
Report on the situation in the residential and commercial real estate market in Poland in 2018

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

The real estate sector is closely related to the construction sector, which produces new real estate. The Polish construction sector is currently undergoing a phase of strong recovery, which is associated with the cumulated growth in demand from the general construction, residential and commercial real estate sectors.

High demand in general construction is driven by EU infrastructure projects, strong demand in the commercial sector is supported by low interest rates in the euro area encouraging to look for alternative forms of investment whereas high demand in housing construction is mainly driven by the structural housing shortage in large cities and low domestic interest rates.

The residential and commercial sectors are therefore subject to double pressure. On the one hand, they compete for limited resources, and on the other they are under the pressure of growing demand. Consequently, construction costs, real estate prices as well as rental rates are on the rise.

- In the analysed period, average asking and transaction prices per square meter of housing in local primary and secondary markets continued on an upward trend. In Warsaw and in the six largest cities prices in nominal terms were approaching the levels recorded in the period of tensions (2006-2008), and in the ten cities exceeded these levels. The index of CPI deflated prices, despite a slight increase in year-on-year terms, remained below the 2006-2008 levels. The index of wage-deflated housing prices continued in the negative territory indicating that the growth of households' wages was faster than the growth of real estate prices. The highest nominal prices per square meter of housing in the primary and secondary markets were recorded in Warsaw and in the six largest voivodeship markets (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 markets (10M) the highest prices per square meter of housing were recorded in the case of small dwellings.
- Average rents (asking and transaction) per square meter of housing increased in year-on-year terms in 2018 (asking rents by 4% and transaction rates by 10.4%). This encouraged wealthier households to purchase rental housing for investment purposes.
- At the current level of rents, companies investing in rental housing earned rates of return (calculated as differences in interest rate levels) exceeding the yields on bonds or bank deposits and were similar to the rates of return on investments in commercial real estate. In the case of commercial real estate, the return on equity is higher, as the real estate is financed with very low-interest loans in EUR. A detailed analysis taking into account depreciation and taxation of profits shows that the rates of return on equity, excluding loans, are practically the same in both cases. 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 a slightly smaller rise in supply. High demand for housing was driven by a strong growth in household wages, the persistence of the historically low nominal interest rates (on both deposits and loans) and the 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 2018 growth in lending in PLN was positive (11.8% y/y) and stable and the value of residential mortgage loans in PLN increased by PLN 30.3 billion to reach PLN 287.7 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 2017 by 2.4% down to PLN 127.9 billion.
- The housing selling time in the primary market in the seven cities (7M) increased somewhat as compared to the previous year and at the end of 2018 was approx. 3.1 quarters. This means that dwellings put on sale sold rapidly and buyers had less possibility to choose housing.
- At the end of 2018 the housing selling time in the secondary markets, taking into consideration only transaction ended with a closed deal, in all markets was around 4 months. In Warsaw it decreased by approx. 2.5 months as compared with the previous year, in the six cities (6M) by approx. 1 month, and in the ten cities (10M) by approx. 0.5 month.
- In 2018 the total of dwellings completed and made available for occupancy exceeded 184.8 thousand (increase of 2/0% y/y), the construction of approx. 221.9 thousand new housing projects was commenced (increase of 7.7% y/y) and approx. 257.1 thousand building permits were issued (increase of 2.7% y/y). Activity in housing construction was a record level; yet, due to strong demand and high sales levels no oversupply was noted in the housing market.
- The persistently strong demand in the housing market in 2018 had a positive impact on the financial condition of real estate developers, especially large real estate developers. The estimated share of developers' profit in the price of new housing continued at a high level. This means that real estate developers managed, to a considerable extent, to transfer growing housing construction costs to housing buyers. Growing prices of construction and assembly works and the shortage of qualified labour in housing construction had a negative impact on real estate developers.
- The BaRN survey results show that the price of land for multi-family construction in the largest cities increased considerably in 2018, yet, real estate developers did not anticipate land for housing construction to be running out in the next few years. This means that developers assume that buyers will accept increasingly higher prices.
- Real estate developers, especially large real estate developers, continued to rely mainly on their own funds, buyers' down-payments, bonds and loans and delayed repayment of

liabilities to finance construction. The share of own funds was high (more than 40%), whereas the share of loans insignificant (approx. 10%).

- Favourable economic situation in the primary housing market and in infrastructural construction failed to bring to large construction companies economic profits comparable to those gained by real estate developers. Losses generated as a result of growing costs of construction materials and labour, curbed the activity of some companies operating in the broadly understood construction services market. The new trend is to sign contracts covering smaller stages of works and thus concluded for shorter periods, or they are subject to higher revision, which allows to 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 population, partly as a result of migration. This is consistent with the global trends with growth and development being concentrated in the largest cities.
- The year 2018 saw a phenomenon of suburbanization (the outflow of city residents outside the administrative boundaries of cities, especially marked in Poznań) and the expansion of certain voivodeship cities (e.g. Rzeszów, Opole or Zielona Góra). The group of the most populated cities saw a higher level of satisfaction of housing needs, measured by saturation and population rates.
- This was another year when in the group of the largest cities smaller dwellings with a bigger number of rooms were built. This was a result of both greater economic affordability of smaller dwellings and households' liquidity preference.
- The office real estate market saw an increase in demand amid steadily growing supply. Amid low interest rates in the euro area, investors continued to be interested in launching new development projects despite low and falling rates of return. Those projects are financed with near-zero interest loans from investors' home countries which allows them to generate positive rates of return on equity. Growing supply of commercial real estate may cause rents in older and less attractively located buildings 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.
- The share of new retail space in the total retail real estate stock shrink for another consecutive year. This may mean that the current stock of retail real estate is sufficient to meet the demand.
- In 2018 transaction rents for A class office space (quoted in EUR price/square metre/month) continued on a slight downward trend in Warsaw and remained stable in other cities. Transaction rents for B class office space (quoted in EUR/square meter/month) were stable in Warsaw and followed a slight upward trend 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; in Warsaw the upward trend was halted.

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 market¹.

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. 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 assessment of the stability of the financial system and macroeconomic situation to monitor and assess the situation in the residential and commercial markets on an ongoing basis.

The aim of the Report is to present, in a complex way, the results of analyses of the trends and developments in the residential and commercial real estate markets in Poland in 2018 and to provide information to interested companies, including real estate market participants.

The Report focuses on the 2018 developments, but some of the analyses go beyond that period. It highlights the main directions of changes in the real estate markets and identifies selected factors behind these changes. The Report discusses the business cycle stage of the real estate market, including the relation between household income and housing prices, and analyses the rate of return in the commercial market. The Report describes the phenomenon of increased housing demand and high level of production of developer dwellings, exceeding the scale recorded in 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, construction companies and construction material wholesalers. Additionally, the Box presents the findings of the surveys concerning 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 Report address potential threats for owners of commercial real estate for rent resulting from e-commerce and sharing of retail space and presents a simplified analysis of investment in office and residential real estate.

Due to the local nature of housing and commercial markets, the Report provides an in-depth analysis of sixteen voivodeship cities and Gdynia. In the majority of the analyses the data

¹ Crowe C. i in. [2011], Policies for macrofinancial stability: options to deal with real estate booms, IMF Staff Discussion Note, IMF, 25 February 2011.

concerning housing markets are broken down into: Warsaw, six markets (6M: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław) and ten markets (10M: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, 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)² and the commercial real estate market (Commercial Real Estate Database (BaNK). As the survey covered a variety of agents operating in the market (brokers, real estate developers, housing co-operatives, municipal offices, consulting companies), this allowed the authors to obtain thorough and extensive information. The study also relied on the database of PONT Info Nieruchomości (PONT) containing data on asking prices of housing 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 the data of JLL/REAS on the primary residential market. The authors drew on the analyses and 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 analysis³. 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 consulting agencies.⁴

Specialized terms are marked with the symbol # and explained in the glossary of terms and list of abbreviations. In the absence of data or their insufficient quality, the authors relied on estimates that were verified using expert opinions.

² 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: *Sytuacja na lokalnych rynkach nieruchomości mieszkaniowych w Polsce w 2018 r.*, NBP, 2019 r. (Situation in the local real estate markets in Poland in 2018, NBP, 2019).

³ 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)

⁴ 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 sector in Poland

Since the transition period the housing stock in Poland has been on a steady rise. 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 in Poland at the end of 2018 exceeded PLN 3,800 billion, as compared to PLN 3,400 billion recorded in 2017 (see Figure 2.1). The increase in terms of value by 15.3% y/y (5.9% in 2017) resulted from an increase in both the area of housing stock (approx. 2% y/y in large cities and approx. 1.3% in smaller cities) and transaction prices (approx. 7-10% y/y in large cities and approx. 10-17% in smaller cities). The value of commercial real estate is approximately PLN 250 billion. This value increased slightly compared to 2017 (see Figure 2.3), which was driven by a significant increase in the area of commercial real estate and a simultaneous slight decline in the appraisal of commercial real estate, in particular, the office space in Warsaw and commercial real estate all over Poland (see Chapter 3).

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

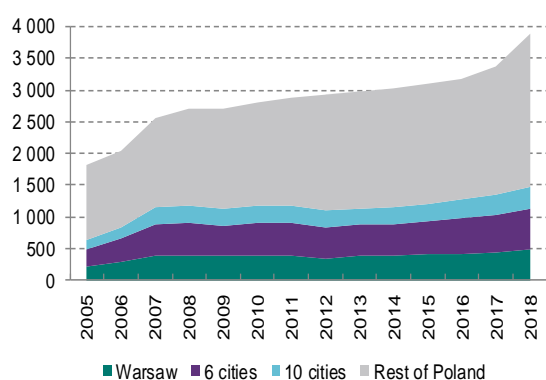
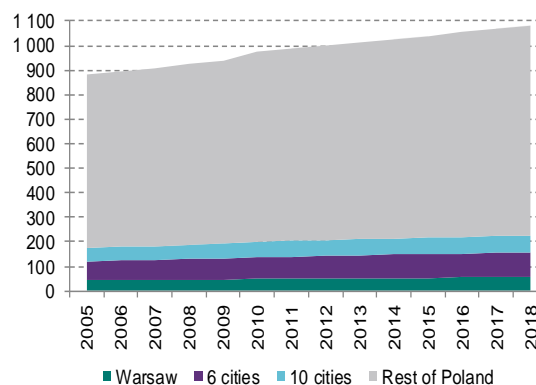


Figure 2.2 Area of the housing stock in Poland in millions of square metres



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 scale) and PLN/EUR exchange rate (right-hand scale)

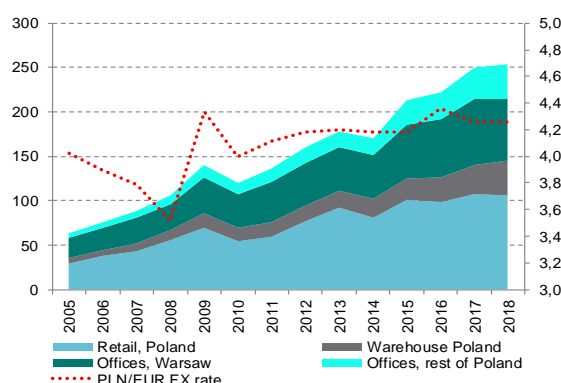
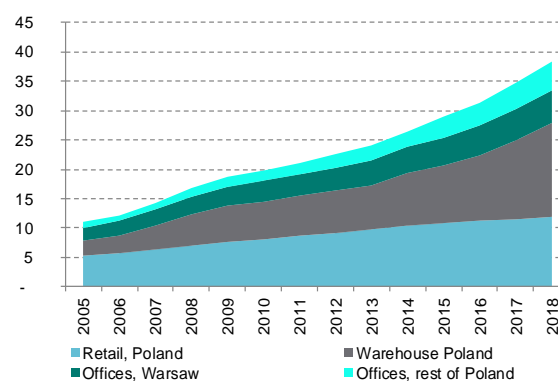


Figure 2.4 Estimated area of the commercial real estate stock in Poland in millions of square meter

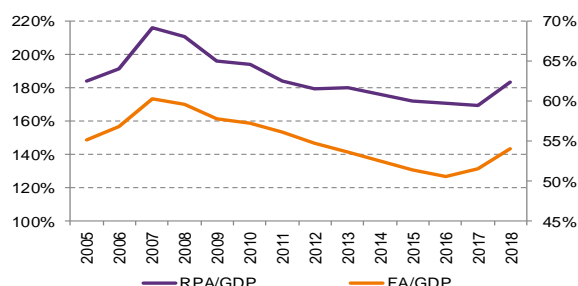


Note to Figure 2.3 and 2.4: The estimate is based on publicly available data on the commercial real estate stock. Offices are modern office buildings, retail premises are shopping centres, and warehouses are modern, large-format warehouses. The stock was multiplied by the hedonic transaction price of 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

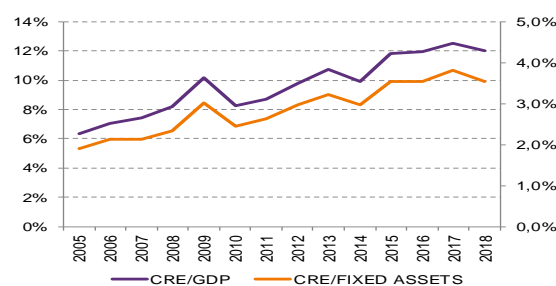
The estimated residential and commercial real estate assets in Poland at the end of 2018 increased as compared to the previous year, and in terms of value represented approx. 196% of GDP and approx. 58% of the fixed assets in the economy (compared to 182% and 54% in 2017, respectively). Residential real estate accounts for approx. 184% and commercial real estate for approx. 12% of GDP (see Figures 2.5 and 2.6). The area of the housing stock increased by approx. 1.4% y/y (see Figure 2.2), and the ratio of its estimated value to GDP in 2018 increased by approx. 11 pp in year-on-year terms, which is mainly due to the increase in the value of the housing stock (increase in both the housing area and prices of housing). The value of the commercial real estate stock to GDP ratio was stable compared to the previous year, because as described above, the value of the housing stock posted a merely slight increase.

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



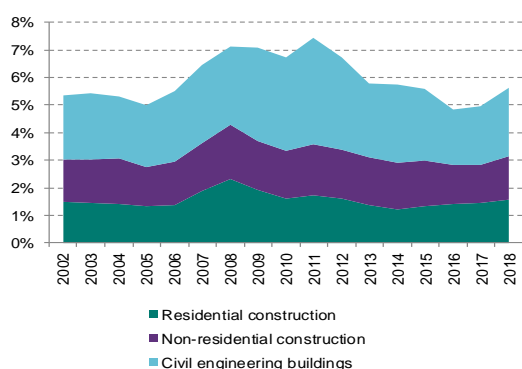
Note: see note to Figure 2.3 and Figure 2.4 Ratio of the estimated current value of commercial property asset (CPA, left-hand scale) to GDP and fixed assets (FA, right-hand scale) in Poland.

Source: NBP estimates based on GUS

Housing demand is only part of demand from the construction sector which includes civil engineering, non-residential and residential construction (see Figure 2.7). In Poland, in 2018, all these markets continued to see a very strong demand, which can be described as a construction boom. High demand for infrastructure construction was driven by EU-financed programs, high demand for commercial construction was driven by record low rates in the euro area, while the demand for housing resulted from the structural shortage of housing in large cities and the historically low level of interest rates on both deposits and loans.

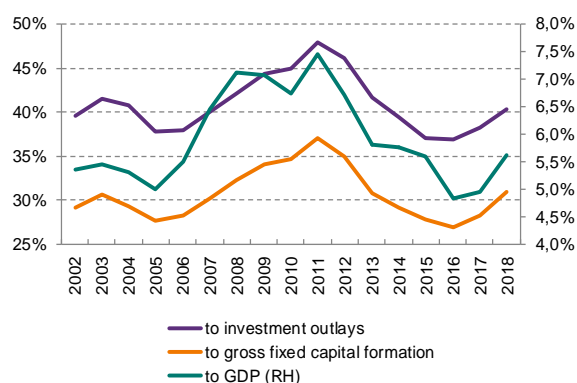
Gross housing investment increased in 2018, but in relation to GDP it stood, as in 2017, at around 1.6%. Real estate development projects accounted for approx. 50% of this value. The share of construction and assembly production (including investment and renovation works) in GDP increased in 2018 by approx. 0.7 pp to reach approx. 5.6% (see Figures 2.7 and 2.8)⁵, while the share of expenditure on housing production in total production increased to approx. 1.6% and accounted for 16% of the total production. In 2018 the share of persons employed in the real estate sector in total employment in the national economy reached 6%, and increased slightly compared to that observed in the previous years. Net housing investments is estimated to account for approx. 1.5% of GDP, and real estate development projects for 0.6% of GDP⁶. Yet, the total demand created by housing construction is definitely higher, as these dwellings have to be finished, equipped and then maintained.

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



Source: GUS

Figure 2.8 Relation of investment in housing construction in Poland (%)



Source: GUS

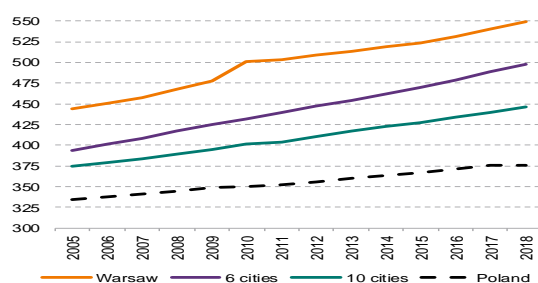
After 2000 Poland has seen a gradual improvement in the housing situation, which is due to the construction of new dwellings, renovation of the existing housing stock and demographic processes limiting the demand for new housing (see Figure 2.12). This improvement was due to

⁵ According to the results of the analysis of The Economist Intelligence Unit Limited 2017, all Europe has seen a recovery in construction activity, which is in line with the growth phase of the business cycle following the recession in the aftermath of the global financial crisis. In 2017 the countries of the Central and Eastern Europe also recorded rising investment in construction. EU-funded projects support public investment in the region, and private construction activities are supported by rising household income and low cost of credit.

⁶ Registered depletions of housing stock in Poland account for a mere 0.02% of the entire housing stock (the 2005-2017 average), while its actual long-term depreciation rate can be estimated at approx. 0.3-0.5% in year-on-year terms.

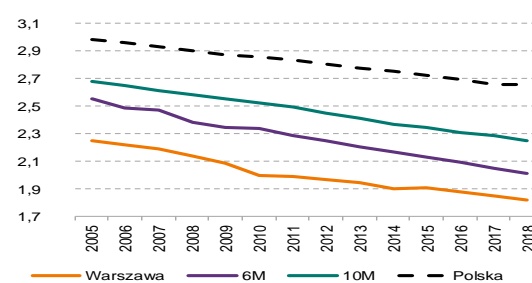
the large number of newly built dwellings⁷, the small scale of demolition of old housing and the migration-driven depopulation in some cities. According to NBP estimates⁸, in 2018 the number of dwellings in Poland amounted to approx. 14.6 million. The discussed period saw an increase in the number of dwellings in the housing stock per 1000 population increased (it amounted to approx. 381 compared to 376 in 2017) and in the average usable floor space per person (approx. 28.2 compared to 27.8 in 2017). The average number of people in a dwelling decreased (2.63 in 2018 against 2.66 in 2017; see Figures 2.9 - 2.11). In 2018, the average area of a single-family house under construction in Poland (usually built by individual investors) decreased to 144.3 sq. m. from 145.1 sq. m in 2017, the average size of a dwelling for sale or rent in Poland decreased from 61.2 sq. m. in 2017 to 60.8 in 2018, with Kraków recording the smallest usable floor space in the analysed cities (52 sq. m).

Figure 2.9 Number of dwellings per 1 000 inhabitants in Poland



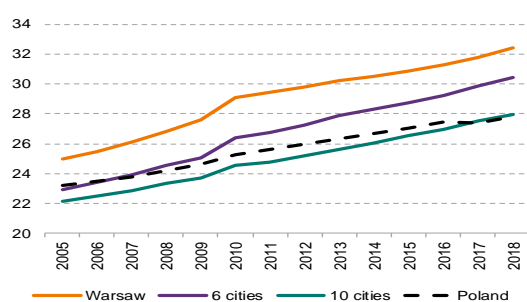
Source: NBP estimates based on GUS

Figure 2.10 Average number of persons in a dwelling in Poland



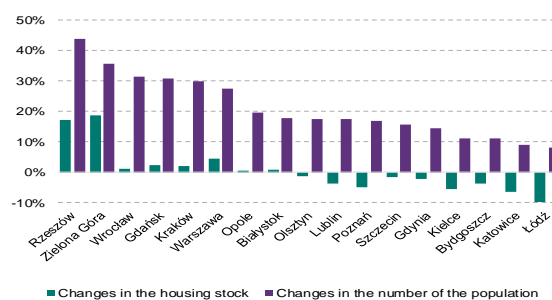
Source: NBP estimates based on GUS

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 to Figure 2.12: in the past few years the administrative boundaries were expanded in the following cities: Rzeszów (7 changes since 2005), Zielona Góra (in 2015) and Opole (in 2017). Source: NBP estimates based on GUS

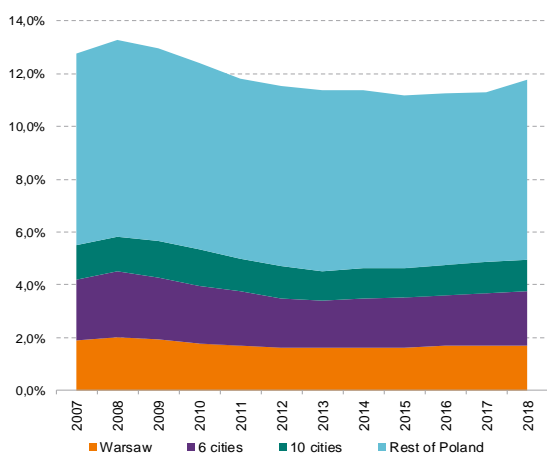
⁷ In 2018, Statistics Poland (GUS) introduced a change to the valid definition of dwellings: whose construction was started into for whose development and construction a permit was issued or which were registered and made ready for occupancy. For detailed information see Statistics Poland (GUS) website in the Local Data Bank: <https://bdl.stat.gov.pl/BDL/metadane/metryka/3747?back=True#>.

⁸ The 2018 figures were estimated by NBP taking into account the October publication of data by Statistics Poland (GUS).

In 2018 the value of the stream of housing services in Poland (see Figure 2.13), estimated on the basis of market transaction rent rates, stood at approx. 12% of GDP i.e. slightly increased on the level observed in the last four years⁹. The value of those services increased in year-on-year terms by approx. 13% in the six cities (6M), by 11% in the ten cities (10M) and by 5% 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 to 2016 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.

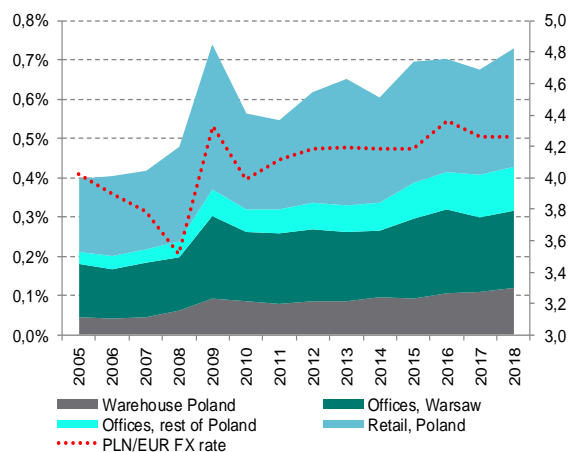
Figure 2.13 Estimated value of housing services (imputed rent) in Poland in relation to GDP (%)



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 scale, %) and the exchange rate of PLN/EUR (right-hand scale)



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

In Poland income from housing rental is taxed with a flat-rate tax on registered revenue or under the tax bracket system¹⁰. According to the Ministry of Finance data, both the number of taxpayers who pay a flat-rate tax on registered revenue as well as the amount of this revenue are on the rise. At the end of 2018, the number of taxpayers declaring only flat-rate tax amounted to 620 thousand

⁹ In 2018 the level of rent rates (value of housing services) saw a higher growth than that of GDP.

¹⁰ Taxes on real estate are set by the District Council through a resolution. Detailed information on real estate taxes may be found at: <http://www.finance.mf.gov.pl/podatki-i-oplaty-lokalne/podatki-od-nieruchomosci>.

persons, posting a rise by approx. 57 thousand persons in year-on-year terms, which means a 10.1% increase. The amount of flat-rate tax receivables amounted to PLN 1.1 billion (see Figure 2.15 and 2.16). The amount of the average annual tax on housing rental exceeded PLN 1.8 thousand (posting an increase of approx. 10.6% y/y). In 2018, approx. 20.3 thousand taxpayers reported the fact of having concluded a private lease contract (i.e. by approx. 6 thousand more than in 2017).

Also the revenue of local government units from property tax has been following a steady upward trend, rising from approx. PLN 12.1 billion recorded in 2006 to approx. PLN 22.6 billion in 2017, i.e. 3.6% more than in 2017.

The estimated share of property tax in 2018, measured both in relation to GDP and to the value of the real estate assets (tax on housing capital), amounted to approx. 1.1% of GDP and approx. 0.6% of real estate assets. These figures slightly decreased as compared to the 2016 levels which is due to the cyclical change in the price of real estate (assets) and a rapid increase in GDP. Property taxes in Poland may be estimated to 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 close to such services being taxed at approx. 12% tax rate on their net value (proceeds plus costs) and thus close to the CIT rate (19%)¹¹.

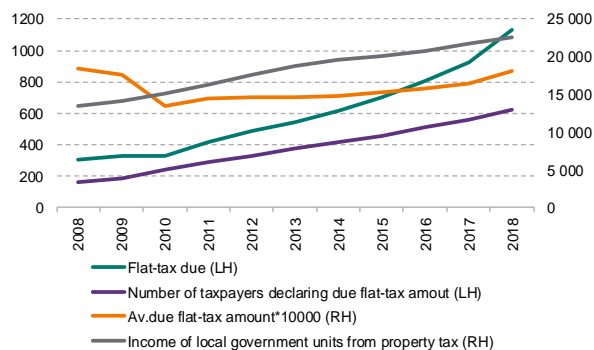
Comparing the market value of residential real estate with the value of services rendered, we obtain a macroeconomic gross capitalization rate in this sector. In 2018 it amounted to around 6.5% and does not differ significantly from the rate of return on commercial real estate. On the other hand, the return on equity, assuming that we have to pay a lump-sum income tax on registered income of 8.5% and deduct building depreciation of 2.5%, amounts to approx. 4%¹², which is slightly more than the return on government bonds.

