2017 reached approx. PLN 3.25 billion (as against PLN 3.15 billion in 2016, see Figure 2.1). The value of commercial real estate totals approx. PLN 0.24 billion which means a rise by approx. 14% y/y resulting from increased supply of office space and the appreciating value of retail space as compared to 2016 (see Figure 2.3).

**Figure 2.1 Estimated value of the housing stock in Poland, in PLN billion**



**Figure 2.2 Area of the housing stock in Poland in millions of square metres**

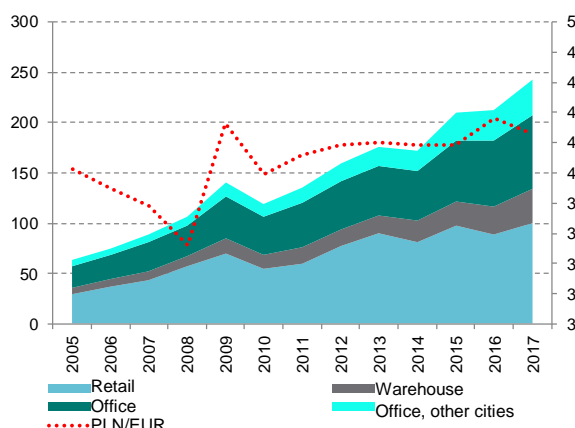


Note: 6M# – Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław; 10M# – Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra; PP# – remaining part of Poland. The estimate is based on GUS data on the usable area of the housing stock in the analysed cities. The housing stock was multiplied by transaction prices of housing (average prices in the primary and secondary market) in the 16 cities (NBP database) and in other Polish cities by replacement prices. The graph shows aggregate values.

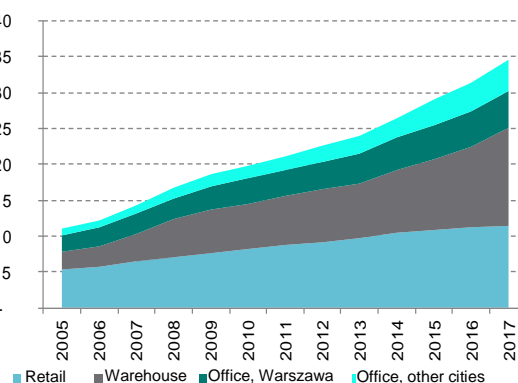
Source: NBP estimates, based on GUS, PONT Info

Source: NBP estimates, based on GUS

**Figure 2.3** Estimated value of the commercial real estate stock in Poland in PLN billion (left-hand axis) and PLN/EUR exchange rate (right-hand axis)



**Figure 2.4** Estimated area of the commercial real estate stock in Poland in millions of square meters



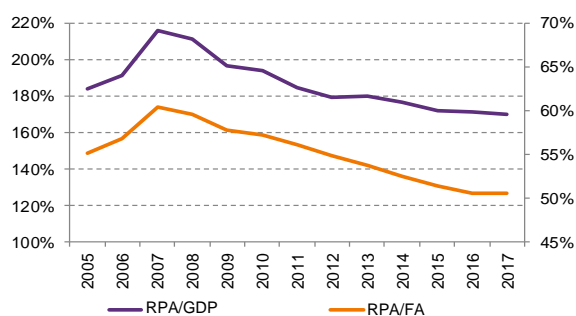
Note to Figure 2.3 and 2.4: The estimate is based on publicly available data on the commercial real estate stock. Offices are modern office buildings, retail premises are shopping malls, and warehouses are modern, large-format warehouses. The stock was multiplied by the hedonic transaction price of commercial real estate. Prices given in EUR are translated into PLN. The graph shows aggregate values.

Source: NBP estimates based on databases of NBP and other consulting companies, transaction prices from Comparables.pl

At the end of 2017, similarly to the previous year, the estimated residential and commercial real estate assets in Poland, in terms of value, accounted for approx. 182% of GDP and approx. 54% of fixed assets in the economy. Residential real estate account for 170% and commercial real estate for approx. 12% of GDP (see Figure 2.5 and 2.6). Despite the approx. 1.4% increase in year-on-year terms in the area of the housing stock (see Figure 2.2), its current estimated value to GDP ratio decreased slightly as compared to the 2016 figure. This results from a high GDP growth (6.7%) in nominal terms combined with approx. 5.8% increase in the value of the housing stock. Total real estate supply adjusts to demand growth mainly through construction of new buildings. Until now, in Poland housing supply adjusts to demand growth with approx. 8-quarter delay which means that it is quite elastic against the background of international experience.

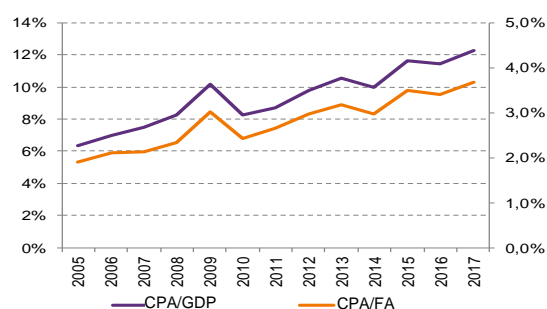
In the commercial real estate stock approx. one third of the stock is comprised of warehousing space with the lowest price per square meter and consequently a small share in the commercial real estate assets (see Figures 2.3 and 2.4).

**Figure 2.5 Ratio of the estimated current value of residential property assets (RPA, left-hand axis) to GDP and fixed assets (FA, right-hand axis) in Poland**



Source: NBP estimates, based on GUS, PONT Info

**Figure 2.6 Ratio of the estimated current value of commercial property asset (CPA, left-hand axis) to GDP and fixed assets (FA, right-hand axis) in Poland**



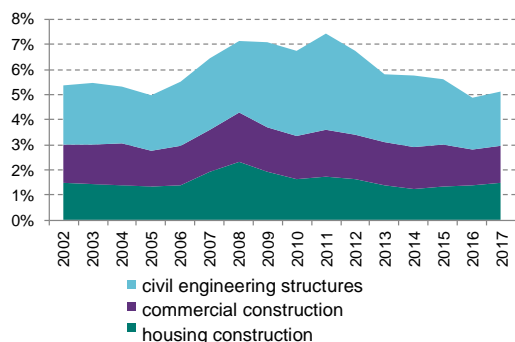
Note: see note to Figure 2.3 and 2.4

Source: NBP estimates based on the databases of NBP and other consulting companies, transaction prices from Comparables.pl

In 2017 the gross housing investment to GDP ratio stood at approx. 1.5%. Real estate development accounted for approx. 50% of this value. The share of housing development in investment outlays (approx. 40%) is still high on the international scale which is the result of the currently relatively low level of investment in Poland. This means, however, that housing demand is an important element of the aggregate demand and GDP. The share in construction and assembly production (including development and repair works) in GDP increased in 2017 by approx. 0.3 p.p and stood at approx. 5.1% (see Figure 2.7 and 2.8)<sup>5</sup>, while the share of expenditure on housing production in the total output increased to approx. 1.5% and accounted for 30% of the total output. In 2017 the share of persons working in the real estate sector in the total number of the employed in the domestic economy stood at approx. 7.0% and increased slightly on the level observed in the previous years. As a result of long useful life of the housing stock, the recorded depletion of housing in Poland accounts for a mere 0.02% of the housing stock (the 2005-2017 average), whereas the real long-term rate of depreciation can be estimated at approx. 0.3-0.5% annually. Given the above data, we estimate that net housing investment accounts for approx. 1% of GDP and real estate development ranges between 0.3 - 0.4% of GDP.

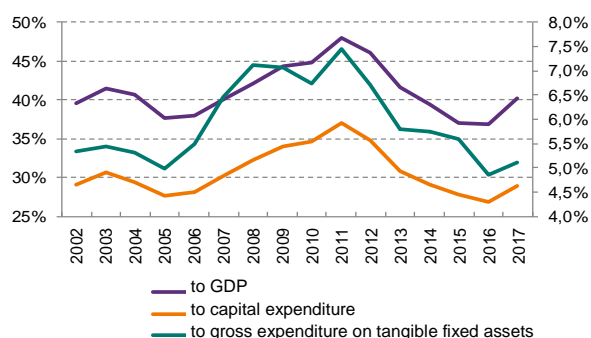
<sup>5</sup>In line with the results of the analysis *The Economist Intelligence Unit Limited 2017* the recovery in construction activity was observed all over Europe which is consistent with the expansion stage of the business cycle following the depression after the global financial crisis. In 2017 also Central and Eastern European countries noted a rise in investment in construction. EU financed projects support public investment in the region, and private construction is positively affected by growing income of households and low cost of credit.

**Figure 2.7 Structure of construction and assembly production by type of construction (% of GDP)**



Source: GUS

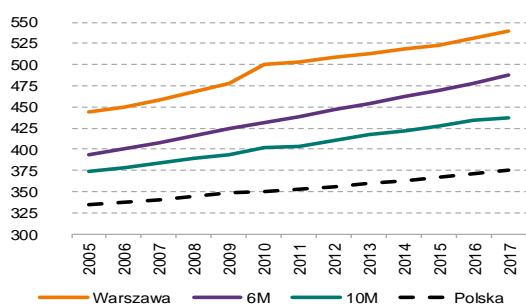
**Figure 2.8 Investment relations in housing construction in Poland (%)**



Source: GUS

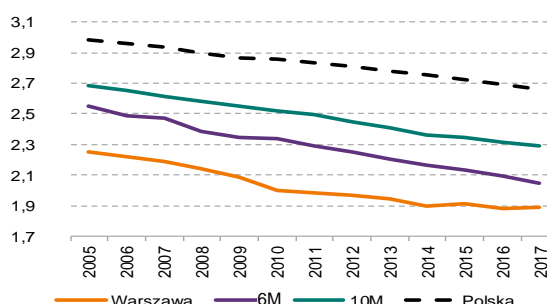
After 2000 Poland has seen a gradual improvement in its housing situation, which was associated with the construction of new dwellings, renovation of the existing housing stock and demographic processes curbing demand for new housing (see Figure 2.12). This was also driven by a large number of newly built dwellings, small scale of demolition of the existing housing stock and diminishing population in some cities as a result of migrations. In accordance with the GUS data<sup>6</sup>, the number of dwellings per 1 000 inhabitants increased (from 371 in 2016 to 376 in 2017) so did the average usable housing area per person (from 27.4 in 2016 to 27.8 in 2017), while the average number of persons occupying the dwelling fell (Figures 2.9 –2.11). In 2017 the average area of a single-family house (usually built by individual investors) increased from 134.6 m<sup>2</sup> observed in 2016 to 145.1 m<sup>2</sup>. In 2017, the average area of housing for sale or rental increased from 58.2 m<sup>2</sup> recorded in 2016 to 61.2 m<sup>2</sup>, with the Warsaw market recording the smallest usable area dwellings to be completed and made ready for occupancy.

**Figure 2.9 Number of dwellings per 1 000 inhabitants in Poland**



Source: NBP estimates, based on GUS

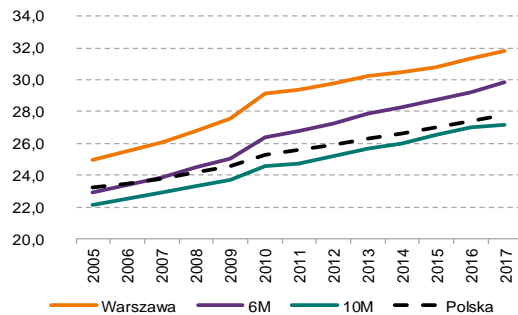
**Figure 2.10 Average number of persons in a dwelling in Poland**



Source: NBP estimates, based on GUS

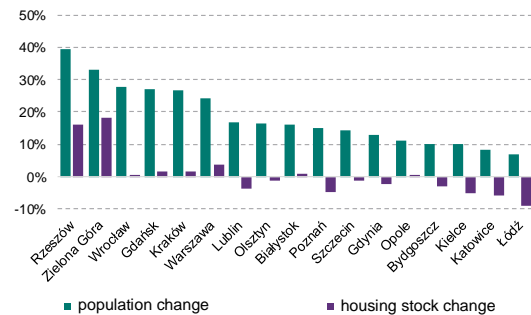
<sup>6</sup> In 2018 GUS changed the previously used definitions of dwellings: whose construction has started, for whose construction building permits have been issued or whose construction has been reported and which has been completed and made ready for occupancy. Detailed information on GUS site in the Local Data Bank: <https://bdl.stat.gov.pl/BDL/metadane/metryka/3747?back=True#>. In 2017 the administrative boundaries of the city of Opole changed.

**Figure 2.11 Average usable area of housing in the housing stock per person (in sq. m.) in Poland**



Source: NBP estimates, based on GUS

**Figure 2.12 Growth rate of the number of dwellings in the housing stock and the number of inhabitants in 2017 as compared to 2006 in Poland's selected cities.**



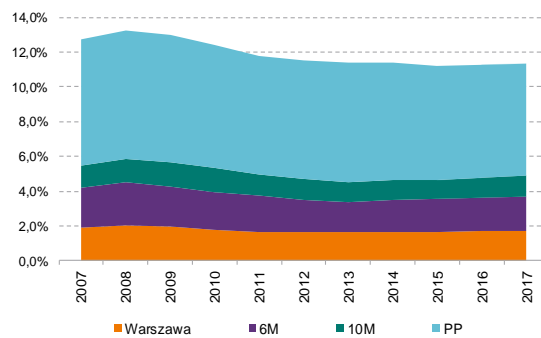
Note: do Figure 2.12: the administrative boundaries of the cities of Rzeszów, Zielona Góra and Opole were expanded.

Source: NBP estimates, based on GUS

In 2017 the value of the stream of housing services in Poland (see Figure 2.13), estimated on the basis of market transaction rates of rent, stood at approx. 12% of GDP i.e. did not change on the level observed in the last four years<sup>7</sup>. The value of those services increased in y/y terms by 11% in 6M, by 9% in 10M and by 4% in Warsaw.

Also the value of services generated by commercial real estate (see Figure 2.14) from rent income for commercial real estate owners did not change significantly as compared with 2006 and may be estimated at approx. 0.7% of GDP. This value is lower than in the EU developed countries where the stock of the commercial real estate for rental is considerably larger.

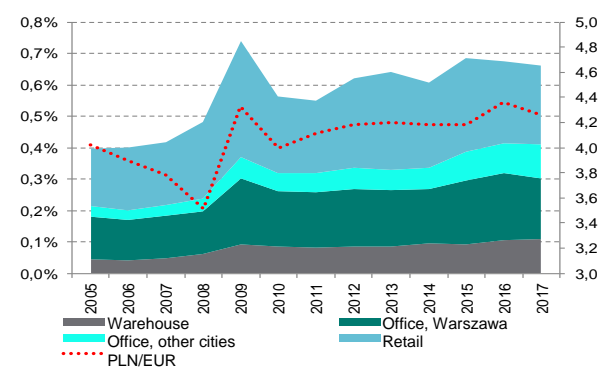
**Figure 2.13 Estimated value of housing services (imputed rent) in Poland in relation to GDP (%).**



Note: The usable area of the housing real estate was multiplied by average offer and transaction rents at the end of the year in 16 markets according to the NBP database. For the remaining parts of Poland the rent rate was estimated at 50% of the average rent rate calculated for 10M.

Source: NBP estimates, based on GUS

**Figure 2.14 Estimated value of commercial services in Poland in relations to GDP (left-hand axis, %)**



Note: The value of the commercial real estate was multiplied by capitalization rates provided by consulting companies.

Source: NBP estimates based on databases of NBP and other consulting companies, transaction prices based on Comparables.pl data.

<sup>7</sup> 2017 saw an increase in both the level of rent rates (value of housing services) and GDP.

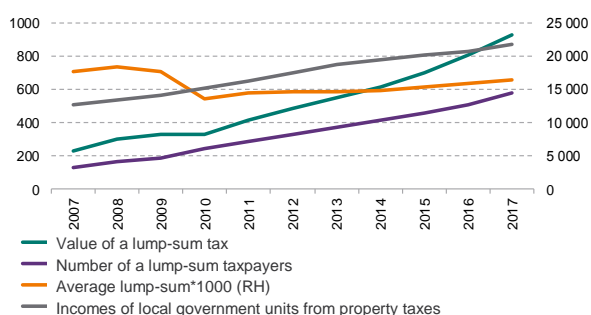


In Poland income from rental of housing real estate is taxed with a lump-sum tax on registered revenue or under the tax bracket system<sup>8</sup>. According to the Ministry of Finance data, both the number of taxpayers who pay a lump-sum tax on registered revenue as well as the amount of this revenue are on the rise. At the end of 2017, the number of taxpayers declaring only lump-sum tax amounted to 575 thousand persons, posting a rise by approx. 70 thousand persons in year-on-year terms, which means a 13.9% increase. The amount of lump-sum tax receivables amounted to PLN 927 million (see Figure 2.15 and 2.16). The amount of the average annual flat tax on home rental exceeded PLN 1.6 thousand (posting an increase of approx. 3.0% y/y). In 2017 approx. 14.9 thousand taxpayers reported the fact of having concluded a private lease contract (i.e. by approx. 5 thousand more than in 2016).

Also the revenue of local government entities from property tax has been following a steady upward trend, rising from approx. PLN 12.1 billion recorded in 2006 to approx. PLN 21.8 billion in 2017, i.e. 5.3% more than in 2016.

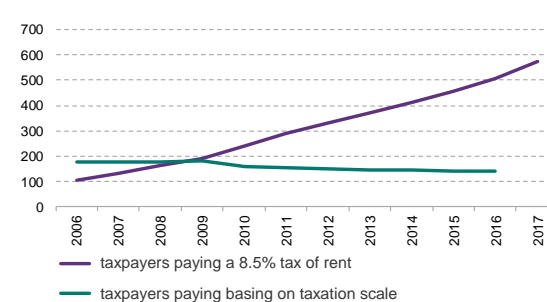
The estimated share of property tax in 2017 measured both in relation to GDP and to the value of the real estate assets (as tax on housing and commercial real estate) amounted to approx. 1.2% of GDP and approx. 0.7% of their assets. These figures remained broadly unchanged on the 2016 levels. In Poland, property taxes represent approx. 11% of gross value of services produced by the aggregate housing real estate stock (see Figure 2.17). This shows that real estate in Poland is not treated in any privileged way. The estimated tax value is tantamount to such services being taxed at 12% tax rate on their gross value (proceeds plus costs) and thus close to the CIT rate (19%).<sup>9</sup>

**Figure 2.15 Lump-sum tax proceeds from rental, sub-rental, lease and sub-lease contracts (thousands of persons, left-hand axis) and proceeds from property tax (PLN thousand, right-hand axis)**



Source: MF

**Figure 2.16 Number of taxpayers declaring income earned from rental, sub-rental, lease and sub-lease contracts (thousands of persons)**



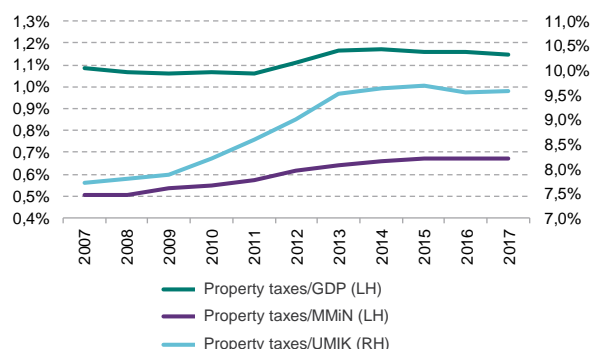
Source: MF

<sup>8</sup> Rates of tax on real estate are set by the District Council through a resolution. Detailed information on real estate taxes may be found at: <http://www.finanse.mf.gov.pl/podatki-i-oplaty-lokalne/podatki-od-nieruchomosci>.

<sup>9</sup> The analysis compared taxed paid by households in 2017 (property tax - in part concerning the residential real estate, the value of 8.5% tax payment, the estimated value of tax under the tax bracket system and, additionally, the estimated grey zone - 50% of 8.5% tax and tax under the tax bracket system) with the estimated gross value of housing services (see Figure 2.13) and the net value of housing services (costs of property maintenance - approx. PLN 10/sq.m. and 3% of depreciation were deducted from the estimated gross value of housing services).



Figure 2.17 Relation of proceeds from property tax (%)



Note to Figure 2.17: income includes taxes on income of local government entities from property tax and lump-sum tax receivables; MMiN=value of housing and commercial real estate assets; UMiK=value of housing and commercial services;

Source: MF

The financial sector is of key importance to the real estate sector as it ensures liquidity of this market and appraisal of the real estate. The real estate sector is an important client of the financial sector which offers its financing and a number of other services. At the end of 2017, assets of the banking sector in the form of loans to households for residential real estate accounted for 35.1% of total loans<sup>10</sup> and approx. 21.9% of total bank assets. The commercial real estate sector, especially the sector of the largest commercial real estate, developed thanks to foreign capital. At the end of 2017 the value of corporate loans for real estate investment, including the residential real estate, office space and other real estate amounted to approx. PLN 54 billion. Those loans accounted for approx. 5.2% of the banking sector's portfolio and approx. 3% of banks' assets. At the end of 2017 the value of property-backed loans advanced to corporations amounted to PLN 132 billion which means approx. 12.7% of banks' portfolio and approx. 7.4% of banks' assets. Although portfolios of corporate property loans are still significantly smaller than their EU average (approx. 17% of GDP<sup>11</sup>), they are a significant factor for the financial sector's security. The quality of residential property loans for households, measured by the share of non-performing loans, was good and had remained stable for a longer period of time. The share of non-performing loans in the total loans is 2.9%, of which loans in PLN account for 2.5% and foreign currency loans of 3.5%. On the other hand, the share of non-performing loans in the total corporate loans at the level of 9% had been observed since early 2016.

In Poland, the long-term household debt resulting from residential mortgage loans was on the rise, which was driven by the development of the housing market and the financial sector. At the end of 2017 it reached the level of approx. PLN 388.5 billion and was lower than a year ago. This was driven by growing value of PLN denominated loans (a rise of PLN 24.6 billion) and falling value

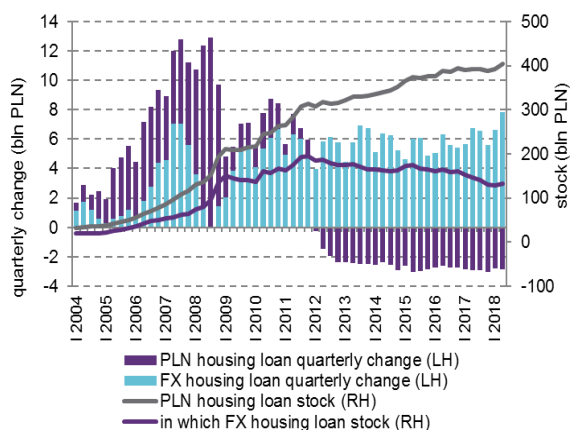
<sup>10</sup> Loans and other banks' receivables from other domestic sectors (non-monetary institutions, exclusive of central government units) comprising loans to households, corporations and institutions providing services to households stood at approx. PLN 1105.2 billion at the end of 2017,

[http://www.nbp.pl/home.aspx?f=/statystyka/pieniezna\\_i\\_bankowa/nal\\_zobow.html](http://www.nbp.pl/home.aspx?f=/statystyka/pieniezna_i_bankowa/nal_zobow.html) .

<sup>11</sup> See: ESRB (2015) *Report on commercial real estate and financial stability in the EU*. Figure 14. Total direct exposure of the financial system to CRE relative to GDP (2013).

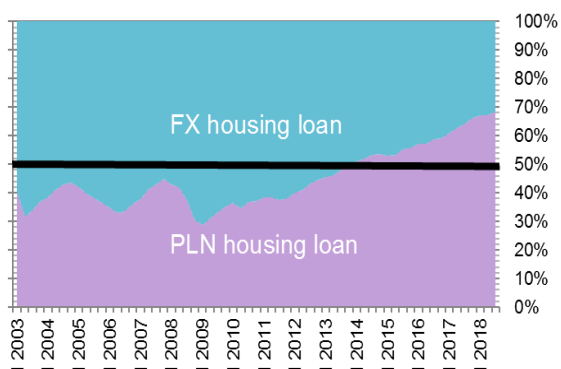
of foreign currency denominated loans (a decline of PLN 30.5 billion)<sup>12</sup>. At the end of 2017 banks' receivables from households resulting from residential mortgage loans stood at approx. 21.9% of the financial sector's assets and approx. 11.5% of the estimated value of housing stock. Although the indebtedness of the housing stock in Poland continues to grow, its level is still relatively low in relation to household consumption (approx. 34%) or as compared to the level of this debt observed in other EU countries. At the end of 2017 residential mortgage loans in Poland accounted for 217% of banks' equity.

**Figure 2.18 Housing loans in Poland, quarter-on-quarter changes in PLN billion (left-hand axis) and value in PLN billion (right-hand scale)**



Source: NBP

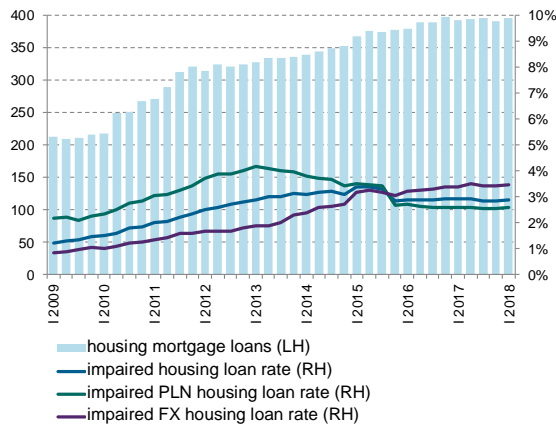
**Figure 2.19 Currency structure of the housing loan portfolio in Poland**



Source NBP

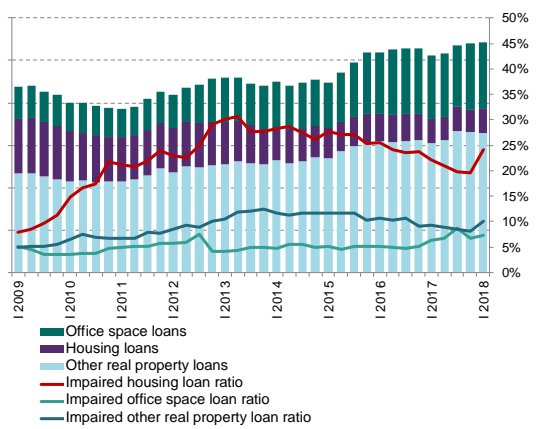
<sup>12</sup> Since 2012 the share of FX denominated loans has been on a steady decline in the structure of residential mortgage loans in banks, which supports financial and macroeconomic stability. The decreasing share of FX loans is due to the fact that banks ceased to grant such loans to persons not being in receipt of a regular income in a given currency, to the lower exchange rate as compared to the 2016 level as well as due to regular amortisation, earlier repayments, and refinancing of those loans with PLN denominated loans.

**Figure 2.20 Quality of the portfolio of housing loans to households in Poland**



Source: NBP

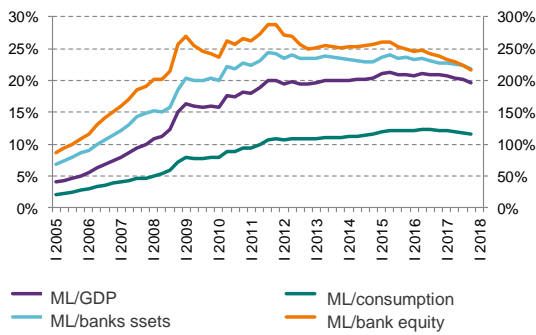
**Figure 2.21 Loans to corporations for real estate purchases (in PLN billion, left-hand scale) and the share of loans classified as doubtful loans (in %, right-hand scale)**



Data exclusive of BGK.

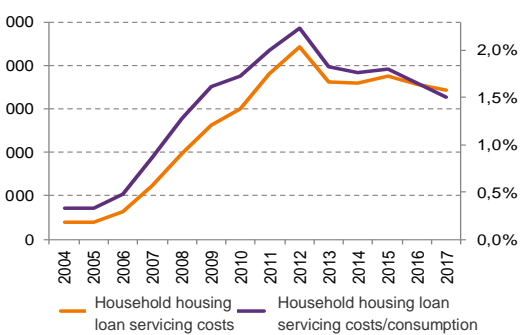
Source: NBP

**Figure 2.22 Relation of residential mortgage loans in Poland to GDP, housing assets, banks' assets (left-hand axis) and banks' equity (right-hand scale)**



Source: NBP, GUS

**Figure 2.23 Repayments of residential mortgage loans (left-hand axis) and their relation to consumption (right-hand axis)**



Note: loans granted for 25 years.

Source: NBP, GUS

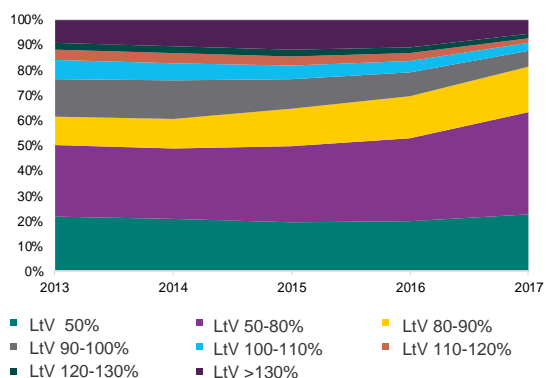
The relation of the estimated housing debt servicing costs (principal and interest) to consumption in the national economy as of the end of 2017 slightly declined and amounted to approx. 1.5%, (see Figure 2.23).<sup>13</sup>

<sup>13</sup> However, the lack of detailed data on borrowers makes it impossible to conduct an in-depth analysis. As a result, we use approximate data, including the reference to consumption in the national economy.