The above estimates show that, as in other countries, rates of return in this sector are low. However, liquidity and market risks are relatively high. Thus, the development of the residential real estate requires risk reduction through a stable housing and fiscal policy. Fiscal stimulus, such as accelerated depreciation, is also often desirable.

¹¹ The analysis compared taxes paid by households in 2018 (property tax - in part concerning the residential real estate, the value of lump-sum income tax of 8.5%, the estimated value of progressive tax under the tax bracket system and, additionally, the estimated grey zone - 50% of 8.5% tax and progressive 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)

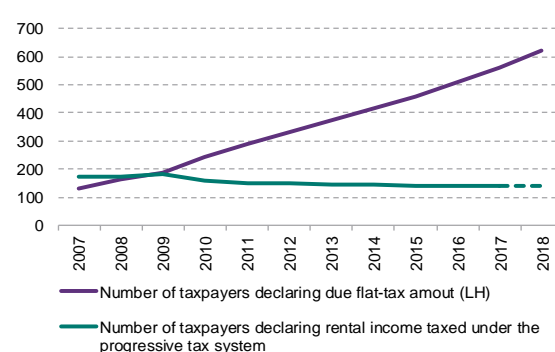
¹² The majority of dwellings is owned without a loan.

Figure 2.15 Flat-rate tax on the proceeds from rental, subrental, lease and sub-lease contracts (thousands of persons, LH) and proceeds from property tax (PLN thousand, RH)



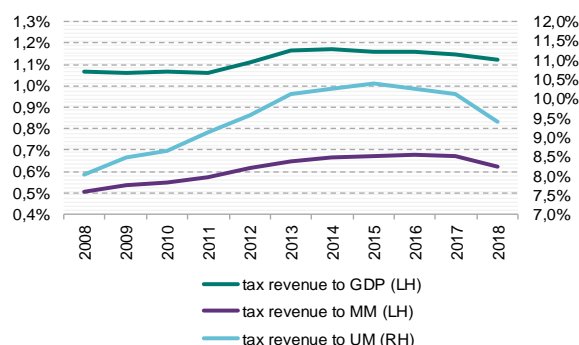
Source: MF

Figure 2.16 Number of taxpayers declaring income earned from rental (thousands of persons)



Source: MF

Figure 2.17 Relations of tax revenue from real estate



Source: MF

Note to Figure 2.17: the tax income includes taxes on income of local government entities from property tax and flat-rate tax receivables; MM=value of housing assets; UM=value of housing services;

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 external capital financing and a number of other services, including services increasing real estate liquidity. At the end of 2018, assets of the banking sector in the form of loans to households for residential real estate accounted for 35% of total loans¹³ (a 0.2% decrease as compared to 2017) and approx. 21.7% of total bank assets (also a 0.2% decrease as compared to 2017).

The commercial real estate sector, especially the largest objects, based its development on foreign capital (see Chapter 3). On the other hand, the value of loans granted to enterprises for real estate,

¹³ Loans and other bank receivables from other domestic sectors (Non-monetary institutions except for central government institutions) consisting of loans to households, enterprises and institutions operating for households stood at approx. PLN 1189.3 billion at the end of 2018: https://www.nbp.pl/home.aspx?f=/statystyka/pieniezna_i_bankowa/nal_zobow.html

including residential, office and other real estate by the Polish banking sector at the end of 2018 amounted to PLN 63.5 billion. Loans granted for commercial real estate by banks from abroad should be added to this value. There is no official data on such loans, but its expert estimation is PLN 68 billion¹⁴.

At the end of 2018, the value of loans granted to enterprises by domestic banks for real estate was by 9.6 billion higher as compared to 2017 as a result of loans granted to enterprises on residential, office, retail, warehouse and industrial real estate and other real estate. The share of these loans accounted for approx. 5.1% of the banking sector portfolio and to approx. 3.4% of bank assets. The value of corporate debt resulting from residential real estate at the end of 2018 Q4 amounted to PLN 5.2 billion, and for office real estate amounted to PLN 16.7 billion. Loans for retail real estate amounted to PLN 17.3 billion, for warehouse and industrial real estate to PLN 8.1 billion, and for other real estate¹⁵ to PLN 16.2 billion.

Non-performing loans accounted for 6.9% of the total of loans for office real estate at the end of 2018 Q4 and for 11% of the total of loans granted for retail real estate. The share of non-performing loans for warehouse and industrial space amounted to 7.3% and for other real estate to 9.2%. The share of non-performing loans in the total loans granted for residential real estate amounted to 24%, which is mainly due to banks having in their portfolio loans from the previous years¹⁶.

If Polish investors enter the commercial real estate market on a mass scale, including the commercial real estate currently owned by foreign investors, the Polish investors' bank debt resulting from this real estate may be expected to increase. Commercial real estate is usually purchased with a significant share of loan. Amid low interest rates, in the international markets investors are tempted to use strong financial leverages. At the same time, real estate prices are rising. Under these circumstances, an increase in interest rates usually has a double effect: a decrease in the value of the real estate and debt servicing problems. Therefore, banks should use conservative LTV and DSTI ratios to ensure adequate buffers for possible interest rate increases.

It should be emphasized that banks not only grant loans for the purchase or construction of commercial real estate (including the construction of dwellings by developers), but use real estate as a collateral for those loans, including investment and working capital loans. The value of loans

¹⁴ According to international experience, it can be assumed that the LTV indicator on the entire real estate stock is 50%. Based on the estimate of the value of the office, retail and warehouse real estate stock, which amounted to PLN 253 billion at the end of 2018, it can be concluded that the total value of loans for such real estate at the end of 2018 stood at PLN 126 billion. By deducting loans for real estate granted by banks operating in Poland, the above-mentioned real estate (PLN 58.4 billion, excluding developer loans), we obtain an estimate of loans granted directly and indirectly by banks operating abroad, i.e. the amount of PLN 63 billion. In the case of Poland, since June 2013 the maximum LTV for commercial real estate, in line with Recommendation S of the Office of the Polish Financial Supervision Authority (UKNF), has been 75% or 80% if part of the exposure exceeding 75% LTV is properly insured, or if the borrower has provided an additional collateral in the form of blocked funds on the bank account or a pledge on PLN-denominated debt securities of the Treasury or NBP.

¹⁵ See the definition of the financial reporting guidelines FINREP of 2018: "Loans for other real estate – loans for real estate other than residential, office, retail, industrial or warehouse real estate (subcategory of loans for other real estate)".

¹⁶ See Financial Stability Report, NBP, December 2018.

granted to enterprises collateralised by real estate amounted to PLN 135 billion at the end of 2018 (compared to PLN 132 billion in 2017), and accounted for approx. 10.9% of the loan portfolio and approx. 7.1% of the assets of the Polish banking sector (including foreign branches). Some loans granted for commercial real estate are included in the above mentioned loans.

Despite the fact that portfolios of real estate loan for enterprises are still significantly lower than the average value observed in the EU (in 2013 an average of 17% of GDP¹⁷), they are already a significant factor affecting the security of the financial sector. It should be remembered that the value or valuation of the entire stock may depend on few commercial real estate transactions, which are much more susceptible than residential real estate, to a rapid withdrawal of capital (including foreign) and thus a fall in prices.

The growth rate of newly granted residential mortgage loans in Poland amounted to 19.3% y/y in 2018 compared to 11.6% in 2017.

The quality of residential real estate 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 2.5%, of which PLN loans account for 2.2% and foreign currency loans for 3.1%. The improvement in loan quality results, to a great extent, from the regular repayment of residential mortgage loans by households and the growing number of new residential mortgage loans. On the other hand, the share of non-performing loans in the total of corporate loans slightly increased to 10% from the 9% level observed since the beginning of 2016 which may be partly the result of changes in the accounting standards¹⁸, introduced at the beginning of 2018.

In Poland, the long-term household debt resulting from residential mortgage loans was on the rise, along with the development of the housing market and of the financial sector. At the end of 2018 it reached PLN 392.9 billion and was by PLN 27.2 billion higher than a year ago. This was driven by the growing value of PLN denominated loans (a rise of PLN 30.3 billion) and the declining value of foreign currency denominated loans (a decline of PLN 3.1 billion)¹⁹. At the end of 2018 banks' receivables from households resulting from residential mortgage loans stood at approx. 21.7% of the financial sector's assets and approx. 10.7% of the estimated value of the housing stock.

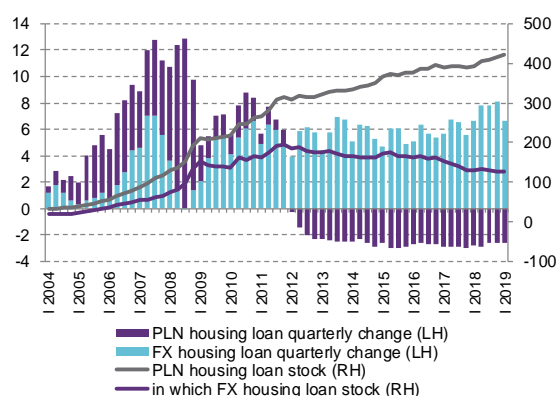
¹⁷ See ESRB (2015) Report on commercial real estate and financial stability in the EU. Figure 14. Total direct exposure of the financial system to CRE relative to GDP (2013).

¹⁸ See Financial Stability Report, NBP, December 2018, Box 2.2.

¹⁹ 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. According to the Polish Financial Supervision Authority (KNF), the number and value of loans in CHF is systematically decreasing. In December 2018 housing loans in CHF, in terms of number, accounted for 20.9% and 25.8% in terms of value of the housing loan portfolio. At the end of 2018, banks' portfolios held 457.3 thousand CHF-denominated loans worth PLN 104.8 billion, i.e. compared to 2017, their number decreased by 24,700, and their value by PLN 2.3 million. In 2018 the value of the real estate lower than the loan value (LTV > 100%) concerned 20% of loans with a value of 34.3% i.e. it was close to the value observed in 2017.

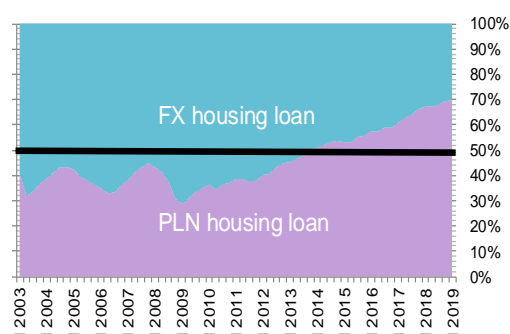
Although the indebtedness of the housing stock in Poland continues to grow, its level is still relatively low compared to household consumption (approx. 34%) or compared to the level of this debt in other EU countries. The relatively low debt of the stock and the related simple structure of Poland's financial system is an advantage. The excessive scale of financing and the related complicated financial sector tools²⁰ worldwide are usually the source of problems and even financial crises. At the end of 2018 residential mortgage loans in Poland accounted for 215% of banks' equity.

Figure 2.168 Residential mortgage loans in Poland, quarter-on-quarter changes in PLN billion (LH) and value in PLN billion (RH)



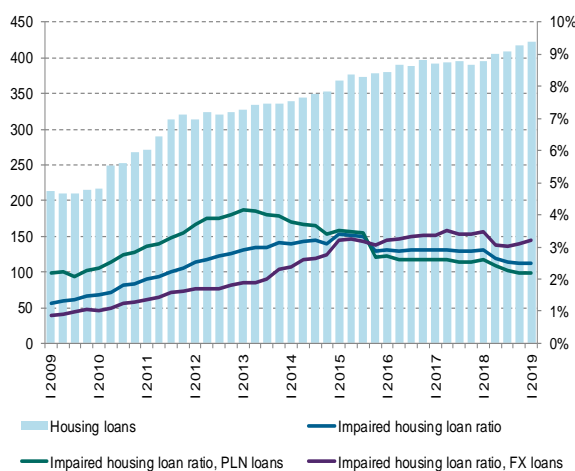
Source: NBP

Figure 2.179 Currency structure of the residential mortgage loan portfolio in Poland



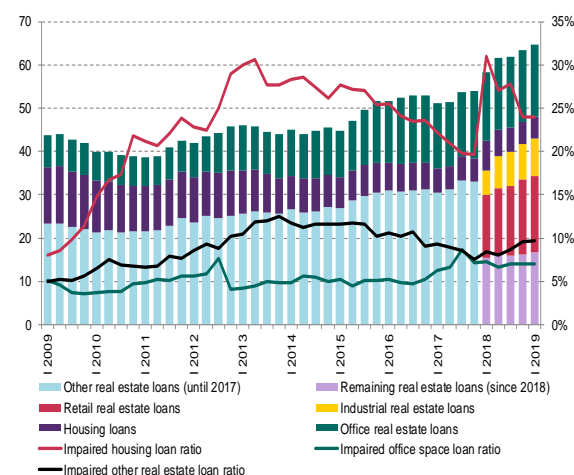
Source: NBP

Figure 2.20 Quality of the portfolio of residential mortgage loans to households in Poland



Source: NBP

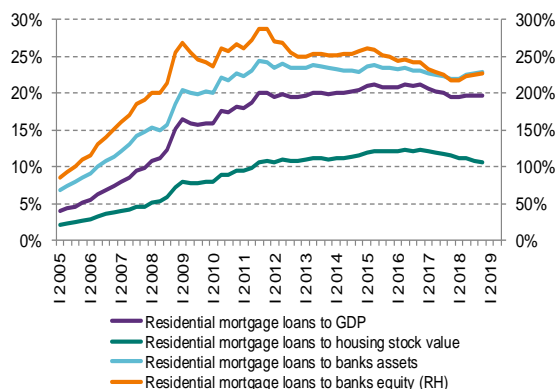
Figure 2.181 Loans to corporations for real estate purchases (in PLN billion, LH) and the share of loans classified as doubtful loans (in %, RH)



Note: exclusive of BGK. New accounting standards have been in force since the beginning of 2018
Source: NBP

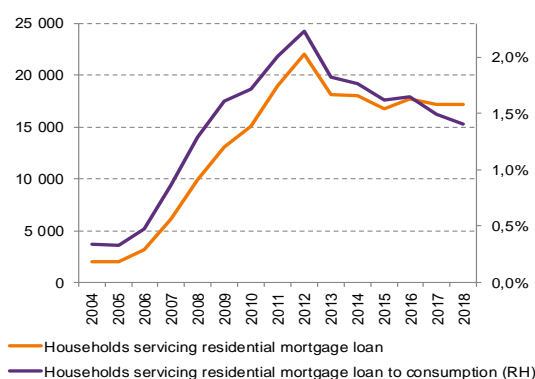
²⁰ Excessive indebtedness causes creditors to be much less resistant to all kinds of economic shocks. Complicated financial tools make this sector non-transparent to investors and, consequently, make investors lose control of the risk, which usually turns out to be much higher than declared by financial intermediaries.

Figure 2.192 Relation of residential mortgage loans in Poland to GDP, housing assets, banks' assets (LH) and banks' equity (RH)



Source: NBP, GUS

Figure 2.203 Repayments of residential mortgage loans (LH) and their relation to consumption (RH)



Note: loans granted for the period of 25 years

Source: NBP, GUS

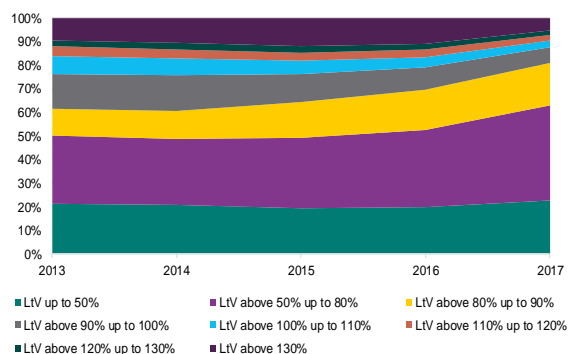
The relation of the estimated housing debt servicing costs (principal and interest instalments) to consumption in the national economy as of the end of 2018 slightly declined and amounted to approx. 1.4%, (see Figure 2.23)²¹. Thus servicing of residential mortgage loans is not a problem from the macroeconomic perspective.

The year 2018 saw a further improvement in the quality of loan portfolio as compared to the end of 2017, reflected in a lower value of loans with high LTV# which resulted from growing prices in the real estate market. At the end of 2018 the surveyed banks reported 12.2% of the total value of loans (worth PLN 49.6 billion) with current LTV exceeding 100%. The value of loans with LTV ranging from > 80% to 100% (the value decreased by 14.6%) whereas the value of loans with LTV > 100% was close to the end of 2017 level.²² As regards the structure of the loan portfolio in terms of the current DSTI values#, loans with low or moderate DSTI values accounted for the majority of loans. However, at the end of 2018, the portfolios of the surveyed banks held approx. 22% of loans with DSTI above 40%, which is still a fairly large share of loans constituting a heavy burden for households.

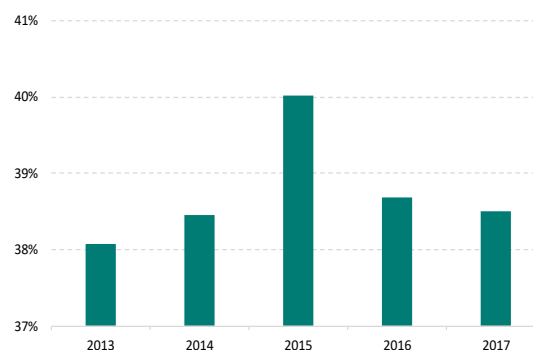
Despite the observed improvement, the high LTV of the loan portfolio and the relatively large share of loans with DSTI above 40% raise concerns about the financial condition of some households, who could not be able to repay these loans, which could deteriorate their situation.

²¹ 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.

²² See: The findings of the study of the portfolio of household residential mortgage and consumer loans as at the end of 2018, KNF (the Polish Financial Supervision Authority)

Figure 2.24 Distribution of the value of residential mortgage loans by LTV (stock)

Source: NBP estimates based on the survey findings of the Office of the Polish Financial Supervision Authority (UKNF)

Figure 2.215 Distribution of the value of residential mortgage loans by DSTI (stock)

Source: NBP estimates based on the survey findings of the Office of the Polish Financial Supervision Authority (UKNF)

3. Business cycles in the real estate market

Business cycles are a structural feature of the real estate market. The key to assessing the real estate market situation and choosing the right economic policy tools is to correctly identify the phase of the business cycles, with the number of houses sold being one of the basic measures of the cycle phase in the residential real estate sector. In the case of commercial real estate, the measures used include sales volume and price growth, i.e. growth in transaction values. There are also other indicators that are used to monitor business cycles, identify speculative behaviour and tensions in the credit market, including those based on housing prices, rents and lending. In the residential real estate market, the relationship between household income and housing prices is the most common indicator to measure tensions in the market. In the commercial real estate, the market return on equity or the volume of transactions may be such a measure.

In 2018, the housing market continued in the expansion phase. In large cities, home sales were slightly below the 2017 level, which was mainly the result of lower supply. High demand for housing was the result of both: investment demand, where housing purchases were largely financed from buyers' own funds and consumption demand with loans being the major source of funding. Despite the increase in housing prices, the scale of purchases did not increase on account of speculative behaviour. As regards the supply side, growing expenses took their toll translating into deteriorating financial condition of construction enterprises and housing price increases (see Figures 3.1 and 3.2). The value of investments in the commercial real estate market in 2018 amounted to over EUR 7 billion. This is a historically high value. At the same time, a significant part of the investment value concerned the change of ownership of the existing buildings. Sales of entire real estate portfolios were also recorded, which is rare, but generates at a time a large volume of transactions. Similarly to the previous years, foreign investors dominated in this category of investments.

Investment demand for housing is related to the estimated relatively high rates of return on housing rental as compared to the rates of return on other assets in which the household may invest. In Poland, such assets are mainly bank deposits and, to a considerably lesser extent, treasury bonds. The low interest rate on deposits means that investment in housing is perceived as an attractive alternative. As a consequence, households allocate a significant portion of their funds in the purchase of rental housing. A factor behind the persistently high profitability of rental is also growing demand for rental housing which is a natural consequence of good economic conditions and economic migration to large cities.

Consumer demand for housing observed in 2018 was a consequence of the favourable situation in the household sector and the stable, low cost of residential mortgage loans. Housing demand in the long term is determined by persistent shortage of housing in Poland's major cities. Demographic factors (i.e. change in the number of the population, the number of households and migrations) were more important in the previous cycle. At present, their impact on the demand for housing is relatively smaller. However, the significance of demand created by labour migrants increased. The need to improve the quality of housing (e.g. change to larger housing) is also growing in the largest cities.

In 2018, a stable level of the estimated credit availability for medium-sized housing was observed in the seven largest cities. The currently observed negative credit gap, which indicates that there are fewer loans than would result from the long-term trend, suggest the potential for further increase in demand. Low interest rates generate credit demand. A high share of credit in transactions is mainly observed in the consumer market. Credit risk in the case of lending for owner occupied housing is significantly lower than in the case of lending for housing for rental.

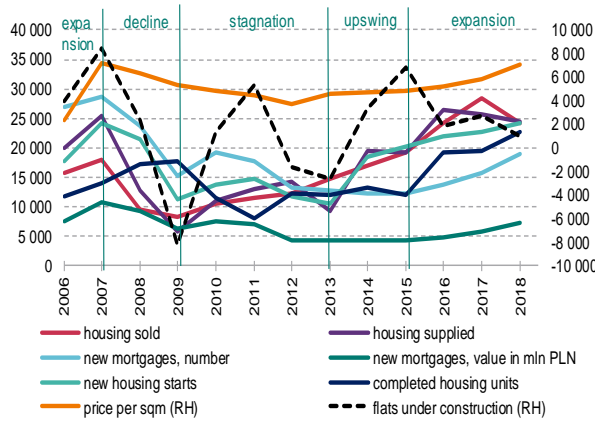
On the other hand, there are problems on the supply side, resulting, among other, from the rapid increase in the cost of housing construction. Labour shortage (especially as regards highly qualified workers) and more expensive materials result from the simultaneous involvement of the construction sector in infrastructure, office and commercial development projects. At the same time, availability of new construction sites is becoming increasingly limited. As a result of above developments, the costs of housing construction increased by almost 10% as compared to the previous year. At the same time, the financial situation of construction companies is deteriorating. The estimated profitability of housing development projects in the largest cities since 2016 has been on a downward trend. This encourages real estate developers to limit supply, which is aimed at raising the transaction prices of housing and increasing the margin. The number of bankruptcies in the construction sector has slightly increased.

In 2018, housing prices were on the rise, yet, the relation of housing price to household income and its deviation from the trend do not suggest the existence of any price bubbles (see Figure 3.5). The analysis of the home price-to-rent ratio leads to similar conclusions. Yet, the high level of housing production combined with rising costs of housing construction and transaction prices of housing show that there are tensions characteristic for the current phase of the cycle. There is also increased likelihood that the phase of the cycle may change. At present, neither the scale of tensions nor the size of the housing sector suggest any threat of a real estate crisis, i.e. the situation when the sector's problems have a significant and negative impact on the entire economy. The selling time of the

entire stock of housing offered for sale on the market considering the current demand is still less than a year.

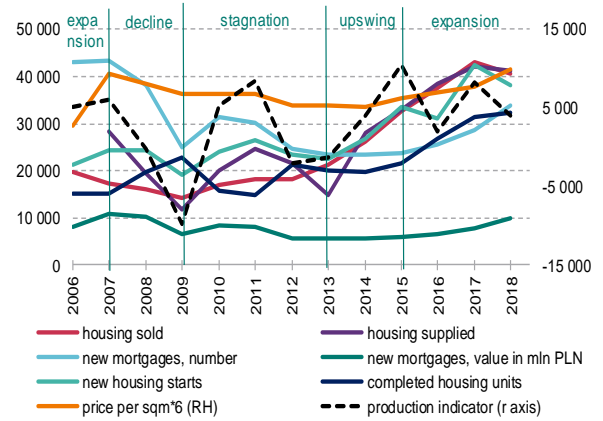
Until now, housing supply has been relatively flexible, but the level of housing production already achieved may make it difficult to increase it further, especially due to the observed shortages and rising prices of the factors of production, i.e. land, building materials and labour. Housing supply, if significantly reduced in the future, could, together with continued strong demand, result in higher prices. In the subsequent period it would cause a drop in prices and problems in the sector. However, in the event of a negative demand shock, especially in view of investment demand based on the profitability of rental as compared to other forms of capital investment, the risk would mainly materialize for development and construction companies. Due to the high level of production in progress, developers could then have significant problems with completing a large number of residential constructions started and then selling them. However, a high share of equity and experience gained by these companies in the previous cycle are a factor reducing the risk for the market.

Figure 3.1 Business cycles in the Warsaw market



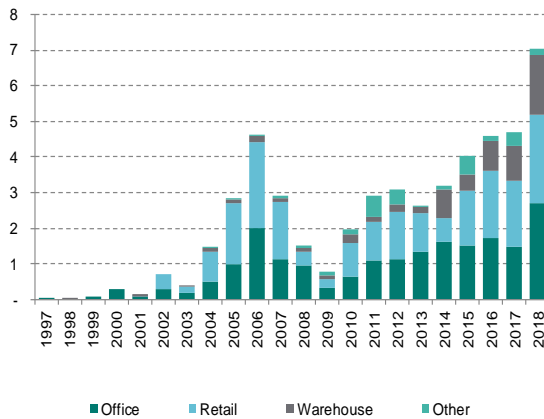
Source: NBP, GUS, JLL/REAS, BIK

Figure 3.2 Business cycles in 6M markets



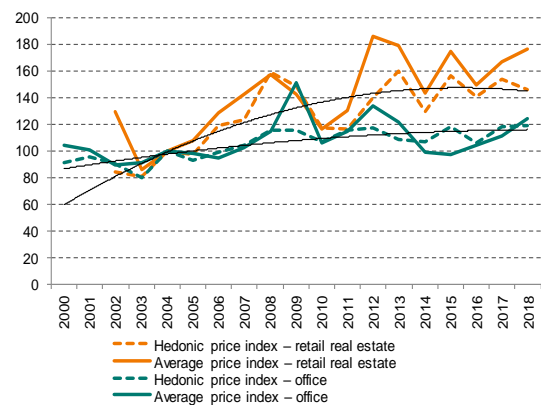
Source: NBP, GUS, JLL/REAS, BIK

Figure 3.3 Business cycles in the commercial real estate market (measured by the value of investment transaction in EUR billion)

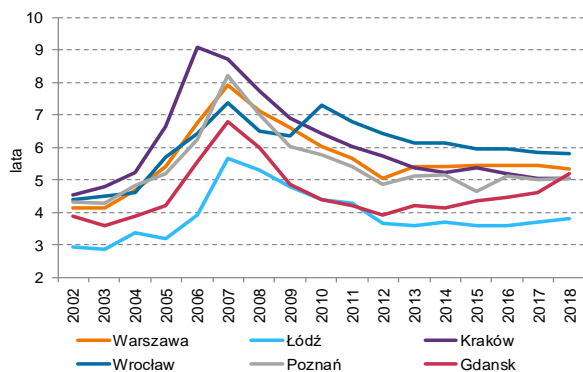


Source: Comparables.pl

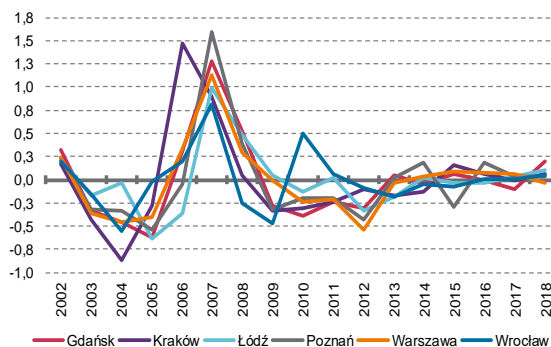
Figure 3.4 Business cycles in the commercial real estate market in Poland (measured by the index of transaction prices, the average and the hedonic index per 1 sq.m.)



Source: NBP

Figure 3.5 P/I estimate (housing price to income) in selected markets in Poland

Source: NBP, GUS

Figure 3.6 Cyclical deviation of P/I from the trend in selected markets in Poland (calculated with the use of the HP filter)

Source: NBP, GUS

Business cycle in the commercial real estate market can be measured by the value of investment transactions and transaction prices of real estate. The first cycle was observed at the time of Poland's accession to the EU, when foreign investors became interested in this market on a larger scale. However, the outbreak of the global crisis curbed investment, which reached its lowest level in 2009. On the other hand, in 2010 commenced the second cycle featuring a steady increase in the value of investments (see Figure 3.3). The transactions translate into the price cycle of these properties (see Figure 3.4), however, in the case of prices, additional cyclical price deviations can be observed. It is noteworthy that in 2009, when the level of investments was low, the average transaction prices of office buildings increased. This is so because under sluggish economic conditions the buildings sold include mainly better quality buildings rather than poorer quality ones. For this reason, the hedonic analysis of transaction prices should take into account the diversity in the quality of buildings sold. The hedonic index of transaction prices is much less volatile than the average price index and captures market changes better.

Commercial real estate investments are partly financed by debt, and low interest rates in the euro area mean low financing costs as well as low opportunity costs. The inflow of capital to the commercial real estate market boosts prices, which is not justified by rent increases (rents in the largest cities remain stable). As a consequence, return on equity is declining, but given the historically low interest rates in the euro area, it is accepted by investors. However, in the event of interest rate increases in the European market, some investment projects may become unprofitable for investors or start to generate losses. This may increase the number of commercial properties for sale, which could lead to a decrease in their value. It should be emphasized, as already noted before, that transactions in the commercial real estate market are relatively rare, whereas those individual transactions affect the valuation of other commercial real estate of a given type.

The situation in the commercial real estate sector does not currently pose a threat to the stability of the banking system in Poland as is financed by domestic banks to a small extent only. However, in the current market conditions, domestic banks operating in this market should be particularly cautious when examining the quality of collateral.

In the rental market, strong increase in supply has been accompanied by high demand for office space, which reduces the imbalance observed in 2017. This was supported by a favourable economic situation, including the creation of new jobs, also by international companies. The vacancy rate in the nine largest office markets fell to 8.5% as compared to 10.8% at the end of 2017. The vacancy rate in the office space market depends on the age and, above all, the location of the office building, and in macroeconomic terms is related to the demand for business services which are required by the economy and produced in a commercial resource. A steady, significant increase in office space results from very low interest rates in the euro area and persistently good capitalization rates (net annual rent to purchase price) on investment in office buildings. The rapidly growing supply of modern office space can be a challenge for owners of older office buildings in poorer location. In 2018, the supply of office space in the 9 largest office markets exceeded 10.4 million sq. m, and approx. 1.8 million sq. m. of office space was under construction.

In 2018 the commercial real estate market saw another historically high value of investment transactions, which amounted to over EUR 7 billion (see Figure 3.4). According to Comparables.pl data, office space transactions accounted for approx. 38.5% of the total value of transactions, commercial real estate transaction for approx. 35.2%, and warehouse space transactions for approx. 23.8%. In 2018, the office real estate market saw higher investment than the commercial real estate market. A significant part of the purchase/sale transactions concerned the change of the owner of an already operating and leased commercial building, with a large share of portfolio transactions. As a result of excess liquidity in the EU financial market, resulting from the monetary policy pursued by the European Central Bank, investors were willing to take increasingly more risk. This translated into increasingly higher transaction prices with stable or falling rents, which resulted in a further decrease in the capitalization rate (relation of annual rent to purchase price of real estate). Capitalization rates in the office space market for the prime real estate in Warsaw were running at 4.7%, remaining at 7-8.5% outside the city centre²³.

At the end of 2018, there was over 5.5 million sq. m. of office space in Warsaw, and 10.4 million sq. m. of office space all over Poland. Despite a strong increase in office space by 744 thousand sq. m., the vacancy rate in the major office markets fell by 8.5% as compared to 10.8% at the end of 2017 Q4. In Warsaw, the vacancy rate fell by 3 p.p. to 8.7% y/y²⁴. This was due to the increased demand for office space. The size of office space under construction in Warsaw is around 800,000 sq.m. and all over Poland 1.8 million sq.m.

The total supply of retail space in Poland at the end of 2018 was 11.9 million sq. m. In the discussed period, approximately 360,000 sq. m. of new retail space was completed and made ready for occupancy²⁵. The reduced activity of developers in this market segment may result from growing saturation with retail real estate per inhabitant (approx. 311 sq. m. per 1000 inhabitants). This level is lower than in the Western European countries, however, the dynamically developing e-

²³ Colliers International „Market Insights – Annual Report 2019”

²⁴ See Colliers International „Market Insights – Annual Report 2019”.

²⁵ See Colliers International „Market Insights – Annual Report 2019”.

commerce market in Poland may pose a significant threat to traditional shopping centres. Old and even new shopping centres are already being transformed into broadly understood entertainment and sports facilities.

Average transaction prices of office real estate listed in EUR, per sq. m. increased in 2018 as compared to 2017 all over Poland. Warsaw was the only market is post a slight decrease (see Figure 3.7). The parallel growth in the hedonic price of office real estate in Poland (which adjusts price changes resulting from the change in the sample of real estate being the object of transaction) also increased, although to a lesser extent than the mean index. It can be concluded that even when adjusting the data for qualitative changes, price inflation in the office real estate market is observed all over Poland. In Warsaw, on the other hand, prices fell slightly, translating into a slow increase in the capitalization rate (shown in Box C, chapter 6).

In the commercial real estate market in Poland, a slight increase in prices can be observed, however, since 2013, prices measured with the hedonic index (adjusted for the change in the analysed sample) have oscillated around the same level (see Figures 3.9 and 3.10). This is due to the relatively small sample and the fact in some years the majority of transactions are concluded in large voivodship cities and in other years in smaller cities.

In addition to large commercial real estate, there is also demand for premises located on the ground floor of residential buildings. The median offer price of small retail real estate in Poland and Warsaw showed slight increases. On the other hand, the median offer prices of small office premises in most markets have remained stable since the beginning of 2016, showing a constant slight decrease in Warsaw. This phenomenon may be attributed to the fact that Warsaw has a large stock of office space, thus offering competitive rents for small retail premises to small tenants.

In the office real estate markets, imbalances resulting from oversupply of space for rent as compared to demand, have decreased. In 2018 the demand for office space increased more than previously observed, which was supported by the favourable economic situation, including the creation of new jobs, also by international companies. The vacancy rate in the nine largest office markets²⁶ fell to 8.5% compared to 10.8% at the end of 2017. 1.8 million sq.m. of office space is under construction which may in the future boost the vacancy rate, especially in buildings of poorer quality or worse location. The warehouse real estate market recorded an increase in the new completed warehouse space at the level of 2.2 million sq. m., which was balanced by high demand for warehouse space. The vacancy rates stood at 5.1% and was by 0.3 pp lower than in 2017²⁷. In the retail space market, the size of the newly completed space was at a similar level as in 2018. However, the percentage increase in rent space slows down for another consecutive year. This may indicate that investors believe that the market stock already satisfies the demand for this type of space.

²⁶ 9 cities (9 large markets) include Warsaw, Kraków, Wrocław, Tri-City Agglomeration, Katowice, Poznań, Łódź, Lublin, Szczecin.

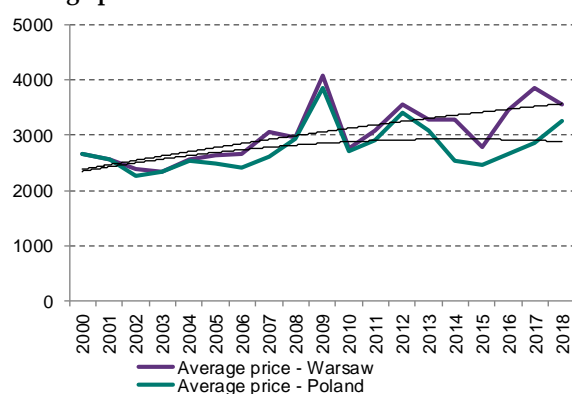
²⁷ Colliers International „Market Insights – Annual Report 2019”.

In the commercial real estate market it was foreign investment that accounted for the majority of investment projects. Yet, this cannot be the basis for drawing conclusions as to the distribution of property ownership between domestic and foreign investors²⁸. At the end of 2018, loans granted to enterprises by domestic banks for real estate purchases amounted to PLN 63.5 billion, and were PLN 9.6 billion higher as compared to the end of 2017; they included loans granted to enterprises for residential, office, retail, warehouse, industrial and other real estate²⁹.

Foreign investors continue to be engaged in the construction of new commercial space in Poland, driven by their steady economic growth, low interest rates on loans abroad and persistently higher rates of return in Poland.

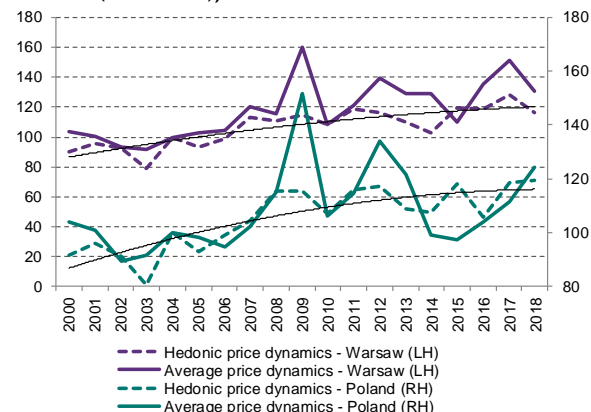
The emergence of modern office buildings can put further downward pressure on rents for older buildings. The observed situation may reduce the income of investors being owners of older buildings or buildings in poorer locations, which may cause problems with debt servicing or dividend distribution. This is so because, as estimated at the beginning of the Report, the majority of financing comes from foreign banks, their risk also increases. Given the existing risk, in order to mitigate the consequences of a future economic downturn, it would be advisable for domestic banks to evaluate and assess investor's loan repayment possibilities with particular caution.

Figure 3.7 Average price of office real estate in Warsaw and all over Poland (EUR per 1 sq.m.), the average price trend



Source: NBP

Figure 3.8 Growth rate of average and hedonic prices of office real estate in Warsaw and all over Poland (2004 =100), trend for the hedonic index

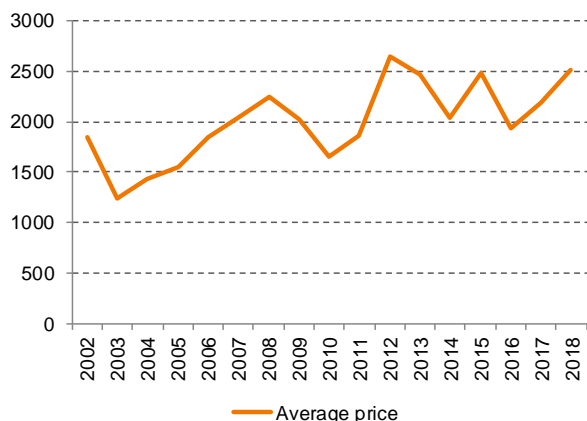


Source: NBP

²⁸ 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.

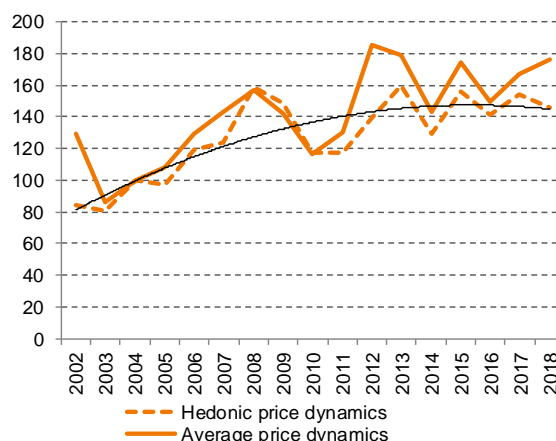
²⁹ In 2018 loans granted for other real estate were broken down into three categories, i.e. loans for warehouse and industrial real estate, loans for retail real estate and loans for other real estate.

Figure 3.9 Average price of retail real estate in Warsaw and all over Poland (EUR per 1 sq.m.), the average price trend



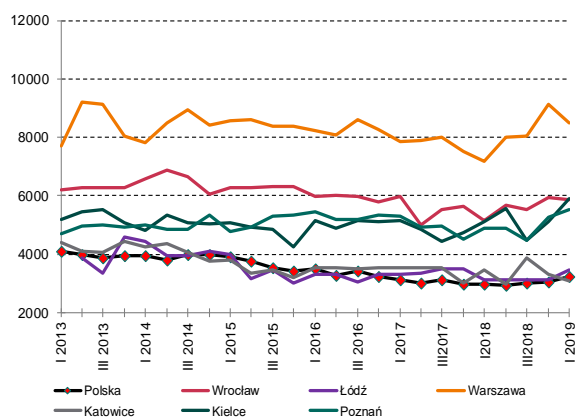
Source: NBP

Figure 3.10 Growth rate of average and hedonic prices of retail real estate in Warsaw and all over Poland (2004 =100), trend for the hedonic index



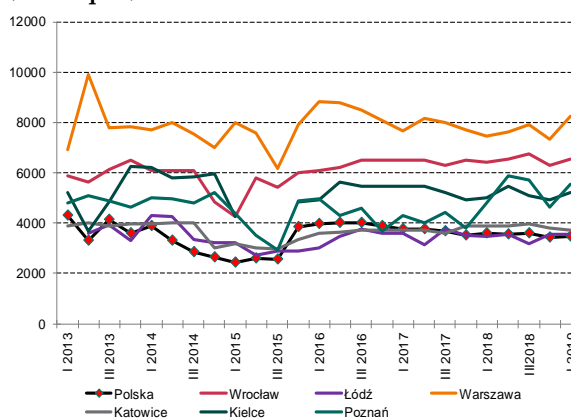
Source: NBP

Figure 3.11 Median of the offer sale price of small retail premises (PLN/sq.m.)



Source: NBP

Figure 3.12 Median of the offer sale price of small office premises in the secondary market (PLN/sq.m.)



Source: NBP

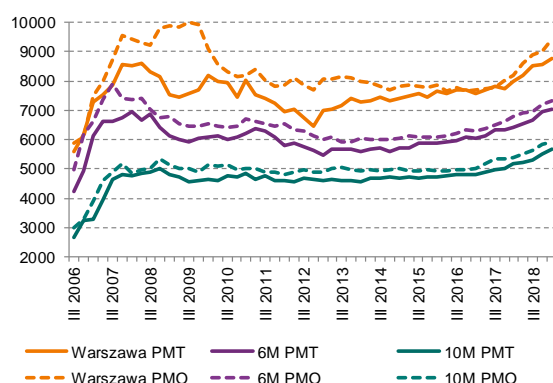
4. Developments in the residential real estate market in Poland in 2018 r.

4.1 Housing prices

2018 saw an increase in average offer and transaction prices per square meter of housing³⁰ in the primary and secondary markets in the analysed cities in Poland. A stronger price increase was recorded in the second half of the year (see Figures 4.1-4.2). Average price per square meter of housing in both the six and ten largest cities in the primary market exceeded prices in the secondary market, which can be considered a phenomenon typical on these markets, as the new housing stock is more expensive than the used housing stock. In Warsaw, on the other hand, this trend is not so clear. Average transaction prices in the primary market are at a comparable level as prices in the secondary market.³¹

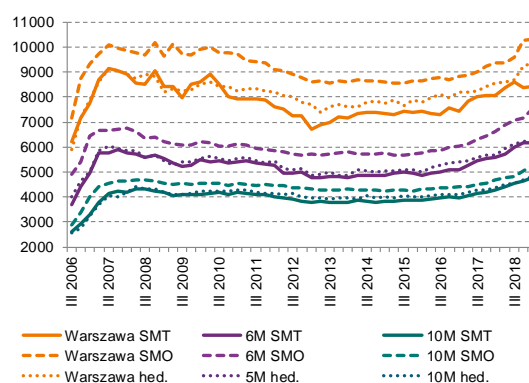
The price adjusted with the hedonic index #, i.e. taking into account qualitative differences of the examined goods and the changing structure of the sample of housing analysed in subsequent quarters also increased in all the analysed markets (see Figure 4.2).

Figure 4.1 Average offer and transaction prices of housing in Poland (PLN/square meter) in the primary market



Source: NBP

Figure 4.2 Average offer, transaction and hedonic prices of housing in Poland (PLN/square meter) in the secondary market

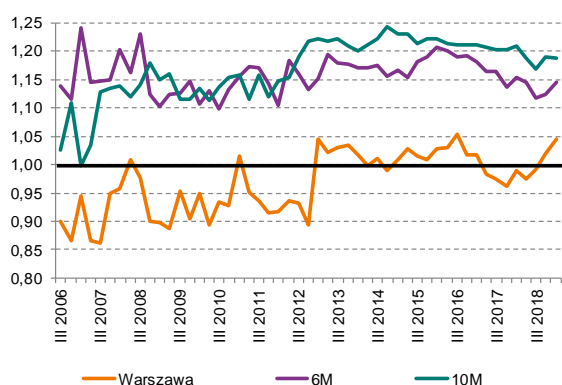


Source: NBP

³⁰ 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.

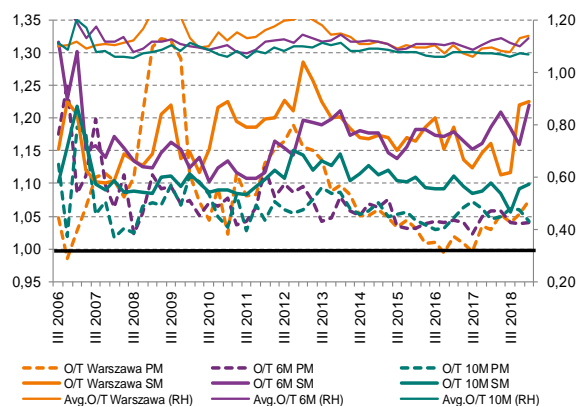
³¹ The analysis does not take into account the difference in the quality and location of housing in the primary and secondary markets.

Figure 4.3 Relation of prices of square meter of housing in the primary market to secondary market



Source: NBP

Figure 4.4 Relation of asking prices of square meter of housing to their transaction prices in the primary market, secondary market and the primary and secondary market average



Source: NBP

Average transaction prices per square meter of housing in nominal terms in Warsaw and in the six cities in the primary and secondary markets approached the levels recorded during the period of tensions (2006-2008), and in the ten cities they exceeded these levels. CPI-deflated prices in Warsaw continued to be lower than the 2006-2008 figures, while in 6 and 10 cities they exceeded the levels recorded 10 years ago (see Figures 4.5 and 4.6). Prices deflated by the average wage growth in the enterprise sector were, however, significantly lower than those observed in the period of tensions in all the analysed groups of cities, which means that revenues grew faster than prices (see Figures 4.7 and 4.8).

The highest prices per square meter of housing in the Warsaw primary market were recorded in the case of small dwellings (up to 40 sq. m.) which enjoy high demand mainly generated by business agents buying housing for investment purposes³². One of the main advantages of buying small housing is high liquidity of real estate in this segment of the market, which is manifested by short selling time³³. Small dwellings, although when calculated per square meter seem an expensive investment, taking into account the price of the whole apartment (product of the price of a square meter and the area of the apartment) are the cheapest available residential premises on the market. Another segment of residential real estate on the primary market with a high price per square meter are large dwellings (with an area of 80 sq. m. and more). Most of this type of housing on the Warsaw primary market are above-average quality dwellings in prime location. In the secondary market, prices of small dwellings saw a similar trend, whereas prices of large apartments dropped significantly³⁴ in 2018 Q1 after the 2019 increases. The demand for larger

³² These observations are corroborated by the findings of the Survey and interviews with real estate brokers and rental managers (June 2019 – update of the analysis of demand and supply on the secondary housing market and rental market). More information in Chapter 4.2 Housing demand in NBP surveys.

³³ See Box A1.

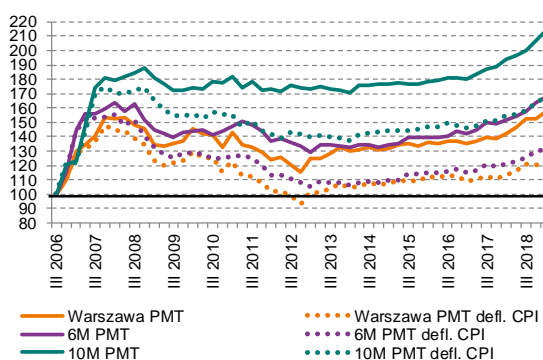
³⁴ The data sample from 2019 Q1 is considerably smaller than for particular quarters of 2018.

dwelling in the secondary market is usually quite limited, while supply of this type offers is large, which results in lower average prices of dwellings in this segment in most of the analysed markets.

Also in the primary market of the six largest cities, the highest prices were observed in the segment of dwellings with an area of up to 40 sq. m., popular among buyers and dwellings above 80 sq. m. This was the segment to record the highest price increases. In the secondary market, as compared to other segments, a higher average price is characteristic for small apartments (up to 40 sq. m.).

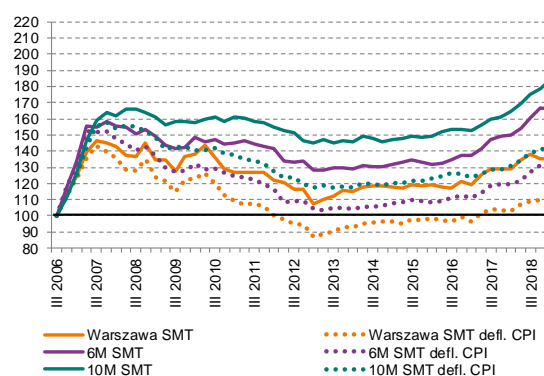
On the other hand, in the primary and secondary markets of the remaining ten cities, the highest prices per square meter were recorded in sale transactions involving small dwellings (up to 40 sq. m.), and in the secondary market the lowest transaction prices were achieved in sale transactions involving the largest group of dwellings (above 80 sq. m.).