The year 2017 saw an improvement in the quality of loan portfolio as compared to the end of 2016, reflected in a smaller number and a lower value of loans with high LTV (the number of loans with LTV exceeding 100% decreased by over 30% and their value by over 40%) which was driven, among others, by the appreciation of the zloty vis-à-vis the major currencies and growing prices in the real estate market.<sup>14</sup>

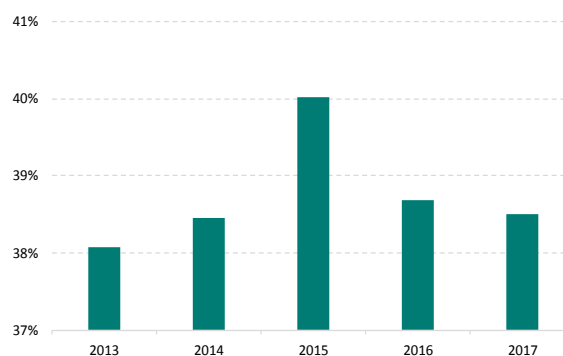
Despite a weak impact on demand in the global scale, residential mortgage loans affected considerably the expenditure of households buying housing. Average DSTI values for the years 2013-2017 stood at the level of approx. 38%. This means that interest rate movements are reflected in borrowers' credit risk to a greater extent than global declines in demand<sup>15</sup>.

**Figure 2.24 Distribution of the value of residential mortgage loans by LTV**



Source: NBP estimates based on data survey of KNF (the Polish Financial Supervision Authority)

**Figure 2.25 Average value of DSTI for residential mortgage loans (balances)**



Source: NBP estimates based on data survey of KNF

<sup>14</sup> See: The findings of the study of the portfolio of household residential mortgage and consumer loans as at the end of 2017, KNF (the Polish Financial Supervision Authority)

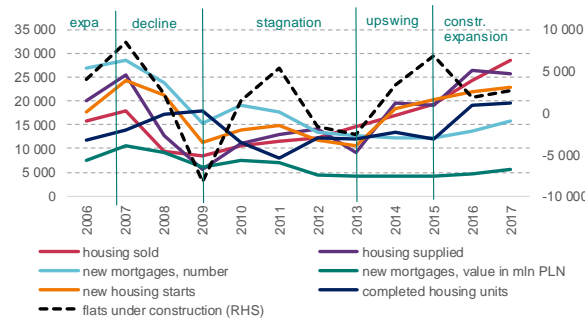
<sup>15</sup> Interest rate hike by 1 p.p. increases a burden for the households' budget (DSTI) from 38% to 43% i.e. by 8%. At the same time, the decline in the global demand in the economy resulting from this fact will reach approx. 0.2%.

### 3. Developments in the residential real estate market in Poland in 2017

Business cycles are a structural feature of the real estate market. The phase of the cycle is an important factor while evaluating the developments in the market, and the number of dwellings sold is one of the basic measures of the phase of the cycle. In order to monitor business cycles and identify speculations and tensions in the credit market we use house price indicators<sup>16</sup>.

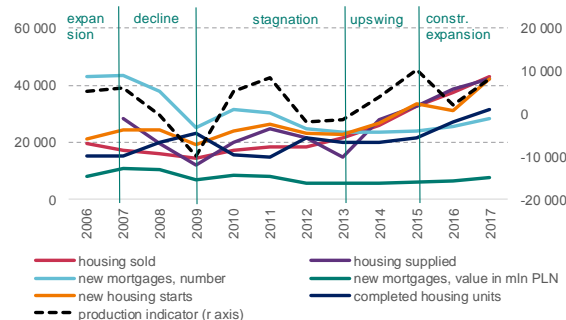
Since 2013 the residential real estate markets in Poland's major cities have seen a recovery which in 2015 transitioned into expansion which was accompanied by high construction activity - the production levels observed in the previous cycle were exceeded (see Figures 3.1 and 3.2). In 2017, supply dynamically responded to high demand as reflected in a significant growth in new residential projects, exceeding levels recorded in the years 2006-2008. At the same time, in contrast to the previous period of tensions, lending posted only a minor increase on the previous year. A significant rise in home sales combined with a relatively stable growth in lending indicates that households finance home purchases to a larger extent with their own funds. This is due to the fact, among other things, that higher rates of return on rents are higher than rates of return on bank deposits. Dynamic processes were observed especially in the residential real estate markets of 6M; on the other hand, after prior increases certain phenomena stabilised in the Warsaw market. Dwellings purchased for market rental were an important supply driving factor apart from dwellings bought for own housing needs.

Figure 3.1 Housing cycle in the Warsaw market



Source: NBP, GUS, REAS, BIK

Figure 3.2 Housing cycle in 6M markets



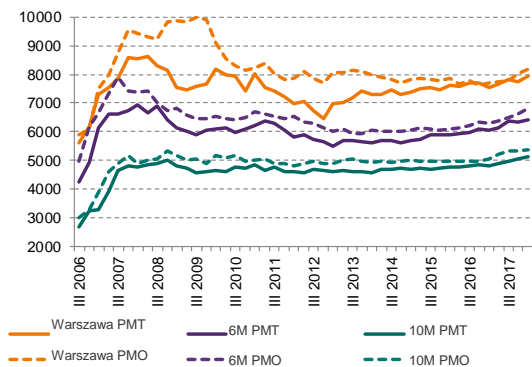
Source: NBP, GUS, REAS, BIK

<sup>16</sup> See: Report on the situation in the residential and commercial real estate market in Poland in 2016.

### 3.1 Home prices

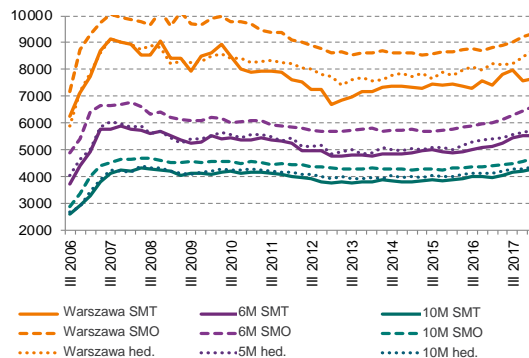
In 2017 average offer and transaction prices of square meter of housing<sup>17</sup> in local primary and secondary markets in Poland were on the rise. The hedonic price#, i.e. the price taking into account quality differences between the analysed goods and the changing structure of the sample of dwellings analysed in subsequent quarters, increased in all the analysed markets.

**Figure 3.3 Average offer and transaction prices of housing in Poland (PLN/square meter) in the primary market**



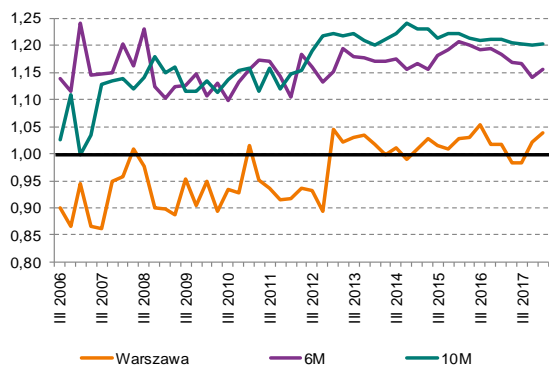
Source: NBP

**Figure 3.4 Average offer, transaction and hedonic prices of housing in Poland (PLN/square meter) in the secondary market**



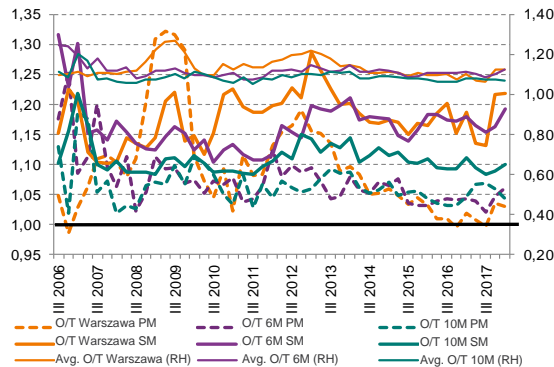
Source: NBP

**Figure 3.5 Relation of transaction prices per square meter of housing in the primary market to the secondary market (PLN/sq. m)**



Source: NBP

**Figure 3.6 Relation of offer prices per 1 square meter to transaction prices in the secondary primary market, secondary market and the average of the primary and secondary market**



Source: NBP

Analysis of prices per square meter of housing shows that prices in nominal terms are approaching the levels recorded in the period of tensions i.e. 2006-2008, whereas CPI deflated prices, despite a slight increase, remain below the 2006-2008 levels. Real prices relative to the average wage growth in the corporate sector were significantly lower than those observed during the period of

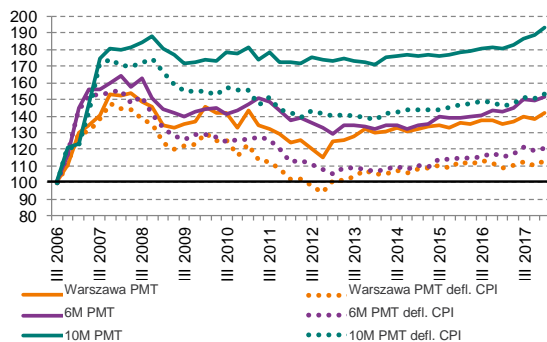
<sup>17</sup> Data on housing prices in the primary and secondary market are derived from the BaRN real property prices database kept by Narodowy Bank Polski. More on the survey on the NBP website: [http://www.nbp.pl/home.aspx?f=/publikacje/rynek\\_nieruchomosci/ankieta.html](http://www.nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/ankieta.html).

tensions, especially in the secondary market in all analysed cities, which means that wages were rising faster than prices.

In 6M and 10M average prices per square meter of housing in the primary market exceeded those in the secondary market which may be considered as a typical phenomenon for those markets as has been corroborated by data since the start of the survey. On the other hand, transaction prices in the primary and secondary market of Warsaw are now comparable<sup>18</sup>.

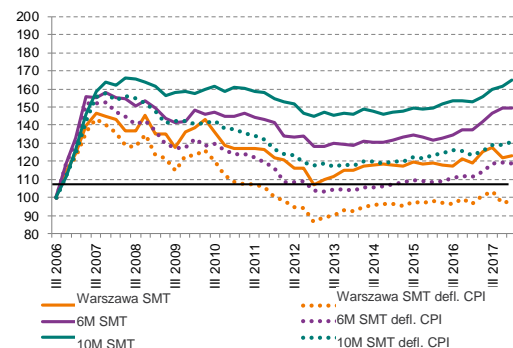
In Warsaw, the highest prices were noted in particular in the case of transactions involving small dwellings (with an area up to 40 square meters) and large dwellings (with an area exceeding 80 square meters), both in the primary and secondary markets. Also in the primary market of the largest 6 cities the highest prices were seen in the segment of dwellings with an area up to 40 square meters and above 80 square meters. On the other hand, in the secondary market the highest prices were recorded in the case of small dwellings (up to 40 square meters) and the lowest prices in the case of large dwellings (above 80 square meters). On the other hand, in the primary markets of the remaining 10 cities the highest prices per square meter of housing were observed in the case of small and large dwellings (up to 40 square meters and above 80 square meters) and in the secondary markets the highest prices were noted in the case of small dwellings (up to 40 square meters) and the lowest prices in the case of large dwellings (above 80 square meters).

**Figure 3.7 Index of the average weighted transaction price of 1 square meter of housing in the primary market and the real price to CPI (2006 Q3=100)**



Source: NBP, GUS

**Figure 3.8 Index of the average weighted transaction price of 1 square meter of housing in the secondary market and the real price to CPI (2006 Q3=100)**

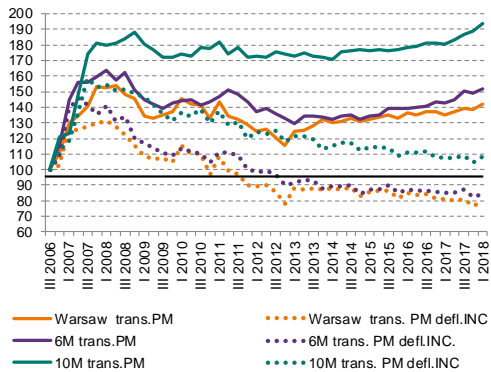


Source NBP, GUS

<sup>18</sup> The analysis does not take into account the difference in the quality and location of housing in the primary and secondary markets.

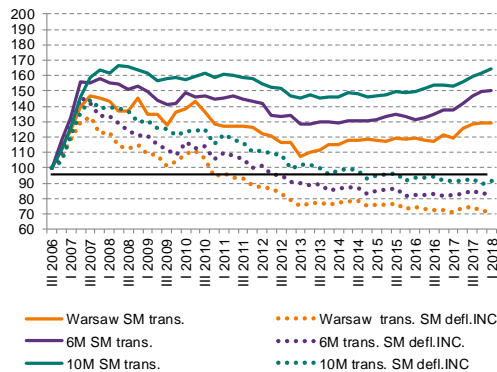


**Figure 3.9** Index of the average weighted transaction price of 1 square meter of housing in the primary market and the real price to the average wage in the enterprise sector (2006 Q3=100)



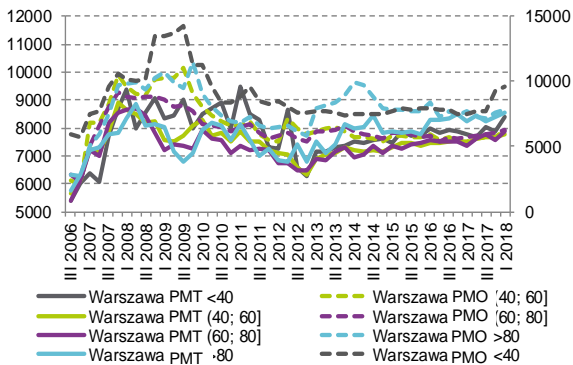
Source: NBP, GUS

**Figure 3.10** Index of the average weighted transaction price of 1 square meter of housing in the secondary market and the real price to the average wage in the enterprise sector (2006 Q3=100)



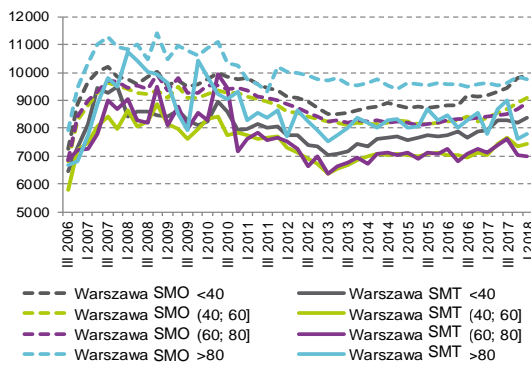
Source: NBP, GUS

**Figure 3.11** Average offer and transaction prices of housing in Warsaw in the primary market by area (PLN/ square meter; offer < 40 sq. m right-hand axis)



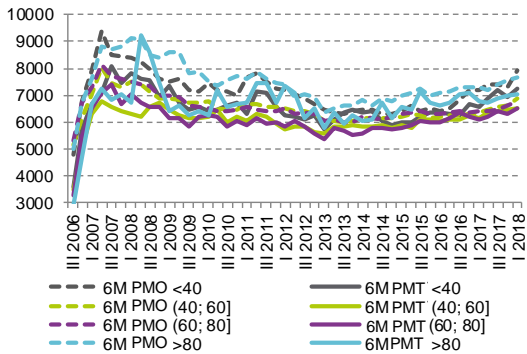
Source: NBP

**Figure 3.12** Average offer and transaction prices of housing in Warsaw in the secondary market by area (PLN/square meter)



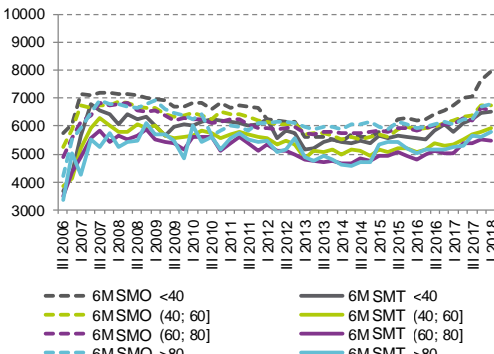
Source: NBP

**Figure 3.13** Average offer and transaction prices of housing in 6M in the primary market by area (PLN/ square meter)



Source: NBP

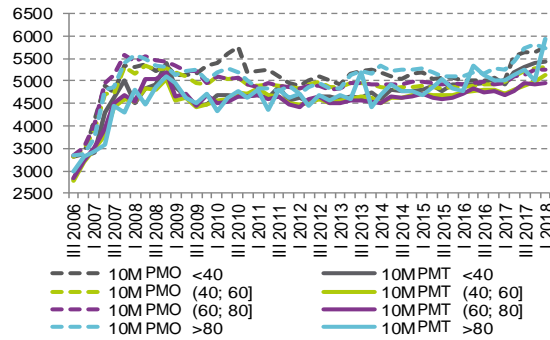
**Figure 3.14** Average offer and transaction prices of housing in 6M in the secondary market by area (PLN/square meter)



Source: NBP

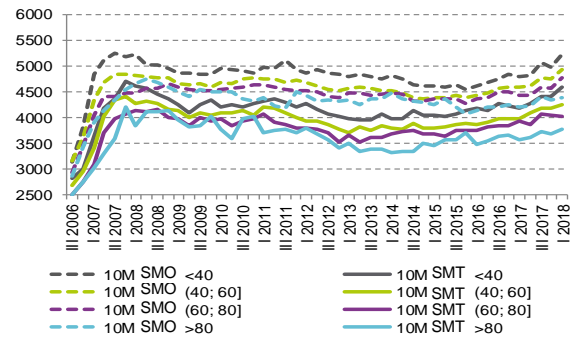


**Figure 3.15 Average offer and transaction prices of housing in 10M in the primary market by area (PLN/ square meter)**



Source: NBP

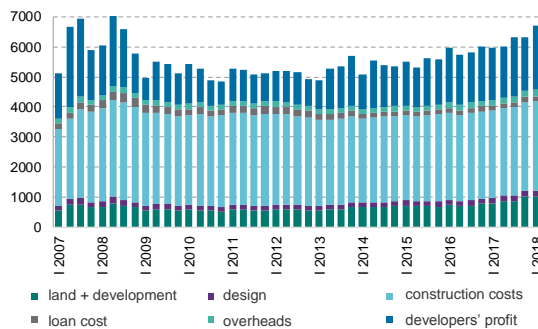
**Figure 3.16 Average offer and transaction prices of housing in 10M in the secondary market by area (PLN/square meter)**



Source: NBP

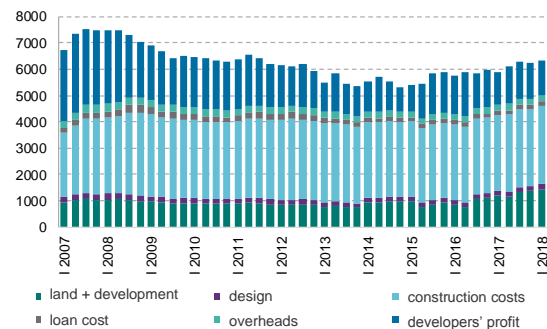
The comparison of the structure of home prices in selected primary market shows a relatively high and stable share of developers' profit, which is related to limited competition, typical for this market, and price differentiation by sellers<sup>19</sup>. The share of profits differs across markets<sup>20</sup> and across years; in 2017 Q4 it was in the range 20-30%.

**Figure 3.17 Gdańsk, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302#)**



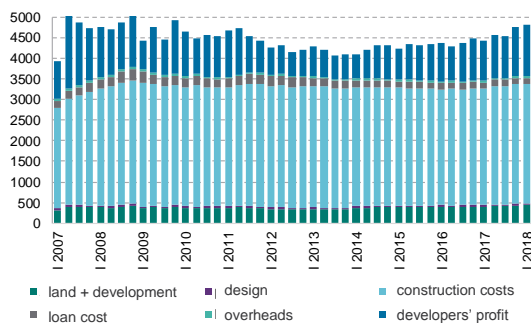
Source: NBP

**Figure 3.18 Kraków, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302)**



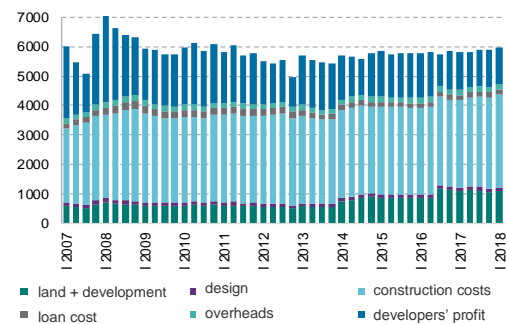
Source: NBP

**Figure 3.19 Łódź, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302)**



Source: NBP

**Figure 3.20 Poznań, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302)**

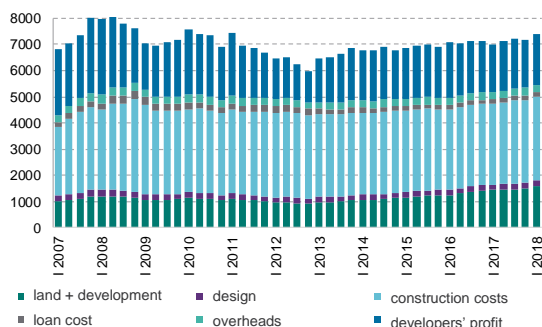


Source: NBP

<sup>19</sup> See: Report on the situation in the residential and commercial real estate market in Poland in 2015.

<sup>20</sup> A more detailed description of supply in the residential real estate market in Chapter 3.2 Housing supply.

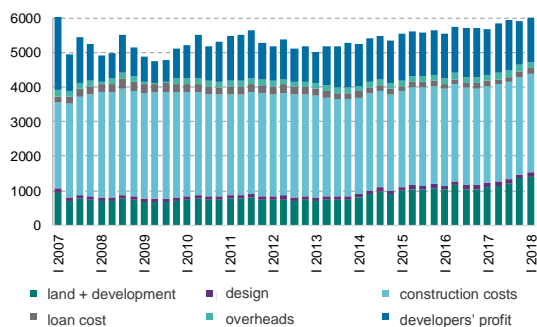
**Figure 3.21 Warsaw, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302)**



Note to Figures 3.17 - 3.22: net transaction price (excluding VAT);

Source: NBP

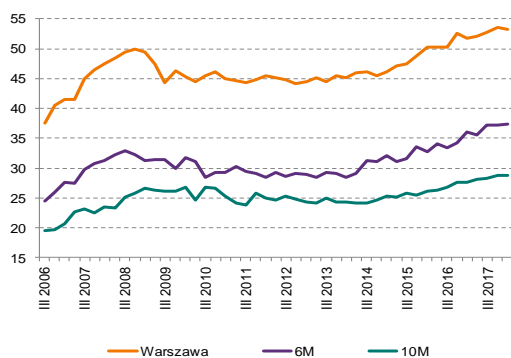
**Figure 3.22 Wrocław, estimated structure of transaction price per 1 square meter of usable area in the primary market (building type 1122-302)**



Source: NBP

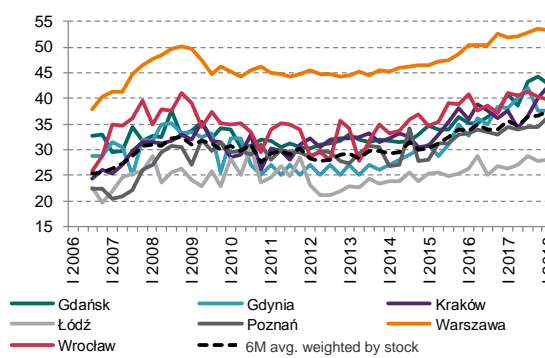
Average rent rates (offers and transactions) per square metre of housing in selected groups of cities in Poland has been on the rise since 2015 (see Figures: 3.23 - 3.24 ). In 2017 Q4 rent rates in year-on-year terms increased by: 1.9% in Warsaw, 9.1% in the 6 cities and 4.5% in the 10 cities. According to the data of the Ministry of Finance the number of tax declarations filed by persons renting their homes is on the rise which may indicate that the market ceases to be a grey sphere of the economy and is becoming increasingly transparent<sup>21</sup>.

**Figure 3.23 Average monthly offer and transaction home rental rates in the secondary market in Poland (PLN/ square meter)**



Source: NBP

**Figure 3.24 Average monthly offer and transaction home rental rates in the secondary market in Poland (PLN/square meter)**



Source: NBP

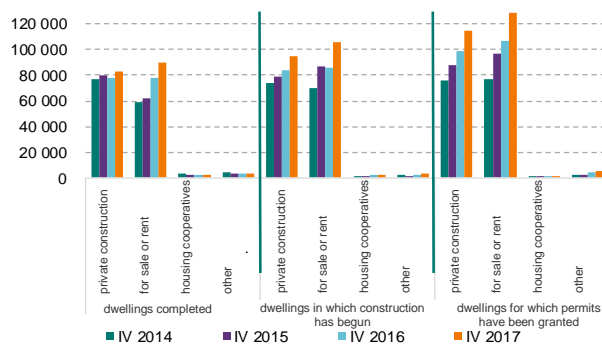
<sup>21</sup> In the *Information concerning lump-sum tax on registered income for 2016* the Ministry of Finance informs that there were 39 thousand taxpayers in 2003, 108.1 thousand in 2006, 509 thousand in 2014, and 563 thousand in 2017 earning income under lease, sublease, rental, subrental contracts or other similar contracts not concluded as part of non-agricultural business activity. In 2017 the total of 14 886 taxpayers (5002 more than in 2015) declared having concluded a private lease contract. It is difficult to assess what is the market share of non-declared rental.

### 3.2 Housing supply

Housing supply consists of dwellings offered for sale and for rent, involving both the existing stock (secondary market) and new housing (primary market), adjusted for depletion and changes in the intended use of dwellings<sup>22</sup>. Amid increasing demand for housing and a relatively infrequent change of home ownership, residential construction is the key factor for the equilibrium in this market.

The structure of residential construction supply in Poland was stable until the end of the 1990s. In large cities, developer construction is major type of construction. Residential projects of housing cooperatives are of marginal importance in those cities, although they have been gaining on importance recently. In medium-sized and small towns and in rural areas, single-family houses are the major type of construction and, to some extent, self-built houses (see Figure 3.25). It is estimated that approximately 30% of developer housing purchases are loan-financed, which translates into a steady growth in residential loan portfolio. Single-family housing development is, to a large extent, financed with buyers' own funds, and mortgage borrowing plays a supplementary role only.

**Figure 3.25 Structure of housing construction forms in Poland**



Source: GUS

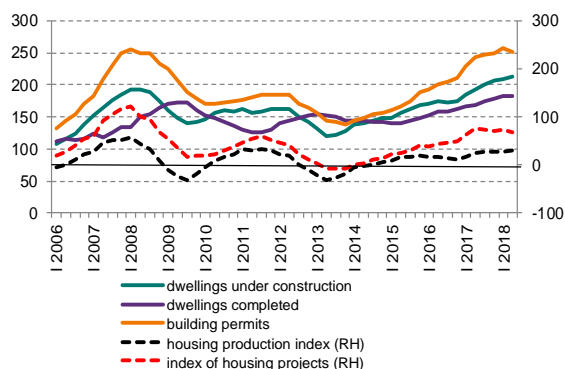
A strong increase in demand in the housing market in 2017 had a positive impact on financial condition of real estate developers. The number of home completions and starts were at a record high level. Since 2013 we have seen a decline in the number of home offers on the market (see Figure 3.28) which results from high housing demand.

The supply of new housing in Poland in 2017 responded fairly elastically to high demand (see Figure 3.27). The total of 178.3 thousand dwellings were completed and made ready for occupancy, i.e. 14.9 thousand more than in 2016 (a rise of 9.1% y/y). The construction of the total of 206 thousand dwellings was started, i.e. 32.1 thousand more than in 2016 (a rise of 18.4% y/y). In 2017 the total of 250.2 thousand permits for home construction were issued, i.e. 38.7 thousand more than in 2016 (a rise of 18.3% y/y).

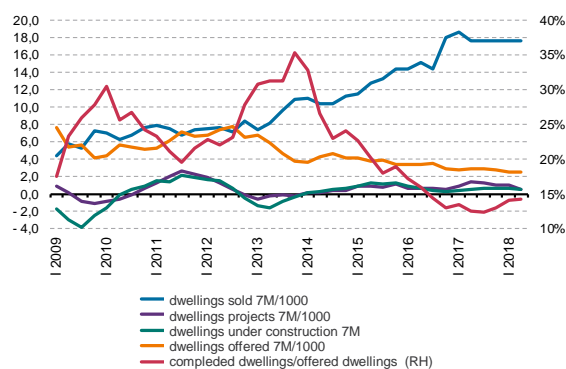
<sup>22</sup> In Poland we have access to data concerning the size of the home construction. However, there are no data concerning contracts for developer housing construction and home sales in the secondary market.

The elasticity of the supply of new dwellings to demand shocks is of particular relevance when analysing the risk of a violent shock in the housing market. It tells us how quickly the real estate development sector can adjust to increased demand and how the market can avoid the risk of an excessive rise in prices. Tensions may be measured by comparing the number of building permits and dwellings under construction with the size of home sales. This comparison shows that if home sales in the future remain at the current level, the forecasted housing production will not be sufficient to meet housing demand. Both the number of permits for new housing construction as well as the constructions already under way should follow the growth of sales with a certain time lag. Charts 3.26 and 3.27 show that in 2017 housing supply generally matched housing demand. In the second half of 2017, however, certain developments suggested that supply was getting tight. Such developments included the persistently low share of completed dwellings on offer in sales and the declining number of dwellings under construction in the high current home sales.