Figure 4.5 Average weighted transaction price per square meter of housing in the primary market and real price to CPI (2006 Q3 =100)



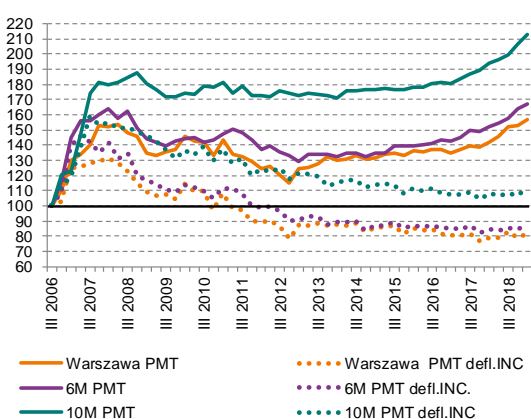
Source: NBP, GUS

Figure 4.6 Average weighted transaction price per square meter of housing in the secondary market and real price to CPI (2006 Q3 =100)



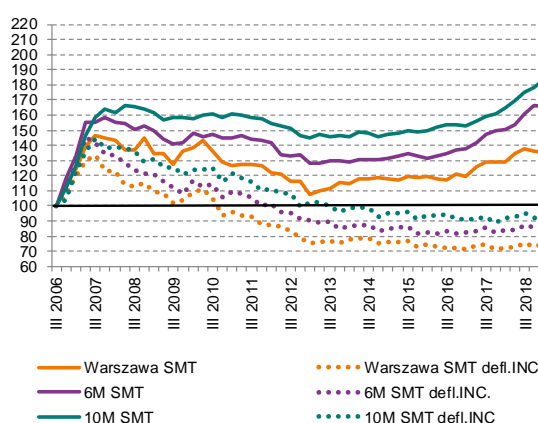
Source: NBP, GUS

Figure 4.7 Average weighted transaction price per square meter of housing in the primary market and real price to average wage in the enterprise sector (2006 Q3 =100)



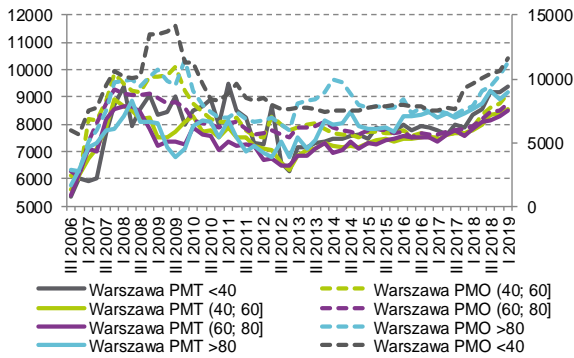
Source: NBP, GUS

Figure 4.8 Average weighted transaction price per square meter of housing in the secondary market and real price to average wage in the enterprise sector (2006 Q3 =100)



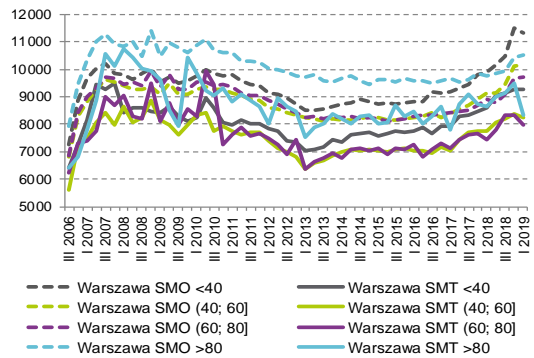
Source: NBP, GUS

Figure 4.9 Average prices of housing in Warsaw in the primary market, asking and transaction prices by area (PLN/sq.m.; offer <40 RH)



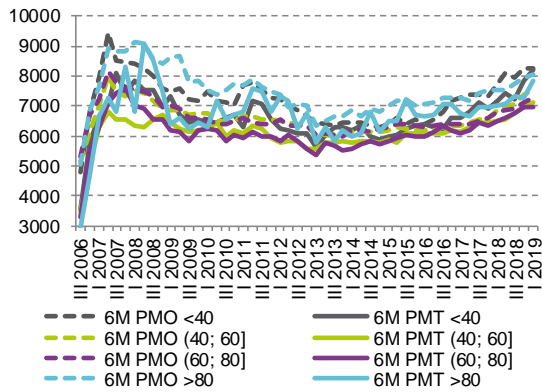
Source: NBP

Figure 4.10 Average prices of housing in Warsaw in the secondary market, asking and transaction prices by area (PLN/sq.m.)



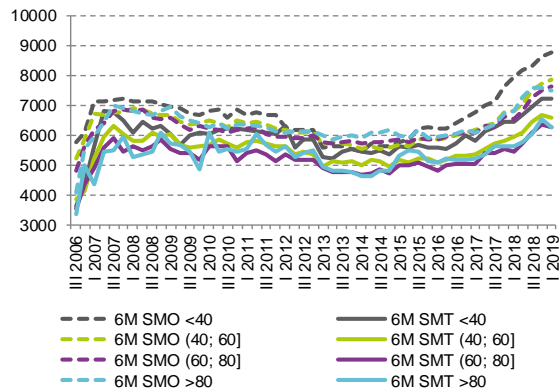
Source: NBP

Figure 4.11 Average prices of housing in 6M in the primary market, asking and transaction prices by area (PLN/sq.m.)



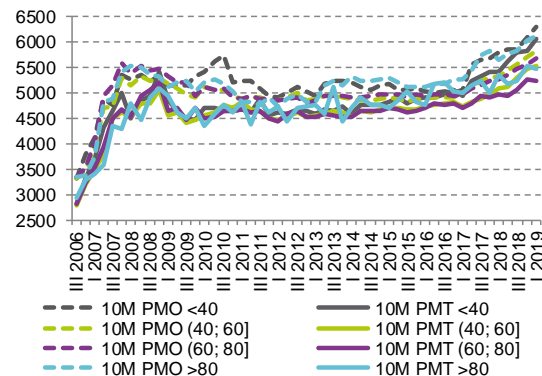
Source: NBP

Figure 4.12 Average prices of housing in 6M in the secondary market, asking and transaction prices by area (PLN/sq.m.)



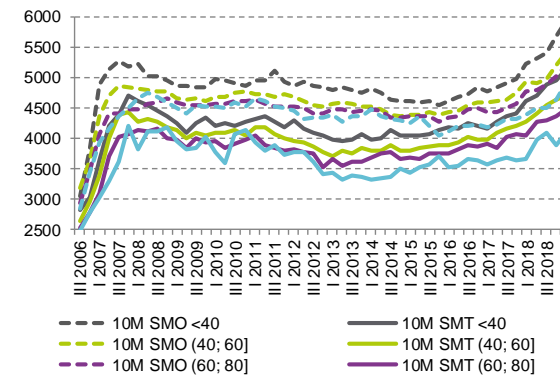
Source: NBP

Figure 4.13 Average prices of housing in 10M in the primary market, asking and transaction prices by area (PLN/sq.m.)



Source: NBP

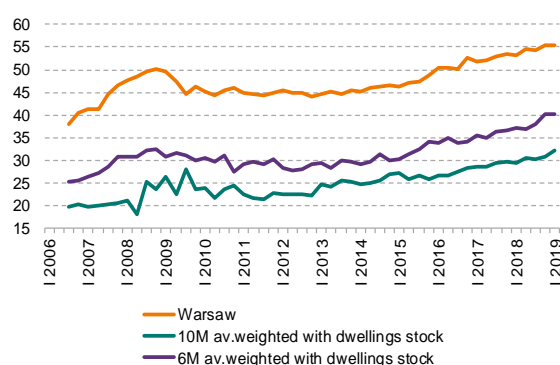
Figure 4.14 Average prices of housing in 10M in the secondary market, asking and transaction prices by area (PLN/sq.m.)



Source: NBP

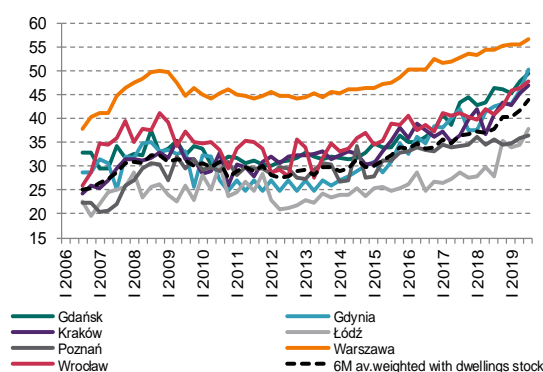
The average (offer and transaction) home rental rates in the analysed groups of cities in Poland have been on a gradual upward trend since 2015 (see Figures 4.15 - 4.16), which picked up in 2018. In 2019 Q3, rent increases in year-on-years terms stood at: 5.8% y/y in Warsaw (against 3.8% y/y in 2018 Q1), 10.4% y/y in the six cities (compared to 4.6% y/y in 2018 Q1) and 9.0% y/y in the ten cities (compared to 3.1% y/y in 2018 Q1), respectively. The increase in rental rates confirms the need to increase the stock of such housing. According to data of the Ministry of Finance, the number of tax returns of landlords leasing their housing is on the rise, which shows that the market is gradually ceasing to be part of the grey economy and is becoming more transparent³⁵.

Figure 4.15 Average monthly home rents (offer and transaction) in the secondary market in Poland (PLN/sq.m.)



Source: NBP

Figure 4.16 Average monthly home rents (offer and transaction) in the secondary market in the largest cities in Poland (PLN/sq.m.)



Source: NBP

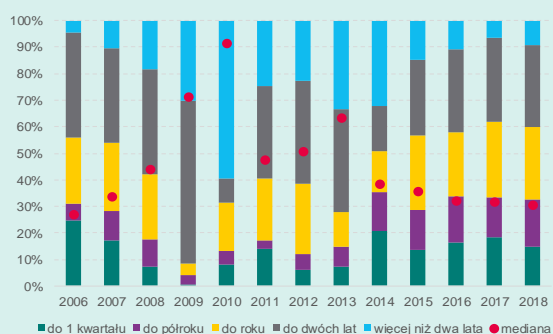
³⁵ The Ministry of Finance states in the "Information on the flat tax on recorded revenues" that in 2003 there were approx. 39,000, in 2017 approx. 563,000, and in 2018 approx. 620,000. taxpayers who earn income only from a lease, sublease, rental, subrental or other similar contracts not concluded as part of the conducted non-agricultural business activity. In 2018 the total of 20.3 thousand taxpayers (by 5.4 thousand more than in 2017) reported having concluded an occasional lease (rental) contract. It is difficult to estimate what part of the market is subject to non-officially registered rental.

Box A1. Price determinants and time needed to sell housing in the primary residential real estate market in Warsaw

Understanding the mechanisms of the developer sector's operation requires close monitoring of the sector's operation in practice. The developments in the real estate market are reflected with the use of various indicators. In the literature, as detailed data is not easily accessible, there is little scientific research that empirically measures these processes, and the studies up-to-date have been carried out in the markets where real estate is sold at auctions (USA, UK, Australia, Canada, New Zealand). Due to the individual nature of home sale transactions and the heterogeneity of the object of these transactions, it is advisable to rely on microdata regarding offers and transactions of a particular real estate.

The median time the offer is on the market (exposure time) is one of indicators that should be used by real estate analysts to assess changes in the conditions in the housing market. Property owners also use information on the market exposure time to estimate the potential costs associated with an attempt to sell the property. The distribution of offers in relation to construction start date indicates that during periods of market slowdown (2008-2010), a small number of real estate developers (approx. 40%) put homes on the market before the construction start (see Figure 2A). Historically, transactions took considerably longer in time when the primary housing market faced oversupply of housing and problems in the construction sector (2009-2010, 2012-2013). Since 2016, the home selling time has been stable at around 9 months from the date of putting home sale offer on the market. In 2018, approximately 60% of transactions were concluded in the primary market in Poland within a year from the time the offer entered the market (see Figure A1).

Figure A1. Distribution of transaction time in the primary market from placing the offer (RH in months)



Source: NBP

Figure A2. Distribution of offer time in the primary market from starting construction

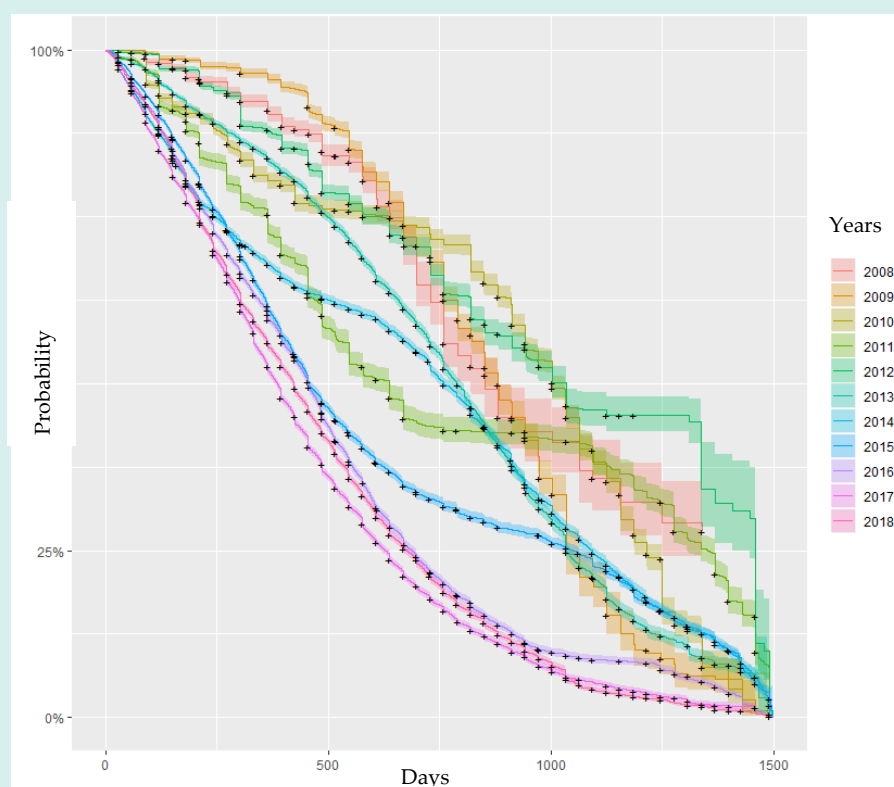


Source: NBP

However, indicators based on the median or other distribution statistics can be misleading for many reasons. First of all, these statistics are subject to censorship (truncation), because they apply only to those offers ended with a deal. In addition, focusing on the middle or average value may hide significant differences at other points of the distribution of the selling time.

Figure 3 presents survival functions³⁶ in the primary residential real estate market. Survival curves for the years 2016, 2017 and 2018 are closest to the beginning of the coordinate system, which indicates that in these years the probability that a particular property will cease to be on the market and the deal will be closed in a shorter time is higher. The time of the transaction is also significantly affected by the features of the property. Properties with different size or location in the district have different survival functions. Offers of small properties and those located in central districts will rapidly disappear from the market.

Figure A3. Survival function for offers in the primary real estate market



Source: NBP

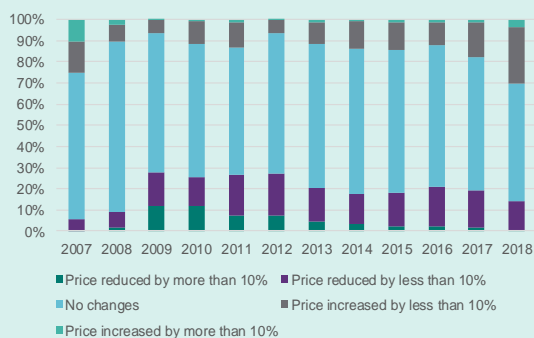
The seller's choice of the initial offer price of housing is extremely important as it affects the possibility of selling it, determines the period of market exposure and plays a key role in real estate marketing. By setting the initial price too high, the seller can discourage potential buyers and may risk the selling time gets longer. On the other hand, if the initial price is too low, the seller can rapidly sell the property and obtain the price lower than the price that could be obtained with a longer market exposure. There is therefore a certain relationship between the asking price, selling time and the final transaction price.

The year 2018 saw an increase in the share of the groups of dwellings whose prices were raised, especially those groups where price increase did not exceed 10%. A similar situation was observed in 2007, when the housing market was also in the expansion phase, but then price increases were higher - the group of housing with price increases exceeding 10% accounted for a larger share (see Figure A4). The years 2009–2012 also saw larger decreases in real estate prices in the primary market which suggests that real estate developers tended to reduce prices to

³⁶ The survival function estimated with the use of the Kaplan-Meier estimator (1958) used in statistical analysis of the history of events. The course and the location of the function shows the probability of the deal being closed and the property ceasing to be on the market at a particular time.

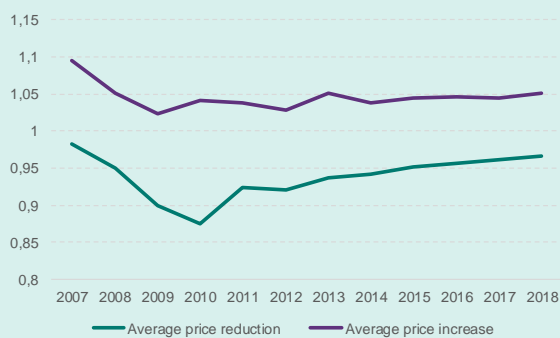
attract buyers. Also, given the data presenting the scale of average price decreases and growth in primary market housing it can be concluded that the size of average price reductions has been on a gradual downward trend since 2012. On the other hand, the size of average price increases remains stable and while their share has seen a rise.

Figure A4. Distribution of changes in asking and transaction prices of dwellings in the primary market



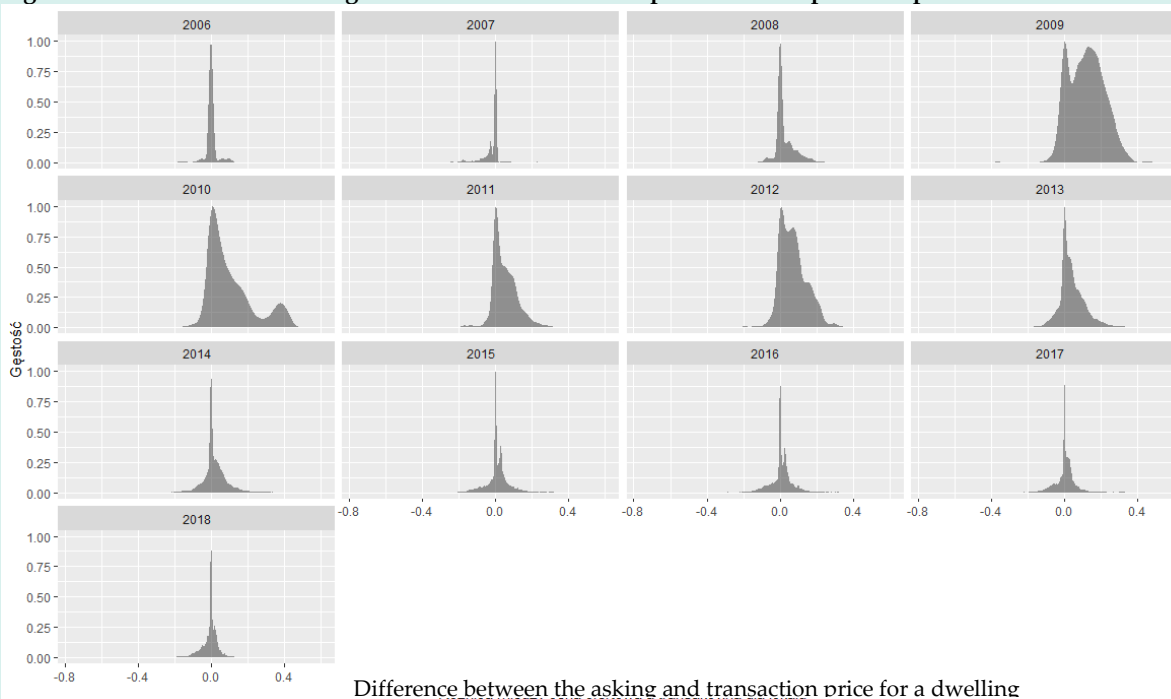
Source: NBP

Figure A5. Average reductions and increases of prices of dwellings in the primary market



Source: NBP

Figure A6. Distribution of changes in transaction and offer price from the previous period



The measure of tensions is the difference between the asking price and the transaction price, which shows whether we have to do with the buyer's or the seller's market. In good times, when demand prevails, the buyer's negotiation possibilities are significantly reduced, so the difference between the offer price and the transaction price decreases. In the event of a downturn in the market, the buyer is more able to negotiate, so the difference in prices increases.

Comparison of transaction prices with offer prices from the previous quarter (Figure A6) confirms that in 2009-2013 home buyers had a better bargaining position than developers.

Negotiations were more frequent, and price negotiations involved higher amounts. Since 2014, the negotiating capabilities of developers' clients have been decreasing year after year. Currently, real estate developer tend to increase offer prices.

The residential real estate market, due to consumption and investment functions of housing, plays a special role in the life of households and in economic life. The study of price formation mechanisms in the residential real estate market is extremely important from the point of view of financial and macroeconomic stability.

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4.2 Housing demand

Housing demand tends to be more volatile than supply, which, due to technological processes, is determined for several years in advance. Rapid increases or decreases in demand driven by the so-called market sentiment used to cause instability in these markets when demand shocks met with rigid supply. The results of market expectation surveys are an important indicator of demand.

In 2018, real estate markets of all Polish cities experienced high demand for housing. This demand was driven by stable economic growth, favourable situation in 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 363³⁷, while the average for 28 EU countries is approx. 480 dwellings/1000

³⁷ NBP estimates. Official data of the Statistics Poland will be released in October 2019.

inhabitants; for the 15 original Member States of the European Union - approx. 500 dwellings/1000 residents³⁸. The structural factor affecting housing demand was the shortage of housing stock for commercial 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 robust economic situation add to 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 of lesser importance. On the other hand, migrations have had a positive impact on demand in the housing market. The main trend observed in EU countries is the development of large cities and depopulation of smaller cities and towns. This trend is also observed in Poland, along with large migration from the East. According to the ZUS³⁹ data, the number of foreign persons insured in ZUS amounted to approx. 570 thousand at the end of 2018, including approx. 421 thousand Ukrainian citizens. According to NBP estimates, in 2018, on average, approx. 800,000 legal migrants from Ukraine were staying in Poland⁴⁰. According to the data released by the Ministry of Internal Affairs and Administration, in 2018, the total of 7132 transactions involving residential dwellings were concluded, which is an increase of approx. 11.7% y/y⁴¹. Most real estate was purchased by foreigners as independent housing units - 7143 dwellings with no need of obtaining any special permit. The majority of buyers in the years 2000-2018⁴² were persons from Ukraine, Belarus, Russia and Israel⁴³.

³⁸ Source: OECD, Affordable Housing Database. No data for Belgium; data for 20115 with the exception of Cyprus – 2010; the Czech Republic, Estonia, Greece, Italy, Latvia, Malta, Romania, Slovakia, Spain – 2011; Croatia – 2013; France, Lithuania, Luxembourg, Poland, United Kingdom -2014.

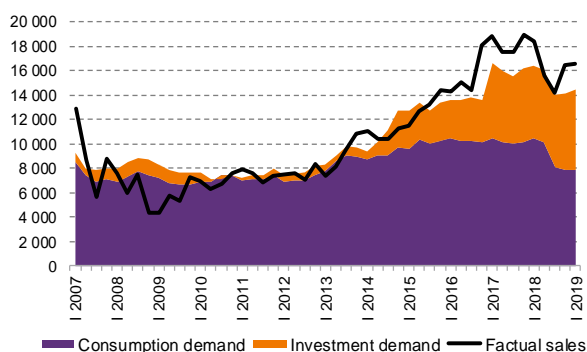
³⁹ ZUS Study „Cudzoziemcy w polskim systemie ubezpieczeń społecznych - issue 2”, (Foreigners in the Polish social insurance system – issue 2, May 2019); https://www.zus.pl/documents/10182/2322024/Cudzoziemcy+w+polskim+systemie+ubezpiecze%C5%84+spo%C5%82ecznych_WYDANIE_2.pdf/1b8737fc-3cc5-8824-8f7b-109f787ad366

⁴⁰ https://www.nbp.pl/home.aspx?f=/polityka_pieniezna/dokumenty/projekcja_inflacji.html.

⁴¹ According to the data of the Ministry of Internal Affairs and Administration available on the website: <https://www.gov.pl/web/mswia/sprawozdania>.

⁴² Under article 8 section 1 point 1 of the Act of 24 March 1920 on real estate purchase by foreigner (concerning the purchase of a separate living quarters” within the meaning of the Housing Ownership Act of 24 June 1994).

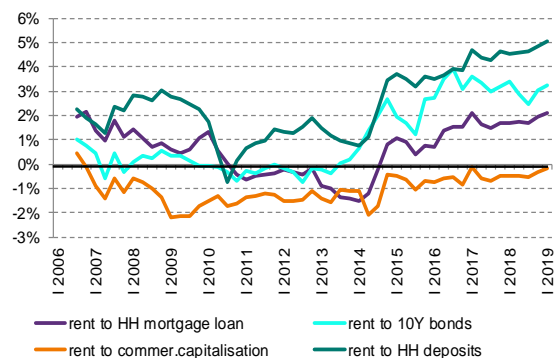
⁴³ According to a survey concerning Ukrainians living in Poland, 5% of the respondents have bought property in Poland in the last five years, whereas as many as 45% intend to purchase it in the future (two-thirds of them intend to take out a loan in Poland for this purpose). Source: ARC Rynek i Opinia, "Ukraińcy w Polsce 2018 (ARC Market and Opinion, "Ukrainians in Poland 2018", [cited after:] Rzeczpospolita dated 03.08.2018 „Ukraińcy: cenni pracownicy i coraz cenniejsi klienci” ("Ukrainians: valuable employees and increasingly valuable clients").

Figure 4.17 Housing demand in the primary market (average for 7M) and estimates of its components


Notes to Figure 4.17: 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 4.18: 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: estimates of NBP, JLL/REAS

Figure 4.18 Profitability of home rental (average for 7M) compared with alternative household (HH) investments (interest rate differentials)


Source: NBP, MF, reports of consulting companies

Housing is one of the simplest investment available to households. Investment motives of persons reporting demand for residential real estate are driven by the 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 the purchase of housing for rental as an alternative to bank savings which used to be the main saving method in Poland (see Figure 4.18). 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. Real estate price increases observed in the real estate markets in Poland have not caused this risk to materialise so far.

The purchase of residential real estate was financed both by loans and buyers' own funds (see Table 4.1), with a high share of own financing similarly to the previous year. 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 market⁴⁴. According to the NBP estimates, at the end of 2019 Q1 cash accounted for approx. 71% of funds allocated for the purchase of housing in the primary market of the seven largest cities.

⁴⁴ Banks are usually unwilling to finance housing for investment and speculation purposes therefore for those buyers' own financing, the so-called demand for cash-financed housing is more important.

Table 4.1 Estimated gross residential mortgage loan disbursements to households in Poland and the estimated value of cash-financed and loan-financed*/ purchases of developer housing in 7M (in PLN million)

Date	Estimated value of disbursed mortgage loans in Poland	Estimated value of housing transaction in the PM in 7M	Loan demand with client's down payment in the PM in 7M	Client's down payment to loans in the PM in 7M	Cash demand for housing (without down payment) in the PM in 7M	Estimated value of cash home purchases with client's down payment in the PM in 7M
2015 Q1	8 996	3 980	2 051	513	1 929	61%
2015 Q2	10 640	4 437	2 426	606	2 011	59%
2015 Q3	10 341	4 712	2 358	589	2 354	62%
2015 Q4	11 237	5 115	2 562	641	2 553	62%
2016 Q1	9 742	5 142	2 221	555	2 921	68%
2016 Q2	11 661	5 409	2 659	665	2 750	63%
2016 Q3	9 632	5 218	2 196	549	3 022	68%
2016 Q4	9 933	6 617	2 265	566	4 352	74%
2017 Q1	10 945	6 958	2 495	624	4 463	73%
2017 Q2	12 139	6 582	2 768	692	3 815	68%
2017 Q3	11 794	6 781	2 689	672	4 092	70%
2017 Q4	10 652	7 259	2 429	607	4 830	75%
2018 Q1	11 914	7 219	2 716	679	4 502	72%
2018 Q2	12 807	6 240	2 920	730	3 320	65%
2018 Q3	13 024	5 855	2 969	742	2 886	62%
2018 Q4	12 584	6 916	2 869	717	4 047	69%
2019 Q1	11 865	6 979	2 705	676	4 274	71%

Note: The estimates are based on the following assumptions:

Since 2015 the estimates of newly granted loans in Poland in individual quarters has been based on data collected from banks .