**Figure 3.26 Housing construction in Poland (number of dwellings, rolling 4 quarters)**



**Figure 3.27 Indicator of residential projects and dwellings under construction and dwellings offered for sale in 7M compared to home sales in 7M**



Notes to Figures: Projects under construction are building permits minus completed dwellings ready for occupancy; dwellings under construction are dwellings whose construction started minus completed dwellings; both indicators are summed up in 4 quarters. In Figure 3.27 they were divided by sales in a particular period.

Source: NBP based on GUS

Source: NBP based on Sekocenbud, REAS

## Analysis of the developer project

The analysis of the real estate developer sector is based on the analysis of production profitability. It is based on the analysis of real estate development process, prices of sold properties, and costs of factors of production. Costs of labour, capital and land were further broken down into production costs, costs of capital and land and then their share in the production costs of particular properties was determined. The analysis of the prices of productive factors examined average cost-based estimates of labour rates (according to the types of works; see Figure 3.28), average prices and changes in prices of materials and rental of construction equipment (see Figure 3.29), as well as prices of building land.

The analysis of the real estate development process carried out by NBP since 2006 is based on the specially prepared cost estimates of Sekocenbud covering the period 2007-2018, and on the model of the “multi-family building” (1122-302#), including land development elements and utility

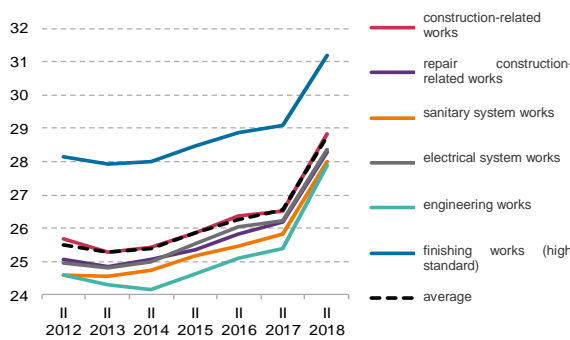
connections. The assumptions concerning the building are the basis to calculate the impact of changes in productive factors on the costs of construction.

The prices of building land have been monitored since 2014 by local analysts of NBP Regional Branches with the use of statistical methods, comparison of pairs and adjusted mean, and with the use of the mixed method. The estimates of prices per square meter of building land are applied to the analysis of the structure of price per square meter of an average dwelling in the analysed cities.

The comparison of construction costs with home prices derived from own studies, including the costs of building land, allows to quantify the structure of home price and developer profit. The knowledge of typical developments projects implemented by developers allows to estimate the rates of return on projects earned by them, which is the basic indicator enabling the assessment of their activity.

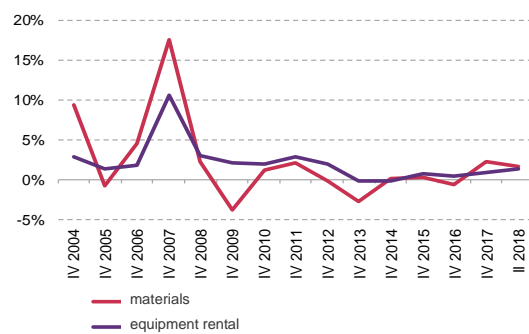
The key advantage of this attitude is that it is based on relatively "hard" data and correlations and is not prone to changes of the sample representativeness or tax optimisation effect what weighs on the indicator-based financial analysis method.

**Figure 3.28 Average gross cost estimate-based rates (PLN/man-hour) in developer construction in second quarters**



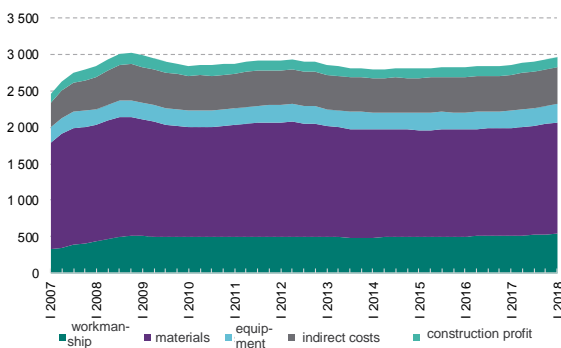
Source: NBP, Sekocenbud

**Figure 3.29 Changes (y/y) in prices of construction materials and rental rates of equipment in developer construction**



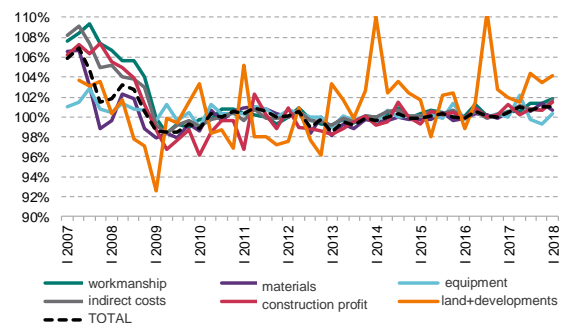
Source: NBP, Sekocenbud

**Figure 3.30 Structure of construction costs of a half of building 1122-302 (PLN million)**



Source: NBP, Sekocenbud

**Figure 3.31 Changes in construction price of 1 square meter of usable area of a residential building (type 1122-302) (typ 1122-302)**

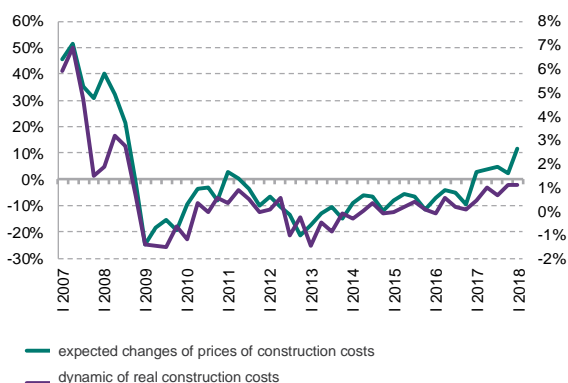


Source: NBP, Sekocenbud

Note to Figure 3.31: the estimate is weighted with an area of completed developer construction in 6M

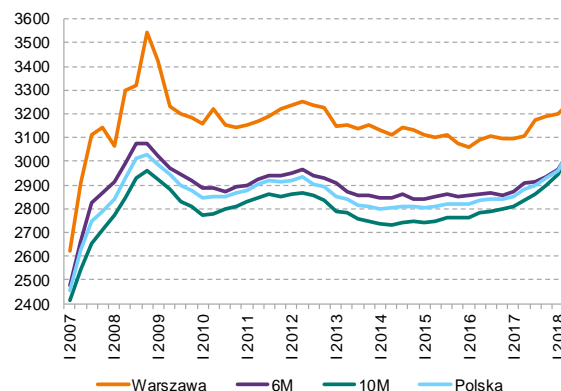
In 2017 the growth in construction costs and prices of construction materials remained stable, with a significant rise in the rates for labour noted in mid-2018. Land prices are largely volatile which is typical for a factor of production whose price amid growing demand is affected by marginal rather than average costs (see Figure 3.31).

**Figure 3.32 Predicted changes in prices of construction and assembly works (+3M) and growth in construction costs of usable area of a residential building (building type -302#)**



Source: NBP based on NBP, Sekocenbud

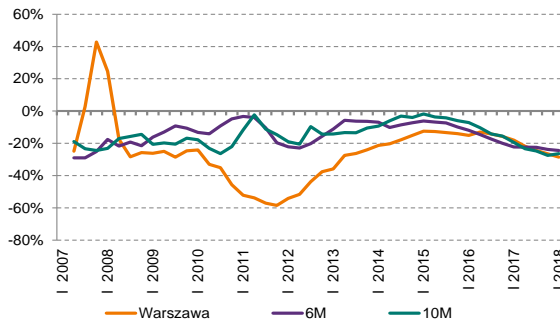
**Figure 3.33 Average construction price of square meter of usable area of a residential building (type 1122-302; PLN)**



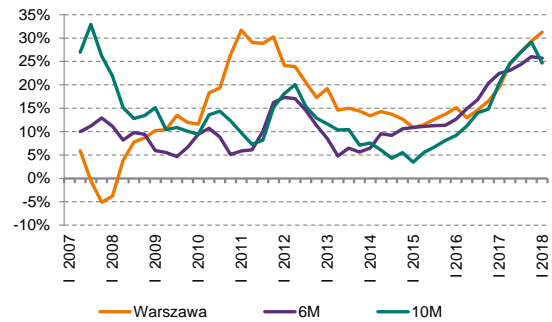
Source: NBP based on Sekocenbud

The condition of real estate developers improved as the structure of offered housing matched the demand structure. Demand for small, 1- to 2-room dwellings still prevails in the market as they are more liquid as an investment and more available to consumers because of their low total price. They may be used both as housing for small households, as investment (housing for rent), and as housing for the elderly. Dwellings  $\leq 50$  sq. m prevailed in the primary market, their offer was much more adjusted to the demand than that of dwellings  $>50$  sq. m. (see Figures 3.34 – 3.35). The secondary market continued to see a larger mismatch between supply and demand for housing in terms of usable area (see Figures 3.36–3.37), hence lower prices in segments less adjusted to the client's needs, especially in the secondary market.

**Figure 3.34 Supply and demand mismatch\*;  
dwellings with an area ≤ 50 square meters – primary  
market in selected cities of Poland**



**Figure 3.35 Supply and demand mismatch\*;  
dwellings with an area > 50 square meters – primary  
market in selected cities of Poland**

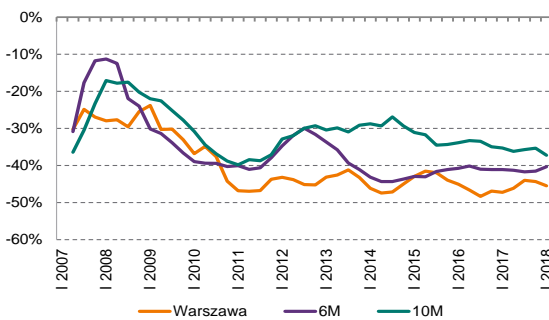


\*Note: Figure 3.34 shows the percentage short-term mismatch between supply (housing offered by real property developers) and estimated demand (transactions) in terms of the area of housing in the primary market, according to the data from the BaRN database. The mismatch is calculated as the ratio of the share of dwellings with usable area of up to 50 square meters offered for sale to the number of transactions involving dwellings with a total area of up to 50 square meters (the average figure for the last four quarters). A positive result (above the black line) indicates the surplus of dwellings of a particular size, a negative result – their deficit. Figure 3.35 is parallel for the primary market in the case of dwellings with an area above 50 square meters, figures 3.36-3.37 are parallel for the secondary market.

Source: NBP

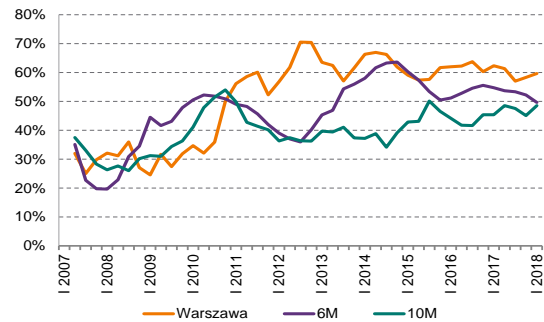
Source: NBP

**Figure 3.36 Supply and demand mismatch\*;  
dwellings with an area ≤ 50 square meters – secondary  
market in selected cities of Poland**



Source: NBP

**Figure 3.37 Supply and demand mismatch\*;  
dwellings with an area > 50 square meters – secondary  
market in selected cities of Poland**

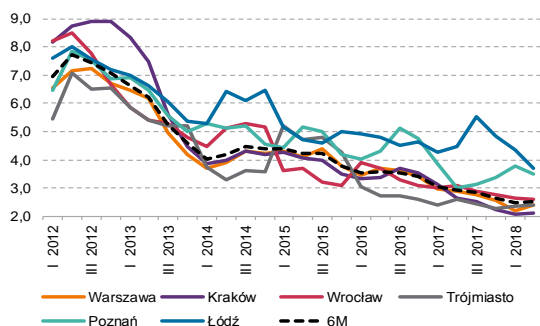


Source: NBP

As a result of the high sales level recorded at the end of 2017, home selling time in the primary market further shortened (see Figure 3.38). The home selling time in the secondary market at the end of the analysed period in 6M was approx. 6 months, and in Warsaw increased to approx. 7.5 months while decreasing to approx. 5 months in 10M (see Figure 3.39). In the period from 2012 Q2 to 2015 Q2 Warsaw recorded an increase in home selling time which may be attributed to the fact that sellers did not accept offered home prices and declined offers.



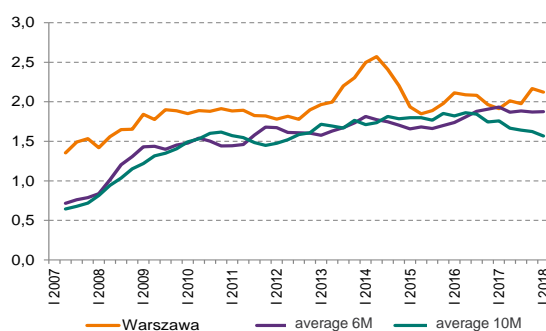
**Figure 3.38 Selling time of dwellings on offer in the primary market in selected cities (number of quarters)**



Note: selling time is the relation of dwellings on offer at the end of each quarter to the number of sold dwellings in the last four quarters.

Source: REAS

**Figure 3.39 Selling time of dwellings on offer in the secondary market in selected cities (number of quarters)**



Note: real selling time, average for the last four quarters; data are not comparable with 3.38. Home selling time in the secondary market takes into account only transactions ended with a sale. The data are underestimated since they do not contain offers put on the market but not sold yet.

Source: NBP

**Box A. Results of the analysis of supply and prices of land in 2017 (based on the NBP data base)**

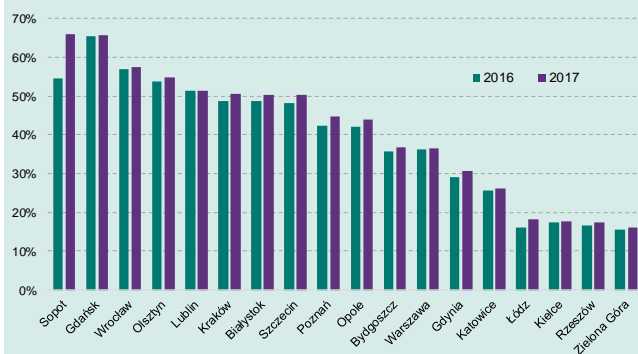
**Area development and town planning in Poland**

The area of Poland covered by the Local Zoning Plan (MPZP) at the end of 2017 reached 30.5% of Poland's total area, as compared to 30.2% in the previous year. The largest coverage by the local zoning plan is recorded in the following voivodships: Śląskie (69.4%), Małopolskie (66.9%) and Dolnośląskie (63.3%). The smallest coverage is seen in Kujawsko-Pomorskie (6.5%), Podkarpackie (8.9%) and Lubuskie (9.2%) voivodships.

In 2017, in the main cities of Poland, the highest share of area covered by the effective Local Zoning Plans in the area of land intended for preparation of the plans was noted in Sopot (66.1%), Gdańsk (65.6%), Wrocław (57.4%), Olsztyn (54.8%) and Lublin (51.4%). The lowest share was recorded in: Zielona Góra (16.0%), Rzeszów (17.3%), Kielce (17.6%) and Łódź (18.1%). Areas covered by the MPZP accounted, on average, for 40% of land to be covered by land development plans.

At the end of 2017, 82 thousand ha were subject to preparation of the MPZP (in 18 main cities of Poland), which accounted for 22.2% of areas for which preparation of the MPZP was envisaged. The main barriers slowing down the preparation of land development plans include high financial costs and complex procedures. Due to a relatively low coverage of the MPZP and the fact that these areas fail to meet developers' expectations, it has been a common practice to carry out construction projects on the basis of Development Conditions (WZ).



**Chart A1 Share of area covered by the currently effective MPZPs in the area to be covered by MPZP in selected cities**

Source: GUS

Many attempts were undertaken to reach a compromise between planning restrictions and supply of developer dwellings and real estate development business. At present, social consultations concerning the draft amendments to the urban and building code are ongoing at the Ministry of Infrastructure and Construction. In principle, the Act shall simplify and accelerate the investment and construction process. The major changes concern the possibility of obtaining the decision on development conditions which used to be a tool enabling investment planning on areas for which no MPZP has been adopted, including determining the function of land development and management which needs to be compliant with the function dominating in such area, have access to the public road and utilities. There are also plans to introduce a regulation pursuant to which the decision concerning the WZ will expire after 3 years, counting from the day when the decision became final (currently it is issued for an indefinite period of time).

The amendment aimed at facilitating the development and construction process may affect developers' operations. As WZ will expire quickly, many investors will start construction much earlier than planned. The draft Act may considerably limit the availability of land and boost both land and home price since construction will be possible only on areas covered by the MPZP.

In 2017, in cities having the status of a district, approximately 18.6 thousand positive WZ decisions were issued, including those related to:

- single-family residential development (8.5 thousand),
- multi-family residential development (1.8 thousand),
- commercial development (3.2 thousand),
- location of public purpose investment (5.1 thousand).

In August 2018, the Act on assistance in preparation and implementation of development projects and accompanying investments entered into force (Journal of Laws of 7 August 2018, item 1496) which, in accordance with the legislator's intention, should accelerate and simplify the development process. It will be possible to implement residential projects (at least 25 housing units or 10 single-family houses) regardless of the MPZP provisions but in accordance with the municipality's planning strategy. The development and construction process may be particularly facilitated on areas formerly used as railway, military, production or postal service areas which have now ceased to perform their functions.

As provided for in the Act, on such areas, usually owned by the State Treasury, it will be possible to implement residential construction projects which are not compliant with the municipality's planning strategy. With no MPZP in place, the investor that will decide to benefit from the provisions of the Act will be able to obtain a building permit pursuant to the municipality's decision concerning the location of the residential development project instead of the decision on the land development and management, as before.

Residential development projects should be implemented according to urban and architectural guidelines to be adopted by the municipality council by way of a resolution. Development projects must meet the defined standards in terms of access to the public road, access to utilities or distance from transport, educational or recreational facilities. Some of them may be modified by the municipality council in a resolution setting the local urban standards. In the standards, the municipality may additionally determine the obligation of access to the heating network and the number of parking places.

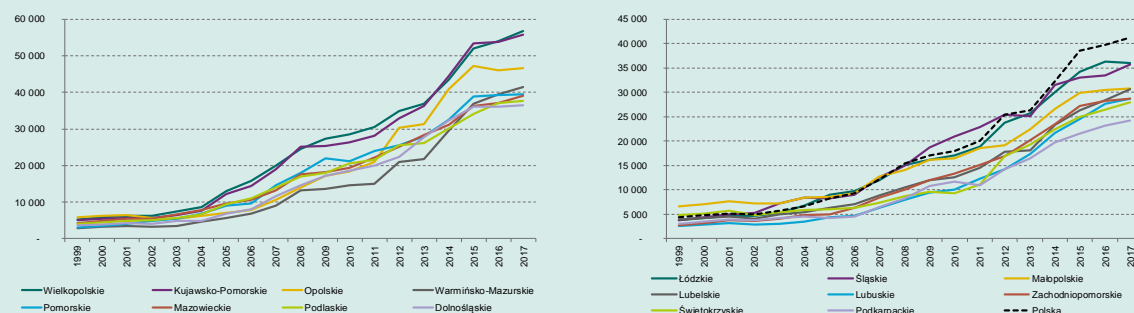
The provisions of the aforementioned Act will facilitate, among others, the construction of housing for rental but the Act can benefit real estate developers as well. The Act will also facilitate trade in agricultural land within city boundaries and its easier conversion to construction land (exemption from fees). Facilitation of development and construction process may bring a certain risk in the form of intensive development of areas without adequate infrastructure and access to public transport. The Act will be effective for 10 years.

### **Agricultural land**

1 May 2016 marked the end of the 12-year protection period making it impossible for foreigners from countries being contracting parties to the Agreement on the European Economic Area (mainly EU Member States) and the Swiss Confederation to purchase agricultural land in Poland. Laws putting restrictions on trade in agricultural land, justified by fears of land speculation, were introduced on 30 April 2016. According to the new regulations, only farmers intending to cultivate the land, churches, religious associations, national parks, local government units (e.g. municipality) and the State Treasury may be the owners of agricultural land. Unrestricted trade in land is permitted in the case of real estate up to 0.3 hectares. Others must obtain the approval of the director general of the National Centre for the Support of Agriculture - a successor of the Agricultural Property Agency (Agencja Nieruchomości Rolnych – ANR) which ceased to exist in 2017.

In the years 1999-2017 the average price of agricultural land (per 1 ha) traded by individuals in Poland increased over nine times. Prices of agricultural land recorded by the Agency for the Restructuring and Modernisation of Agriculture in 2017 were, on average, 4% higher than those recorded in 2016 against an increase of approximately 20% in 2015. Prices of arable land per 1 hectare ranged from PLN 24 to PLN 57, having increased in the major part of voivodships, excluding Łódzkie Voivodship.

**Figure A2 Average prices of arable land (per 1 ha) sold and purchased by individuals in selected voivodships in the years 1999-2017**



Source: GUS

Source: GUS

According to its data, in 2017 the National Centre for the Support of Agriculture<sup>23</sup> received 17,716 applications for the transfer of ownership of agricultural land. The total of 15,176 administrative decisions were issued for agricultural real estate of 44.4 thousand hectares. 13,975 applications for the total area of 38.1 thousand hectares were granted 246 (2.5 thousand hectares) were refused, and 955 applications (3.7 thousand hectares) were dismissed.

The problem of rising prices of construction land prices is likely to intensify, albeit at a slow pace. The Act on the assistance in preparation and implementation of residential investment projects and accompanying investments adopted in 2018<sup>24</sup> which in certain cases, on the territories of big cities, provides for simplified procedures of converting arable land into construction land.

### Sales transactions of land for single- family housing construction

According to GUS data, the share of single-family housing construction in the number of dwellings completed and made available for occupancy amounts to 37.9% and is lower by 9.9 percentage points than in 2016.

In 2017, the BaRN database recorded approx. 2 thousand transactions involving the sale of land for single-family housing construction. Different characteristics of the land intended for single-family housing construction, different utility infrastructure and the absence of area development plan make the analysis difficult. Sale transactions involving plots of land with an area of 250-2500 square meters of land were analysed. Land located in voivodship capitals and in Gdynia accounted for approximately 27% of all transactions. Out of these transactions, the highest price per 1 square meter of land intended for single-family housing construction was recorded in Gdynia (PLN 598/ sq.m), Warszawa (PLN 564/ sq.m) and Poznań (PLN 424 / sq.m). The lowest price was recorded in Rzeszów (PLN 157/ sq.m), Zielona Góra (PLN 191 / sq.m) and Bydgoszcz (PLN 194 / sq.m).

<sup>23</sup> Until 31 August 2017, the Agricultural Property Agency operated, replaced by the National Centre for Agriculture Support from 1 September 2017.

<sup>24</sup> Journal of Laws of 7 August 2018, item 1496).

### Sales transactions of land for multi-family residential construction

The data collected in the BaRN database include transactions of purchase of land for multi-family housing by real estate developers in voivodship cities. Prices of land varied considerably; in the largest cities the prices of plots of land reached up to several thousand per square meter (in the city centres for the high standard infill building construction) while the prices of land on the outskirts ranged from PLN 100-200/ sq.m. absence of information about planned developments makes the comparison of land prices difficult. Factors determining the land price include the area of the future building and the sales price of housing units. Thus, the square meter of the residential usable area (PUM) would be the best indicator for comparison. Thanks to detailed information on development projects in the primary market in the BaRN database and the data on land purchase transactions, it was possible to analyse prices of sq. m of PUM in selected cities. The analysis covered 35 multi-family residential development projects from 8 voivodship cities introduced into the offer in 2017. The average time between the purchase of land and commencement of sales of dwellings was 5 quarters. The highest transaction prices of land in the analysed development projects were recorded in Kraków (PLN 1761 /sq. m), Poznań (PLN 1718 /sq. m) and Warszawa (PLN 1646 /sq.m). If the usable area of dwellings is taken into account, the highest prices per sq. m of the PUM were recorded in Kraków (PLN 1450 /sq.m), Gdańsk (PLN 1439 /sq.m) and Poznań (PLN 1364 /sq.m). Comparison of PUM prices with the prices of dwellings in particular projects in the primary market collected in the BaRN database in 2017 shows that the share of land prices in the price of 1 square meter of dwellings ranged from 25% in Łódź, through 17% in Warsaw and Poznań, to 13% in Wrocław. The average share of land price in the price of square meter of dwelling amounted to 15%, i.e. close to the 2016 level.

Table A1 Statistics on the sale transactions of land intended for multi-family housing

City	Gross price of sq. m of land in PLN	Gross price of sq. m of dwelling in PLN	Land price in the price of sq. m of PUM in PLN	Share of land price in the PUM price
Bydgoszcz	473	5,812	354	6%
Gdańsk	1,619	9,243	1,439	15%
Kraków	1,761	10,349	1,450	14%
Łódź	812	4,719	1,158	25%
Opole	280	4,951	343	7%
Poznań	1,718	7,709	1,364	17%
Warszawa	1,646	7,686	1,318	17%
Wrocław	1,096	6,065	777	13%
<b>Average</b>	<b>1,379</b>	x	<b>1,094</b>	<b>15%</b>

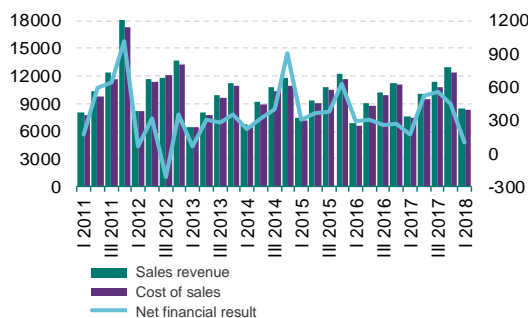
Source: NBP

## Indicator analysis of real estate developers

In order to assess the supply side of the real estate market<sup>25</sup>, the financial and economic condition of real estate developers and<sup>26</sup> their related parties. The results of the analysis of particular housing projects, carried out for many years in 16 local markets by NBP branches (the price of land for multi-family housing construction, direct and indirect construction costs, rates of return on real estate development projects), have added to the information on the profitability of real estate development. It includes data on firms involved in the performance of construction works in residential construction and other construction for 2018 Q1 and Q2 and elements of forecasts for 2018 Q3, gathered in "Quick Monitoring" survey of NBP.

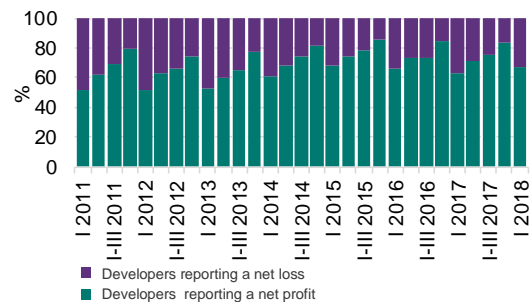
According to the data published in Quarterly Bulletins of the Statistics Poland (GUS), firms (employing more than 49 employees) engaged in the performance of projects and works involving the construction of residential and non-residential buildings (PKD 41) in 2017 recorded a significant rise in the value of basic economic indicators as compared to 2015. In 2017 as compared with 2016 net profit rose by over 51%, income on sales by approx. 12% and cost of sale by over 10%. The average sales profitability in 2017 was 4% and was 1 p.p. higher than the year before. The total share of enterprises reporting a negative net financial result in the total number of the surveyed enterprises increased from 15% in 2016 to approx. 17% in 2017. In 2018 Q1, similarly to the corresponding periods of the previous years, due to the seasonal nature of works in the construction sector, the share of enterprises reporting a negative net financial result exceeded 33%. Sales profitability recorded in 2018 Q1 reached 1.2% and has been definitely at its lowest since 2013.

**Figure 3.40 Economic indicators of enterprises in particular quarters (PKD 41)**



Source: NBP based on GUS

**Figure 3.41 Share of enterprises showing net profit/loss in the total number of enterprises (PKD 41) cumulatively in quarters**



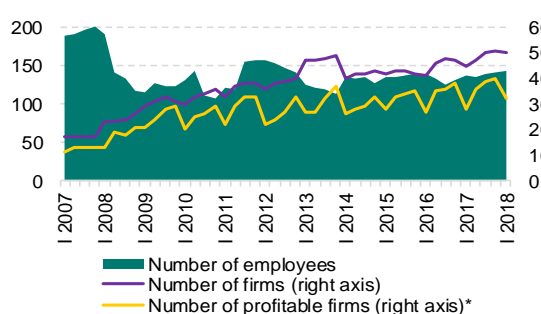
Source: NBP based on GUS

<sup>25</sup> The analysis relied on the data from F-01 reports submitted to GUS in 2007 - 2017 by firms involved in business activity classified as 41.10 in the Polish Classification of Business Activities (PKD). The results are broken down into two groups of companies (smaller - employing from 9 to 49 persons and larger - employing more than 49 persons). The source of valuable supplementary information is the analysis of the financial data of seventeen real estate developers included in the industry index of WIG-real estate (formerly WIG-real estate developers), whose current activity is concentrated in whole or in major part on multi-family housing construction. Additionally, NBP conducted its own survey of housing supply in the primary market in Poland in the period November - December 2017 and a survey of housing demand in the primary and secondary market in multi-family housing construction.

<sup>26</sup> Real estate developer - an investor, a natural or legal person, who invests in the construction of real estate (residential, office, retail and industrial real estate) for sale or rent. Typically, a real estate developer buys a property, supervises the entire investment process from the design stage to the completion of the building (including its expansion or renovation) until its sale or rental ([https://pl.wikipedia.org/wiki/Deweloper\\_budowlany](https://pl.wikipedia.org/wiki/Deweloper_budowlany)).

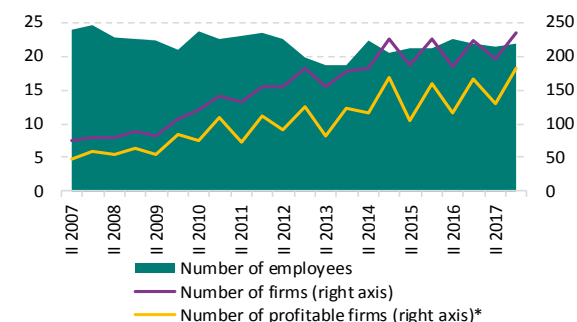
According to the information submitted in the financial statements F-01 to the Statistics Poland (GUS) by firms involved in the development of building projects (PKD 41.10) broken down into smaller and large firms, large real estate developers enjoy persistently favourable situation whereas smaller firms in the sector have poorer financial condition. In 2017 large developers, accounting for 18% of all construction companies, strengthened their position. These firms generated 64% of income and 70% of net financial result in the sector (in 2016 - 48% and 39% respectively). As at the end of 2017 as compared with the end of 2016 companies involved in the development of building projects (PKD 41.10) increased employment by approx. A 8% improvement was also seen in the average labour productivity.

**Figure 3.42 Number of real estate developers employing more than 49 persons**



Source: NBP based on GUS (F-01)

**Figure 3.43 Number of real estate developers employing 9 to 49 persons**



Source: NBP based on GUS (F-01)

\*/The number of profitable companies means the number of companies with a positive net result

In 2017 the residential real estate market witnessed high activity, mainly of large real estate developers involved in the construction of residential buildings as well as a high level of supply and demand for new housing. Despite the growing number of sold dwellings, accounting records in financial statements of large and smaller developers did not confirm the proportionate increase in the growth rate of the executed projects. In 2017 the value of projects under construction remained at a high, yet stable level. The stock of completed dwellings ready for occupancy offered for sale by majority of developers remained at a low level. Higher income and costs at the end of the year reflect real estate developers' tendency to complete dwellings and transfer their ownership to buyers before the end of the calendar year in order to report a higher financial result in their financial statements.

According to the data reported in F-01 statements for 2017, as compared to 2016, the number of large real estate developers generating a positive net financial result remained broadly unchanged at 75%. In particular quarters of 2017, as compared to the corresponding periods of 2016, this group of firms recorded higher sales profitability, equity and assets ratios which is indicative of the profitability of conducted business activity, effective asset management and good financial standing of enterprises.

In 2018 Q1 the value of projects developed by the group of large, leading real estate developers decreased by approx. 19% as compared to the corresponding quarter of 2017 and by over 20% as



compared to the previous quarter. The supply of completed housing declined considerably. In 2018 Q1 as compared with 2017 Q4 in the group of large developers the value of reported income from sales decreased by over 48% (last year's decline was lower and amounted to approx. 22%). Operating expenses were lower by approx. 47% (a year before they were lower by a mere 7%). This may be indicative of home production losing momentum resulting from developers' concern about excessive investment or inability to further increase production capacity as a result of labour-related barriers. The structure of operating expenses of large real estate developers was dominated by third party services (over 56% share), costs of materials and energy consumer (over 14% share) and payroll expenses (over 11% share). The operating expense ratio in 2018 Q1 and 2017 Q4 (0.93 and 0.91 respectively) deteriorated as compared to the level recorded in 2017 Q3 and Q2 (0.89 and 0.84 respectively) due to rising operating expenses connected with primary activity as compared to income from sales.

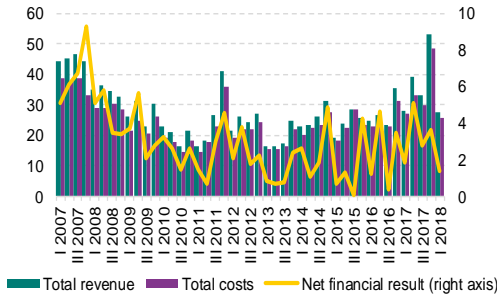
In 2017 the launch of a considerable number of new projects led to a significant depletion of the stock of building plots which were further systematically replenished. In the survey carried out by NBP developers estimated that at the present production rate their land resources would be sufficient for the construction for another 3 years or so.

Firms' equity whose average value dropped in year-on-year terms by approx. 23% plays an important role in financing the operations of large real estate developers. As at the end of 2017 its share in the total liabilities decreased to approx. 39% from the level in excess of 43% recorded a year before. Equity remains at a safe level and allows developers to satisfy any potential creditors. In year-on-year terms a decline was also noted in the value of liabilities resulting from bank loans (by over 27%) and debt securities (by approx. 40%). On the other hand, the volume of advance payments of home buyers being an important source of financing of developers' activity increased significantly (by approx. 65%). As shown in the accounting records, real estate developers after having received the total of amounts due for dwellings handed over for occupancy in 2017 Q4 settled part of their trade liabilities towards contractors. In 2017, the group of large real estate developers saw their liquidity ratios improve and financial independence increase. The current ratio is at a high level which means the ability to settle current liabilities with the use of liquid current assets. The quick ratio which takes into account other current assets, except for the stock of dwellings built and under construction, the majority having been already sold, is at a lower, yet still sound level. Also the average equity to assets ratio and the liabilities equity coverage ratio improved. Total debt ratio and debt-to-equity ratio were at a slightly slower yet still sound level, confirming the safe situation of firms' creditors, including financial institutions. The ratios of turnover of inventories, trade receivables and trade liabilities improved. In 2017 Q4 the average receivables turnover ratio fell to approx. 57 days, the average liabilities turnover ratio to 125 days and the inventory turnover period shortened to 246 days. This means, however, that real estate developers finance their activity with delayed repayment of liabilities.

The number of developers reporting an unsatisfactory level of selected indicators shows that the situation varies moderately across the sector. In the group of large real estate developers the situation improved. In year-on-year terms there was a decline from 20% to 10% in the number of enterprises whose ability to timely settle current liabilities was threatened, real estate developers

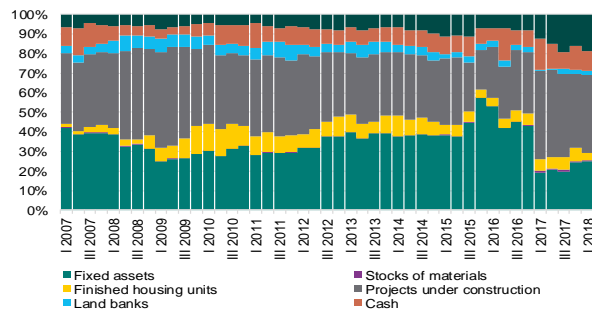
with too high level of operating expenses in relation to earned income and too long inventory turnover period. 30% of real estate developers recorded persisting unfavourable level of financial liquidity. Almost half of large real estate developers continued to report problems with recovery of amounts receivable within two months. The share of developers recording negative net financial result and negative income on sales, negative return on equity and negative assets profitability continued to stand at 20%.

**Figure 3.44 Economic indicators of real estate developers employing over 49 persons (in PLN million)**



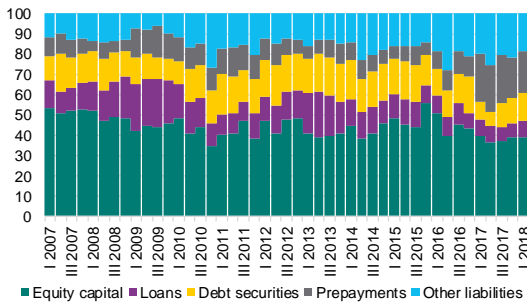
Source: NBP based on GUS (F-01)

**Figure 3.45 Structure of assets of real estate developers employing over 49 persons**



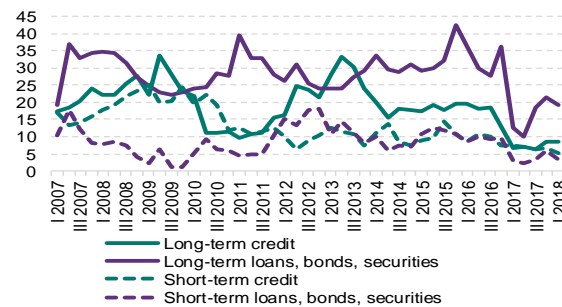
Source: NBP based on GUS (F-01)

**Figure 3.46 Structure of liabilities of real estate developers employing over 49 persons (in %)**



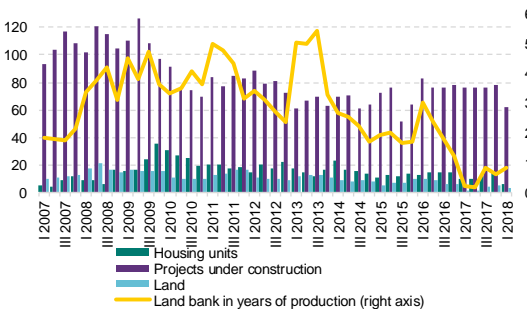
Source: NBP based on GUS (F-01)

**Figure 3.47 Sources of external financing of real estate developers employing over 49 persons (in PLN million)**



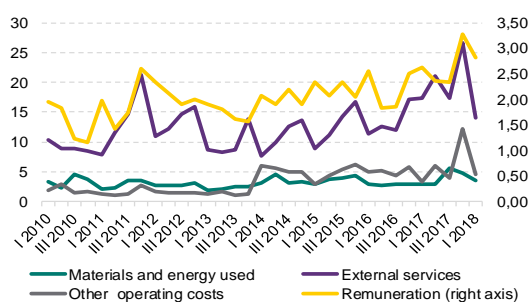
Source NBP based on GUS (F-01)

**Figure 3.48 Situation of real estate developers employing over 49 persons in PLN million (left-hand axis) in years (right-hand axis)**



Source: NBP based on GUS (F-01)

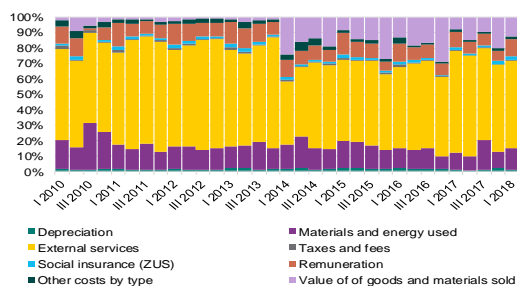
**Figure 3.49 Operating expenses of real estate developers employing over 49 persons (in PLN million)**



Source: NBP based on GUS (F-01)

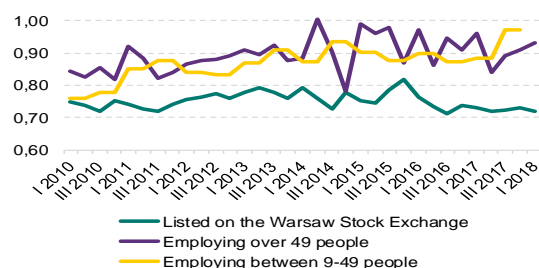


**Figure 3.50 Operating expenses of real estate developers employing over 49 persons**



Source: NBP based on GUS (F-01)

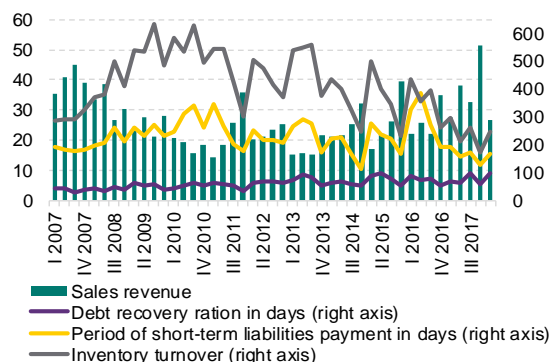
**Figure 3.51 Operating expense ratio by groups of developers**



Unfavourable level of the operating expense ratio - above 1 (100%)

Source: NBP based on GUS (F-01)

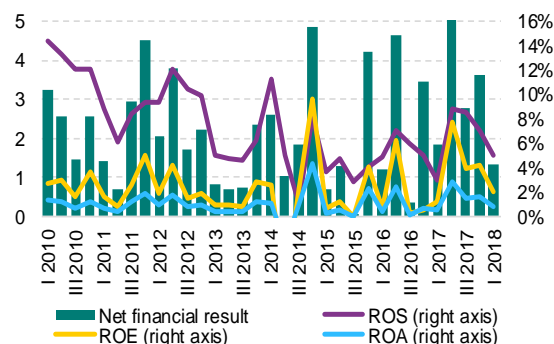
**Figure 3.52 Turnover of inventories, receivables and liabilities of real estate developers employing over 49 persons in PLN million (left-hand axis) in years (right-hand axis)**



Unfavourable level of debt recovery ratio – over 60 days, inventory turnover ratio – over 200 days

Source: NBP based on GUS (F-01)

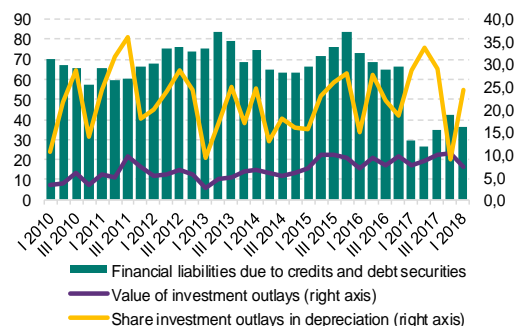
**Figure 3.53 Profitability of real estate developers employing over 49 persons in PLN million (left-hand axis)**



Unfavourable level of ROS, ROE and ROA - below 0 0

Source: NBP based on GUS (F-01)

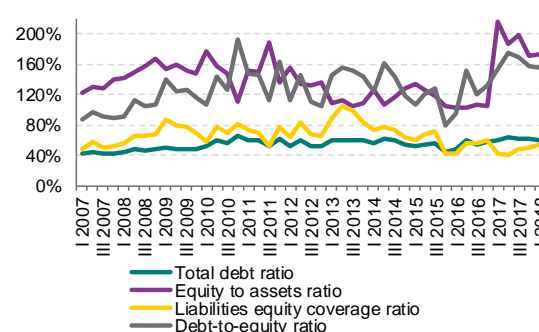
**Figure 3.54 Investment activity of real estate developers employing over 49 persons in PLN million (left-hand axis)**



Note to Figure 3.55: Unfavourable level of the following indicators: general debt ratio - over 80%, equity to assets ratio - below 100%, financial liabilities to equity ratio - over 125%, debt-to-equity ratio - over 220%

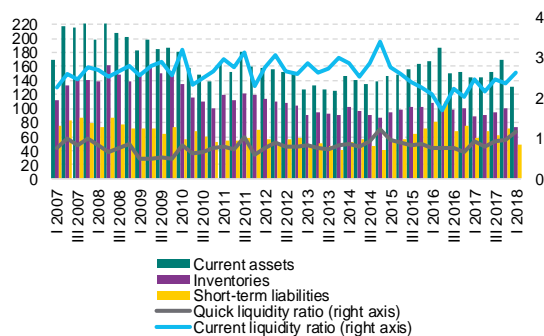
Source: NBP based on GUS (F-01)

**Figure 3.55 Debt ratios and debt coverage ratios of real estate developers employing over 49 persons**



Source: NBP based on GUS (F-01)

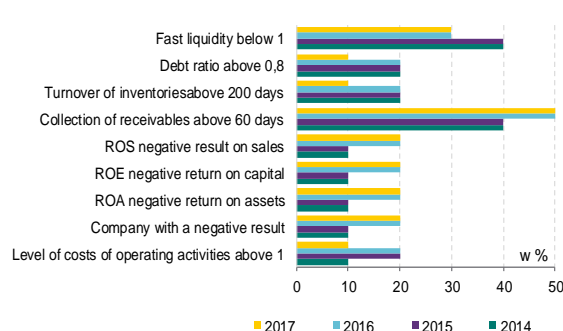
**Figure 3.56 Liquidity ratios of real estate developers employing over 49 persons in PLN million (left-hand axis)**



Unfavourable level of current ratio - below 1,2 quick ration - below 1

Source NBP based on GUS (F-01)

**Figure 3.57 Percentage of real estate developers employing over 49 persons reporting an unsatisfactory level of selected indicators**



Source: NBP based on GUS (F-01)

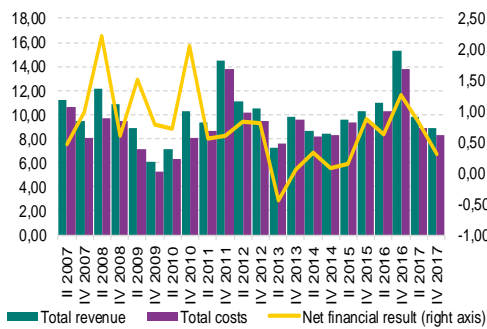
In 2017, the group of smaller real estate developers (e.g. employing 9-49 persons) reported worsening labour productivity and higher payroll expenses despite employment having remained close to the last year's level. As at the end of 2017 the value of projects under construction was similar to the value of those in progress in 2016 (increase of approx. 3%), while the number of dwellings ready for occupancy, whose stock remains at a relatively low level, increased by approx. 10%. On the other hand, the "land bank" for multi-family housing construction increased. Also the number of profitable enterprises increased considerably (the share of real estate developers with positive financial result reached 79%). Profitability of smaller developers is lower than that of larger companies, yet remains at a safe level. The second half of 2017, as compared to the first half of 2017 and the second half of 2016, saw worsening in the following indicators: the average return on sales (ROS 3.8%), return on equity (ROE 2.1%) and return on assets (ROA 0.9%). Almost twice as high return on equity ratio as return on assets ratio means that firms' profitability largely relies on external financing. According to the data presented in F-01 statement in the second half of 2017 as compared with the first half 2016 and the corresponding period in 2016, smaller firms, taken as a whole, generated lower average net financial result (by over 62% and over 75% respectively) and operating income (by approx. 9% and 42% respectively) and incurred lower expenses (by over 6% and over 40% respectively). Operating expenses approached an unfavourable level as the ratio of core business expenses to income on sales increased. The main source of financing of smaller real estate developers was equity whose share after a year increased to a small extent (from approx. 48% to approx. 42%) and was higher than in the group of large real estate developers. Also the share of external sources of financing increased to over 17% from bank lending, over 4% from loans and securities and over 28% from liabilities to other firms. Financing real estate development from unpaid accounts payable is mainly observed in the case of building contractors. Along with increasing value of external sources of financing and a slight decline in the value of equity, the financial liabilities to equity ratio and the debt-to-equity ratio deteriorated. Yet, the total debt ratio and the debt coverage ratio of smaller developers continued at a level considered as safe. In this group of firms clients' down payments for dwellings are a slightly less important source of financing and at the end of 2017 their share in the total of liabilities slightly exceeded 9% while in

the case of large real estate developers this share accounted for more than 20%. The value of investment outlays remained at the 2016 level.

Financial liquidity of smaller real estate developers remains at a considerably less favourable level than that of large developers and is so low that may cause payment problems and difficulties in getting bank loans. The liabilities turnover ratio, receivables turnover ratio and inventory turnover ratio have so far continued at a safe level.

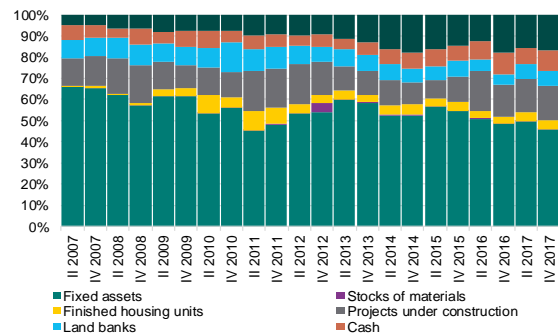
The percentage of real estate developers reporting an unsatisfactory level of selected indicators shows how the situation varies across this group. The share of companies who have lost financial liquidity, and consequently, the ability to repay liabilities on a timely basis increased from 20% to 30%. More than half of smaller real estate developers continue to experience difficulties in timely recovery of receivables. On the other hand, the percentage of real estate developers with too high level of operating expenses in relation to earned income decreased (from 30% to 20%). The percentage of companies with low creditworthiness remained for the third consecutive year at 20%, reporting negative financial result, negative income on sales, negative return on equity and negative return on assets.

**Figure 3.58 Economic indicators of real estate developers employing from 9 to 49 persons (in PLN million)**



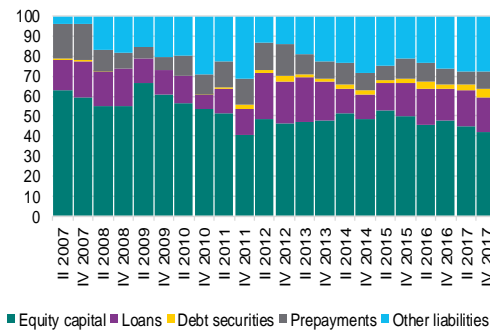
Source: NBP based on GUS (F-01)

**Figure 3.59 Asset structure of real estate developers employing from 9 to 49 persons (in %)**



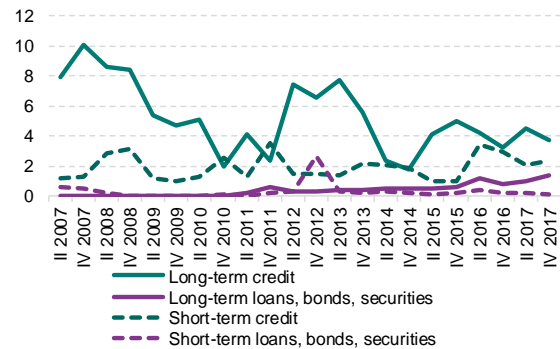
Source: NBP based on GUS (F-01)

**Figure 3.60 Liability structure of real estate developers employing from 9 to 49 persons (in %)**



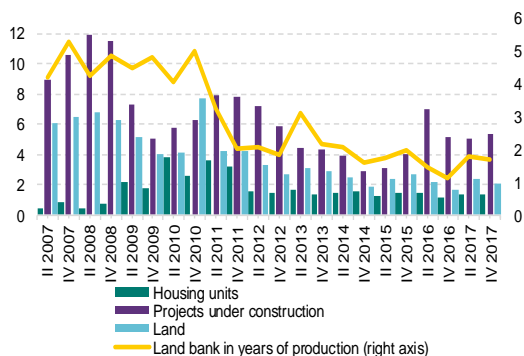
Source: NBP based on GUS (F-01)

**Figure 3.61 Sources of external financing of real estate developers employing from 9 to 49 persons (in PLN million)**



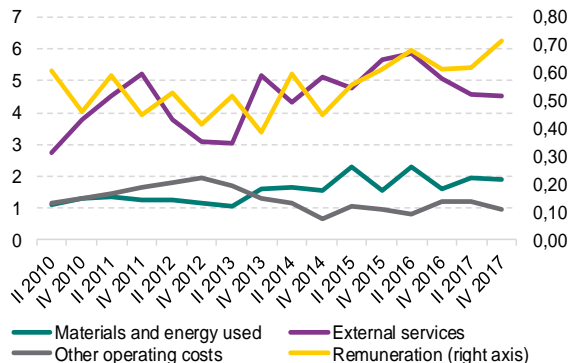
Source NBP based on GUS (F-01)

**Figure 3.62 Situation of real estate developers employing from 9 to 49 persons in PLN million (left-hand axis) in years (right-hand axis)**



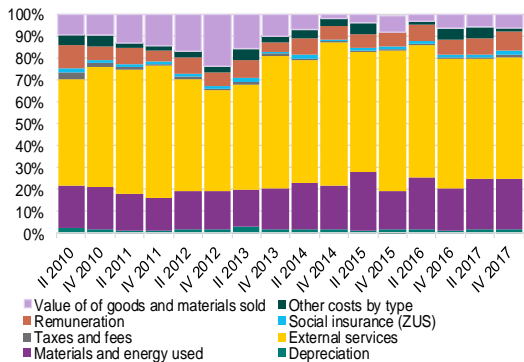
Source: NBP based on GUS (F-01)

**Figure 3.63 Operating expenses of real estate developers employing from 9 to 49 persons (in PLN million)**



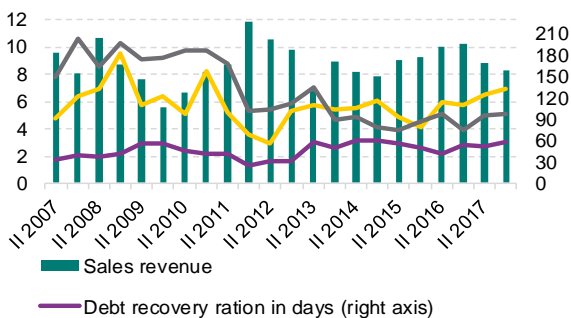
Source: NBP based on GUS (F-01)

**Figure 3.64 Operating expenses structure of real estate developers employing from 9 to 49 persons (in %)**



Source: NBP based on GUS (F-01)

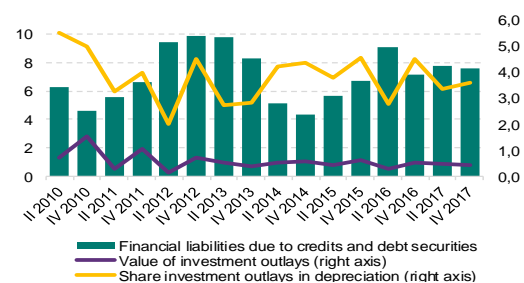
**Figure 3.65 Turnover of inventories, receivables and liabilities of real estate developers employing from 9 to 49 persons (in PLN million)**



Unfavourable level of the debt recovery ratio in days – over 60 days, the inventory turnover time in days ratio– over 200 days

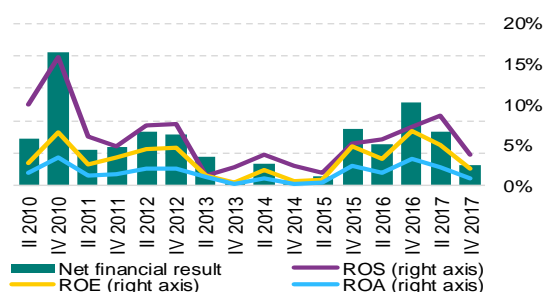
Source: NBP based on GUS (F-01)

**Figure 3.66 Investment activity of real estate developers employing from 9 to 49 people (in PLN million)**



Source: NBP based on GUS (F-01)

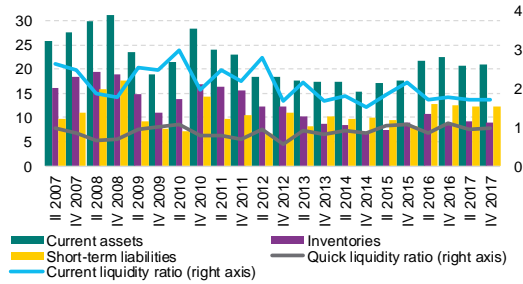
**Figure 3.67 Profitability of real estate developers employing from 9 to 49 people (in PLN million)**



Unfavourable level of ROS, ROE and ROA - below 0 0

Source: NBP based on GUS (F-01)

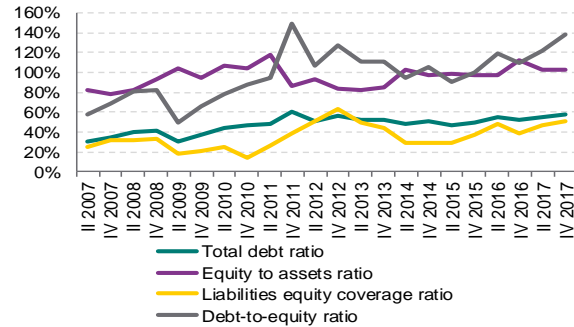
**Figure 3.68 Liquidity indicators of real estate developers employing from 9 to 49 persons (in PLN million)**



Unfavourable level of the current ratio in days – below 1,2, quick ratio - below 1

Source: NBP based on GUS (F-01)

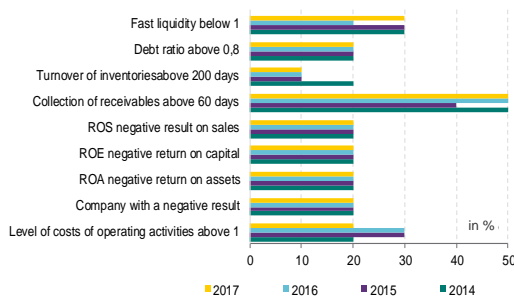
**Figure 3.69 Debt ratios and debt coverage ratios of real estate developers employing from 9 to 49 persons**



Unfavourable level of the following indicators: general debt ratio - over 80% equity to assets ratio - below 100%, financial liabilities to ratio - below 100%, debt-to-equity ratio - below 220%

Source: NBP based on GUS (F-01)

**Figure 3.70 Percentage of real estate developers employing from 9 to 49 persons reporting an unsatisfactory level of selected indicators**



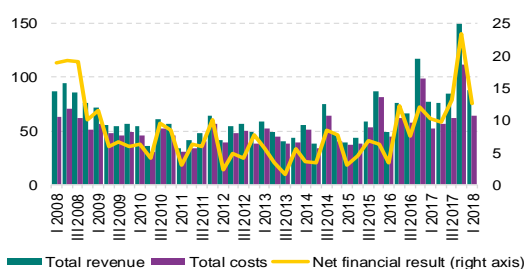
Source: NBP based on GUS (F-01)

The analysis of real estate developers listed on the stock exchange may supplement the general analysis of real estate developers. It is estimated that they produce approx. 30% of dwellings sold in the primary market and thus may be considered a representative group for the largest companies. In 2017, their sales totalled 29.7 thousand dwellings and were over 24% higher than in the previous year. Despite higher sales forecasts for 2018, in the first half of 2018 those developers generated sales which were 4% lower than in the first half of 2017. Records in the 2017 financial statements of real estate developers listed on the WSE confirm the generally robust financial condition of large companies in the industry. In 2017, as compared with the previous year, this group generated approx. 20 % higher income with a 17% increase in expenses and over 28% higher financial result. Consequently, sales profitability remained at the same, satisfactory level and the level of operating expenses declined. The increase in the value of inventories in the total assets by over 15% is indicative of the launch of new development projects in 2017. The main source of financing is equity which increased to over 48% share in total liabilities and boosted profitability as compared to the 2016 level. The decline (3%) was also noted in the value of external financing

in the form of bank loans (over 17% share in liabilities) and the increase in the value of financing in the form of loans and debt securities (approx. 9% share in total of liabilities). According to the Catalyst market data, interest rate on bond coupons of real estate developers declined. The total value of bonds issued by 25 real estate developers at the end of 2018 Q1 stood at PLN 5,175 million and was by over 9% higher as compared to the volume recorded at the end of 2016. Considering a high demand for new dwellings and a specific nature of real estate development activity a high share of long-term debt should be considered positive as real estate development projects are long-term projects. The ability to raise external financing attest to a good condition of companies. Advance payments of home buyers were an important source of financing in 2017 and their value increased by over 38% (to 17% of external debt). Investment expenditure remained at a similar level. The debt recovery ratio was rather good. Yet, the period of payment short-term liabilities was much longer. In this group of real estate developers the quick ratio which does not account for the value of inventories has been below the satisfactory level for a quite long time. It is of considerable relevance as amid the currently recorded high sales of dwellings the value of assets recognised as liquid assets is small in relation to the existing liabilities. Positive cash flows from operations recorded since mid-2016 attest to the robust financial situation. Negative cash flow from investment activity recorded since the beginning of 2017 proves that savings have been made on new investment in the form of both tangible fixed assets and financial assets. Amid low levels of product sales negative cash flow frequently recorded in the previous quarters results from the repayment of debt, redemption of own securities and distribution of dividend.