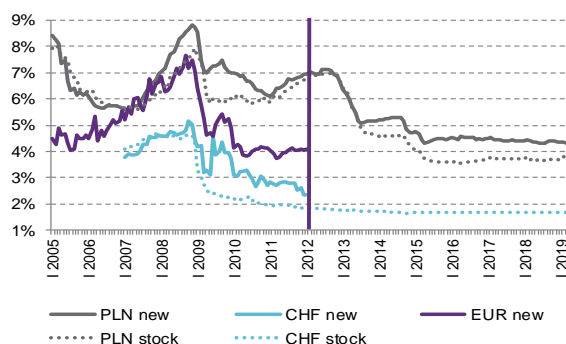
*/ Loan-financed home purchases include purchases financed with a loan and a minimum own contribution of buyers (buyers' own contribution was assumed at the level of 25%; a more prudent approach in large cities than the required buyers' own contribution of 20% under the amended Recommendation S). Cash-financed home purchases constitute the difference between the transaction value and the amount of borrowed funds. The estimated value of transactions in the primary market of the seven cities (7 M - 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 of 2013 and subsequent updates based on the Polish Financial Supervision Authority (KNF) data, it was assumed that the value of the newly granted loans for the purchase of housing in the primary markets of the seven cities accounted for 50% of the value of housing loans in those cities. The estimated value of cash-financed transactions constitutes the difference between the value of transactions in the market of the seven cities and loan disbursements, including buyers' 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-financed housing, these categories are presented in the table in non-aggregated form.

Source: NBP, REAS, ZBP, GUS

Interest rates on residential mortgage loans in PLN, which have been at their historically lowest level since 2015, have had a positive impact on creditworthiness of households (see Figure 4.19). The wage-deflated real interest rate on new residential mortgage loans in PLN continued to be negative (see Figure 4.20). The year 2018 saw a persistently high level of availability of loan-financed housing as well as an increase in residential mortgage 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 (see Figures 4.21 and 4.22).

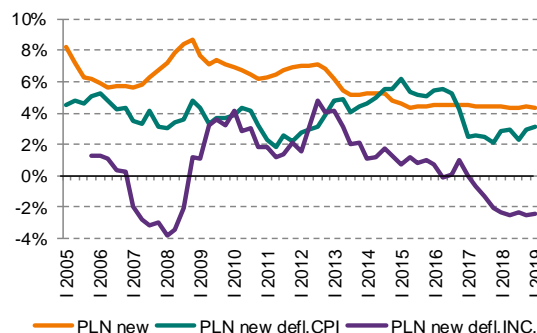
Figure 4.19 Interest rate on residential mortgage loans in nominal terms (months)



Note to Figure 4.19 : the purple vertical line separates the period without foreign currency mortgage loans, which were practically not granted since 2012.

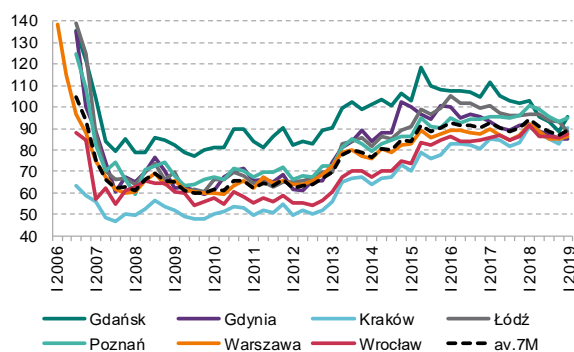
Source: NBP

Figure 4.20 Interest rate on newly granted residential mortgage loans in PLN in real terms (deflated with CPI and wages)



Source: NBP

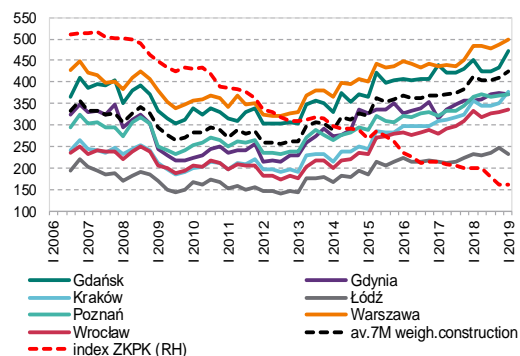
Figure 4.21 Availability of loan-financed housing#



Note to Figure 4.22: weighting the increase in housing loan to households with the currency structure (since the beginning of 2012 practically only PLN-denominated loans were extended); ZKPK – accumulated index of changes in banks' lending policy⁴⁵ criteria showing the trend in changes (decrease=tightening of policy).

Source: NBP, GUS

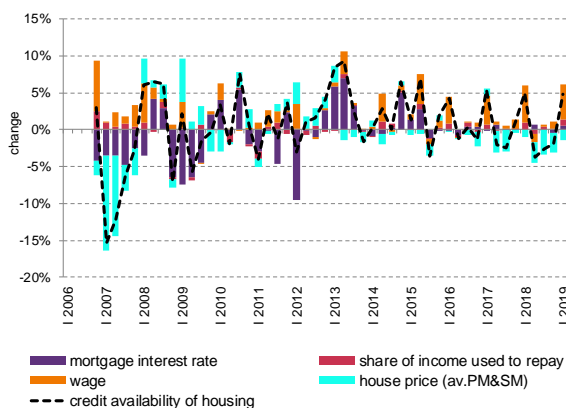
Figure 4.22 Estimates of available mortgage loans# in weighted terms (LH) +ZKPK (RH)



Source: NBP, GUS

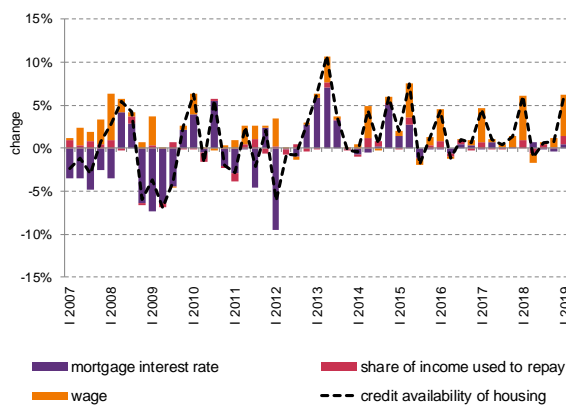
⁴⁵ The index computed by NBP. A more detailed description may be found in the Financial Stability Report, June 2018.

Figure 4.23 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 4.24 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

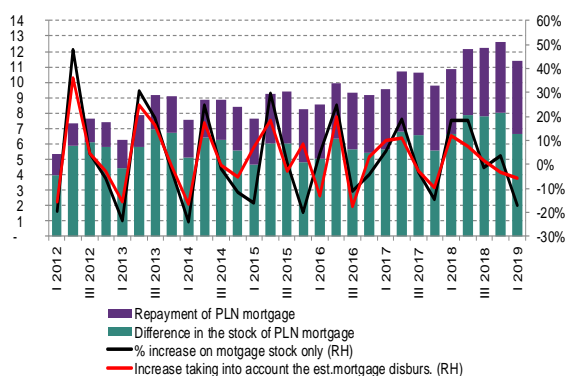


Source: NBP, GUS

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 loans stood at 4.9% y/y at the end of December 2018 as compared with 3.4% in 2017⁴⁶. According to AMRON data, in 2018 banks granted over 105.4 thousand residential mortgage loans worth PLN 26.4 billion. Both the value and the number of the newly granted loans in 2018 exceeded those granted in 2017 both in terms of value and number by 20.8% and 11.5%, respectively⁴⁷.

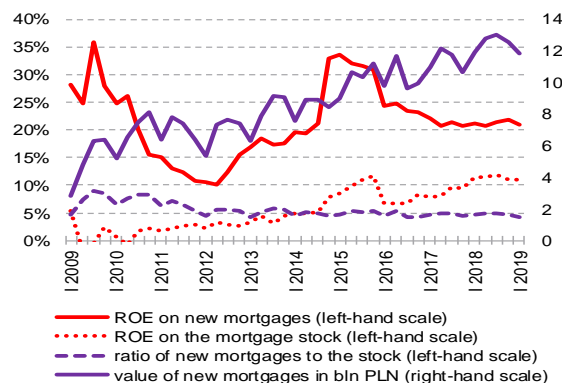
The historical low interest rates on residential mortgage loans and operating costs (including the tax on assets) were offset by banks through interest margins, which showed an increase over the longer term (see Figure 4.26).

Figure 4.25 Estimated loan disbursements (in PLN billion, left-hand scale) and lending growth in 2012-2018 (right-hand scale)



Source: NBP

Figure 4.26 Estimated ROE on residential mortgage loans denominated in PLN for banks in Poland



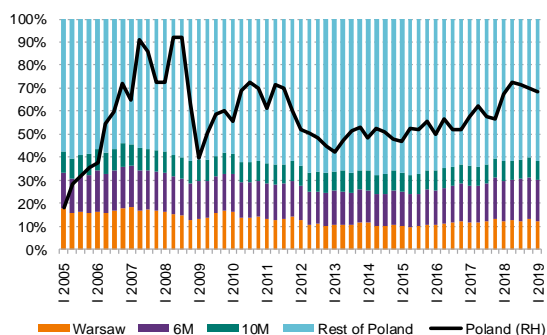
Source: NBP

⁴⁶ See: Financial Stability Report, June 2019.

⁴⁷ See: National report on housing loans and transaction prices of real property; AMRON-SARFIN 4/2017 (Report of the Polish Banks Association, February 2019).

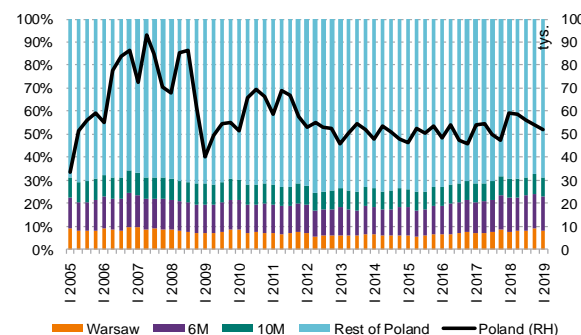
The structure of the geographical distribution of new loan agreements, in terms of value, did not change significantly in 2018 as compared to the previous year (see Figure 4.27 and 4.28). Despite a slight decrease, the highest share of these loans was still observed in the so-called rest of Poland (suburban areas, smaller towns and rural areas⁴⁸).

Figure 4.27 Geographical structure of new residential mortgage loan value in Poland (in PLN billion)



Source: NBP based on BIK

Figure 4.28 Geographical structure of the number of newly granted residential mortgage loans in Poland (w thousands units)



Source: NBP based on BIK

In 2018, the demand for loans increased, which resulted in a significant increase in lending (the number of loan applications increased by 5.2% and the value by 12.6%). The restrictive lending policy is reflected, to some extent, in a stable and relatively high share of rejected loan applications (estimated 56% compared to 59% in 2017). The structure of lending in 2018 was similar to the previous years, and the majority of loans were granted with LTV of up to 80% (73.1%)⁴⁹, i.e. in the range accepted as relatively safe.

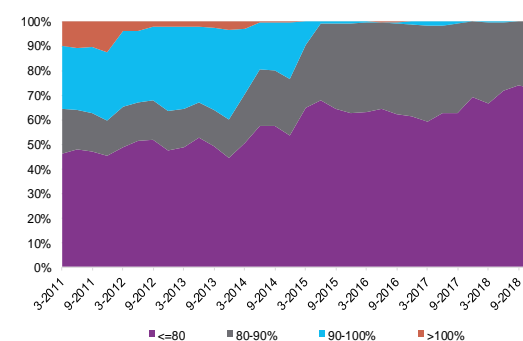
Figure 4.29 Estimated demand and supply of residential mortgage loans



Notes to Figure 4.29 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 mortgage loans.

Source: NBP based on survey questionnaires of the Office of the Polish Financial Supervision Authority (UKNF)

Figure 4.30 Distribution of the value of newly granted mortgage loans according to LTV ratio



Source: NBP based on survey questionnaires of the Office of the Polish Financial Supervision Authority (UKNF)

⁴⁸ Residential mortgage loan statistics does not offer the possibility to generate data according to the location of the loan-financed real estate.

⁴⁹ See: The results of the residential loan and consumer loan portfolio of households as at the end of 2018, the Polish Financial Supervision Authority (KNF).

The government's housing policy had a significant impact on demand in the analysed period, accelerating home purchase decisions in anticipation of the termination the MDM government-subsidized housing scheme as from December 2018. Under the current MDM housing scheme, in the years 2014-2018 subsidies were granted to 110.4 thousand home buyers in the total amount of PLN 2.9 billion, including PLN 0.85 billion in the secondary market. Financial subsidies aimed to support the repayment of mortgage loans continued to be granted under this scheme. The scheme also involved further control of loans granted in the years 2014-2018 as co-financing of buyers' own contribution. In the subsequent years, the terminated MDM housing scheme is to be replaced by the Housing Plus housing scheme⁵⁰.

Figure 4.31 Limits of max. prices per 1 square meter of housing in the PM under the government MDM programme in Poland's major cities

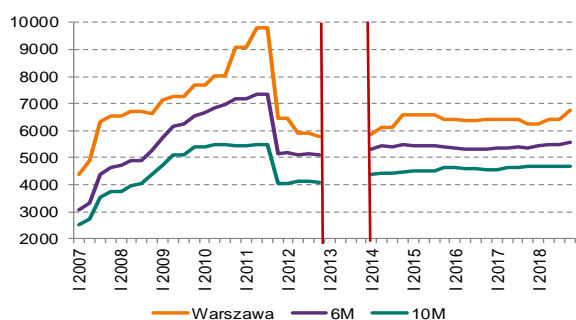
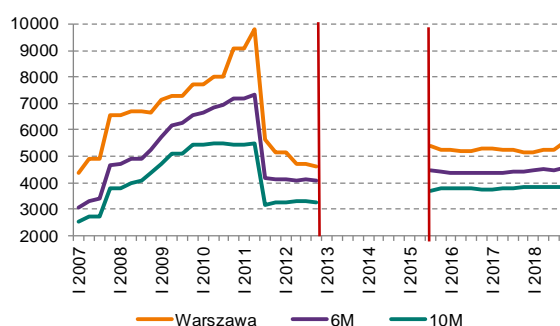


Figure 4.32 Limits of max. prices per 1 square meter of housing in the SM under the government MDM programme in Poland's major cities



Notes to Figures 4.31 and 4.32: 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 surveys

Housing demand tends to be more volatile than supply, which due to technological processes is determined several years in advance. Rapid increases or decreases in demand driven by the so-called market sentiment was often the cause of volatility in these markets when demand shocks encountered tight supply. Therefore, market expectations research is an important demand factor.

The majority of NBP survey respondents⁵¹ expect a stable situation in the housing market over the next two years, indicating a slight correction in demand rather than a slowdown or slump in the

⁵⁰ More information on changes in the government-subsidized housing scheme Housing Plus in Quarterly information. NBP https://www.nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/index2.html

⁵¹ The NBP survey conducted in February and March 2019 throughout Poland was attended by 168 respondents, including 46% of medium-sized companies (employing 9-49 employees), of which 56% started operations before 2000. In terms of the type of construction works the majority of respondents were home construction companies (49% of respondents) and companies engaged in other types of construction (45%). The current survey was preceded by a survey of the supply of housing in the primary market as regards multi-family housing construction, conducted among real estate developers in November-December 2017, whose primary aim was to assess the level of housing supply and production capacity of real estate developers, and the scale of problems affecting them (i.e. depletion of the stock of land for multi-family housing construction), rising construction costs and the legal environment). In May 2018, information on housing supply was also

economy. This is consistent with the generally stable macroeconomic forecasts of the main variables affecting housing demand. These factors or some of them are generally rightly indicated as creating housing demand by companies in this market. 2018, as compared to 2017, saw a slowdown in construction starts, in home sales as well as pick-up in the growth of sales prices in both the primary and secondary markets. However, in 2019 Q1 sales and production in progress accelerated slightly again.

Primary market

Low levels of interest rates, robust economy, reduced concerns about unemployment, rising wages and a shortage of housing purchased for consumption (as own housing or housing of a family member, or in order to improve the living conditions) are the factors behind the persistently high housing demand. An important part of demand are dwellings purchased for investment purposes, so far mainly buy-to-lets. NBP analyses point to a slight slowdown, and in some larger cities a decline in the availability of residential mortgage loans⁵² caused by a faster rise in housing prices in relation to the growth in household income, which was reflected, among others, in home sales decline in 2018.

According to real estate developers, in 2018 and 2019 Q1, the purpose of home purchases in the primary market did not change significantly (own consumption accounts for approx. 63% and investment for the remaining 37% as compared to 68% of home purchases for consumption purposes and 34% of home purchases for investment purposes revealed a survey conducted a year before - in May 2018).

In 2018 home purchases in the primary market for own housing consumption needs were mainly financed by a bank loan which constituted the overwhelming majority of financing (67% of transactions). Dwellings purchased for rent or resale were in 74% purchased mainly or with a significant portion of own funds. Developers reported a slight slowdown in investment demand (buy-to-lets), however, relatively high rates of return estimated by NBP indicate that demand for investment housing continues. Investment demand is financed to a small extent via bank debt (in approx. 25% for rent and in approx. 20% for resale in a favourable period), which should limit the risks of the financial sector. In the developers' opinion, the share of particular sources of financing of home purchases did not change significantly in 2018 and in 2019 Q1.

In 2019 QA1, the year-on-year increase in transaction prices of housing in the primary market of the largest cities accelerated (reaching approx. 10% compared to approx. 6% in 2018 Q1). Some respondents believe that this may translate into higher housing prices in the secondary market and an increase in the number of speculative purchases, which were estimated by real estate developers at the beginning of 2019 at 3-4% of total home purchases. Approximately half of the respondents,

updated, expanding the analysis by the assessment of the scale of demand for housing in the primary and secondary market, including the rental market, mainly by the level of purchases for investment purposes.

⁵² Housing loan availability calculated as the potential maximum residential mortgage loan, expressed in PLN thousands, taking into account the bank's credit requirements and loan parameters, i.e. interest rate, depreciation period, minimum wage as the minimum income after repayment of mortgage instalments.

taking into account growing costs of contracting works, forecast a further, 10% price increase in 2019 while others expect them to remain at the close to 2018 level.

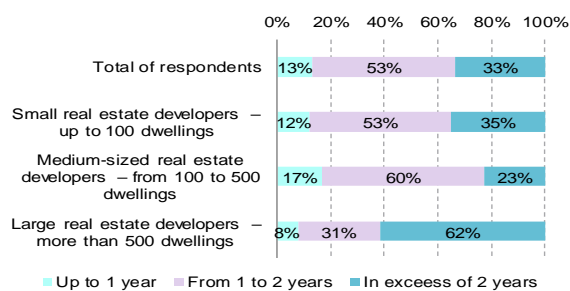
Table 4.2 The number of dwellings put on the market and sold in multi-family housing construction in 2018 and intended to be put on the market and sold in the years 2019-2021

Description*	2018	2019	2020	2021
Dwellings put on the market/ intended to be put on the market starting from 2019	17.1 thousand	20.9 thousand	21.1 thousand	20.7 thousand
Dwellings sold/intended to be sold starting from 2019	15.1 thousand	16.6 thousand	17.5 thousand	18.4 thousand

*/In order to estimate real estate developers' production capacity in particular years, the study addressed only dwellings reported by real estate developers who were respondents in all the analysed years.

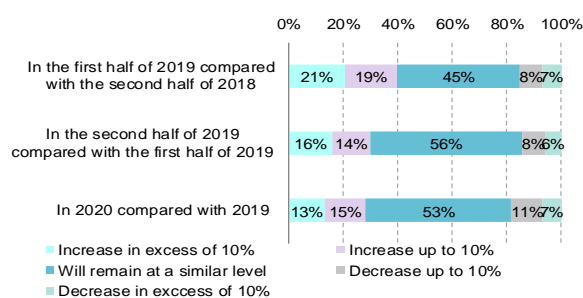
Source: NBP survey

Figure 4.33 Duration of the strong housing market as expected by real estate developers (in %)



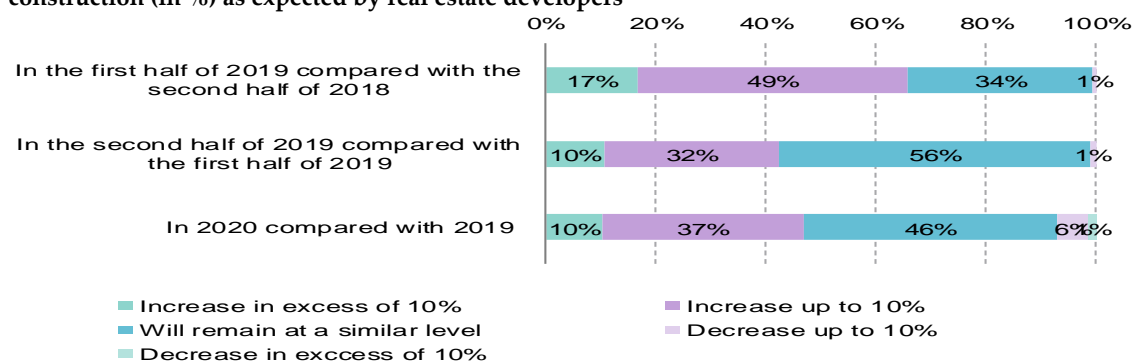
Source: NBP based on surveys

Figure 4.34 Home sales in the primary market as expected by the surveyed real estate developers (in %)



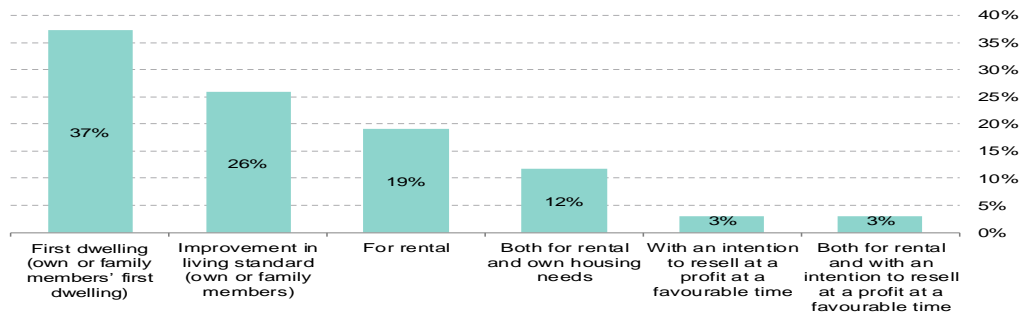
Source: NBP based on surveys

Figure 4.35 The scale of changes in net home selling prices in the primary market in multi-family housing construction (in %) as expected by real estate developers



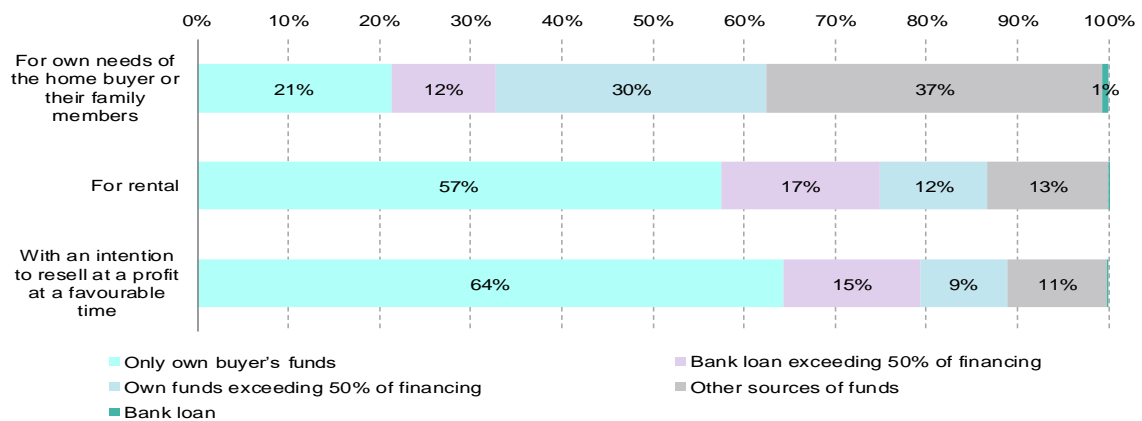
Source: NBP based on surveys

Figure 4.36 The structure of responses of real estate developers to the question about the purpose of purchasing housing in the primary market in the second half of 2018 (in %)



Source: NBP based on surveys

Figure 4.37 The structure of responses of real estate developers to the question about the share of particular sources of financing in particular types of housing purchased in the primary market in the second half of 2018 (in %)



Source: NBP based on surveys

Secondary market

In June 2019, a survey of demand for housing in the secondary market, including the rental market in multi-family housing construction, was conducted in 16 voivodeship cities in Poland⁵³. The survey addressed among others, the scale of demand, home buyers' structure, purpose of purchase and rent as well as sources of financing of home purchases in the secondary market.

In the respondents' opinion, the sale of dwellings in 2018 and in the first half of 2019 slightly slowed down due to the limited supply and relatively high and rapidly rising housing prices. Real estate brokers participating in the survey do not observe any factors that could significantly change the situation in the housing real estate market in a short time. The shortage of housing for consumption, the increase in disposable income, low interest rates and still relatively high rates of

⁵³ The data was obtained in the survey and interviews conducted in June 2019 among 209 real estate brokers and rental administrators in the secondary housing market.

return on rental of residential real estate suggest that consumption and investment demand for housing will persist.