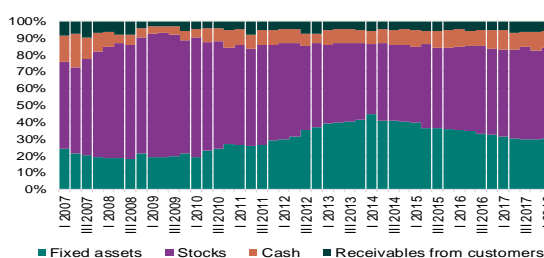
In 2018 Q1 the value of equity increased, boosting credibility of real estate developers as perceived by creditors and lending banks. Liabilities resulting from the issue of securities and advance payments to home buyers increased. This means that those developers raised funds from advance payments and the issue of bonds to a greater extent than from bank loans. At the same time, the share of other liabilities decreased which means that those real estate developers settled their trade liabilities on a more timely basis. Also liabilities resulting from bank loans and trade payables to building contractors decreased. Sales profitability ratios slightly deteriorated continuing at a satisfactory level. The value of inventories comprising mainly completed dwellings and dwellings under construction was lower than in 2018 Q1 and 2017 Q4, which, combined with lower sales results recorded in the first half of 2018, may attest to changes in sales policy of real estate developers or demand losing momentum.

**Figure 3.71 Economic indicators of real estate developers listed on the Warsaw Stock Exchange (in PLN million)**



Source: NBP based on financial statements

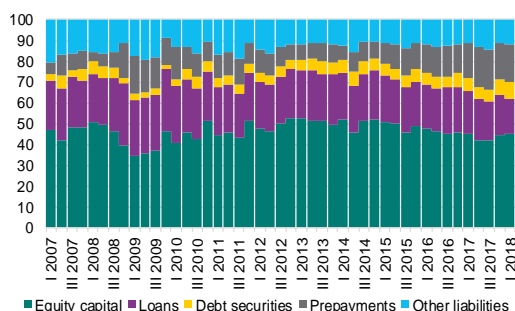
**Figure 3.72 Asset structure of real estate developers listed on the Warsaw Stock Exchange**



Source: NBP based on financial statements

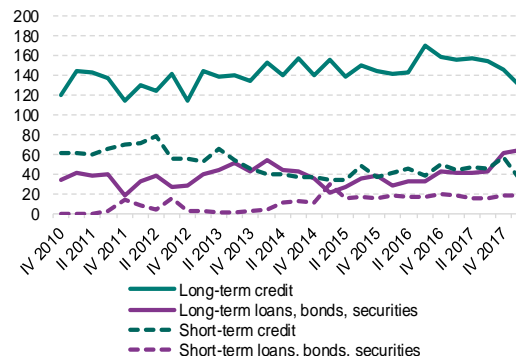


**Figure 3.73 Liability structure of real estate developers listed on the Warsaw Stock Exchange**



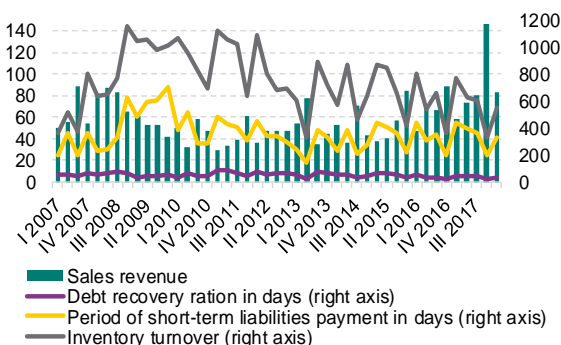
Source: NBP based on financial statements

**Figure 3.74 Sources of financing of real estate developers listed on the Warsaw Stock Exchange (in PLN million)**



Source NBP based on financial statements

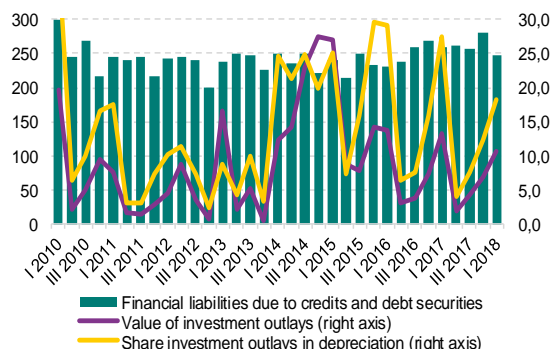
**Figure 3.75 Turnover of inventories, receivables and liabilities of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis) in years (right-hand axis)**



Unfavourable level of debt recovery ratio– over 60 days, inventory turnover ratio– over 200 days

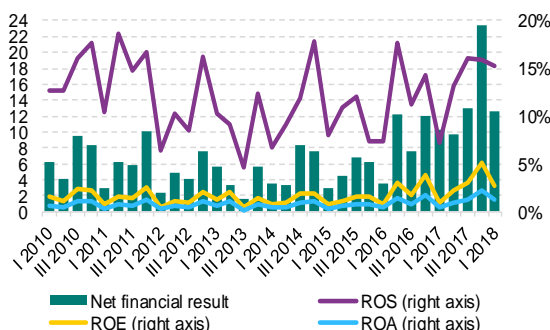
Source: NBP based on financial statements

**Figure 3.76 Investment activity of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Source: NBP based on financial statements

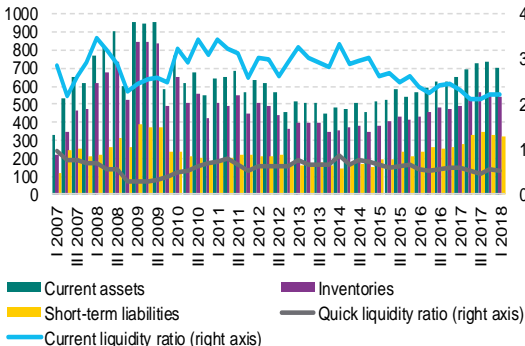
**Figure 3.77 Profitability of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Unfavourable level of ROS, ROE and ROA - below 0 0

Source: NBP based on financial statements

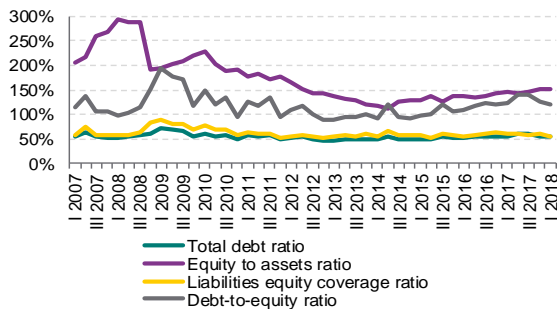
**Figure 3.78 Liquidity ratios of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Unfavourable level of the current ratio - below 1.2, quick ratio - below 1

Source NBP based on financial statements

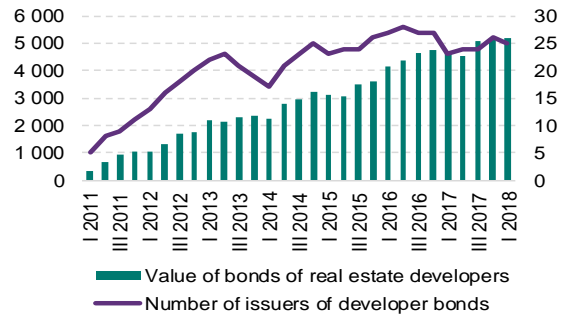
**Figure 3.79 Debt ratio and debt coverage ratio of real estate developers listed on the Warsaw Stock Exchange**



Unfavourable level of the following indicators: general debt ratio - over 80% equity to assets ratio - below 100%, financial liabilities to equity ratio - below 100%, debt-to-equity ratio - below 220%

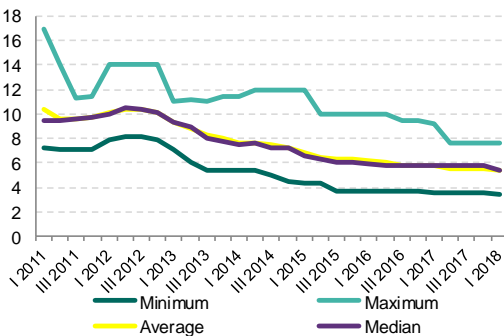
Source: NBP based on financial statements

**Figure 3.80 Value of bonds of real estate developers and the number of issuers or developers' bonds on the Catalyst market in PLN million (left-hand axis) in years (right-hand axis)**



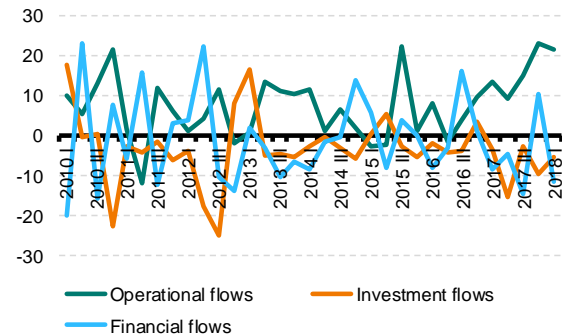
Source: NBP based on Catalyst

**Figure 3.81 Interest rate on bond coupons of real estate developers listed on the Catalyst market (in %)**



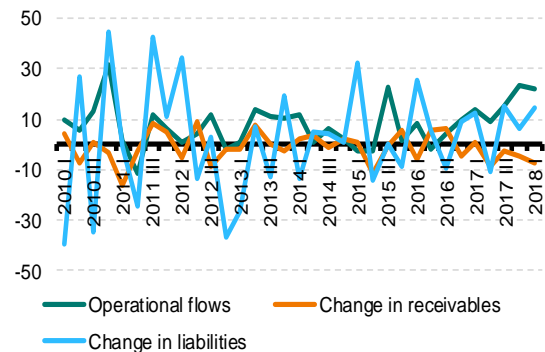
Source: NBP based on Catalyst

**Figure 3.82 Cash flows of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



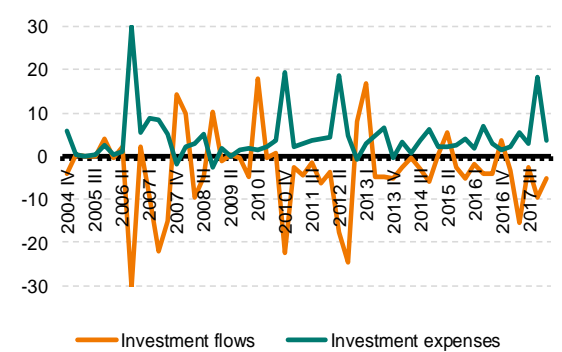
Source: NBP based on financial statements

**Figure 3.83 Operating flows of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Source: NBP based on financial statements

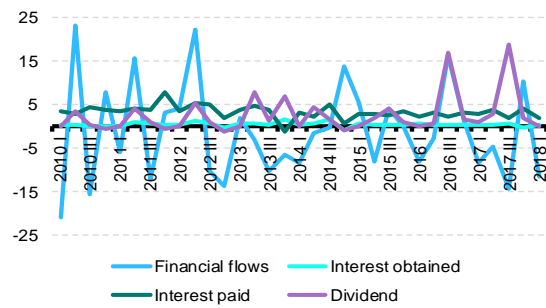
**Figure 3.84 Investment flows of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Source: NBP based on financial statements



**Figure 3.85 Financial flows of real estate developers listed on the Warsaw Stock Exchange in PLN million (left-hand axis)**



Source: NBP based on financial statements

### **Situation of real estate developers and construction firms based on the NBP survey**

In November and December 2017, in eleven cities of Poland<sup>27</sup> recording the highest number of constructed dwellings, a questionnaire survey of housing supply in the primary market in multi-family residential construction was performed. The data were supplemented with information gathered during interviews with real estate developers engaged in the development of residential projects and with representatives of wholesalers of building materials. The scope of the questionnaire encompassed the assessment of the stock of finished dwellings, dwellings under construction, developers' production capacity and factors affecting supply and demand. The structure of the surveyed respondents demonstrated a high concentration of developers in terms of the level of annual home sales, in line with their structure in the sector. 6% of the largest developers whose sales in 2017 exceeded 500 dwellings accounted for over 53% of the total sales. The smallest developers whose sales in 2017 did not exceed 100 dwellings accounted for approximately 73% of the respondents with 16% share in the total number of homes sold. The results of the survey varied in particular markets. The report presents aggregate results.

According to the survey data, at the end of October 2017, the surveyed respondents held approximately 39 thousand dwellings in their sales offer, including only 13% of completed dwellings ready for occupancy (in buildings made available for occupancy). According to the estimates of the surveyed developers, in 2018 the number of dwellings they may build on their own "land bank" reached over 43 thousand and considerably exceeded the number of dwellings built in 2017. They estimate that in 2019 and in the subsequent years they will be able to build over 91 thousand dwellings on their own land. Developers build on land for which, in over 50% of cases, area development plans have been adopted. Over 56% of dwellings planned to be built have a building permit which means the construction may start within a relatively short period of time. Assuming the persistently high scale of production, the majority of the respondents assessed their stock of land for multi-family residential construction as sufficient for the nearest two or three years. Smaller real estate developers held land stock which was sufficient for the development of construction projects for a much shorter period of time than larger ones. At the time of the survey, approximately 67% of respondents faced difficulties with the purchase of land for residential projects. At the end of 2017, a great majority of real estate developers, regardless of the scale of the development project and the size of the "land bank" held, were undertaking intensive actions to supplement their stock of construction land. This was reflected in the growth of land (net) prices from several percent to 20% on the outskirts and to several dozen percent in attractive locations. Despite growing land prices and various obstacles related to its availability, the real estate developers of key importance for the market did not forecast a shortage of land for housing construction in the nearest years.

In 2017 Q4, changing legal environment was perceived by the respondents as the major risk to real estate development activity. The short *vacatio legis* of introduced legal norms was an important obstacle to the activity. A short time for the adjustment to the new situation may result in taking unreasonable decisions. The change of regulations concerning trade in land limited the stock of

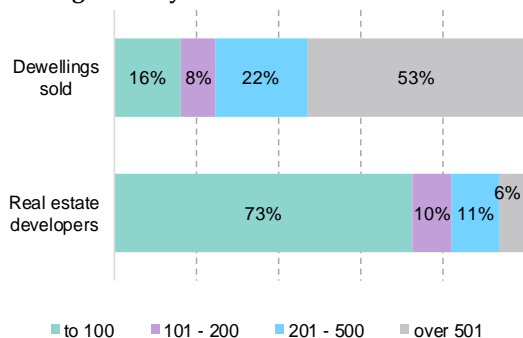
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<sup>27</sup> Warsaw, Kraków, Wrocław, Tri City, Rzeszów, Szczecin, Poznań, Lublin, Łódź, Białystok, Katowice.

land intended for housing construction which, however, in the respondents' opinion, did not significantly jeopardise land purchases. In cities with a low MPZP coverage it is possible to change the agricultural land status into non-agricultural status relatively easily. The surveyed respondents emphasised that sale of part of state-owned land had been suspended and intended for the development of the "Housing Plus" scheme. In the opinion of 83% of respondents, the launch of the government-subsidized "Housing Plus" scheme in the nearest future will limit the supply of dwellings to be built by developers to a minor extent only. They raised concerns regarding the extent of the "Housing Plus" scheme in the future. The amendment of the Development Act proposed by UOKiK, aimed at maintaining only closed trust accounts will eliminate the possibility of financing development projects with home buyers' down-payments, which may trigger problems for smaller developers. In the perspective of two-three years, the proposed change in the rules of issuing the decision on development conditions may boost prices of land with adopted MPZPs and limit housing supply on the primary market. In the opinion of 41% of respondents, the announced changes will have a considerable impact while in the opinion of the majority (59% of respondents), they will reduce the level of housing production insignificantly. Among potential barriers limiting the supply, the policy of local authorities as regards the adopted land use plans was ranked at a slightly lower, although still high level. Only 30% of country area has effective local land use plans.

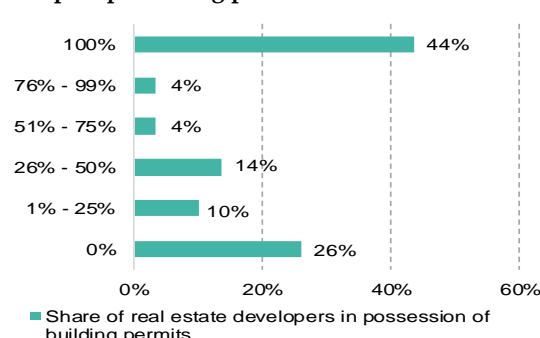
Apart from threats related to changing legal regulations, considering a significant number of commenced and planned development projects, provision of construction services was perceived as a major hindrance in project implementation. This involved difficulties in finding contractors and increased construction costs indirectly affecting developers and directly - contractors. Growth in construction costs, land prices and problems with finding contractors were experienced to a greater extent by smaller and economically weaker entrepreneurs. In the respondents' opinion, in 2017 the cost of project implementation increased, on average, by over 5% per one square meter of the PUM due to growing prices of certain construction materials. Costs of labour increased by over 8% due to growing wage demands and a shortage of construction workers. Despite growing costs, a considerable part of respondents generated margins of 30% or higher. A high share of profit in the structure of price of square meter of dwelling was a buffer neutralising increasing costs. Projects implemented by smaller developers closed with a significantly lower profit reaching from a few to several per cent. In the opinion of suppliers of construction materials, situation in terms of availability and prices of building materials should stabilise after approximately two years, alongside falling demand in the housing market and a decline in the infrastructural construction.

**Figure 3.86 Structure of respondents and dwellings sold in 2017 broken down by developers depending on the number of dwellings sold by them in 2017 (%)**



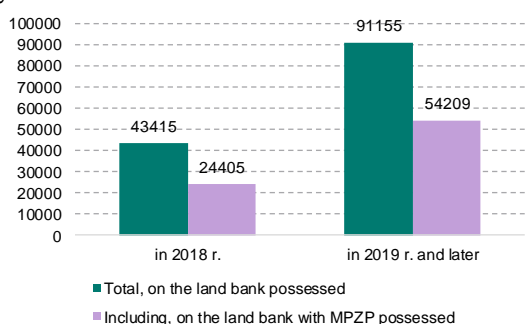
Source: NBP

**Figure 3.87 Share of dwellings to be constructed in the nearest years by respondents possessing building permits, depending on the share of developers possessing permits (%)**



Source: NBP

**Figure 3.88 Estimated number of dwellings which may be built by respondents in the subsequent years based on the "land bank" held (number)**



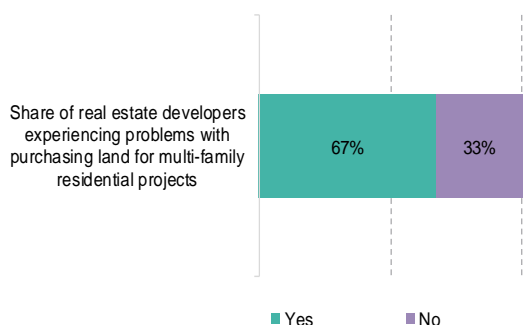
Source: NBP

**Table 3.1 Average share of land price in the price of a square meter of the PUM in multi-family construction by city (%)**

City	Average	Median	Minimum	Maximum
Bydgoszcz	10%	8%	4%	21%
Gdańsk	14%	13%	9%	19%
Katowice	9%	bd.	bd.	bd.
Kraków	16%	13%	11%	34%
Lublin	13%	11%	2%	25%
Łódź	12%	9%	6%	25%
Opole	11%	12%	7%	17%
Warszawa	19%	18%	5%	38%
Wrocław	15%	14%	5%	36%

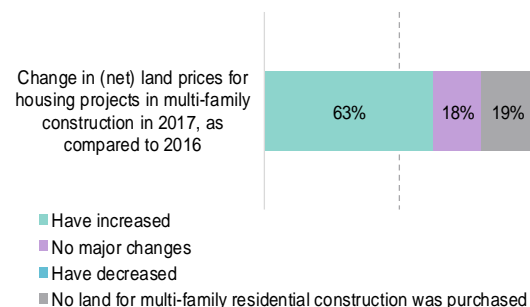
Source: NBP

**Figure 3.89 Structure of respondents experiencing problems with the purchase of land for multi-family housing projects (%)**



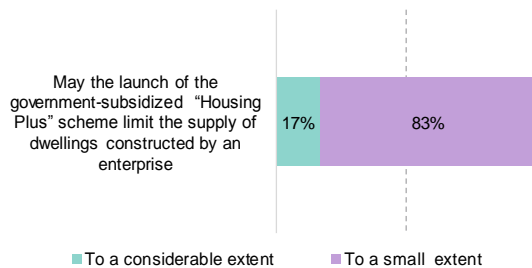
Source: NBP

**Figure 3.90 Structure of responses regarding changes in (net) land prices for multi-family housing projects as compared to 2016 (%)**



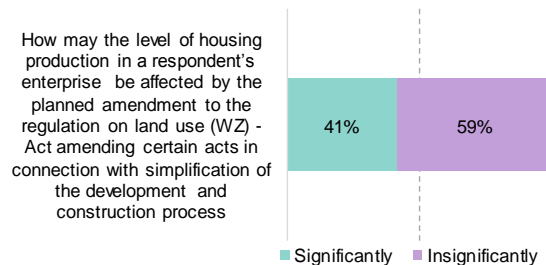
Source: NBP

**Figure 3.91 Structure of responses to the question: May the supply of dwellings constructed by an enterprise (%) be limited by the launch of the governmental "Housing Plus" scheme**



Source: NBP

**Figure 3.92 Structure of responses to the question: How may the level of housing production in a respondent's enterprise (%) be affected by the planned amendment to the regulation on land use (WZ) - Act amending certain acts in connection with the simplified project development and construction process**



Source: NBP

Due to the dynamically changing situation in residential real estate market and home sales remaining at a high level, the questionnaire survey conducted in May 2018 concerning the demand for housing in the primary and secondary market in Poland, including multi-family construction rental market, raised among others, such issues as production capacity and the economic condition of general contractors and subcontractors of housing projects as well as changes on the market of building material producers. Information and conclusions were updated to take into account the findings of the previous supply survey, particularly as regards problems persistently faced by real estate developers.

GUS data and data collected during the questionnaire survey and the interviews, confirmed the continuing robust business conditions in residential construction. According to the GUS data, in 2017, as compared to 2016, more dwellings were completed and made available for occupancy (a 9.2% rise). There was also a rise in the number of permits for housing construction (a 18.3% rise) and in the number of launched home constructions (a 18.4% rise).

Real estate developers faced growing risks due to a large number of development projects under construction and sales at a very early stage of production. Developers can hardly adjust the supply to the high level of demand.

The main challenges of the development industry in 2018 include growing costs of construction materials, shortage of unskilled construction workers and considerable delays in the settlement of trade payables towards service providers. Some developer firms, mainly medium and smaller, finance their activity thanks to unpaid liabilities, implementing projects, to a large extent, at the expense of construction firms. It was estimated that, depending on location, land prices grew by an average of 20% over one-year period from April 2018.

### **Construction sector and construction materials sector**

In the general contractors' opinion, price of works performed by building contractors, originally fixed in the contract, does not always enable to perform construction at a profit, particularly in the case of contracts concluded in the previous years. Being unable to bear growing costs (growth ranging from 5% to 12% in 2017), contractors or subcontractors renegotiate contracts, temporarily using a bank credit or withdraw from agreements. Cumulation of works in construction contributes to steady growth in prices of construction materials. In order to save on costs of works performed by building contractors, the growing number of developers decide to launch new development projects using their own resources. According to general contractors, one of the major problems faced by construction companies (besides growing prices of construction materials) is to recruit subcontracting teams of adequate quality due to the shortage of skilled workers. The situation is mitigated by employees from Ukraine (approximately 50% of subcontractors' labour force). The margin generated by contractors on direct costs amounts to 10%. Taking into account overheads it is possible to generate net profit at a level of 2% to 3%.

In the NBP "Quick Monitoring" questionnaire survey, the majority of enterprises involved in the construction of residential buildings (contractors and subcontractors) saw their situation deteriorate in 2018 Q2, as compared to 2018 Q1. The percentage of enterprises assessing their situation as very good dropped from 12% to 8%, while the share of those defining it as poor or bad increased from 22% to 25%. The situation of the remaining 67% construction firms was relatively good. 4% more companies forecast deterioration of their standing in 2018 Q3. In 2018 Q2, as compared to the previous period, the percentage of construction enterprises suffering losses on their activity fell from 11% to 5%. On the other hand, 47% of companies (5% respondents more than in 2018 Q1), recorded profits but their level was not satisfactory. In both periods, profitability of 48% of companies was satisfactory. In 2018 Q2, respondents declared their capacity utilization was at the level of 90%. 4% more companies experienced liquidity problems (10% - frequently and 19% - occasionally). The percentage of companies reporting problems with timely settlement of liabilities increased from 21% to 32%, whereas 60% of respondents did not face such problems. Approximately 16% of receivables and liabilities were classified as overdue. In 2018 Q3, 80% of enterprises engaged in residential construction anticipated they would keep the employment level unchanged. Growth of wages was planned by 24% of companies, whereas 75% of companies intended to keep wages unchanged.

During interviews, producers of construction materials confirmed they had increased prices of their products in 2017 (polystyrene by an average of 10%, bricks by an average of 15%, cement by approx. 10%) and anticipate further price growth in 2018 due to growing prices of raw materials for production, fuels and labour. In the first half of 2018, some prices of construction materials stabilised while some them showed an upward trend (by 2% - 5% q/q). Delays in orders execution reached several weeks and resulted from a significant shortage of workforce at production lines and untimely deliveries of materials for production.

**Box B. Ratio analysis of construction companies involved in residential and non-residential buildings construction**

A rapid growth of demand for construction services observed for two years has become a considerable challenge for construction companies and their customers. Cumulation of demand was seen both in the residential construction sector (domestic interest rates) and in construction of other building real estate (low ECB rates) as well as other infrastructural construction (cumulation of contracts implemented with the EU participation). Growing demand for construction services boosted demand for construction materials and workforce and, as a consequence, led to a growth in their prices. Amid relatively low prices observed in the previous period, costs of contracts were underestimated by many construction companies, generating losses in final deals. Negative experience of construction companies will undoubtedly affect further developments in the sector. The analysis focused mainly on companies' financial results of key importance for the assessment of the situation.

The analysis of records in the reported financial statement suggested that losses were particularly significant in the case of large real estate developers. The analysis of data derived from F-01 reports submitted to GUS by the largest companies (employing over 249 persons) as well as big and medium-sized companies (employing from 50 to 249 persons) involved in development projects and construction of residential and non-residential buildings (PKD 4120) for a period 2010-2018 showed that 2017 closed with a net loss for 20% of large companies, a figure which is not significantly higher than in the previous years. What is significant is the level of losses which is close to the 2013 figures. A considerable decline in revenue of large construction companies observed since 2017 suggests they are withdrawing from the implementation of long-term contracts which, due to fixed prices in force and growing construction costs have become unprofitable.

The structure of operating expenses in two quarters of 2018 showed a considerable decline in the share of third-party services in large enterprises' operating expenses, namely construction works performed by subcontractors. As the companies signalled before, this may indicate the declining scale of activity or increased scale of performance of construction works on own account and withdrawal from subcontracting aimed to increase profitability of implemented contracts. An increase in the share of payroll costs and costs of materials and energy consumed in operating expenses may confirm the change in business conduct policy. This phenomenon is not reported by medium-sized companies where the share of third party services in operating expenses grows along growing revenues.

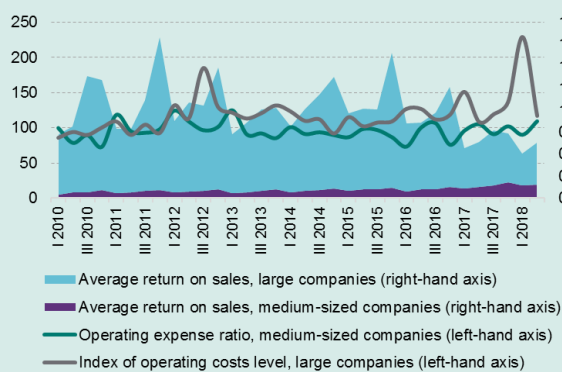


In the group of large construction companies, in last few quarters, along with a significant growth of the negative value of net financial result in industry, profitability ratios fell to unsatisfactory levels (sales, equity and assets ratios). The average financial result and profitability in the group of medium-sized companies remains at a low, positive level. In 2018 Q2, in both groups of companies financial liquidity decreased, yet remained at a safe level. A considerable volatility of the liquidity ratio of large companies in 2017/2018 may also result from a decline in trade payables towards subcontractors of construction services related to the termination of some unprofitable long-term contracts.

The average days payable outstanding and collection of receivables in the group of large construction companies has remained at a safe level so far. In the first half of 2018, receivables collection deteriorated and days payable outstanding in the group of medium-sized companies increased. So far, both groups of construction companies used to collect receivables in a shorter period than that of days payable outstanding. As similar developments were also seen in the real estate development sector, it means that the entire sector was to a certain degree financed by subcontractors and certainly also by wholesalers and producers of construction materials.

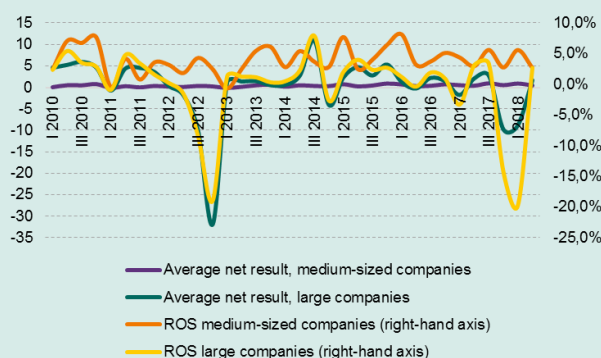
The economic boom in the primary housing market and in the infrastructural construction did not bring significant economic benefits for large construction companies (leading in this sector). Losses generated by growing costs of construction materials and costs of labour curbed the activity of some companies on the contractor market of broadly understood construction services. New contracts are signed for smaller stages of works and, consequently, for shorter periods and better account for growing construction costs.

**Figure B1 Averaged revenues in PLN million and the operating expense ratio**



Source: NBP based on GUS

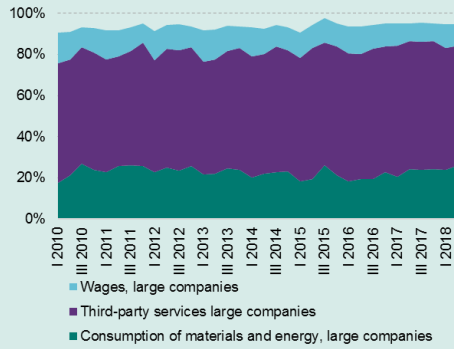
**Figure B2 Sales profitability ratios and net result of construction companies**



Source: NBP based on GUS

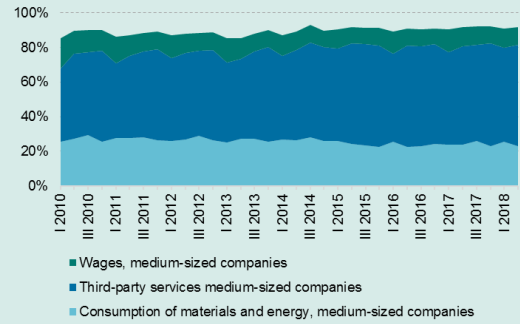


**Figure B3 Structure of selected operating expenses in large companies**



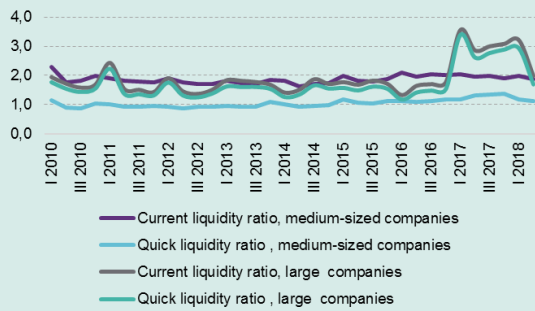
Source: NBP based on GUS

**Figure B4 Structure of selected operating expenses in medium-sized companies**



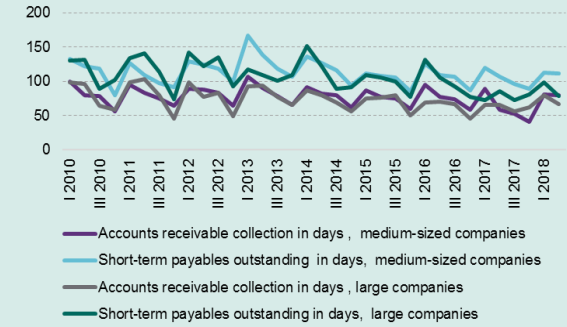
Source: NBP based on GUS

**Figure B5 Economic liquidity ratios of enterprises in particular quarters**



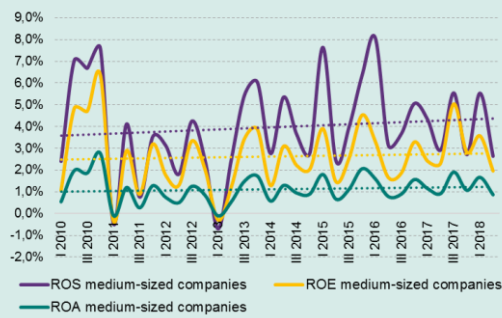
Source: NBP based on GUS

**Figure B6 Days payable outstanding and accounts receivable collection**



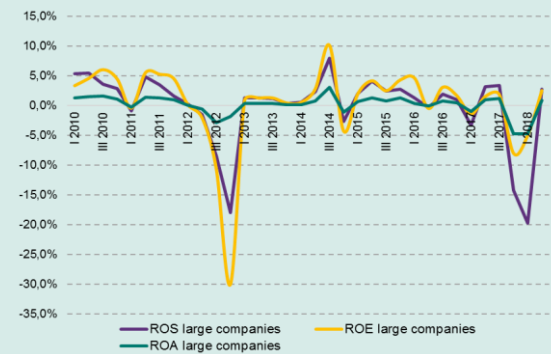
Source: NBP based on GUS

**Figure B7 Profitability ratios of medium-sized construction companies**



Source: NBP based on GUS

**Figure B8 Profitability ratios of large construction companies**



Source: NBP based on GUS

### 3.3 Housing demand

**In 2017, real estate markets of all Polish cities experienced high demand for housing. This demand was a consequence of stable economic growth, favourable situation on the labour market and low cost of credit. Transactions continued to be financed with a significant share of buyers' own funds, and lending accelerated as compared to the previous year. Apart from consumer demand, investment demand involving purchases of rental housing is gaining on importance. However, no speculative demand was observed.**

#### Ratio analysis of housing demand

A structural factor determining long-term high consumer demand for housing is the persistent deficit of dwellings in Poland's largest cities. The number of dwellings per 1000 inhabitants in Poland is at the level of 363, while the average for 28 EU countries is approx. 480 dwellings/1000 inhabitants, and for the 15 original Member States of the European Union - approx. 500 dwellings/1000 residents<sup>28</sup>. The structural factor affecting housing demand was the shortage of housing stock for professional rental. The pick-up in demand for this type of housing was driven by strong migration processes in the labour market, which is typical for countries with a market economy.

Economic factors, e.g. rising household wages, low unemployment, low cost of credit and a good economic situation contribute to high housing demand, mainly consumer housing demand. However, demographic factors (population, birth rate), which had a stronger impact in the previous housing cycles (2004-2013), are now less important. On the other hand, migrations have had a positive impact on demand in the housing market. According to the estimates of the NBP Department of Statistics, in 2017, approximately one million foreign workers were staying in Poland, of which approximately 87.0% were Ukrainian citizens<sup>29</sup>. According to the data released by the Ministry of Internal Affairs and Administration, in 2017, the total of 4822 transactions involving residential dwellings were concluded, which is an increase of approx. 3.7% as compared to 2016.<sup>30</sup> Most real estate was purchased by foreigners under the duty-free regime as independent

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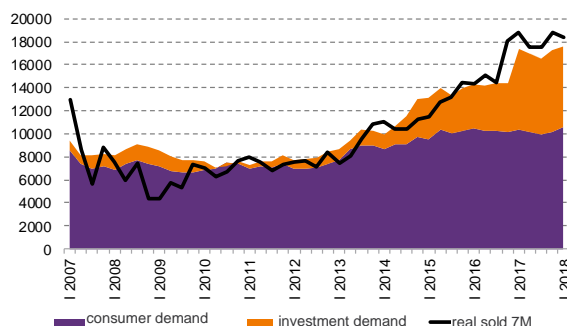
<sup>28</sup> Source: OECD, Affordable Housing Database. Data for Belgium are missing, data for 2015, with the exception of Cyprus – data for 2010, the Czech Republic, Estonia, Greece, Italy, Latvia, Romania, Slovenia, Spain – data for 2011, Croatia – data for 2013; France, Lithuania, Luxemburg, Poland and Great Britain – data for 2014.

<sup>29</sup> „Ukrainian citizens working in Poland – report from the study”. Study carried out in 2017 by NBP.

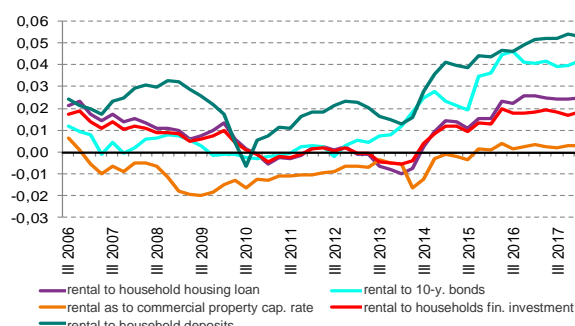
<sup>30</sup> Figures based on the data of the Ministry of Internal Affairs and Administration available on website: <https://mswia.gov.pl/pl/bezpieczenstwo/koncesje-i-zezwozenia>.

housing units - 2753 dwellings. The majority of buyers<sup>31</sup> were persons from Ukraine (about 53% of transactions) and Belarus (10.2%)<sup>32</sup>.

**Figure 3.93 Housing demand in the PM (average in 7M) and estimates of its elements**



**Figure 3.94 Profitability of home rental (average in 7M) as compared with alternative investment of households (interest rate differentials)**



Notes to Figure 3.93: Consumer demand is the average number of dwellings sold in a quarter (average for 2010) multiplied by the growth rate of the weighted availability of loan-financed housing. Investment demand is the number of dwellings sold in a quarter (average for 2010) multiplied by 10% (in 2007 Q1 – 2013 Q2), 20% (2013 Q3 – 2016 Q4) and 30% (2017 Q1), multiplied by the growth rate (2010 Q1 = 100) of the profitability of rental as compared to cash savings (90% interest on deposits, 10% interest on government bonds).

Notes to Figure 3.94: Values above 0 mean higher profitability of investments in rental dwellings as than profitability of other investments. This analysis does not take into account high transaction costs in the residential market and the potentially long time of exit from investment.

Source: NBP estimates, REAS

Source: NBP, MF, reports of consulting companies

Investment motives of persons reporting demand for residential real estate are observed amid favourable relation of rates of return from rent to the cost of credit, interest on bank savings or rates of return from other types of assets. Low interest rates on deposits amid rising level of rent for residential rental boosted profitability of home purchase for rental as an alternative to bank savings which used to be the main saving method in Poland (see Figure 3.94). Moreover, low costs of residential mortgage loans boosted investment demand financed with buyers' own funds supplemented with a loan. In a situation of a surge in real estate prices, investment demand may turn into speculation and lead to problems in the real estate sector. As real estate price increases are relatively small and there are no expectations for their high growth in the future this threat is not materializing so far.

The purchase of residential real estate was financed both by loans and buyers' own funds (see Table 3.2), with growing share of own financing as in the previous year. According to the NBP

<sup>31</sup> Under article 8 section 1 point 1 of the Act of 24 March 1920 on the purchase of real estate by foreigners (concerns „purchase of a dwelling constituting a separate property” within the meaning of the Act of 24 June 1994 on real estate ownership).

<sup>32</sup> According to the questionnaire survey on Ukrainians staying Poland, 5% of the respondents purchased real estate in Poland and as many as 45% plan to purchase it in the future (two thirds of them intend to take out a loan for this purpose in Poland). Source: ARC Rynek i Opinia „Ukraińcy w Polsce 2018” („Ukrainians in Poland 2018”) [in:] Rzeczpospolita of 30 August 2018 „Ukraińcy: cenni pracownicy i coraz cenniejsi klienci” („Ukrainians: valuable workers and increasingly important customers”).

estimates, currently approx. 70% of funds allocated for the purchase of housing in the primary market of 7M is cash. The scale of cash flow from bank deposits for this purpose, however, is not easy to capture statistically in aggregate financial flows in the national economy and can only be approximated on the basis of data from the housing and banking market<sup>33</sup>.

**Table 3.2 Estimated gross residential mortgage loan disbursements to households in Poland and the estimated value of cash and loan-financed\*/ purchases of developer housing in 7 M (in PLN million)**

Date	Estimated value of disbursed mortgage loans in Poland	Estimated value of housing transaction in the PM in 7M	Loan demand including client's downpayment in the PM in 7M	Downpayment to loans in the PM in 7M	Cash home demand (no downpayment) for the PM in 7M	Estimated value of cash home purchases with client's downpayment in the PM in 7M
2014 Q1	7571	3870	1726	432	2144	67%
2014 Q2	8899	3673	2029	507	1644	59%
2014 Q3	8894	3709	2028	507	1681	59%
2014 Q4	8416	3953	1919	480	2034	64%
2015 Q1	8996	3980	2051	513	1929	61%
2015 Q2	10640	4437	2426	606	2011	59%
2015 Q3	10341	4711	2358	589	2354	62%
2015 Q4	11237	5115	2562	641	2553	62%
2016 Q1	9742	5142	2221	555	2921	68%
2016 Q2	11661	5409	2659	665	2750	63%
2016 Q3	9632	5218	2196	549	3022	68%
2016 Q4	9933	6617	2265	566	4352	74%
2017 Q1	10945	6961	2495	624	4465	73%
2017 Q2	12139	6581	2768	692	3813	68%
2017 Q3	11794	6755	2689	672	4066	70%
2017 Q4	10652	7236	2429	607	4807	75%
2018 Q1	11914	7191	2716	679	4475	72%

Note: The estimates are based on the following assumptions:

In the period I -2014 Q4, the estimates of newly granted loans in Poland in individual quarters were based on the increases in loans to households adjusted for loan amortization and flows between the foreign currency and PLN portfolio, available in NBP reporting. The entire banking system and credit unions were taken into account. Starting as of 2015 Q1, the estimated value of loan disbursements is based on the data collected from banks.

\*/ Loan-financed home purchases include purchases financed with loan and minimum own contribution of buyers (buyers' own contribution was assumed at the level of 25%; a more prudent approach in large cities than the required buyers' own contribution of 20% under the amended Recommendation S).

The estimated value of transactions in the primary market of 7 M (7 cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław) was calculated by multiplying the average price of dwelling by its average size in square meters and the number of dwellings sold (based on the REAS data). On the basis of ZBP data it was assumed that the value of newly granted loans for the purchase of housing in the primary markets of 7 M in 2012 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 constitutes the difference between the value of transactions in the market of 7 M and loan disbursements, including own contribution. The home price and area data for all periods have been updated.

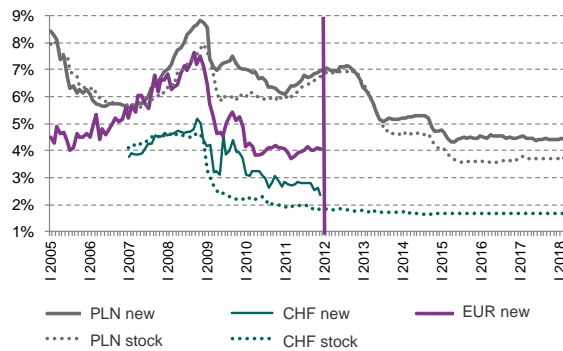
Due to a number of misunderstandings in the interpretation of such categories as loan, loan demand, buyers' own contribution, demand for cash /demand for cash-financed housing in the table, these categories are presented in non-aggregated form.

Source: NBP, REAS, ZBP, GUS

<sup>33</sup> Banks are usually unwilling to finance dwellings for investment and speculation purposes therefore for those buyers' own financing, the so-called demand for cash /demand for cash-financed housing is more important.

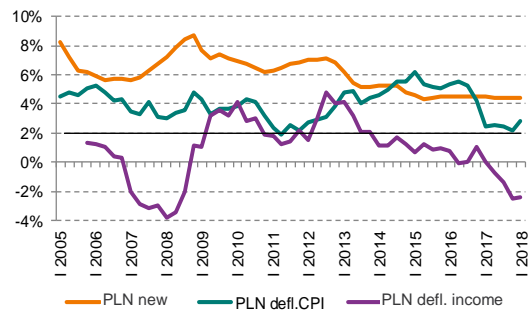
Interest rates on residential mortgage loans in PLN, which since 2015 have been at their historically lowest level, have had a positive impact on creditworthiness of households. 2017 saw high level of availability of loan-financed housing as well as an increase in residential loan availability. Both in the case of the estimated availability of loan-financed housing and the estimated availability of residential loan, rising wages were the main factor positively affecting both indicators.

**Figure 3.95 Interest rate on residential mortgage loans in nominal terms**



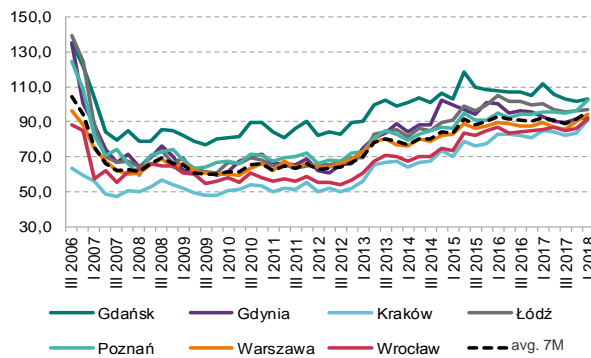
Source: NBP

**Figure 3.96 Interest rate on newly granted residential mortgage loans in PLN in real terms (deflated with CPI and wages)**



Source: NBP

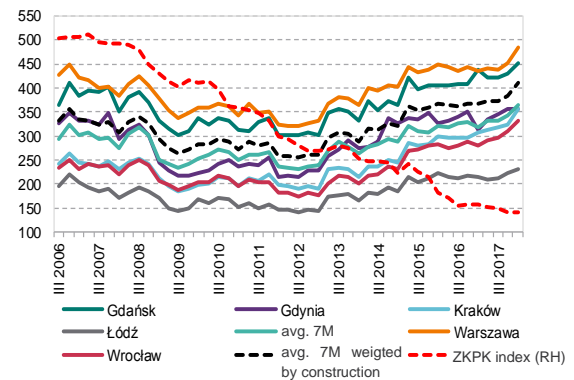
**Figure 3.97 Availability of loan-financed housing#**



Note to Figure 3.98: weighting the increase in housing loan to households with the currency structure (since the beginning of 2012 practically only PLN-denominated loans were extended); ZPKP – accumulated index of changes in banks’ lending policy criteria showing the trend in changes (decrease=tightening of policy).<sup>34</sup>

Source: NBP, GUS

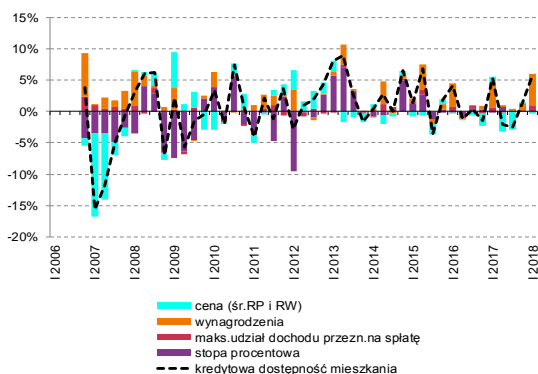
**Figure 3.98 Estimates of available mortgage loans # in weighted terms (left-hand scale) +ZPKP (right-hand scale)**



Source: NBP, GUS

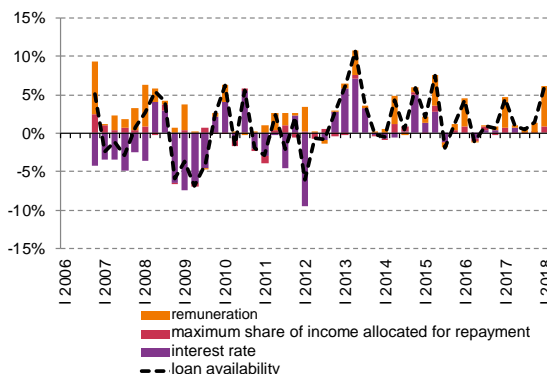
<sup>34</sup> The index was prepared by NBP. A more detailed description may be found in the Financial Stability Report, June 2018

**Figure 3.99** Quarter-on-quarter changes in the average estimated availability of loan-financed housing for 7 M and the strength and direction of the impact of their particular elements



Source: NBP, GUS

**Figure 3.100** Quarter-on-quarter changes in the average estimated availability of residential mortgage loan for 7 M and the strength and direction of the impact of their particular elements

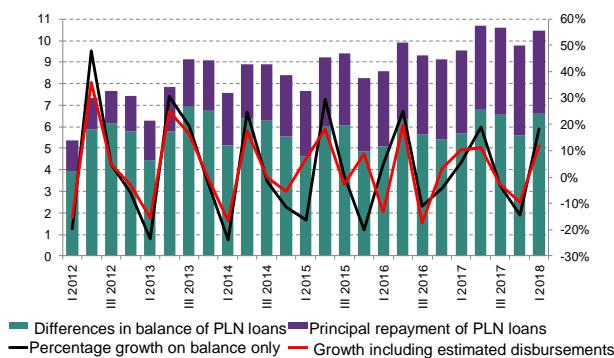


Source: NBP, GUS

Lending growth was positive and stable, and the volume of residential mortgage loans (debt level) continued on an upward path. The annual growth rate of residential mortgage stood at 3.4% y/y at the end of December 2017.<sup>35</sup> In 2017, banks granted over 190,000 residential mortgage loans worth PLN 44 billion. Both the value and the number of the newly granted loans in 2017 exceeded those granted in 2016 both in terms of value and number by 12.9% and 6.9%, respectively<sup>36</sup>.

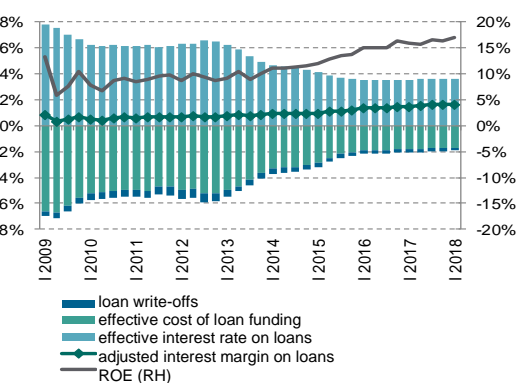
The historical low interest rates on residential mortgage loans and operating costs (including the tax on assets) were offset by banks through interest margins, which showed an increase over the long-term.

**Figure 3.101** Estimated loan disbursements (in PLN billion, left-hand scale) and lending growth in 2012-2015 (right-hand scale)



Source: NBP

**Figure 3.102** Estimated ROE on residential mortgage loans denominated in PLN for banks in Poland



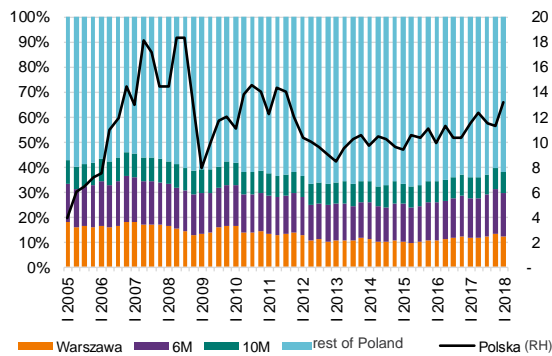
Source: NBP

<sup>35</sup> See: Financial Stability Report, June 2018

<sup>36</sup> See National report on housing loans and transaction prices of real property; AMRON-SARFIN 4/2017 (Report of the Polish Banks Association, February 2018)

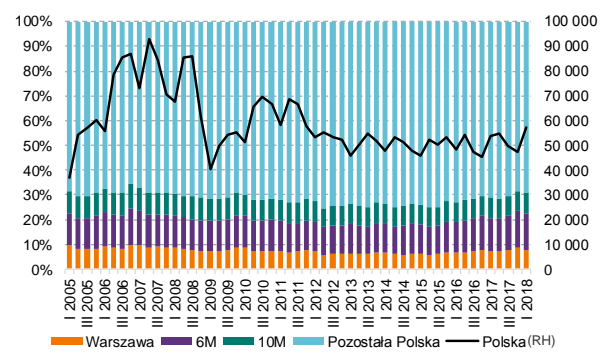
The structure of the geographical distribution of new loan agreements, in terms of value, did not change significantly in 2017 as compared to the previous year. Despite a slight decrease, the highest share of these loans was still observed in the so-called rest of Poland (suburban areas, smaller towns and villages<sup>37</sup>).

**Figure 3.103 Geographical structure of new residential mortgage loan value in Poland (in PLN billion)**



Source: NBP based on BIK

**Figure 3.104 Geographical structure of the number of newly granted residential mortgage loans in Poland according to the DSTI**



Source: NBP based on BIK

In 2017, banks announced their intention to tighten lending policy, i.e. the criteria for granting residential mortgage loans, but the analysis of prudential indicators and lending policy indicates that this objective was pursued only to a certain extent. The restrictive lending policy is reflected to some extent in a stable and relatively high share of rejected loan applications (approx. 59%). Banks also ceased to provide loans with LTV above 90%, adjusting their lending policy to Recommendation S. However, the DSTI indicator remains at an average level of approx. 40% in the situation of low interest rates. The high DSTI for newly granted loans at low interest rates means increased portfolio risk in the future, when interest rates increase, resulting in a higher burden on the borrower.

Granting residential mortgage loans continued to be profitable for banks, which is why their supply followed demand. Generally, it can be assessed that the banking sector was not a factor limiting housing demand, but rather stimulating it.

<sup>37</sup> Residential mortgage loan statistics does not offer the possibility to generate data according to the location of the loan-financed real estate.



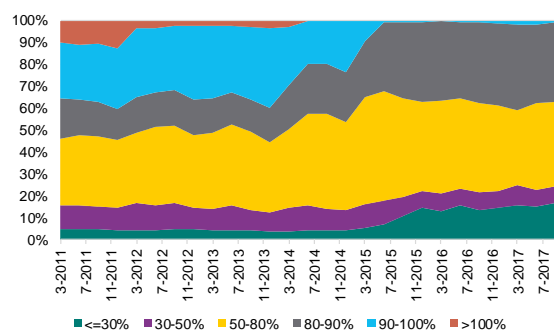
**Figure 3.105 Index of the estimated demand and supply of residential mortgage loans**



Notes to Figure 3.105 The Figure aims to present the growth rate of the estimated demand and supply of residential mortgage loans in the years 2006-2017. The supply was estimated on the basis of information on loans launched in particular years. Demand is estimated on the basis of information on household applications for residential mortgage loans.

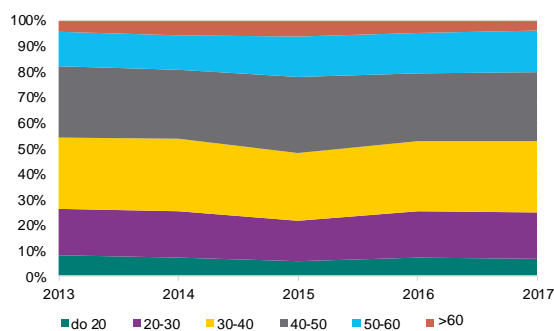
Source: NBP based on survey questionnaires of UKNF

**Figure 3.106 Distribution of the value of newly granted residential mortgage loans according to the LTV**



Source: NBP based on survey questionnaires of UKNF

**Figure 3.107 Distribution of the value of newly granted residential mortgage loans according to the DSTI**



Source: NBP based on survey questionnaires of UKNF

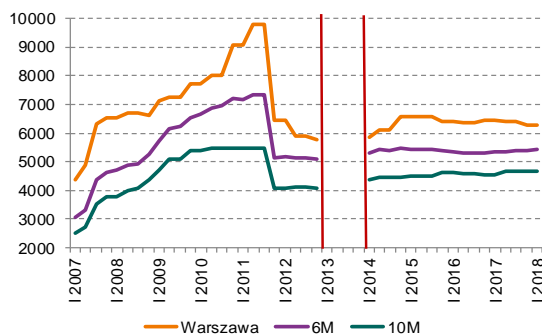
The government's housing policy had a significant impact on demand in 2017, accelerating the decision to buy housing in anticipation of the termination the MDM government-subsidized housing scheme as from the end of 2018. Under the current MDM housing scheme, in the year 2017 alone approximately 26.3 thousand loan agreements were signed, amounting to over PLN 4.5 billion, with approximately PLN 0.7 billion worth support granted. Of the above amounts, approx. PLN 0.3 billion worth support went to approx. 10.5 thousand borrowers buying housing in the secondary market (for the total loan amount of approx. PLN 1.3 billion). In total, in the years 2014-2017, under the MDM housing scheme, support worth PLN 2.16 billion was provided to over 84.3 borrowers<sup>38</sup>. In the subsequent years, the terminated MDM housing scheme is to be replaced by the Housing Plus housing scheme<sup>39</sup>.