This is a fairly typical result for surveys conducted among companies in times of prosperity, when they do not notice the sequence and relationships of factors causing good economic conditions and affecting both the increase and decrease in housing demand. The respondents emphasize that housing demand in the secondary market has decreased along with the rise of buyers' expectations in terms of the quality of home finishing, the technical condition of the building and the building's surroundings. The advantage of buying housing in the secondary market is the ability to occupy or rent it almost immediately after the purchase. The primary market is currently unable to offer ready-made apartments, which can be instantly used for long or short-term rental. According to NBP data, in 2018, as compared to 2017, in the seven largest cities in Poland, including Warsaw, the number of sales deals in the secondary market increased by several percent, which was largely the result of a shift in demand from the primary market. This was also the result of rising sales in the primary market, as the vacated dwellings returned to the secondary market. According to real estate brokers, in 2018 and in the first half of 2019, the largest secondary markets saw a demand for smaller dwellings, in good locations and with a higher finishing standard, i.e. in the segment of housing for investment purposes. The survey revealed that buyers of cheaper dwellings for their own consumption needs were more active which also driven by the fear of further housing price increases. According to NBP data, in the secondary market of the ten large cities, the demand for housing declined slightly in 2018 as compared to 2017. In these markets, the majority of transactions are purchases of housing for own housing needs or for the needs of a family member, which are financed mainly or to a large extent with bank debt. The declining demand is, to a large extent, the result of a significant acceleration in the growth of housing prices, and thus reduced availability of housing.

In the respondents' opinion, in the first half of 2019, the share of particular sources of financing did not significantly change throughout the year and is similar to those recorded in the primary market. 61% of consumer demand in the secondary market is financed with a residential mortgage loan. On the other hand, demand for rental housing (28%) and purchase of housing for resale in a favourable period (13%) is financed to a small extent with a bank debt. Respondents estimate that the sale of housing for own needs increased by 10% in year-on-year terms and the sale of housing for investment purposes decreased by the same amount.

Rising home sales in the secondary market for consumption purposes is due to the acceleration of prices in the primary market and the shift of some demand to this market. The scale of purchases for home resale in the favourable period remained at the last year's level (14%). The sale of dwellings to domestic private individuals increased, mainly in smaller voivodeship cities. An increase was also noted in the sale of housing to private individuals from Eastern European countries, however, it is currently difficult to assume a significant impact of their immigration on the home purchase market.

As regards forecasts of demand for housing in the secondary market for the next 12 months (from July 2019 to June 2020) the majority – 42% of real estate brokers expect home sales to continue to increase, 34% expect demand to remain at the current level and 24% expect home sales to decrease.

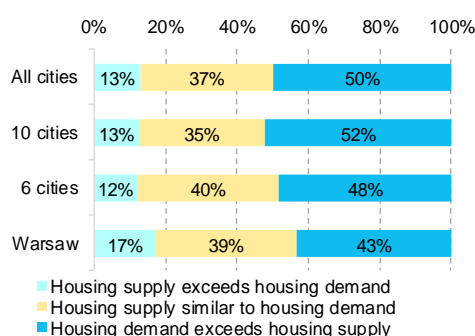
While analysing the predicted scale of sales growth, a smaller but significant part of real estate brokers - 23% - indicates a possible increase in sales of up to 5%, whereas according to 19% of real estate brokers the increase in demand will be stronger.

The persistently strong demand accelerated housing price increases in the secondary market, mainly in the markets of the ten voivodeship cities (by 12%). In the six largest markets, the price increase remained at around 7% and in Warsaw exceeded 4%. A year ago, transaction prices increased in all secondary markets by 7% - 8% in year-on-year terms. For the next 12 months, 27% of respondents expected prices to increase by up to 5%. Higher price growth was expected by 28% of respondents, according to the remaining respondents housing prices will remain at a level similar to that recorded in the first half of 2019 or will fall slightly.

The growth in rental rates accelerated (in 2019 Q1 rents increased by more than 8% y/y compared to approx. 4% growth a year before), which confirms persisting demand for rental dwellings and high profitability of home rental estimated by NBP. According to real estate brokers, the home rental market is getting saturated which may be reflected in the stabilization or even decline in rental rates. The reduced scale of rental housing purchases noted by the respondents may indicate a decline in the profitability of rental of certain dwellings.

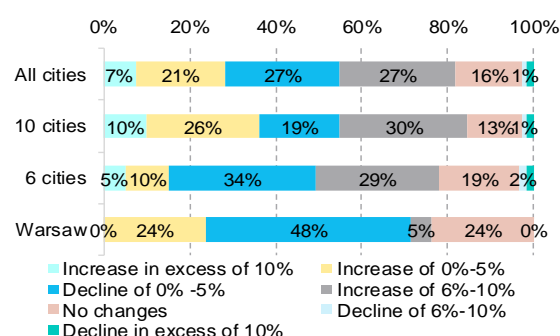
Real estate brokers predict an increase in the resale of such dwellings in 2020, which may, in turn, boost supply and reduce prices. Yet, according to the survey data, in the first half of 2019, as a result of declining rental profitability the percentage of sellers was small and reached approx. 6% in Warsaw and approx. 4% in other large cities. In the first half of 2019, only 12% of the respondents had in their offer new dwellings, i.e. those intended for resale within four years of their purchase in the primary market. In most voivodeship cities such dwellings accounted for 14% - 18% of the current sale offer, in Warsaw only 2%. This means that buyers believe in the future of the Warsaw market, which is the most expensive housing market.

Figure 4.38 Relation of supply to demand for housing in the secondary market in 2019 as assessed by the surveyed real estate broker (in %)



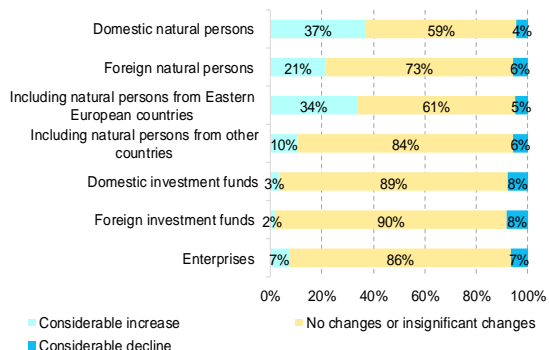
Source: NBP based on surveys

Figure 4.39 Changes in home selling prices in the secondary market in the coming 12 months as expected by real estate broker (in %)



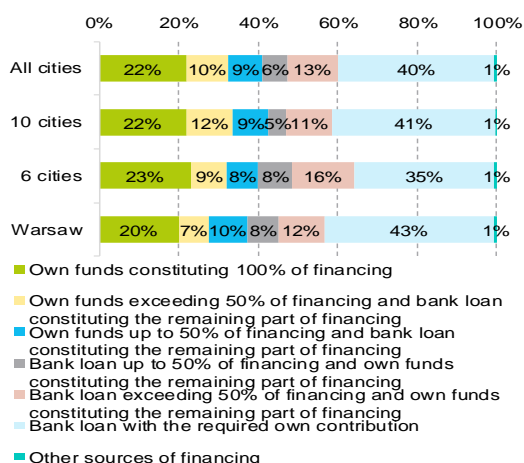
Source: NBP based on surveys

Figure 4.40 Change in the home sales level in the secondary market to the following companies/private individuals in the first half of 2019 as compared to the second half of 2018 (in %)



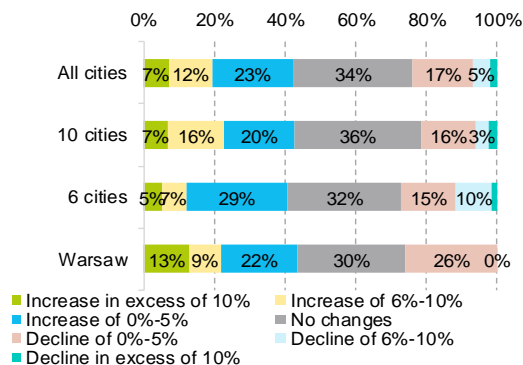
Source: NBP based on surveys

Figure 4.42 Sources of financing of housing purchased in the secondary market (for own needs of the home buyer or their family member) in the past 12 months (in %)



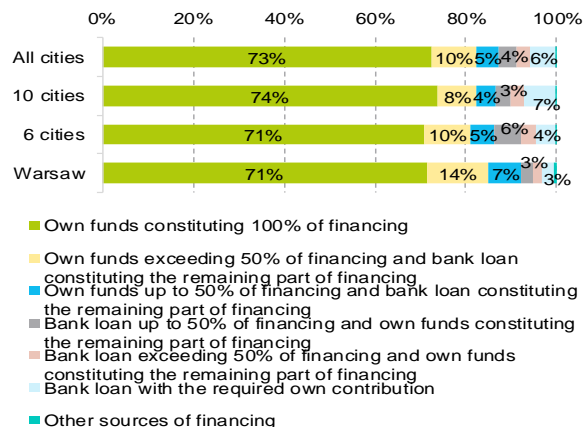
Source: NBP based on surveys

Figure 4.41 Changes in home sales level in the secondary market in the coming 12 months as expected by real estate brokers (in %)



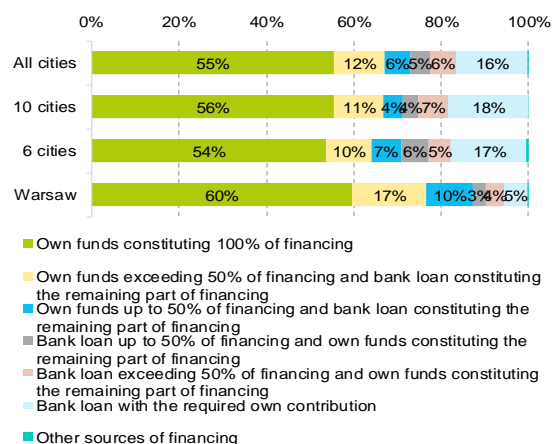
Source: NBP based on surveys

Figure 4.43 Sources of financing of housing purchased in the secondary market in the past 12 months for the purpose of resale (in %)



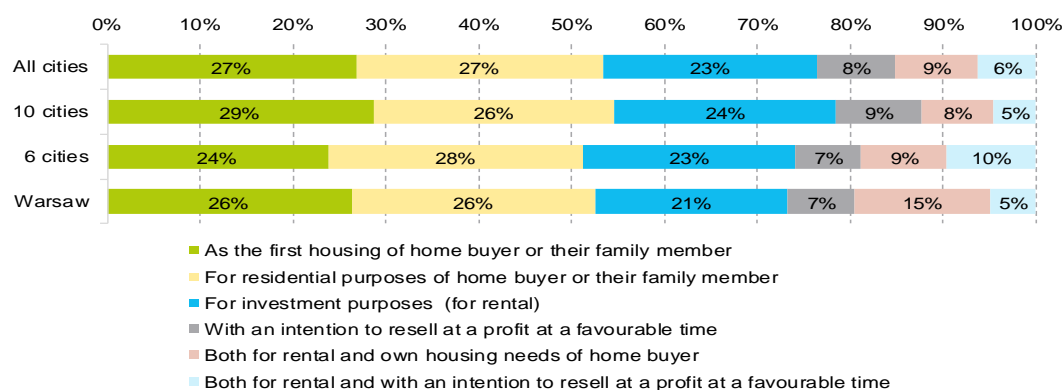
Source: NBP based on surveys

Figure 4.44 Sources of financing of housing purchased in the secondary market in the past 12 months for rental purposes (in %)



Source: NBP based on surveys

Figure 4.45 Purpose of home purchase in the secondary market in the first half of 2019 (in %)



Source: NBP based on surveys

4.3 Housing supply

The supply of housing consists of housing for sale and rent, both from the existing stock (secondary market) and the newly built stock (primary market), adjusted for depletion and changes in the purpose of housing⁵⁴. Amid the rising housing demand and a relatively rare exchange of dwellings, the housing construction that is the primary market become the basic factor determining balance in this market.

The structure of housing supply in Poland has been stable since the late 1990s. In the largest cities, the majority of housing supply is met by developer construction and its share increased significantly in 2018. Housing projects of housing cooperatives are of marginal importance in these cities, although they have seen a growing interest recently. In smaller cities and towns and rural areas by single-family housing, partly carried out with household's own resources, accounted for

⁵⁴ In Poland we have access to the data on the size of housing. However, there is no information on the market of developer contracts for housing construction and home sales in the secondary market.

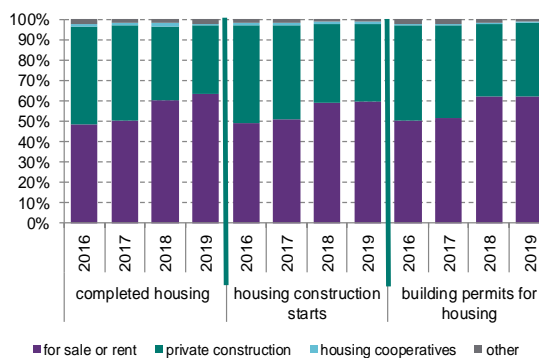
most housing supply (see Figures 4.46 and 4.34). According to NBP estimates approximately 30% of developer housing purchases are financed with a loan, which translates into a steady increase in the housing loan portfolio. Single-family construction is financed, to a large extent, with own funds, and loan constitutes only complementary financing.

Figure 4.46 The structure of the types of residential construction in Poland (in thousands of housing units)



Source: GUS

Figure 4.47 The structure of the types of residential construction in Poland (in %)



Source: GUS

Strong demand in the housing market, observed since 2016, continued to positively affect the situation of real estate developers. The number of completed and newly commenced dwellings was at a record high level. Since 2013, due to high demand, the index of home offers on the market was low.

In 2018 the supply of new housing in Poland responded quite flexibly to strong demand. The total of 184.8 thousand dwellings were completed and made ready for occupancy, i.e. 6.5 thousand more than in 2017 (an increase of 3.7% y/y). The construction of 221.9 thousand dwellings was launched i.e. 15.9 thousand more than in 2017 (an increase of 7.7% y/y). In 2018, the total of 257.1 thousand building permits were issued i.e. 6.9 thousand more than in 2017 (an increase of 2.7% y/y).

When analysing the risk of a sudden shock in the housing market, the flexible response of supply of new housing to demand shocks is of particular importance. It informs how quickly the developer sector can adapt to increased demand and the market can avoid the risk of excessive price increases. The comparison of the number of building permits and homes under construction with the volume of home sales can be a measure of tensions. This comparison shows that if homes sales in the future remain at the current level, then the anticipated production of housing may not be sufficient to meet the demand.

Both the number of building permits, newly built dwellings and homes under construction should keep pace with growing sales, albeit with a certain delay. Figures 4.48 and 4.49 show that in 2017 the supply of housing usually matched demand. However, the second half of 2018 saw developments signalling that supply was getting tight. These included the persistently small share of completed dwellings on offer on the market in relation to sales and a decline in the number of

homes under construction as compared to the currently high level of home sales. Developers' temporary difficulties with obtaining building permits (reported in the surveys) confirm that these developments have been gradually fading since the beginning of 2019.

Figure 4.48 Housing construction in Poland (number of dwellings, 4 rolling quarters)

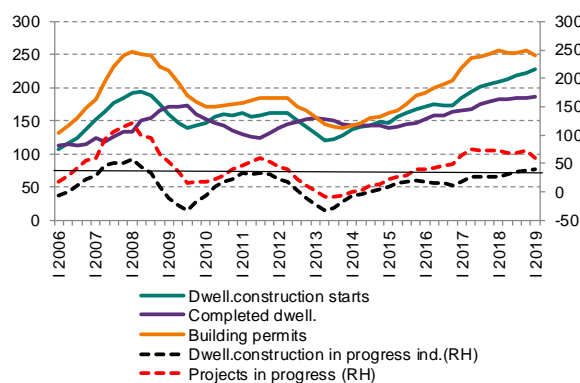
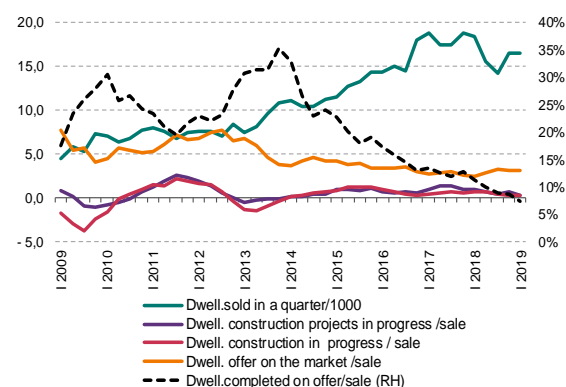


Figure 4.49 Housing development projects and homes under construction and homes on offer in 7M compared to sales in 7M



Note to the Figures: Projects in progress are permits for home construction minus completed dwellings made ready for occupancy; homes under construction are dwellings whose construction has started minus completed dwellings made ready for occupancy; both indicators are summed up in 4 quarters. In Figure 4.49 they were divided by home sales in a particular period.

Source: NBP based on GUS

Source: NBP based on GUS, JLL/REAS

According to the Statistics Poland data, in 2019 Q1 as compared to 2018 Q1, the number of dwellings completed and made ready for occupancy in Poland increased by approx. 6%, which was largely the result of a significant number of construction starts in 2017. An increase was recorded in 12 voivodeship cities. The Warsaw market recorded a decline of over 16% during this period. The continuing high level of production in the first half of 2019 is indicated by the total number of completed dwellings which is close to the first half of 2018 (3.260 dwellings - an increase of 1%) by several major developers from the Catalyst market⁵⁵.

According to NBP data, the total number of dwellings offered for sale at the end of 2018 in six major cities (Gdańsk, Kraków, Łódź, Poznań, Warsaw, Wrocław) was similar to the level recorded at the end of 2017. At the end of 2019 Q1 as compared to the end of 2018, the number of dwellings on offer declined by approx. 5% in Warsaw. The total offer in the seven major cities (Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warsaw, Wrocław) increased by approx. 3%. In the remaining ten cities, the availability of new housing slightly decreased.

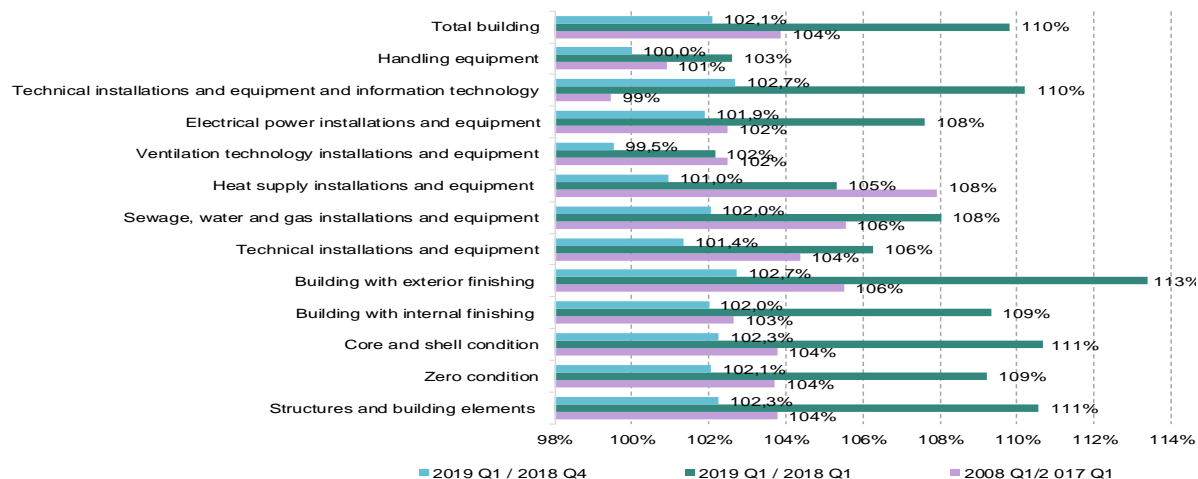
The high production of dwellings in the primary market observed for several years, amid significant capacity utilisation, generates problems for building contractors. In order to assess the supply side of the real estate market, the economic and financial condition of real estate

⁵⁵ The situation of the largest residential real estate developers from the Catalyst market, Navigator Brokerage House, Warsaw, July 2019.

developers⁵⁶ and related companies was analysed. The analysis of particular housing development projects implemented in sixteen local markets conducted by the regional branches of NBP (price of land for multi-family housing construction, direct and indirect construction costs, rates of return on development projects) provides a considerable information on the profitability of developers' operations.

According to the estimates, the profitability of housing development projects in 2018 and in 2019 Q1 continued to be high, despite a slight decline in the second half of 2018. The decline in developer's margins was associated with rising costs of construction, growing wages, growing prices of land for residential construction and prices of services provided by contractors. This has less impact on the development sector, which operates on high margins, but it generated problems in the construction sector where margins are considerably lower. According to the calculations presented in the Sekocenbud publication⁵⁷, the construction price of an entire five-story multi-family residential building - the core and shell (1122-302) in 2019 Q1 as compared to 2018 Q1 increased by 10%, including the external finishing by 13%, the core and shell by 11%, constructions and building elements by 11%, and installations and technical devices by 10% (see Figures 3.21-3.26). In 2017, the increase in the cost of the entire building completion was significantly lower, i.e. 3.9%. In 2019 Q1 as compared to 2018 Q3, the construction costs of the building increased further by over 2%. The average share of the land price in the price of a square meter of housing usable area in multi-family housing construction, broken down into particular cities, remains at a several percent level. The supply side continues to see positive economic incentives for new housing construction.

Figure 4.50 Growth rate of prices of a multi-family 5-storey building – in the developer’s condition (1122-302 Sekocenbud) – in %



Source: NBP based on Sekocenbud

⁵⁶ 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 development 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).

⁵⁷ Sekocenbud, Bulletins of 2018 Q1 and Q4 and of 2019 Q1, Bulletin of the prices of buildings and structures, part 1 – Buildings and Structures, Ośrodek Wdrożeń Ekonomiczno – Organizacyjnych Budownictwa PROMOCJA Sp. z o.o.

The secondary market is of fundamental importance amid high housing stock saturation and high territorial mobility of the population. Given a relatively small size of the housing stock and low mobility as well as strong housing demand, the primary market is gaining in importance, as developers provide new dwellings to meet growing demand. In this situation, the secondary market is an important, complementary market to the primary market. This is the case in Poland.

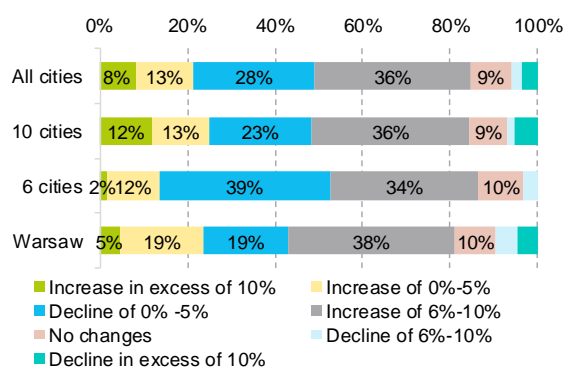
According to respondents of the NBP survey⁵⁸ in the seven major cities, the widening supply gap of dwellings in the primary market in the recent years has been filled by secondary market higher standard dwellings in a good location. Supply constraints in combination with high demand led to shortages also in this market. This, in turn, resulted in substitution adjustments - consumers faced with budget constraints started to look for cheaper dwellings in the secondary market.

As regards forecasts of housing supply in the secondary market in the next 12 months, almost half of the respondents (49%) expect a 5% increase in offers, a smaller percentage of respondents (36%) does not expect significant changes in this respect. Others expect a slight reduction in the number of offers. Similarly, most respondents expect moderate price increases.

A new phenomenon recorded in this market is the growing share of relatively new dwellings that have been purchased in the primary market in the last four years. Real estate brokers expect a further moderate increase in this offer.

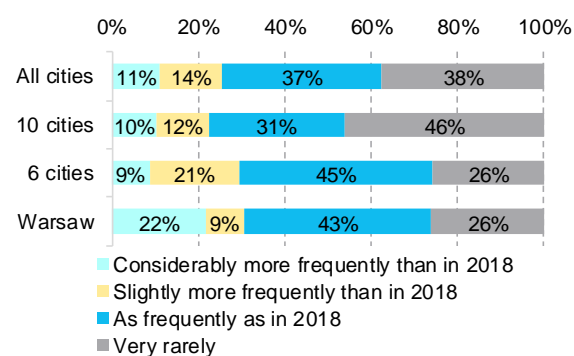
Only small part of dwellings bought for rental return to the secondary market. The low volume of sales of such housing in Warsaw confirms the greatest attractiveness of this market. Real estate brokers do not anticipate any major changes in this respect in the near future.

Figure 4.51 Changes in the housing offer in the secondary market in the coming 12 months as predicted by real estate brokers (in %)



Source: NBP based on surveys

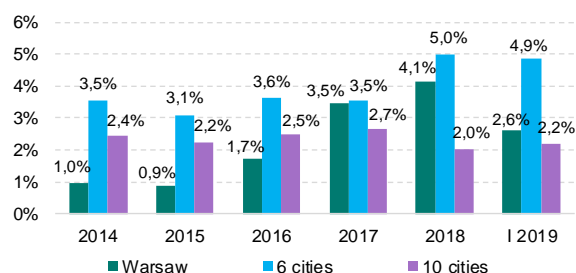
Figure 4.52 Frequency of offering dwellings for sale in the secondary market which have been purchased in the past four years in the primary market (in %)



Source: NBP based on surveys

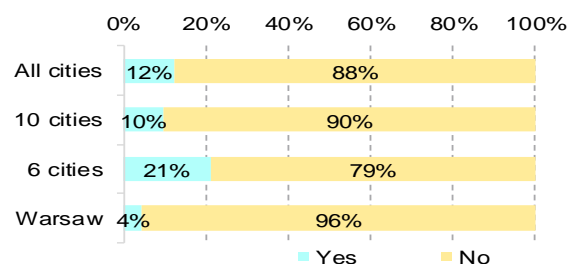
⁵⁸ The total of 290 real estate brokers took part in the survey concerning demand and supply of housing in the secondary residential real estate market conducted primarily in the sixteen voivodeship cities and in Gdynia by Narodowy Bank Polski.

Figure 4.53 The share of new housing in sales offers in the secondary market (dwellings built in the period up to 4 years from the moment they were put on sale)



Source: NBP based on BaRN

Figure 4.54 The structure of answers to the question: Do you have in your sales offer dwellings built after 2014 whose owners have difficulties in finding a tenant?