<sup>38</sup> Detailed information on the government-subsidized housing scheme MDM in the part Monographs.

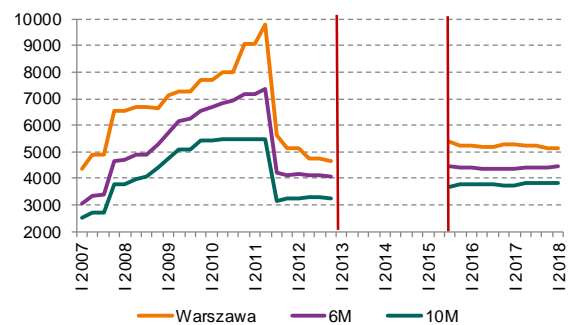
<sup>39</sup> More information on changes in the government-subsidized housing scheme Housing Plus in Quarterly information. NBP.



**Figure 3.108 Limits of max. prices per 1 square meter of housing in the PM under the government MDM programme in Poland's major cities**



**Figure 3.109 Limits of max. prices per 1 square meter of housing in the SM under the government MDM programme in Poland's major cities**



Note to Figures 3.108 and 3.109: The red vertical lines section off the period without government programmes supporting the purchase of dwellings.

Source: NBP based on BGK

Source: NBP based on BGK

### Housing demand in NBP questionnaire surveys

According to the data collected in the questionnaire survey of housing supply in the primary market of multi-family residential construction in Poland, carried out in the period from November to December 2017, home sales were higher than in the previous years and home prices posted an increase ranging from 2% to 5%. In 2017, as compared to 2016, real estate developers estimated the increase in home sales for buyers' own needs and for investment purposes (rental) at a level of a dozen or so percent. The majority of buyers held a view that investment in housing was safer than investment in other financial instruments.

Demand was mainly generated by home buyers purchasing housing for their own needs. The share of dwellings sold to foreigners in 2016 and in 2017 did not exceed 2% of residential sales. In the respondents' opinion, low interest rates were the main driver of high demand.

Real estate developers taking into account growing costs of project development, forecasted a rise in home prices ranging from 5% to 10% in 2018 and by another 5% - 10% in 2019.

**Table 3.3 Growth in dwellings sold/pending sale and put on sale/ likely to be put on sale in multi-family residential construction by respondents in particular years (y/y in %)**

Years	Sold/Pending sale	Put on sale/To be put on sale
2017	108,7%	112,2%
2018	121,8%	140,3%
2019	104,6%	98,9%

Source: NBP

**Table 3.4 Number and growth in homes sold in the PM by respondents in particular years depending on the buyer's intended use of the dwelling**

Years	Buyer's own residence	Investment (rental)
2016	21 194	8 207
2017	24 605	9 419
Dynamics y/y	116,1%	114,8%

Source: NBP

In May 2018 a questionnaire survey of housing demand in the primary and secondary market, including the rental market in multi-family housing in Poland, was conducted in the largest cities. Questionnaires were addressed to real estate developers developing residential projects and to real estate agents. The questionnaire covered, among other things, the assessment, in both markets, of the scale of demand, the structure of buyers, the purpose of purchase and rental of dwellings, and the sources of financing of purchased housing.

### **Primary market**

According to the surveyed developers, the factors that kept demand high included the robust and stable situation in the labour market, rising wages and persistently low interest rates, amid a stable increase in home prices. In May 2018 the majority of real estate developers pointed out they were likely to continue to report high sales results in 2018 and predicted a slight slowdown in demand in 2019. Over half of respondents forecasted an increase in home sale prices in 2018 by approx. 5%. In 2019, a 5% increase in sales and a 5% increase in home prices was forecasted by fewer real estate developers than in 2018. Over 30% of developers expect a decline in demand in 2019 (more than in 2018).

According to NBP data, in 2018 Q1 both offer and transaction prices of housing in the primary and secondary market increased by 2% -3%. The surveyed developers increased home prices mainly in new projects put on the market. The increase in prices was justified by growing construction costs and the need to increase the budget for new development projects. In the opinion of real estate developers, high home sales are increasingly the result of other motives than to meet buyers' own housing needs. According to respondents' estimates, from April 2017 to April 2018, 68% of dwellings in the primary market were purchased as the first dwelling for the family or a family member or to improve living conditions. Approx. 30% of buyers purchase housing for investment purposes (rental) or as an alternative form of capital investment to low interest-bearing saving deposits. Increased interest in purchasing housing for rental has been observed for more or less two years and mainly concerns small apartments in good locations. The interest of domestic and foreign persons in short-term rental is also growing. The purchase of dwellings for resale at a profit in a favourable time period is at the level of several percent (3% - 5%). A small percentage of buyers are persons who purchase dwellings both for rental and resale at a profit in a favourable time period. The share of investment funds of persons purchasing housing for resale does not exceed 5%.

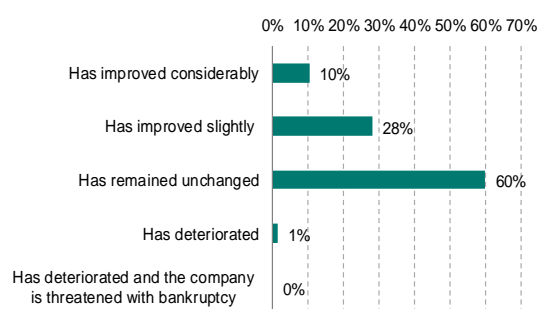
The basic source of financing home purchase in the primary market for buyers' own needs was bank lending or a significant share of bank funds (67% of transactions). Apartments purchased mainly for rental were in 71% purchased exclusively with buyers' own resources or with their significant share. A small percentage of dwellings purchased for resale at a profit in a favourable time period were in 77% financed with own funds or with their significant share. According to respondents, the share of particular sources of financing of purchased dwellings has not changed significantly in the last four quarters.

In the opinion of real estate developers, the majority of buyers of dwellings in the primary market are private individuals (over 94% of dwellings sold). Over 6% of dwellings were sold to foreign

individuals, and about 2% to foreigners who came to work. Approx. 63% of buyers live in the same town or city where the purchased dwellings are located. As a result of domestic migration or more profitable purchase of housing for investment purposes, a significant part of buyers (over 32%) purchased dwellings in a different town or city than their place of residence. Approx. 87% of buyers purchased one dwelling, more than 9% two dwellings, more than 4% three dwellings or more. Most buyers are people aged between 31 and 40 (around 41%), followed by younger people, aged 21 to 30 (over 26%). The remaining percentage of buyers (about 33%) are older people, over 41 years old. Over 40% of people who bought apartments in the primary market create two-person households, over 25% of buyers are part of three-person households. A large number of buyers (about 21%) were singles and about 14% of buyers are four-person households or more numerous families.

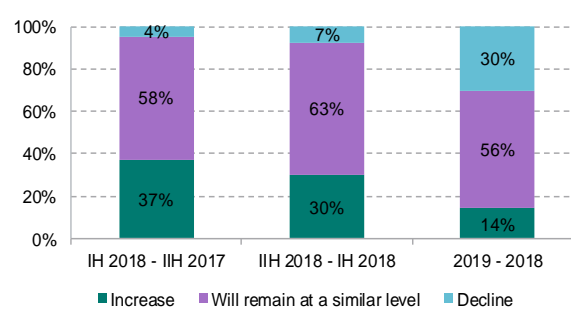
According to 56% of the surveyed real estate developers, the housing market will remain robust for a period from 1 to 2 years, while 32% of companies predict that demand will remain high for a longer time. In the case of a hypothetical downturn, 68% of developers predict first of all a reduction in offer prices in order to sell the housing stock faster, 71% of developers predict withdrawal from the launch of new development projects. These are the types of behaviours that were observed after the economic downturn in 2008-2009, which shows that companies draw on historical experience. In the respondents' opinion, the deteriorating situation in the housing market in the perspective of three years may be the result of a further increase in home prices, a decline in demand for housing, increased difficulties in obtaining loans, rising interest rates and uncertainty or deterioration of the overall domestic situation.

**Figure 3.110 Structure of all real estate developers assessing their economic situation in 2018 Q1 as compared to the second half of 2017 (in %)**



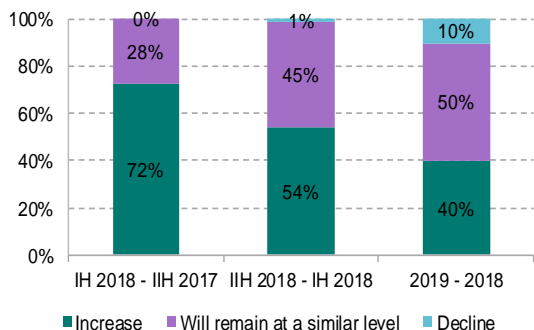
Source: NBP

**Figure 3.111 Structure of all real estate developers assessing demand for residential real estate in the primary market (in %)**



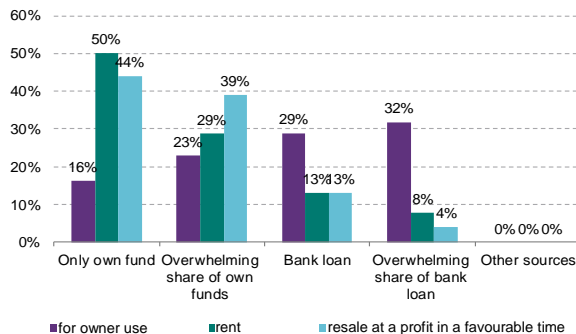
Source: NBP

**Figure 3.112 Structure of responses of all real estate developers to the question concerning changes in net prices of housing in the primary market (in %)**



Source: NBP

**Figure 3.113 Structure of responses of all real estate developers to the question about the share of different sources of financing in particular types of housing purchased in the primary market in the period from April 2017 to April 2018 (in %)**



Source: NBP

## Secondary market

According to real estate agents, to date purchases of dwellings in the secondary market for resale at a profit in a favourable period have been observed on a small scale only (8%). The majority of transactions were investment purchases (approximately 34% for rental, 7% for rental and own housing needs, and 5% for rental and for resale at a profit) and consumption purposes (47% for own housing needs). Dwellings purchased for rental purposes are usually the smallest dwellings - up to 40 sq. m. which are mostly financed with cash (about 50% of sales) and partly loan-financed (about 24% of transactions). As regards home purchases for buyers' own use, dwellings of 40-60 sq. m. prevailed. These purchases were financed in 60% with a bank loan and in approx. 38% with buyers' own funds. Among the buyers, 9% were foreigners and Poles staying abroad, 25% people living in a different city or town than the purchased property. In the secondary market, the importance and the offer of new housing increase<sup>40</sup>. According to NBP data in 6 analysed cities in 2018 Q1 the share of new housing in the offer reached on average 10%, but in Kraków and Gdańsk it exceeded 15%. The object of rental are increasingly new dwellings, amid growing supply and despite much higher rent rates than older housing. According to NBP studies, in 2018 Q1, the share of rented "new" dwellings in 20 major cities accounted for 20%. As a result of growing investment demand, there is an increase in home selling prices in 2017. The average home selling price in the secondary market in these cities increased by 6% y/y, in Warsaw the increase was lower, amounting to 2% y/y. NBP data for 2018 Q1 indicate the growth rate of home selling prices in the secondary market weakened. In the opinion of most real estate agents, the good situation in the secondary market will continued for two years, with a simultaneous average increase in prices amounting 5% y/y.

<sup>40</sup> The study adopted a definition of new housing which is a dwelling building in the past 2-3 years.

The historically highest demand for home rental is caused by the increasing share of foreigners on the labour market (approx. 20% of tenants). Approx. 28% of tenants are managers and highly qualified specialists. Nearly one third of tenants were domestic and foreign students. For 82% of tenants, the decisive criterion is the rental rate. In 2017, growth in average rental rates in six cities (7.2% y/y) was higher than growth in the prices of sold housing. According to 64% of surveyed real estate agents, 2019 will see further increases in rental rates. According to the respondents, the rental market is still absorptive and housing rental may grow over the next 2-3 years. With annual gross rental rates at the level of 6-7%, and high demand, there is room for further increases in home selling prices and rental rates.

## 4. Development trends in the commercial real estate market in Poland in 2017

In the office market, the imbalances resulting from excessive supply of rental space decreased in relation to demand for it. Last year, demand for office space increased more than previously observed, which was supported by favourable economic situation, including the creation of new jobs, also by international companies. However, the vacancy rate in the office space market in the 9 largest cities<sup>41</sup> remained significant and reached 10.8%, including 11.7% in Warsaw. The total of 1.8 million sq. m. of new office space is under construction, which may boost the vacancy rate in the future, especially in the case of buildings of poorer quality or location. Also the warehouse real estate market saw a strong increase in supply at the level of 2.3 million sq. m., which was offset by demand for warehouse space, and the share of vacant warehouse space did not change as compared to 2016. The retail real estate market was the only real estate market to see a reduction in the completed space for another consecutive year which may mean that investors believe that the market stocks is sufficient to meet the demand for this type of space.

As in the previous years, the most projects in the commercial real estate market were developed by foreign investors. However, this cannot serve as the basis for drawing conclusions on the distribution of ownership of real estate into domestic and foreign investors<sup>42</sup>. Lending to enterprises for office space and other non-residential real estate granted by banks operating in Poland at the end of 2017 amounted to PLN 48.7 billion and was PLN 2 billion higher than at the end of 2016. The volume of these loans remains low as compared to loans granted for residential real estate, which can be explained by a significantly smaller stock of commercial real estate than that of residential real estate.

Despite the fact that the imbalances in the office market have been reduced, in view of the continued strong construction of office space, NBP in the Financial Stability Report of June 2018 upheld the recommendation for banks to pursue their lending policy for commercial real estate<sup>43</sup>. Adherence to these recommendations should reduce domestic banks' potential problems.

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<sup>41</sup> 9 cities include: Warsaw, Kraków, Wrocław, Trójmiasto, Katowice, Poznań, Łódź, Lublin and Szczecin.

<sup>42</sup> The above investments concern the sale of the entire operating company, which rents the building and derives income from this. Such transactions take place between: 1 / a real estate developer who has commercialized the property and sells it to the investor, or 2 / two investors. However, it should be emphasized that these data do not allow to draw conclusions about the share of foreign investors in the ownership of commercial real estate in Poland. There is a very large stock of real estate that the owner has built for their own purposes, sometimes even decades ago. Moreover, some domestic investors set up a real estate development company that builds a rental real estate for them and then manages it. The above economic events are not recorded in the statistics on commercial development projects.

<sup>43</sup> Recommendation 6 included in the Financial Stability Report. June 2018 reads as follows: "Banks should pursue a particularly prudent policy in real estate lending. It is important in the context of robust activity in the residential property market and still existing imbalances in selected segments of the commercial property market banks should remain prudent in pursuing their credit policy. Banks should exercise particular prudence in assessing the quality of loan collateral and borrower's ability to repay the loan. An excessive increase of real estate loans in the longer terms could also lead to the build-up of imbalances, whose adjustment would negatively affect both the real economy and the financial system."

Foreign investors are still involved in the construction of new commercial space in Poland, which is motivated by their continued economic growth, low interest rates on loans abroad and persistently higher rates of return in Poland. However, declining rents in the office market and the retail space market in most large cities suggest that the supply of space exceeds the demand for it. Modern office buildings may generate further downward pressure on rents in older buildings. The observed situation may reduce the income of investors being owners of older buildings or those in poorer location which may cause problems with debt servicing or dividend distribution. Because, as estimated at the beginning of the report, funding granted by foreign banks accounts for the largest part of financing, the risk they incur is also growing. In the face of the existing risk, domestic banks should apply a particularly prudent valuation and assessment of the investor's ability to repay the loan.

#### **Box C. Potential threats to owners of office and commercial real estate for rental**

Based on market information, a conclusion can be drawn that owners of real estate for rental face challenges which may have an adverse effect on their income from rental. In the office space market, the threat may come from shared office space (co-working), whereas in the market of commercial space it may come from e-commerce.

In the office space market, tenants show growing interest in shared office space. The reason is that employees of both large and small companies perform part of their work directly on the client's premises or work from home (teleworking). In this situation, tenants seek cost cuts while at the same time shortening the time spent on commuting. In the past few years, companies whose employees spent most of their time at work tended to search for cheaper offices of worse quality or location. However, in the case of co-working, the same space is used more intensively, therefore, much less space is needed. Modern office buildings with very good access offer rent approximately twice as high as those of poorer quality. Yet, space sharing considerably reduces costs of rental per employee, therefore such space becomes competitive. This may lead to rent declines or boost the vacancy rate in older office buildings in poorer location.

The commercial space market may face a challenge posed by increasingly developing electronic trade, the so-called e-commerce. As a result of technological development and growing consumers' awareness, particularly those searching for a particular product at the lowest price, sales in the e-commerce sector have increased markedly in the recent times. This problem was noticed in the world as early as in 2014. The survey performed at that time by Cushman & Wakefield at the MAPIC fair<sup>44</sup> indicates that e-commerce mostly affects medium-sized premises whereas large and smaller commercial centres cope with the development of e-commerce better, even take advantage of it. Studies of the retail space operation in Poland show that small shops usually focus on satisfying daily needs of people in the immediate neighbourhood,

<sup>44</sup> Cushman & Wakefield, Impact of e-commerce on commercial centres market in Europe, 2014. Commercial real estate fairs attract the largest companies from the sector from all over the world. Gathered at one venue they have the possibility to get acquainted with the latest trends and present their projects.



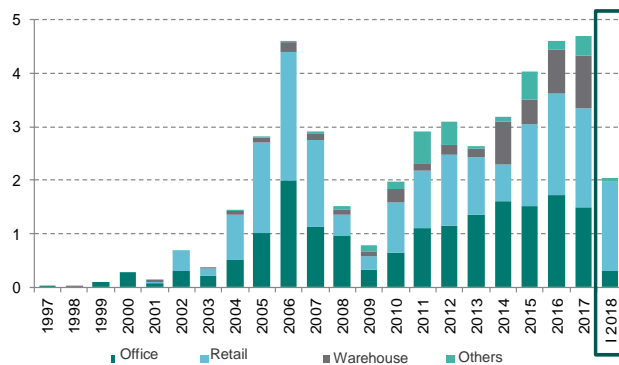
therefore e-commerce probably does not represent a direct competition for them. On the other hand, large shopping centres offer a wide range of shops and services, thus, they may gain customers who “only” want to collect goods ordered electronically and make them use other offers. However, this requires modern shopping centres to change their strategy. Instead of being just places to do shopping they also become a leisure venue, e.g. sports and recreational facilities, meeting places. It is a challenge for owners and administrators of such facilities, since they must extend their entertainment and catering offer, introduce various technological solutions. In order to perform changes, large, costly and time-consuming investment is necessary, which requires partial closure of retail outlets, resulting in temporary decline in turnover of retail outlets and income of shopping centre owners. The aim of all those changes is to attract a greater number of customers.

#### **4.1 Transaction in the commercial real estate, analysis of supply and demand**

In 2017 the commercial real estate market saw another historically high value of investment transactions. The value of these transactions amounted to EUR 4.68 billion, thus more than in the record year of 2006 (see Figure 4.1). According to Comparables.pl, transactions involving office space accounted for approximately 31.8% of the total transaction value, transactions involving retail space to approx. 39.6% and those involving warehouse space to 20.9%. As in the previous years, a significant part of the transaction was related to the change of ownership of the existing and rented commercial building. As a result of excess liquidity in the European Union financial market, resulting from the monetary policy of the European Central Bank, investors were willing to take increasingly higher risks. This was reflected in higher transaction prices amid stable or declining rents, which resulted in a further decrease in the capitalization rate (relation of the annual rent to the purchase price of real estate). Capitalization rates in the office real estate market were around 6%, while in the commercial real estate market they stood at approx. 5% in the largest cities.



**Figure 4.1 Value of investment transaction in the commercial real estate market (EUR billion)**



Note: Data for 2018 refer to Q1

Source: Comparables.pl

The portfolio of loans on real estate granted by banks operating in Poland to entrepreneurs (excluding loans for housing developers) amounted to PLN 48.7 billion (see Figure 19), posting an increase of PLN 2 billion as compared to the previous year. The share of non-performing loans among loans for office space at the end of 2017 Q4 amounted to 6.7%, and this ratio for loans granted for other real estate slightly improved and amounted to 8.9%. If Polish investors enter the commercial real estate market on a large scale, bank debt of Polish investors on account of this real estate may be expected to increase.

As there are no official data on loans granted for commercial real estate by foreign banks, experts estimate this value at PLN 73 billion<sup>45</sup>.

At the end of 2017, Warsaw had over 5.28 million sq.m. of office space and Poland 9.7 million sq m. Despite a strong increase in this stock amounting to 700,000 sq. m., the vacancy rate in major office markets fell by 1.9 p.p. to 10.8% and in Warsaw by 2.5 p.p. to 11.7%, y/y<sup>46</sup>. This was due to increasing demand for office space. The size of office space under construction in Warsaw totals approx. 787 thousand. sq.m. and in Poland 1.8 million sq.m.

The total supply of retail space in Poland at the end of 2017 was 11.5 million sq. m. Approx. 360 thousand sq.m. of retail space was completed and made ready for occupancy in the analysed period, thus approx. 15% less than in 2016.<sup>47</sup> The reduced activity of real estate developers may

<sup>45</sup> According to the international experience, the LTV of 50% on the entire stock can be assumed. Based on the estimate of the value of the office, commercial and warehouse real estate stock, which amounted to PLN 243 billion at the end of 2017, it can be concluded that the total value of loans for these properties at the end of 2017 was PLN 122 billion. Subtracting loans granted by banks operating in Poland, we get estimate the loans granted indirectly and directly by banks operating abroad, at PLN 73 billion. In the case of Poland, the maximum LTV for commercial real estate is, according to Recommendation S issued UKNF in June 2013 is 75%, or 80% if the part of the exposure exceeding 75% LTV is adequately insured or if the borrower has presented an additional collateral in the form of blockade of funds on their bank account or pledge on PLN denominated debt securities of the State Treasury or Narodowy Bank Polski.

<sup>46</sup> See the Colliers International "Market Insights - 2018 Annual Report".

<sup>47</sup> See the Colliers International "Market Insights - 2018 Annual Report".

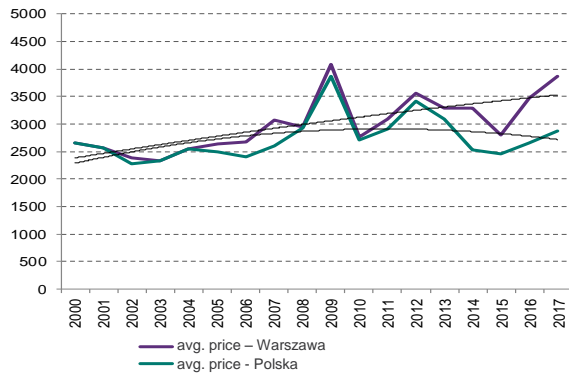
result from the growing retail space saturation per capita (which was 301 sq. m. per 1000 inhabitants). This level is lower than in western European countries. Yet, e-commerce is thriving in Poland and may pose a significant threat to traditional shopping centres. We are already seeing the old and even new shopping centres being transformed into broadly understood entertainment and sports facilities.

In 2017 average transaction prices of office space per sq. m. quoted in euro increased as compared to 2016 all over Poland, especially in Warsaw (see Figure 4.2 - 4.3). Similarly, the dynamic growth of the hedonic price of office real estate (which adjusts price changes resulting from the change in the sample of real estate being the subject of the transaction) increased, although not as strong as the average index. It can be concluded that even if adjusted for qualitative changes, the office space market sees price inflation. Similar conclusions can be drawn when analysing the capitalization rate which is on the decline which means that amid relatively stable rents, buyers accept to pay increasingly higher prices per sq. m. of office space.

A slight rebound in prices can be observed in the retail real estate market across Poland, however, since 2013, both average prices and those measured by the hedonic index have oscillated around one level (see Figures 4.4 and 4.5). This is due to the relatively small sample in the survey and the fact that in certain years transactions dominate in large voivodship cities, whereas in other years the majority of transactions are concluded in peripheral cities.

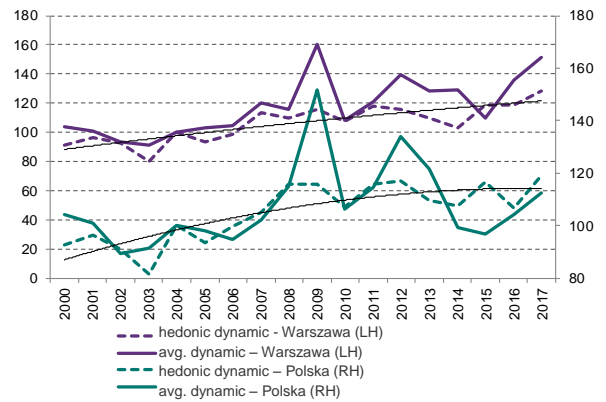
Apart from large-area real estate, there is also a market for smaller premises, located on the ground floor of residential buildings. The median transaction prices of small retail real estate in Poland and Warsaw showed slight decreases, and in some voivodship cities remained stable. However, the medians of offer prices of small office premises in most markets remain stable since the beginning of 2016, while in Warsaw they are on a steady downward trend. In the case of Warsaw this phenomenon may be explained by the fact that Warsaw has a very large stock of office space offered at competitive rents to small tenants.

**Figure 4.2 Average price of commercial real estate in Warsaw and all over Poland (EUR per sq.m.), line of the trend for the average price**



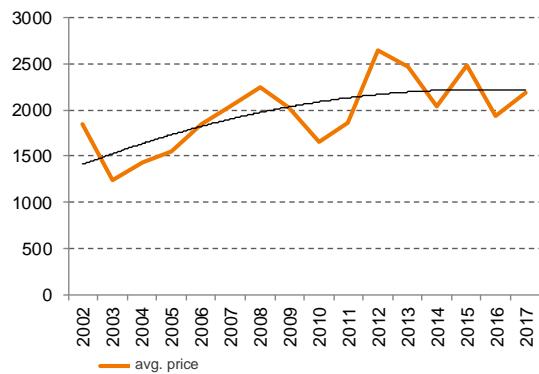
Source: NBP

**Figure 4.3 Growth rate of average and hedonic prices of commercial real estate in Warsaw and all over Poland (2004=100), line of the trend for the hedonic index**



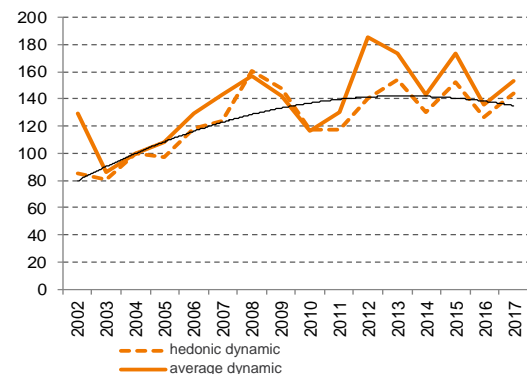
Source: NBP

**Figure 4.4 Average price of commercial real estate in Poland (EUR per sq.m.), line of the trend for the average price**



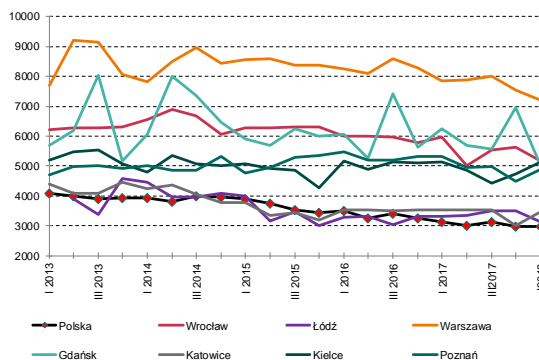
Source: NBP

**Figure 4.5 Growth rate of average and hedonic prices of commercial real estate in Poland (2004=100), line of the trend for the hedonic index**



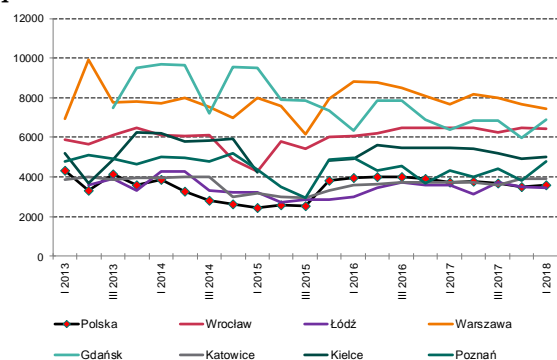
Source: NBP

**Figure 4.6 Median of the offer selling price of small retail premises in the secondary market (PLN per sq.m.)**



Source: NBP

**Figure 4.7 Median of the offer selling price of small office premises in the secondary market (PLN per sq.m.)**



Source: NBP

#### Box D. Analysis of investment in office real estate and estimated rates of return at various LTV levels<sup>48</sup>

The box presents a simplified analysis of investment in offices for rental and estimated rates of return assuming LTV ranging from 60% to 80%. It has been assumed that an investor buys a B class office building in Warsaw at a price of EUR 2 700 per square meter, which is rented for EUR 14/ sq.m/ month. The estimated yield, i.e. the annual rent in relation to the price of square metre is 6.2% ( $12 \times \text{EUR } 14 / \text{EUR } 2,700$ ), which is corroborates information from the market. It is assumed that the average building has 9,000 sq.m of rental space. Operating expenses for the investor (maintenance, cleanliness, heating, taxes, etc.) amount to EUR 3.2/ sq.m/ month and they are charged to the tenant. Real estate administrator receives EUR 110,000 per year.

The analysis assumes that 60%, 70% or even 80% of the value of investment is financed by a loan incurred for 25 years, with the annual interest rate in EUR at a level of 2.5%. It should be stressed that investment projects last approximately 10 years, which means that such a loan will not be fully repayed during investment project and it will only be repaid by income from the sale of the real estate. Such selection of the loan seems favourable since the investment generates positive flows in each year. For the investor, flow of free cash and ROE, i.e. return on equity is important. On the other hand, from the point of view of a bank financing the real estate, what is important is the debt service cover ratio (*DSCR*) and the interest service cover ratio (*ISCR*). The analysis presented below focuses only on the first year of the investment<sup>49</sup>. In the first step, a profit and loss account presented in Table R1 should be prepared. The analysis starts by calculating the annual revenue, i.e. the cash flow from tenants resulting from the rent and maintenance fee per square meter of space, multiplied by the area of the rented space ( $\text{EUR } 14 / \text{sq.m/month} + \text{EUR } 3.2/\text{sq.m. /month}) \times 12 \times 9000 \times 0.95 = \text{EUR } 1,761,084$ . The value obtained should be decreased by fixed operating expenses of the building ( $\text{EUR } 3.2/\text{sq.m /month}) \times 12 \times 9000$ , thus giving the net operating income (*NOI*) = EUR 1,419,311.

In the next step, expenses related to building administration should be deducted, i.e. administrative expenses and overheads. The result of these calculations are earnings before interest, taxes, depreciation and amortization (*EBITDA*) amounting to EUR 1,309,311. From this income, depreciation of the building should be deducted, which was assumed as 2.5% of the value per year, which generates earnings before interest and taxes (*EBIT*). Gross profit is obtained after deducting financial expenses, i.e. interest on the loan, whereas net profit is obtained after deducting income tax. Assuming the LTV = 60%, it amounts to EUR 413,756. If net profit is divided by investor's equity, we obtain the *ROE* (*return over equity*) on the investment. The ROE value is presented in table R3.

<sup>48</sup> The analysis and its description is based on the study by Trojanowski, Olszewski and Gałaszewska (2017), Trojanowski (2011) and the classic analysis of profits and losses of investment and analysis of flows of free funds for capital owner.

<sup>49</sup> Classic analysis of investment profitability also focuses on internal rate of return (IRR) throughout the period of the duration of the project.

**Table D1 Profit and loss account for the investor at various LTV levels**

<b>Profit and loss account</b>	LTV = 60%	LTV = 70%	LTV = 80%
<b>Revenue</b>	<b>1,761,084</b>	<b>1,761,084</b>	<b>1,761,084</b>
Operating expenses	341,772	341,772	341,772
<b>NOI - net operating income</b>	<b>1,419,311</b>	<b>1,419,311</b>	<b>1,419,311</b>
<b>Company costs</b>	<b>110,000</b>	<b>110,000</b>	<b>110,000</b>
administrative expenses and overheads	110,000	110,000	110,000
<b>EBITDA</b>	<b>1,309,311</b>	<b>1,309,311</b>	<b>1,309,311</b>
Amortisation and depreciation	437,970	437,970	437,970
EBIT	871,341	871,341	871,341
Financial expenses	360,531	420,620	480,708
<b>Gross profit</b>	<b>510,810</b>	<b>450,721</b>	<b>390,633</b>
Settlement of retained losses	0	0	0
Income tax rate	19%	19%	19%
<b>Income Tax</b>	<b>97,054</b>	<b>85,637</b>	<b>74,220</b>
<b>Net profit</b>	<b>413,756</b>	<b>365,084</b>	<b>316,413</b>

Source: NBP study based on the article

**Table D2 FCFE analysis - free cash flows for the investor at various LTV levels**

	LTV = 60%	LTV = 70%	LTV = 80%
<b>Inflows</b>			
EBITDA	1,309,311	1,309,311	1,309,311
<b>Total inflows</b>	<b>1,309,311</b>	<b>1,309,311</b>	<b>1,309,311</b>
<b>Expenditures</b>			
Income Tax	97,054	85,637	74,220
Interest on loan	360,531	420,620	480,708
Principal instalment	425,543	496,467	567,391
<b>Total expenditures</b>	<b>883,128</b>	<b>1,002,724</b>	<b>1,122,320</b>
<b>FCFE</b>	<b>426,183</b>	<b>306,587</b>	<b>186,992</b>

Source: NBP study based on the article

The analysis of free cash flow to equity for the investor (FCFE) is based on the previously calculated earnings before interest, taxes, depreciation and amortization (*EBITDA*) and it is presented in Table R2. In order to calculate the FCFE, expenses should be deducted from *EBITDA*, i.e. income tax, repayment of interest on credit and the principal instalment. Assuming the LTV at the level of 60%, the FCFE amounts to EUR 426,183.

A bank financing the investment project assesses credit risk using the *DSCR* which is calculated as the *EBITDA* less the tax on repayment of interest and principal instalment ( $DSCR = (EBITDA - tax) / (interest + principal\ instalment)$ ). Assuming the LTV at the level of 60% or 70%, the *DSCR* exceeds the value of 1.2 which is recognised as a safe level. However, in the case of the LTV = 80% this ratio is only 1.18, which means that for debt servicing, the investor is left with a buffer of only 18%. For example, if income from rental fell by 20%, the investor would be unable to fully service the debt.

The analysis shows that the ROE, i.e. short-term profitability ratio, increases together with increasing financial leverage. However, in the case of a credit which is not fully depreciated during the life time of the investment, increased financial leverage generates the risk that a

substantial portion debt will remain unpaid even after the lapse of 10 years. In the case of the initial LTV at the level of 60%, the LTV upon the completion of the investment project amounts to 40%, whereas in the case of the initial LTV at the level of 80%, the final LTV amounts to 54%. Many investors are optimistic to believe that the value of the real estate may only grow, however, a justified risk exists that at upon its sale the investor will not obtain the expected price for the building and will remain indebted. It should be also emphasised that after 10 years the owner will have to incur significant capital expenditure to ensure that the building remains competitive and attracts tenants. On the other hand, if the investor took a loan for a period equal to the life time of the investment, they would have to repay it very quickly, which would significantly decrease free cash flows. Nevertheless, in that case, upon the completion of the investment project the debt on the building would be fully repaid and the price gained upon its sale after taxes would constitute a profit for the investor. The example described above shows that profits from investing in the commercial real estate market are not high whereas the risk, particularly for the financing bank, is significant. The optimum investment strategy, i.e. a high financial leverage and fast exit from the market through the sale of the building is a simple recipe for generating a cycle on the real estate market, if it is a mass phenomenon.

**Table D3 DSTI analysis and rates of return on free cash flows for the investor at various LTV levels**

	LTV = 60%	LTV = 70%	LTV = 80%
DSCR	1.54	1.33	1.18
return on equity (ROE)	4.3%	5.0%	6.5%
LTV at the end of investment	40%	47%	54%

Source: NBP study based on the article

## References

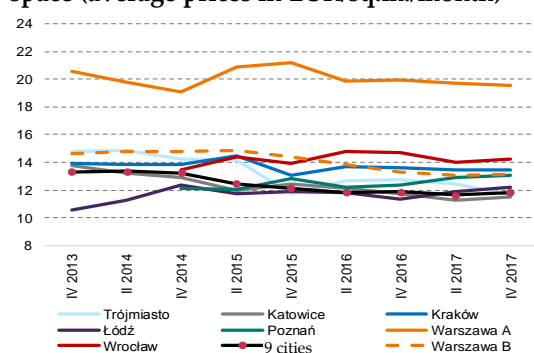
Trojanowski D. (2011), *Model of office real estate valuation under the conditions of the Polish real estate market*; collective work edited by A. Nalepka; *Investment and real estate - challenges of the 21st century*; Foundation of Cracow University of Economics; Cracow; ISBN 978-83-62511-80-8; pp. 419-427.

Trojanowski, D., Olszewski, K. and Gałaszewska, K. (2017). Analysis of resistance of investment in office real estate to the growth of credit costs or vacancy rate. MPRA working paper no. 81395.

## 4.2 Transaction rents of commercial real estate<sup>50</sup>

Rents charged for A class buildings, which are generally fixed in EUR, remained stable in Warsaw, in other large cities and in 9 smaller towns. The highest monthly rents in this class of buildings are recorded in Warsaw where they reach approx. EUR 20/sq. m/month. In the remaining six large cities and in nine other smaller voivodship cities they ranged from EUR 12 to 14/sq. m/month. In the majority of markets, rents for B class buildings fixed in EUR were stable, whereas in Warsaw and Łódź they showed a slight increase at the end of 2017. It should also be noted that rents for B class office buildings in Warsaw were at a similar level as rents for A class buildings in 6 large cities.

**Figure 4.8 Transaction rents for A class office space (average prices in EUR/sq.m./month)**

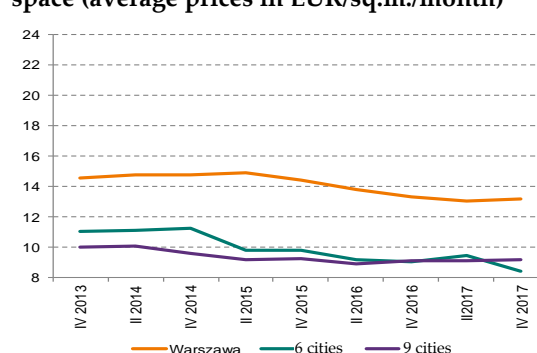


Note: A - A class office buildings, B - B class office buildings. Classification of buildings in accordance with BOMA International standards.

The nine cities include: Białystok, Bydgoszcz, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Wrocław.

Source: NBP

**Figure 4.9 Transaction rents for B class office space (average prices in EUR/sq.m./month)**



Note: The six cities include: Katowice, Kraków, Łódź, Poznań, Tri City, Wrocław.

The nine cities include: Białystok, Bydgoszcz, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Wrocław.

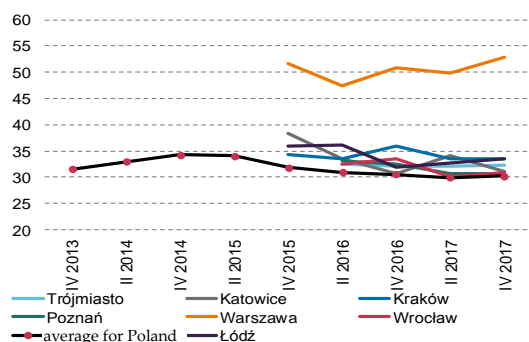
Source: NBP

In the market of retail space in shopping centres, rents generally stabilised, showing only minor declines, whereas the Warsaw market posted a slight increase in rents. This may confirm a high demand for retail space in shopping centres located in Warsaw. This may result from a growing purchasing power of Warsaw inhabitants and visitors.

<sup>50</sup> The analysis of rents based on the BaNK data base conducted by NBP, quotations are made semi-annually.



**Figure 4.10 Transaction rents for retail space in shopping centres (shopping malls) with an area of 100-500 sq. m. (EUR/sq.m/month)**



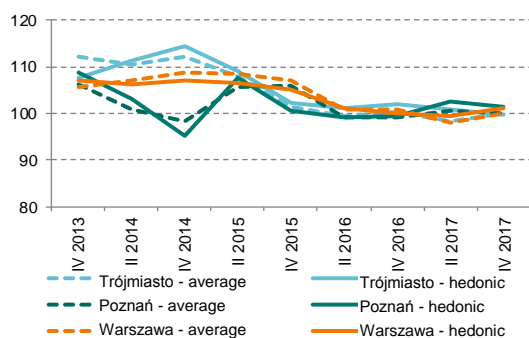
Note: as of the beginning of 2015 Q4, the number of records in the base, including respondents, increased significantly, consequently changing the analysed sample. Rents for retail space ranging from 100 square metres to 500 square metres are analysed in commercial facilities located in economically important parts of the city.<sup>51</sup>

Source: NBP

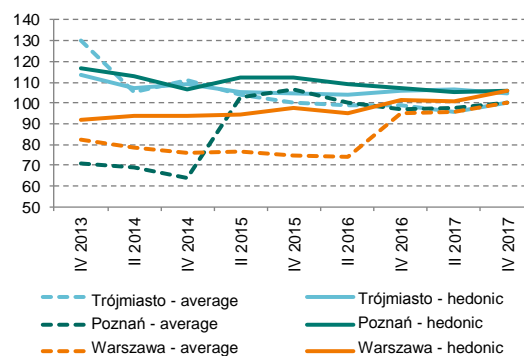
It should be emphasised that since 2015 Q4 information on transaction rents is collected for an increasing number of shopping centres and the number of individual retail premises in such centres. Therefore, situation in the rental markets should be also analysed using the hedonic index which is resistant to changes in the analysed sample described above. On the basis of the methodology presented in the report for 2016, indices of hedonic prices were created for Warsaw, Poznań and Tri City. In the office space market, the index of the average rent is very close to the hedonic index since rents for individual premises or space in a particular building are relatively similar. On the other hand, in the market of space in commercial centres, the hedonic analysis<sup>52</sup> showed that the transaction rent per square metre falls with diminishing size of premises. In the case of commercial centres in Tri City, the index of average rents and the hedonic index are very close, whereas in Warsaw and in Poznań, this trend has been observed since the end of 2016 only.

<sup>51</sup> It is an area where a wide range of retail offer can be found, addressed to persons with varied level of wealth, with good access, which can be situated outside the strict centre of the city.

<sup>52</sup> It results from the fact that in the case of Tri City, since the beginning of fixings, the same sample of commercial centres has been examined whereas in the case of Warsaw and Poznań, the sample of the analysed commercial centres increased in the subsequent editions of the survey.

**Figure 4.11 Index of rents for offices, average and hedonic (2017 Q4 = 100)**

Źródło: NBP

**Figure 4.12 Index of rents for shopping centres, average and hedonic (2017 Q4 = 100)**

Źródło: NBP

### 4.3 Estimated rates of return on equity in the case of investment in class B office real estate in Warsaw

Estimated rates of return on equity in the case of investment in office space in Warsaw allow for synthetic presentation of profitability of such investment. These rates (net profit to equity) were calculated based on the profitability of investment presented in Box D. Two levels of financial leverage were assumed. The first one, recognised as relatively safe, is the share of external financing at a level of 50% (LTC=50%). The second one, although risky, is desired by investors and amounts to 80% (LTC=80%). The assumptions concerning the life time of the investment project, operating expenses and interest rate on loans in EUR were derived from Box D. Rents for B class office buildings in Warsaw based on the hedonic method were used for the analysis (see Figure 4.11). The average price of square meter of office real estate for 2017 was derived from Box D and amounted to EUR 2700. Average prices per square meter for the period 2013 Q4 - 2016 Q4 were calculated with the use of the hedonic index of the transaction price presented in Figure 4.3. Data adjusted by hedonic regression are more resistant to changes in the analysed sample.

In the first instance, the yield was calculated as the ratio of the annual rent to the transaction price of a square meter of space. The yield calculated in this way is close to the market yield for the best real estate<sup>53</sup>(see Table 4.1), thus the input data may be used to estimate the rate of return on equity. It should be stressed that the estimate for the first year of investment commenced in a particular semi-annual period is always provided.

The estimated rate of return on investment assuming the conservative LTC=50% amounts to approximately 5% and it is not significantly more profitable than the rate of return on bonds recognised as safe, amounting on average to 3.2% in the analysed period (see Table 4.1). It should be remembered that as a result of strong competition on the market and the continuous and considerable new production of office space, rents may fall. The estimated rate of return on the analysed investment at a very high LTC=80% is much higher and amounts to approximately 10%. This result seems attractive, however, it should be emphasised that such investment is even more

<sup>53</sup> See Colliers International Reports: Poland Market Insights, Annual report 2018 and previous editions.

exposed to the risk of rent decline. Moreover, assuming such a high level of debt even after 10 years of the life time of the investment, the building remains indebted to a large extent. At the same time, the building is being depreciated. If an owner is willing to sell the building, it will have to incur significant expenditure for modernisation or approve gaining of a lower price. Thus, the question remains whether it is able to repay the debt at all. Therefore, the analysis of the estimated rate of return shows that the gain on investment is not very high, whereas a risk exists for the investor and for the bank financing such investment. The investment risk can materialise if central banks abroad raise interest rates.

**Table 4.1 Estimated rate of return on equity in the case of investment in B class office building in Warszawa**

Date	Hedonic rent per sq.m of space in EUR	Hedonic price per sq.m of space in EUR	Calculated capitalisation rate (yield)	Market capitalisation rate (yield)	ROE (LTC = 50%)	ROE (LTC = 80%)	Average market rates of 10-year Treasury bonds
2013 Q4	14.4	2309	7.5%	7.0%	5.0%	9.9%	4.3%
2014 Q2	14.7	2163	8.2%	7.0%	5.5%	11.4%	3.9%
2014 Q4	14.9	2163	8.2%	7.0%	5.6%	11.6%	2.9%
2015 Q2	14.9	2496	7.2%	7.0%	4.9%	9.4%	2.5%
2015 Q4	14.9	2496	7.2%	7.0%	4.9%	9.4%	2.9%
2016 Q2	14.6	2489	7.0%	6.5%	4.7%	8.9%	3.0%
2016 Q4	14.8	2489	7.1%	6.5%	4.8%	9.2%	3.1%
2017 Q2	14.4	2700	6.4%	6.0%	4.1%	7.3%	3.2%
2017 Q4	14.5	2700	6.4%	6.0%	4.1%	7.3%	3.3%

Note: The detailed method of estimation is described in Box D of the Report while calculation of hedonic rent of square meter of office spaced is described in Subsection 4.2 of the Report. The method of calculating the hedonic price of square meter of office space is described in Box 2 of the Report for 2013. The calculated yield is the ratio of the rent obtained by the investor and the price they paid in the semi-annual period during which the building was purchased. The market yield is derived from Colliers International reports and serves as a benchmark. The return on equity (ROE) was calculated for two alternative levels of external financing. The first one assumed the share of credit to investment costs (LTC, loan to cost) at a level of 50%, the other one - at a level of 80%. The calculated estimated rates of return on equity are compared with the average market rate of 10-year Treasury bonds recognised as risk-free.

Source: NBP (data and calculations), Colliers International (market yield), MF (rates of return on 10-year bonds)

## Glossary of terms and acronyms

**Arbitrage** – A sale/purchase transaction of all tradable goods (e.g. merchandise, securities, housing), making it possible to gain profits without any risk. The essence of Arbitrage is the balancing of price differences of the same product in various markets or in the same market. In case such a difference is higher than transaction costs, the investor will gain profit by purchasing the product in a cheaper market and selling it in a more expensive market.

**BaRN** – Real Estate Market Database. The database containing offer and transaction prices of housing in the primary and secondary markets and data on rent rates in 16 voivodship cities. The data come from real estate brokers, housing cooperatives and real estate developers who volunteered for the study and partially also from the Registers of Prices and Values of Real Estate kept by particular counties. The data are gathered and verified by the Regional Branches of NBP.

**Construction of dwellings in progress** – elasticity of supply of new dwellings relative to demand shocks; these are dwellings whose construction has been launched less dwellings completed and made ready for occupancy.

**Multi-family residential building type 1121-302** – an average multi-family residential five-storey building with an underground parking space and retail premises on the ground floor; construction technology: structural footings, load-bearing (structural) walls and ceilings constructed of monolithic reinforced concrete, curtain walls (non-structural external walls of the building) - made of ceramic bricks MAX; half of the building monitored by NBP since the second half of 2004 based on the data of Sekocenbud. The change of the type of the analysed building introduced in 2016 is due to the fact that cost estimates and cost planning for the building type 1121 ceased to be prepared. For the sake of convenience, it has been assumed that construction costs of 1 square meter of parking space and retail space are close to the costs of housing sold in a shell and core condition. The real price of 1 square meter of housing, based on construction costs, depends on the share of the building's common area, different for various buildings. When calculating the price of 1 square meter of usable area of housing to be paid by a consumer, we have assumed that the building's common area constitutes 20% of the housing area, and using this figure we made an upward adjustment of the price of 1 square meter of housing. The developer's model of the construction process is described in more detail in Article 3 of the "Report on the situation of the Polish residential and commercial real estate market in 2011", NBP 2012

**Shopping centre** – retail real estate that has been planned, constructed and managed as a single retail entity. It consists of common areas, with a minimum gross leasable area (GLA) of 5,000 sq. m, and a minimum of 10 shops.

**DI** – Disposable Income, households' gross disposable income.

**Available housing loan** – a measure specifying the potential maximum housing loan; expressed in PLN thousand in a particular market, taking into account banks' lending requirements and loan parameters (i.e. interest rate, amortization period, minimum wage, as the minimum income after

payment of loan instalments). Important information is provided by the pace of changes and regional differentiation rather than the value of the indicator alone.

**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% from the primary market and 60% from the secondary markets according to the NBP database).

**DTI** – Debt to Income indicator defining the level of loan service costs (repayment) to the average gross income available to households.

**Hedonic housing price index** – reflects the 'pure' price, i.e. resulting from factors other than home quality differences. We also analyse the price of a standardized dwelling, common in a given market, based on an econometric model. The index adjusts the average price from the sample to the change in quality of housing in the sample in each period. The hedonic price used in the study says what would be the average price of the stable sample of dwellings from the adopted reference period in subsequent periods, taking into account the actual "pure" change in transaction prices. This distinguishes it from the average price growth, or the median in the sample, which would strongly react to a change in the sample composition, e.g. by increasing the price given a higher number of small dwellings with a higher price per square metre. More information in the article by M. Widłak (2010) „Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr” [“Methods of computing hedonic price indices as the way to control changes in goods quality”], *Wiadomości Statystyczne* no. 9.

**IRR** – Internal Rate of Return - method of economic assessment of effectiveness of investment projects. An investment project is profitable when the internal rate of return is higher than the terminal capitalization rate being the lowest rate of return acceptable to the investor. Affordability of loan-financed housing – measure specifying how many square metres of housing at an average offer price in a particular market (PONT Info) may be purchased for a mortgage loan obtained based on the average monthly wage in the enterprises sector in a particular market (GUS), in view of loan parameters (interest rate, depreciation period, social minimum understood as the minimum income after payment of loan instalments) and the bank's lending parameters. Index growth rate and spreads between particular markets also provide important information.

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

**DFD** - an average large real estate development company, selected on the basis of economic activity classification number PKD2007. A large real estate development company employs more than 50 people.

**Local area development plan (MPZP)** - contains arrangements for the allocation and use of land and the manner of its development and construction. Local area development plan is a local law act.

**MDM** – Housing for the Young (MDM) – a new government-subsidized scheme intended to support housing construction through subsidies to mortgage loans granted to households meeting

the following requirements: age below 35 years, no homeownership, housing usable area not exceeding 75 square meters for a housing unit and 100 square meters for a single-family house. The scheme entered into force at the beginning of 2014. In 2015 the scheme was extended to encompass the secondary housing market.

**OOH** – (Owner Occupied Housing) dwellings inhabited by the owner.

**P/I** – (Price to Income), ratio determining the relationship, expressed in years, of the price of an average dwelling in a particular market to the average available income.

**PKD 41.10** - execution of development and construction projects related to the construction of buildings. When choosing PKD codes for a company, the main activity of the company should be taken into account. Breakdown into PKD groups is customary and conventional. Various collections were used to confirm the reliability of the results of the financial analysis.

**PONT** – database holding data on housing real estate offer prices, gathered by the company of PONT Info Nieruchomości.

**P/R** – (Price to Rent), ratio determining the relationship of the price of an average dwelling in a particular market to the cost of rental of a similar dwelling.

**Residential projects in progress** - elasticity of supply of new housing to supply shocks; these are permits for the construction of dwellings less dwellings completed and made ready for occupancy

**Pre-let** - lease of commercial real estate during its construction period. Its level is determined by the bank financing the investment in order to secure the income from investment.

**PUM** - usable area of housing The measure showing the number of metres of usable area of housing that may be built on one square metre of land, specified in local area development plans.

**Credit rationing** – means restricted lending resulting from banks' own assessment of growing risk. In specific situations this may diminish the value of newly granted loans, despite the absence of major changes in the current creditworthiness of the borrower, which may lead to self-fulfilling forecast.

**Recommendation S** - collection of good practices regarding mortgage-secured credit exposures. It was introduced in 2006 by the Polish Financial Supervision Authority, issued pursuant to Article 137 item 5 of the Banking Law Act (Journal of Laws No. 72/2002, item 665, as amended).

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

**Re-commercialisation of commercial properties - re-lease of properties which were leased before.**

**Rodzina na Swoim (RNS) – (Family on their own)** – the governmental scheme intended to support housing construction through subsidies to interest rates on housing loans, operating in the years 2007-2012.

**Sekocenbud** –publishing house issuing quarterly data on construction costs. The team relies on quarterly Bulletins of Prices of Buildings (BCO), Part I, Buildings.

**Shell and core construction of new housing** - it may be housing with concrete topping on the floor and plaster on the walls and front door, to be finally finished by the buyer. The actual standard of the shell and core construction may vary depending on the real estate developer. This standard should be described in the home purchase contract.

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

**Capitalization rate** – quotient of the net operating income that may be earned in the market and the market price of real estate (in accordance with the Generally Applicable National Principles of Appraisal).

**Study of conditions and directions of spatial development and construction in the commune** - defines the spatial development and construction of the commune. The study is not an act of local law.

**Housing situation** - understood as an indicator of the degree to which housing needs of the society are satisfied. It is described by such indicators as the number of dwellings per 1 000 inhabitants, the size of the average dwelling, the technical condition of housing, access to public transport, measured by the average commute time.

**TBS (Social Building Society)** – a company operating under the Act of 26 October 1995 on certain forms of subsidizing housing construction (consolidated text of the Journal of Laws No. 98/2000, item 1070, as amended). TBS is engaged in the construction and administration of multi-family residential buildings under lease, management and administration and conduct of business related to housing construction and accompanying infrastructure. Initially, TBS offer was meant to be addressed to non-affluent families eligible for loan subsidy from the National Housing Fund (KFM). Tenants pay rent, which is usually higher than in municipal housing (as the loan is repaid from the rent) but lower than the market rent.

**Demographic burden ratio** - ratio of the number of population in age groups resulting from the statutory ability of work: pre-working age, working age and post-working age population. Values are given as per 100 persons.

**Vacancy Rate** – relation of non-rented space to the accumulated (total) supply of commercial space in a particular location, e.g. town or district.

**Profitability ratios** – ROA (return on assets) – relation of net income to assets at the end of the period, ROE (return on equity) – relation of net income to equity at the end of the period, profitability of net sales – net profit in relation to income on sales

**Professional rental** – process of leasing residential premises especially constructed for housing purposes; the owner of the home rental stock may be both a legal entity (municipality, local



government, real estate fund) as well as a natural person; in Poland this market is limited and decapitalised.

## List of abbreviations

- 500+** government-subsidized scheme Family +
- +3M** 3-month changes
- 5M** 5 cities: Gdańsk, Kraków, Łódź, Poznań, Wrocław
- 6M** 6 cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław
- 7M** 7 cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław
- 10M** 10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra
- AMRON** System for the Analysis and Monitoring of Real Estate Market Transactions
- BaNK** Commercial Real Estate Market Database
- BaRN** Real Estate Market Database
- BGK** Bank Gospodarstwa Krajowego
- BIK** Credit Information Bureau
- CPI** Consumer Price Index
- DI** Disposable income
- DTI** Debt to Income
- GD** Households
- GUS** Statistics Poland
- IRR** Internal Rate of Return
- EURIBOR** Euro Interbank Offer Rate
- IKM** Individual Housing Escrow Accounts
- jst** local government units
- KNF** Polish Financial Supervision Authority
- KRS** National Court Register
- l. oś** left-hand scale
- LIBOR** London Interbank Offered Rate
- LTV** Loan-to-Value
- MDM** government-subsidized housing scheme Mieszkanie dla Młodych (Housing for the Young)
- NBP** Narodowy Bank Polski
- NFM** National Housing Fund

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<b>NPM</b>	National Housing Scheme
<b>NSP</b>	National Census
<b>O/O</b>	District Branch
<b>OOH</b>	Owner Occupied Housing
<b>P/I</b>	Price to Income
<b>p. oś</b>	right-hand scale
<b>PAB</b>	Polish Construction Research and Forecasting Agency
<b>PP</b>	rest of Poland
<b>PUM</b>	usable area of housing
<b>RNS</b>	government-subsidized housing scheme Rodzina na Swoim (Family on their own)
<b>RP</b>	primary housing market
<b>RPO</b>	offer in the primary market
<b>RPT</b>	transaction in the primary market
<b>RW</b>	secondary housing market
<b>RWO</b>	offer in the secondary market
<b>RWT</b>	transaction in the secondary market
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>SARFIN</b>	Analytical System for the Real Estate Financing Market
<b>TBS</b>	Social Building Society
<b>UE</b>	European Union
<b>WIBOR</b>	Warsaw Interbank Offered Rate
<b>WIG20</b>	Index including top 20 companies listed on the Warsaw Stock Exchange with the highest value of publicly traded free-floating shares
<b>ZBP</b>	Polish Bank Association
<b>ZKPK</b>	Accumulated index of changes in banks' credit policy criteria