Source: NBP based on surveys

Analysis of the real estate development process⁵⁹

The analysis of the real estate developer sector is based on the analysis of construction profitability. It is based on the analysis of real estate development process, prices of sold properties, and costs of factors of production. Costs of production have been further broken down into costs of labour, capital and land and then their share in the production costs of particular properties has been analysed. The analysis of the prices of factors of production examined average cost-based estimates of labour rates (according to the types of works; see Figure 3.28), average prices and changes in the prices of materials and lease 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 2007-2019, 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 the factors of production on the costs of construction.

The prices of building land have been monitored since 2014 by local analysts from Regional Branches of NBP with the use of statistical methods, comparison of pairs and the adjusted mean, and with the use of the mixed method. The estimates of prices per square meter of building land

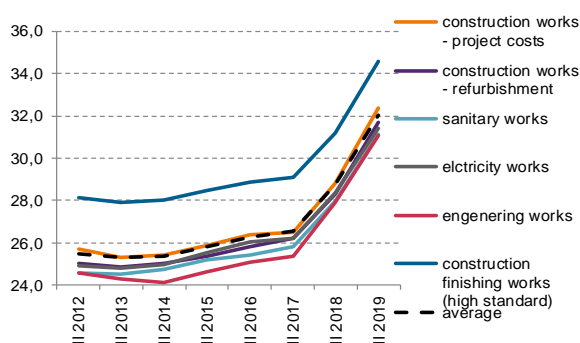
⁵⁹ The analysis relied on the data from F-01 reports submitted to the Statistics Poland (GUS) in the years 2007-2018 by firms conducting business activity involving the construction of buildings (PKD 41.10). The results are broken into two groups of companies (smaller ones – employing from 9 to 49 persons and larger ones – employing more than 49 persons). The source of valuable supplementary information was the analysis of the financial data of sixteen real estate developers included in the industry index WIG-real estate (formerly WIG-real estate developers) whose current activity is focused, in whole or in a major part, on multi-family residential construction. Additionally, in March 2019 NBP conducted its own survey of housing supply in the primary market and the situation and production capacity of contractors, retailers and producers of building materials in Poland and in June 2019 a survey of housing demand and supply in the secondary residential real estate market, including the rental market.

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 housing prices derived from own studies, including the costs of building land, allows to quantify the structure of home price and developers' profit as regards particular buildings. It also serves to verify the rates of return on a model building⁶⁰. The knowledge of typical development projects implemented by real estate developers allows to estimate the achieved rates of return on development projects, which is the basic indicator enabling to assess their performance.

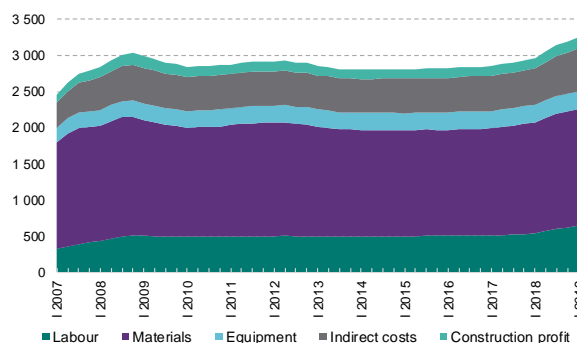
The key advantage of this attitude is that it is based on relatively "hard" data and correlations and is not prone to changes of the sample representativeness or tax optimisation effect what weighs on the indicator-based method of financial analysis.

Figure 4.55 Average gross cost estimate-based rates (PLN/man-hour) in developer construction in second quarters



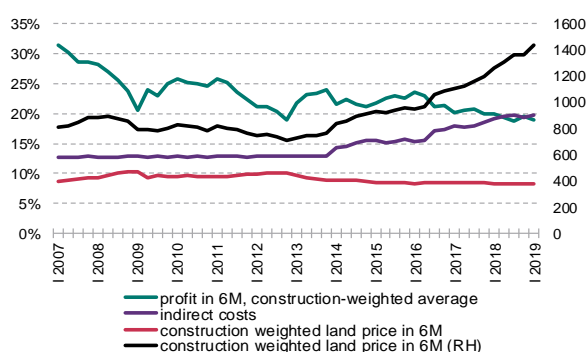
Source: NBP, Sekocenbud

Figure 4.56 Structure of construction costs of a half of building 1122-302 (PLN million)



Source: NBP, Sekocenbud

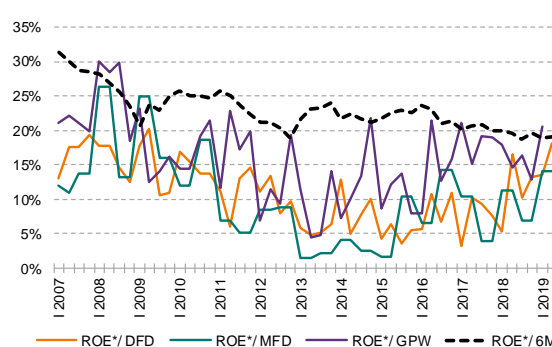
Figure 4.57 Estimated share of developers' profit, indirect costs and price of land in the net transaction price in the primary market in a development project (type 1122-302) and the price of land (right-hand sc.)



Note to Figure 4.58: */modified ROE = net financial result/ (proceeds from sales – net result on sales); ROE 6M – estimated modified ROE on a developer project according to NBP (average in 6M).

Source: NBP, Sekocenbud

Figure 4.58 Estimated profitability indicators of a developer project (ROE*/) on the WSE, in DFD# and MFD# and development projects in 6M



Source: NBP based on Sekocenbud, Financial Statements, GUS (F01)

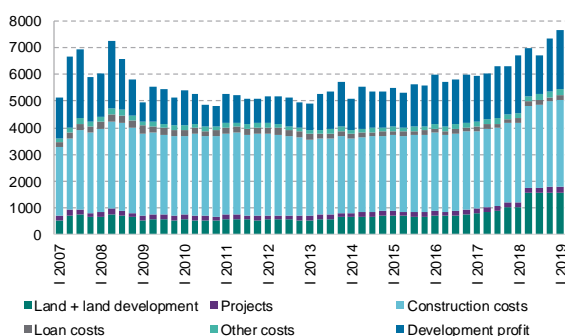
⁶⁰ More data in w *Information on home prices and the situation in the residential and commercial real estate market in Poland in 2019 Q1* available on website of NBP (Figure 36, p. 20).

This study shows that the rates of return on real estate development projects remain high, although they show a certain downward trend (see Figure 4.58). The Figure also shows the actual rates of return earned by real estate developers. They have been presented in such a way to be in line with the statistics used in project analysis. The actual rates of return are lower than the ones assumed in the project (the project is not a company, there may be other activities and costs), for companies listed on the WSE, these figures are close to model values.

In 2018, the costs of construction of an average residential building increased (see Figure 4.55). The growth rate of costs of residential building construction increased significantly. This concerns, particular, labour costs, prices of building materials and lease of construction equipment. Also the price of land posted strong increases, which is characteristic of the factor of production, whose price amid increased demand is determined by marginal costs rather than average costs (see Figure 4.44). Figures showing the estimated structure of the price of housing in the 6 largest markets bring an additional contribution to the indicators presented in Figure 4.57.

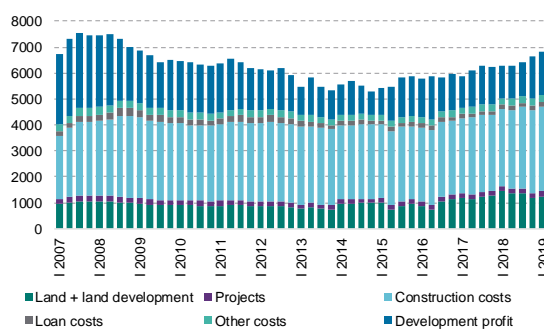
The comparison of the structure of the price of a square meter of housing in selected primary markets shows a relatively stable share of developer’s profit (see Figure 4.45), which is associated with the limited competition typical of this market and price differentiation used by sellers⁶¹. The share of this profit varies in particular markets and in particular years. However, in 2018 Q4 it slightly declined as compared to 2017 due to growing cost of housing production and fluctuated in the range of 13-29% (as compared to 20-30% in 2017).

Figure 4.59 Gdańsk, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)



Source: NBP

Figure 4.60 Kraków, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)

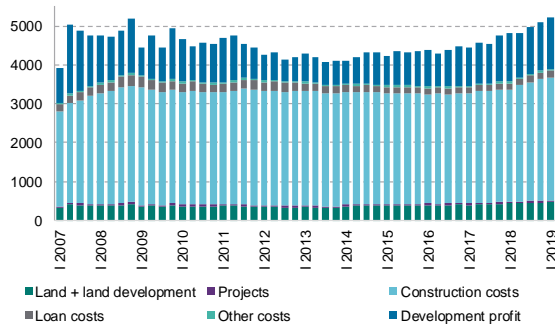


Source: NBP

Note to Figures 4.59 - 4.64: net transaction price (exclusive of VAT).

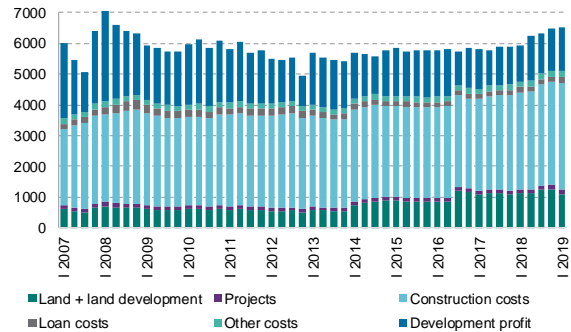
⁶¹ See: “Report on the situation in the residential and commercial real estate market in Poland in 2015”

Figure 4.61 Łódź, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)



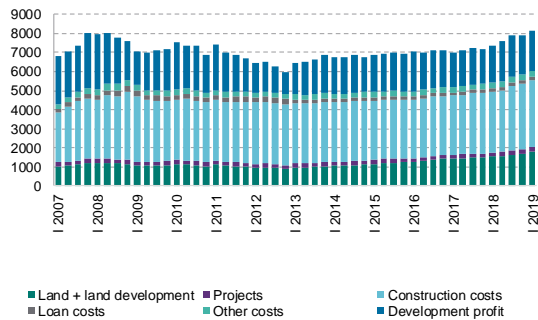
Source: NBP

Figure 4.62 Poznań, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)



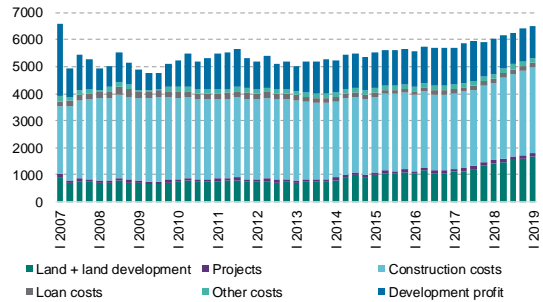
Source: NBP

Figure 4.63 Warsaw, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)



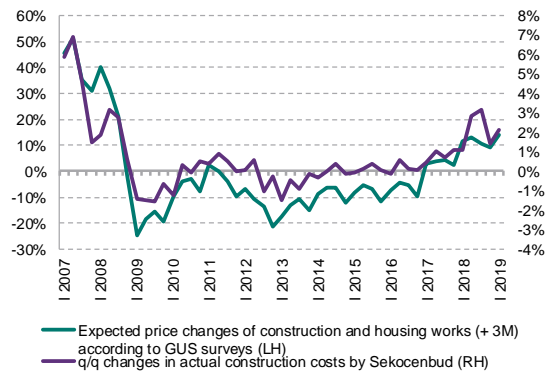
Source: NBP

Figure 4.64 Wrocław, the estimated structure of transaction price per 1 sq.m. of usable area of housing in the primary market (building 1122-302#)



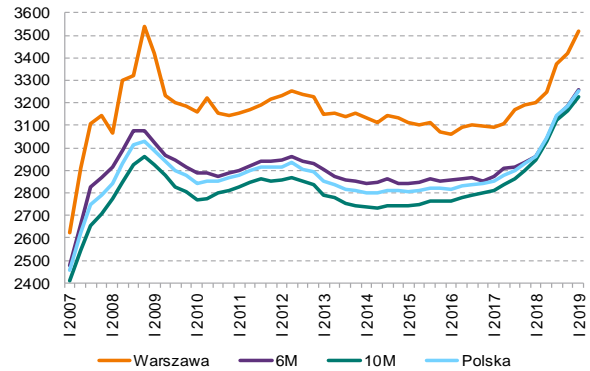
Source: NBP

Figure 4.65 The estimated changes in the prices of construction and assembly works (+3M) and growth in the costs of construction of usable area of a residential building (type 1122-302#)



Source: NBP based on GUS, Sekocenbud

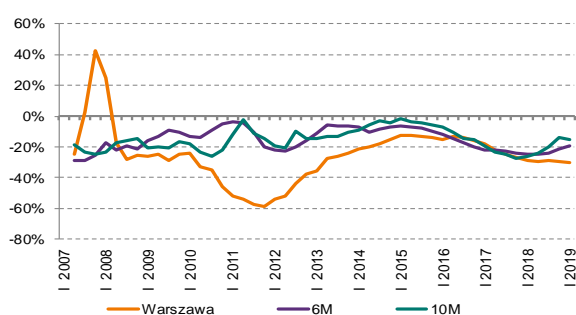
Figure 4.66 Average cost of construction of 1 square meter of usable area of a residential building (type 1122-302#)



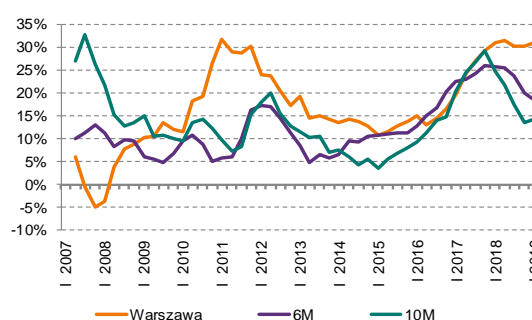
Source: NBP based on Sekocenbud

The condition of real estate developers improved as the structure of offered housing matched the demand structure. Demand for small 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 (buy-to-lets), and as housing for the elderly. Consequently, dwellings ≤ 50 sq. m prevailed in the primary market, their offer was much more adjusted to demand than that of dwellings >50 sq. m. (see Figures 4.67 – 4.68). The secondary market continued to see a larger mismatch between supply and demand for housing in terms of usable area (see Figures 4.69–4.70), hence lower prices in segments less adjusted to the client's needs, especially in the secondary market.

**Figure 4.67 Supply and demand mismatch*;
dwellings with an area ≤ 50 square meters – primary market in selected cities of Poland**



**Figure 4.68 Supply and demand mismatch*;
dwellings with an area > 50 square meters – primary market in selected cities of Poland**

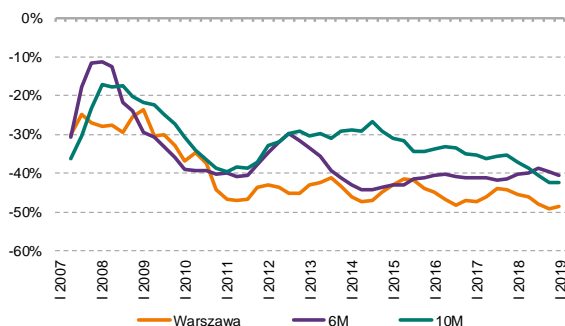


*Note: Figure 4.67 shows the percentage short-term mismatch between supply (housing offered by real property developers) and estimated demand (transactions) in terms of the area of housing in the primary market, according to the data from the BaRN database. The mismatch is calculated as the ratio of 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 4.68 is parallel for the primary market in the case of dwellings with an area above 50 square meters, figures 4.69–4.70 are parallel for the secondary market.

Source: NBP

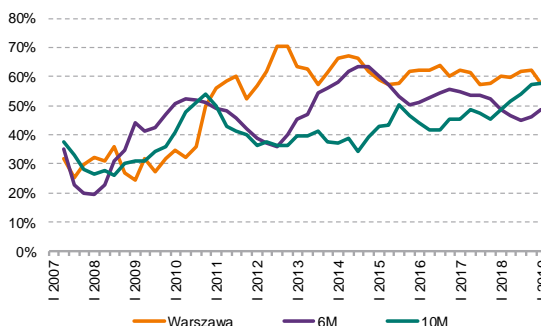
Source: NBP

**Figure 4.69 Supply and demand mismatch*;
dwellings with an area ≤ 50 square meters – secondary market in selected cities of Poland**



Source: NBP

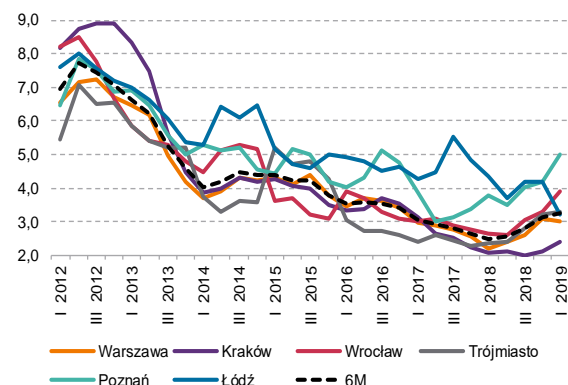
**Figure 4.70 Supply and demand mismatch*;
dwellings with an area > 50 square meters – secondary market in selected cities of Poland**



Source: NBP

As a result of the high sales level recorded in the first half of 2018, the estimated home selling time in the primary market further shortened, to get longer again i.e. returned to the levels observed in the 2016-2017 period (see Figure 4.71).

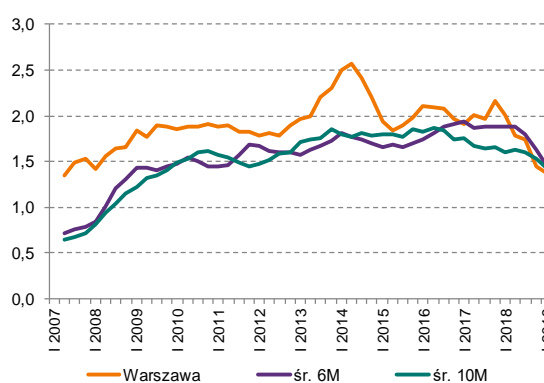
Figure 4.71 Selling time of dwellings on offer in the primary market in selected cities (number of quarters)



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: JLL/REAS

Figure 4.72 Selling time of dwellings on offer in the secondary market in selected cities (number of quarters)

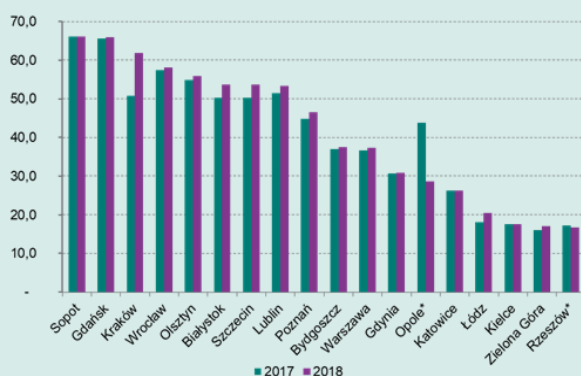


Note: real selling time, average for the last four quarters; data are not comparable with 4.71. Home selling time in the secondary market takes into account only transactions closed with a deal. The data are underestimated since they do not contain offers put on the market but not sold yet.

Source: NBP

Box B. Results of the analysis of supply and demand for land in 2018 (based on NBP and GUS data)

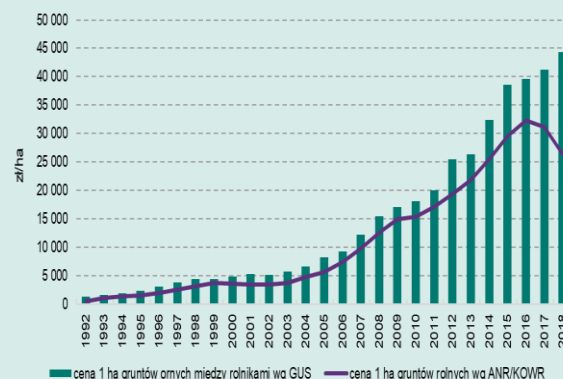
Figure B1 The share of land covered by the local area development plan (MPZP) in the land intended to be included in the local area development plan (MPZP) in selected cities



Note: Opole, Rzeszów – extension of the city boundaries in 2018.

Source: Ministry of Investment and Development

Figure B2 Average prices of arable land in private purchase-sale transactions according to Statistics Poland (GUS) and farming land according to Agricultural Real Estate Agency (ANR)/ National Agriculture Support Agency (KOWR)



Source: GUS data and ANR/KOWR data

Agricultural land

According to the data of the National Agriculture Support Agency (KOWR)⁶², in 2018 the average annual transaction price for sold agricultural land per 1 ha was 15% lower as compared to the previous year and amounted to PLN 26 402/ha (compared to PLN 31 058/ ha in 2017). In 2018, the highest prices were recorded in the kujawsko-pomorskie voivodeship (PLN 45 100/ha), the lowest in the mazowieckie voivodeship (PLN 14 409/ha). In 2018, the total of 2 995 contracts were concluded for the sale of land from the Agricultural Property Stock of the State Treasury with a total area of 2 520 ha (in 2017 the total of 2 926 contracts were concluded with a total area of 3 469 ha, respectively). In 2018, the total of 4 880 contracts were concluded for the lease of land from the Agricultural Property Stock of the State Treasury with a total area of 40 357 ha (in 2017, the total of 5 814 contracts were concluded for an area of 52 975 ha respectively). In 2018, the National Agriculture Support Agency received the total of 19 874 applications for consent to purchase agricultural property with an area of 55.5 thousand hectares. The total of 18 581 administrative decisions were issued (as compared to 15 176 decisions issued in 2017) regarding agricultural property with an area of 50.8 thousand hectares (as compared to 44.4 thousand ha in 2017), of which: 17 152 were positive decisions (land with an area of 43.9 thousand ha), 1136 were decisions to discontinue the proceedings (over 4 thousand ha) and 293 were decisions negative (over 2.9 thousand ha).

The comparison of the GUS and ANR data for the years 1992-2018 shows that average prices of arable land (according to GUS) being the object of private sale transactions are higher than average prices of agricultural land (according to ANR, see Figure A2). The price difference in 2018 amounted to 68% and was partly due to the adopted price calculation methods. Prices of land being the object of private sale transactions are on a steady rise. In 2018 they increased by 7% y/y (in 2017 by 4%). In contrast, the prices of agricultural land sold from the Agricultural Property Stock of the State Treasury have been following a downward trend since 2016 (in 2018 a 15% decline in 2018, a 4% decline in 2017).

On 1 January 2019, perpetual usufruct of land with residential buildings was automatically transformed into ownership.

Owners of apartments and houses may benefit a lot from perpetual usufruct transformation, including thanks to the discount, which amounted to 60% for land owned by the Treasury, and ranged from 10 to 98% for land owned by local government units (depending on the resolution of a commune (*gmina*) council). In order to equalize the discount rates granted for the Treasury-owned land and land owned by local government units the legal regulations were amended. It was regulated that in case the local government adopts a discount in excess of 60% for its land, the discount for State Treasury-owned land in a particular area will be automatically increased so that both discounts are in the same amount. Commune councils should issue certificates on land transformation by the end of the year. The legal regulations prevent the establishment of new perpetual usufruct rights for housing purposes as of 1 January 2019. This means that from that

⁶² The National Agriculture Support Agency (Krajowy Ośrodek Wsparcia Rolnictwa - KOWR until 31.08.2017 – the Agricultural Real Estate Agency (Agencja Nieruchomości Rolnych) performs tasks connected with the management of the real estate included in the Agricultural Property Stock of the State Treasury (Zasób Własności Rolnej Skarbu Państwa (WRSP)).

date, the ownership of a dwelling or a single-family house will automatically entail with the ownership of land.

Sale transactions of land for multi-family housing construction

The data collected in the BaRN database concern sale transactions of land for multi-family housing construction by real estate developers in voivodeship cities. Prices of land varied considerably; in the largest cities the prices of plots of land reached several thousand PLN per square meter (in the city centres for the high standard building construction) while the prices of the former agricultural land on city outskirts stood at PLN 200-300/ sq.m. The absence of the information about planned developments makes it difficult to compare land prices. Factors determining land price include the area of the building to be constructed and the selling price of dwellings. Thus, the square meter of the housing usable area (PUM) to the price of a square meter of land ratio would be the best indicator for comparison. Thanks to detailed information on development projects in the primary market (BaRN database) and the data on land purchase transactions, it was possible to analyse prices of square metre of housing usable area in selected cities.

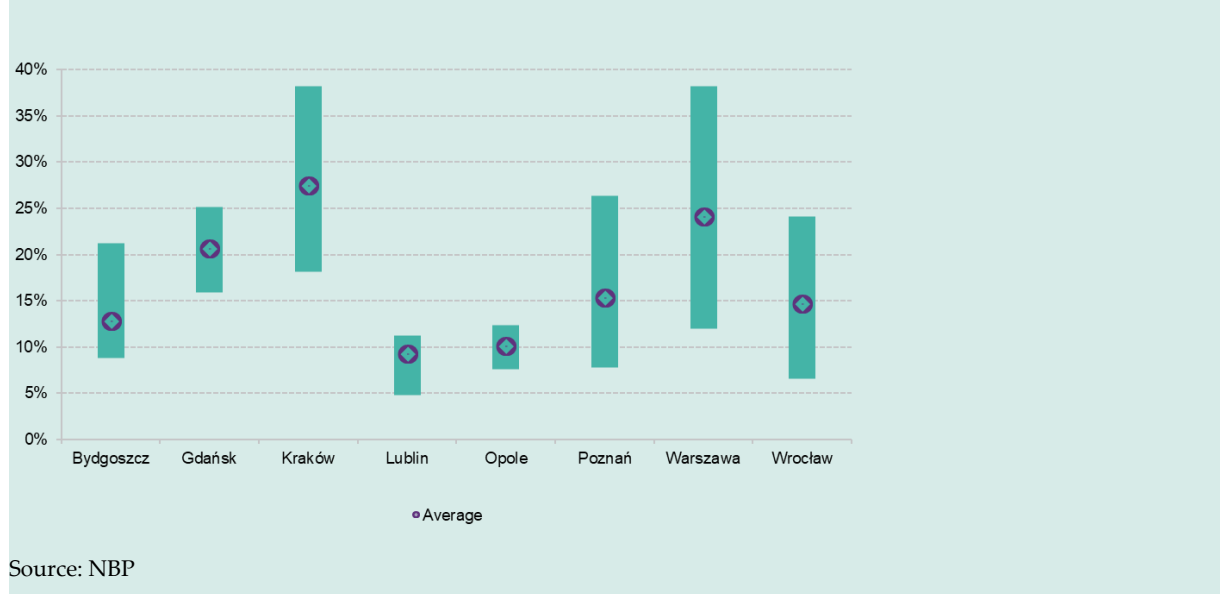
The analysis covered 121 multi-family residential development projects from 11 voivodeship cities put on sale in the years 2017-2018. The average time between the purchase of land and the commencement of sales of the contracts for the construction of dwellings was 4 quarters. The highest transaction prices of land in the analysed development projects were recorded in Warsaw, Kraków and Gdańsk. The average share of land price in the price of square meter of dwelling was 16%, i.e. was close to the 2017 level of 15%.

Table A1 Statistics on the sale transactions of land intended for multi-family housing construction in 2018 in selected cities

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 housing usable area in PLN	Share of land price in the price of housing usable area
Bydgoszcz	537	6 234	768	13%
Gdańsk	1 721	11 596	2 251	21%
Kraków	3 355	8 543	2 482	27%
Lublin	604	5 849	542	9%
Łódź	1 612	6 426	643	10%
Opole	379	4 848	488	10%
Warszawa	3 897	10 893	2 482	24%
Wrocław	624	6 732	974	15%
Poznań	1 605	7 125	1 093	15%
Zielona Góra	269	4 386	178	4%
Szczecin	492	5 375	791	15%

Source: NBP

Figure B3 Share of the price of land in the value of housing in selected cities in development projects put on sale in 2018



Ratio analysis of real estate developers and construction sector⁶³

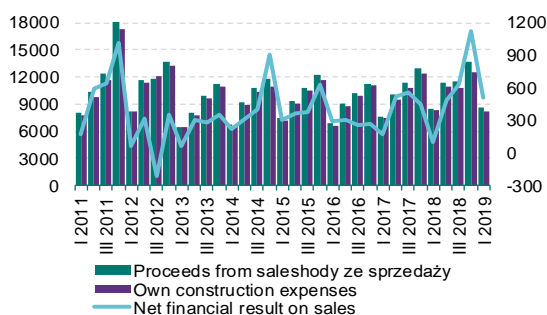
An important information about production capacity of companies operating in the housing market is the analysis of the condition of real estate developers and construction companies involved in building project based on the data presented in the financial statements.

According to the data of the Statistics Poland (GUS), firms (employing more than 49 employees) engaged in the investment and performance of projects and works involving the construction of residential and non-residential buildings (PKD 41) in 2018 generated higher proceeds from sales and own costs of sales than in 2016 and 2017. In 2018 Q1 and Q2, firms reported higher growth of costs than revenues, which resulted in less satisfactory return on sales than a year ago (1.2% and 4.3% in 2018, respectively, as compared to 2.2% and 5.1% in 2017). The analysed group of companies recorded an improvement in basic economic indicators in the second half of 2018, including a significant improvement in net financial result on sales in 2018 Q4 (an increase of 149% as compared to 2017 Q4). This was driven by a rapid rise in housing prices. As a result, the end of 2018 saw one of the highest ROS ratios (8.2%), which was by 4.7 pp higher than the one recorded last year. In 2019 Q1, the upward trend in prices and proceeds from sales continued, which resulted in a 5.8% profitability.

⁶³ The analysis relied on the data from F-01 reports submitted to GUS in the years 2007 - 2018 by firms involved in business activity connected with construction of buildings 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 sixteen real estate developers included in the industry index of WIG-real estate (formerly WIG-real estate developers), whose current activity focuses, 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 and production capacities of contractors, retailers and producers of construction materials in March 2019 and a survey of housing demand in the primary and secondary market in multi-family housing construction, including rental in June 2019.

The structure of real estate developers has remained largely unchanged during the year. In the total number of the analysed companies, the share of enterprises reporting a negative net financial result remained at a similar level (16.5% in 2018 as compared to 16.7% in 2017). In 2019 Q1, as in the corresponding periods of the previous years, due to the seasonality of construction works, the share of enterprises reporting a negative net result reached 29.6% as compared to 33.4% of companies in 2018 Q1.

Figure 4.73 Economic indicators of enterprises in particular quarters of the year (PKD 41)



Source: NBP based on GUS

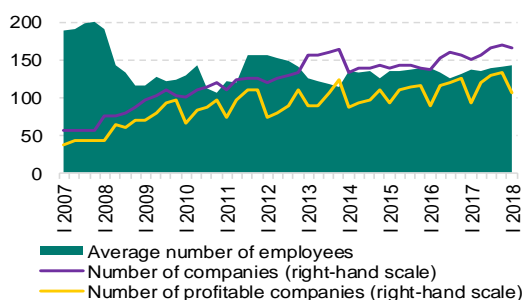
Figure 4.74 Share of enterprises posting net profit/loss in the total number of enterprises (PKD 41) cumulatively in quarters



Source: NBP based on GUS

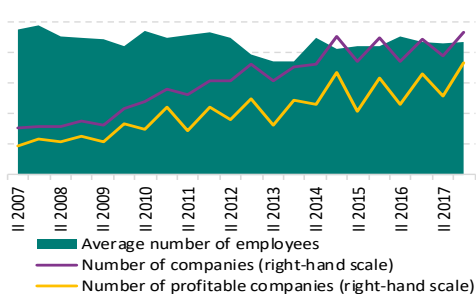
According to the information submitted in the financial statements F-01 to the Statistics Poland (GUS) by companies involved in the construction of buildings (PKD 41.10) broken down into smaller and large companies, large real estate developers continue in robust financial condition whereas smaller firms in the sector have poorer financial condition. In 2018 large developers, accounting for 27% of all the surveyed companies, constituted the majority or developers operating on the market. These companies generated 64.2% of income and 69.6% of net financial result in the sector (in 2017 – 64.2% and 70.0% respectively). At the end of 2018, as compared with the end of 2017, companies involved in the construction of buildings (PKD 41.10) reduced employment by approx. 8%. In 2018, in the group of smaller real estate developers, productivity slightly improved amid similar labour expenses per employee. In the group of large real estate developers, productivity and labour costs per employee were higher than in the group of smaller companies.

Figure 4.75 Number of real estate developers employing more than 49 persons



Source: NBP based on GUS (F-01)

Figure 4.76 Number of real estate developers employing from 9 to 49 persons



Source: NBP based on GUS (F-01)

*/ The number of profitable companies means the number of enterprises reporting a positive net financial result

Based on the financial statements of several real estate developers listed on the WSE with a significant share of domestic production and sale of housing (23 268 concluded contracts in 2018 as compared to 2 7025 dwellings sold in 2017), this group enjoys a stable financial condition, and the level of debt is at a safe level. In 2018, compared to 2017, the average revenues were higher by over 8% and the total costs increased by over 12%, which resulted in a decrease of over 5% of the net financial result. However, the year-on-year return on sales remained at a slightly higher, similar level.

In 2018, the residential real estate market was characterized by a slightly lower, yet still high activity of real estate developers involved in housing contracting and saw a high demand for new dwellings, which resulted in a small supply gap and accelerated growth in housing prices.

In 2018, in relation to 2017, according to reported F-01 accounting entries, the average total value revenues and costs as well as implemented projects and completed dwellings made ready for occupation decreased, amid a slight increase in the average net financial result. This means that real estate developers have reduced the volume of housing production while increasing, at the same time, housing prices. This should be assessed as rational given the high demand and the related market risk, with growing shortages of factors of production.

Return on sales (ROS), equity (ROE) and assets (ROA) indicators in both groups of developers remain at a safe level, seeing an improvement in the group of smaller developers due to the increase in the value of the average net financial result. The profitability of smaller real estate developers is lower than that of large ones. Stronger investment activity is seen in the group of large real estate developers.

The analysis of the F-01 data for the period from January to March 2019 shows signs of recovery in the housing market. In this period, compared to the corresponding period of 2018, the number of dwellings under construction increased by more than 12%, which confirms another wave of recovery in supply. Increasing production, with already fully utilized production capacity, however, creates a number of tensions on the supply side. According to data reported in the financial statements for 2019 Q1, the value of dwellings under construction increased in the group of large developers, after they have developed a cautious approach to new home starts in 2018. Given the accounting standards applied by real estate developers, the rise in the number of companies with a negative result financial is largely the result of a larger number of dwellings under construction. Launches of new development project and problems with the purchase of buildings sites have depleted the land bank. Dwellings on offer include a slightly bigger number of ready-to-live units, but their supply remains low.

In all the analysed groups of real estate developers, the ratio of operating expenses to income generated on sales is at a safe level. This indicator is most favourable in the group of developers listed on the WSE. The group of large developers continues to see its slight improvement, whereas the group of smaller real estate developers see a significant volatility. In 2019 Q1, in the group of large developers the share of outsourced services decreased, while the number of employees and payroll expenses increased, which may confirm the switch to self-production. In the group of smaller real estate developers, the persistently high share of third party services in the second half

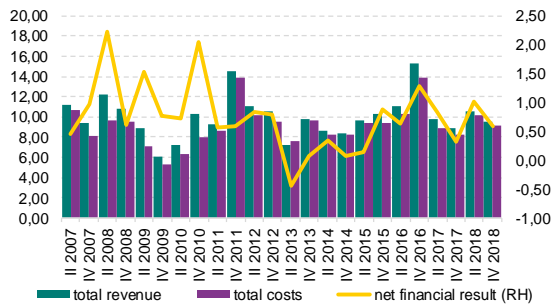
of 2018, with a simultaneous decrease in payroll expenses may suggest that a large part of development projects are implemented by contractors. Their activity in the first half of 2018 was focused on the implementation of previously started projects. After an increase in 2017, land stock got reduced in the first half of 2018, which may indicate problems with the purchase of building sites faced by this group of entrepreneurs.

Equity plays an important role in financing the activities of real estate developers. Among external sources of financing, home buyers' down payments are of the greatest importance for developers listed on the WSE and in the group of large real estate developers. In the structure of liabilities, their share was over 17% in 2018 Q4 in the group of developers listed on the WSE and about 16% in 2019 Q1 in the group of large real estate developers. In both analysed groups, the value of down payments decreased in the last two quarters and liabilities resulting from bank loans increased. The coming quarters may see an increase in down payments when commenced development projects will be at a more advanced stage of construction

In the group of smaller real estate developers, home buyers' down payments play a smaller role, and their share in the structure of liabilities in the second half of 2018 increased slightly - to approx. 10%. In this group, in the first half of 2018, the debt resulting from bank loans decreased. The level of other liabilities remains high (approx. 23% in the structure of liabilities in the second half of 2018), which may confirm delays in settling liabilities to building contractors. In individual quarters of 2018, the debt arising from debt securities increased in the group of real estate developers listed on the WSE. In 2018, low activity of housing developers holding bonds on the Catalyst market continued, with a slight decrease in the average interest rate on bond coupons. In 2019 Q2, compared to 2019 Q1, the number of bond issuers and the average interest rate on coupon bonds slightly increased amid a slight decrease in the value of bonds held by real estate developers. In the group of developers listed on the WSE and in two groups of entrepreneurs analysed based on F-01, the overall debt ratio, the debt-to-equity ratio and the equity to collateral coverage ratio remain at a safe level. This creates appropriate conditions when examining loan applications and secures the funds entrusted by creditors.

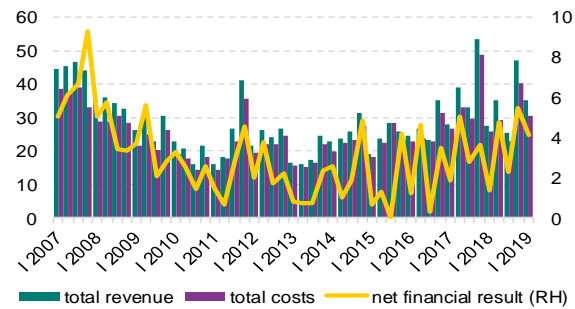
The percentage of companies with an unsatisfactory level of selected indicators shows that the situation in the real estate development sector is somewhat diversified. In 2018, compared to 2017 in the group of large real estate developers, the percentage of enterprises with threatened ability to timely settle liabilities and developers with too high operating expenses increased from 10% to 20% revenues. The percentage of real estate developers whose liquidity was at an unfavourable level increased from 30% to 40%. Nearly half of the large developers continued to face problems with debt collection within a period of up to two months. An improvement was observed in the group of smaller developers. The percentage of companies with negative financial results and negative return on sales and equity ratios decreased from 20% to 10%. Although about half of smaller developers had difficulties with timely collection of receivables, the share of companies paying liabilities falling due after 120 days decreased from 40% to 30%.

Figure 4.77 Economic indicators of real estate developers employing from 9 to 49 persons



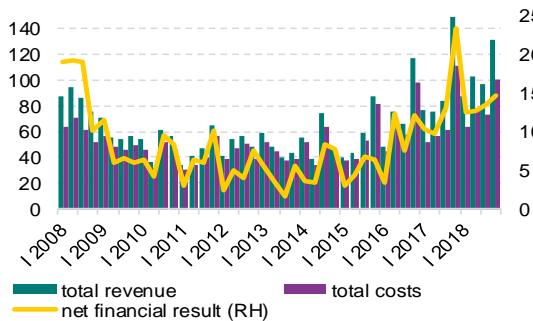
Source: NBP based on GUS (F01)

Figure 4.78 Economic indicators of real estate developers employing over 49 persons



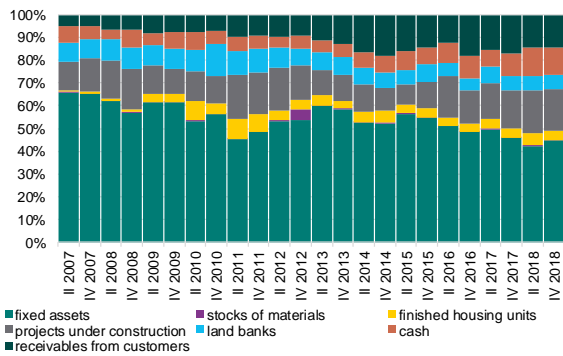
Source: NBP based on GUS (F01)

Figure 4.79 Economic indicators of real estate developers quoted on the WSE



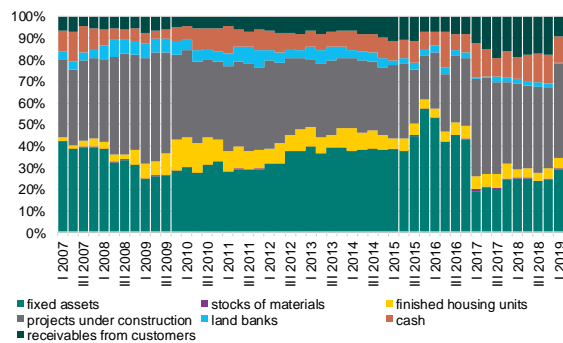
Source: NBP based on Financial Statements

Figure 4.80 Structure of assets of real estate developers employing from 9 to 49 persons



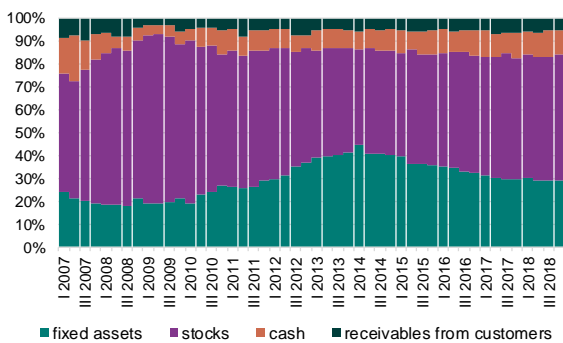
Source: NBP based on GUS (F01)

Figure 4.81 Structure of assets of real estate developers employing more than 49 persons



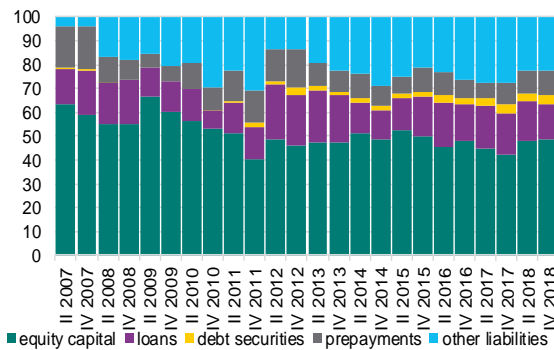
Source: NBP based on GUS (F01)

Figure 4.82 Structure of assets of real estate developers quoted on the WSE



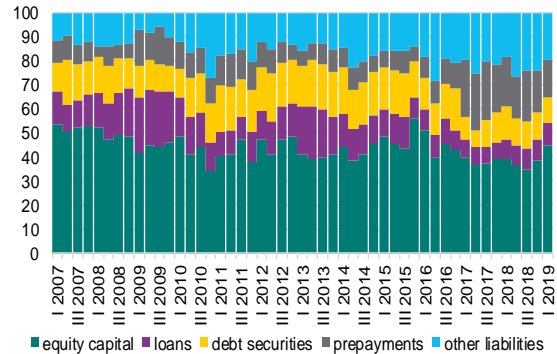
Source: NBP based Financial Statements

Figure 4.83 Structure of liabilities of real estate developers employing from 9 to 49 persons



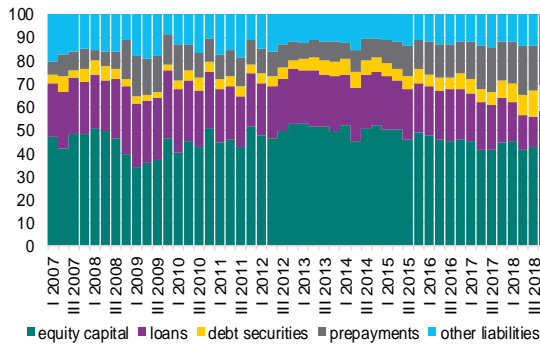
Source: NBP based on GUS (F01)

Figure 4.84 Structure of liabilities of real estate developers employing more than 49 persons



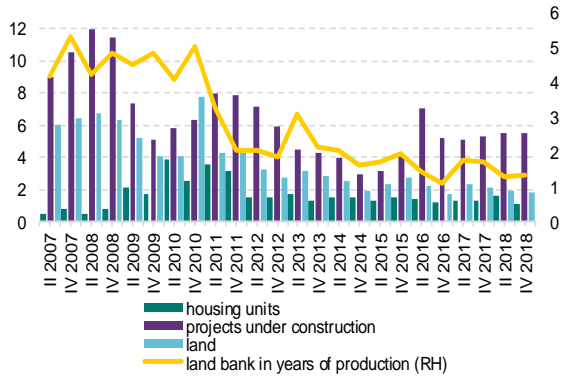
Source: NBP based on Financial Statements

Figure 4.85 Structure of liabilities of real estate developers quoted on the WSE



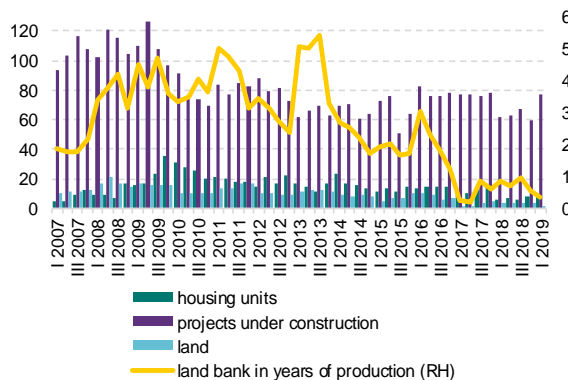
Source: NBP based on Financial Statements

Figure 4.86 Situation of real estate developers employing from 9 to 49 persons



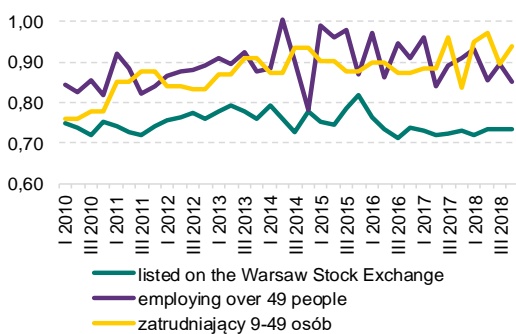
Source: NBP based on GUS (F01)

Figure 4.87 Situation of real estate developers employing more than 49 persons



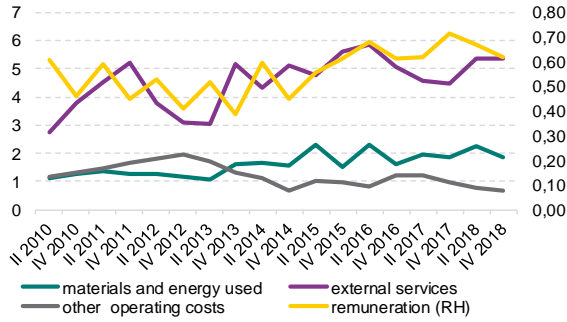
Source: NBP based on GUS (F01)

Figure 4.88 Operating expenses by groups of real estate developers



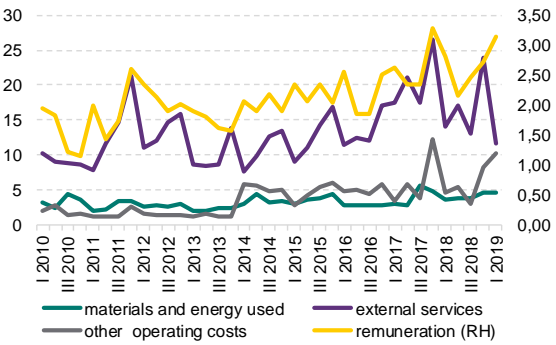
Source: NBP based on GUS (F01) on Financial Statements

Figure 4.89 Operating expenses of real estate developers employing from 9 to 49 persons



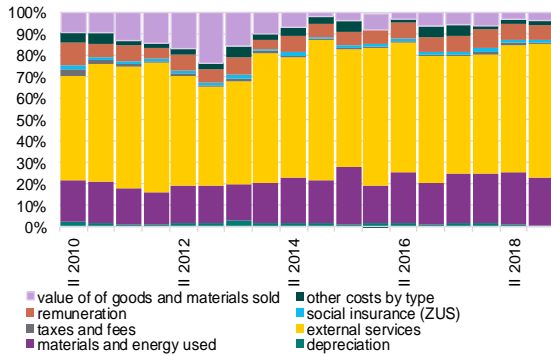
Source: NBP based on GUS (F01)

Figure 4.90 Operating expenses of real estate developers employing more than 49 persons



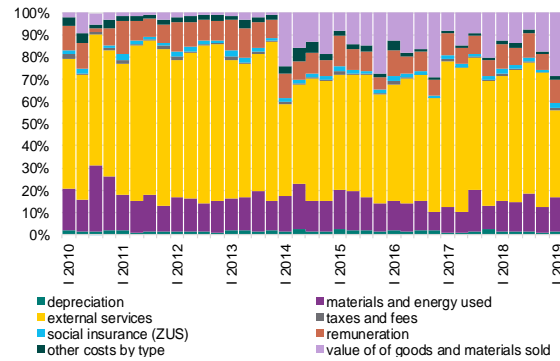
Source: NBP based on GUS (F01)

Figure 4.91 Structure of operating expenses of real estate developers employing from 9 to 49 persons



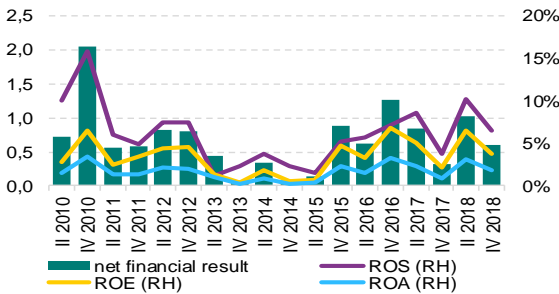
Source: NBP based on GUS (F01) and on Financial Statements

Figure 4.92 Structure of operating expenses of real estate developers employing more than 49 persons



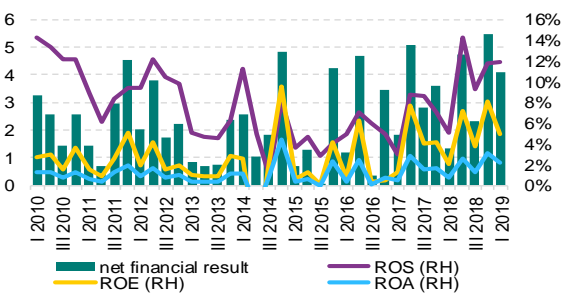
Source: NBP based on GUS (F01) and on Financial Statements

Figure 4.93 Profitability of operations of real estate developers employing from 9 to 49 persons



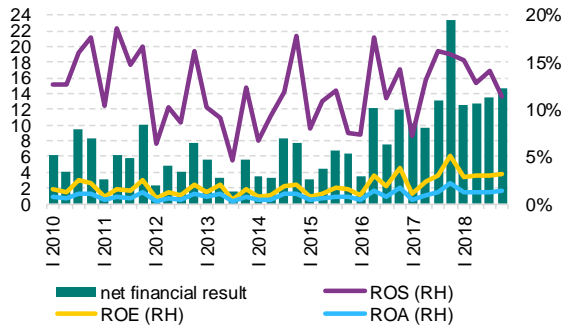
Source: NBP based on GUS (F01)

Figure 4.94 Profitability of operations of real estate developers employing more than 49 persons



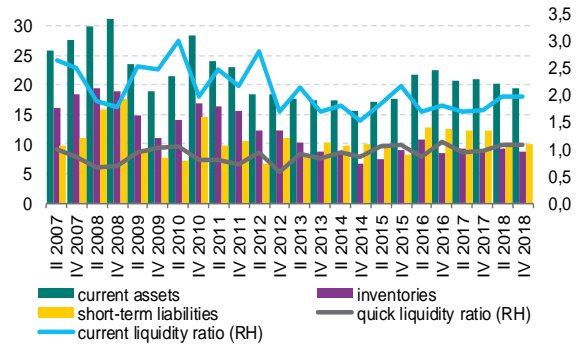
Source: NBP based on GUS (F01)

Figure 4.95 Profitability of operations of real estate developers quoted on the WSE



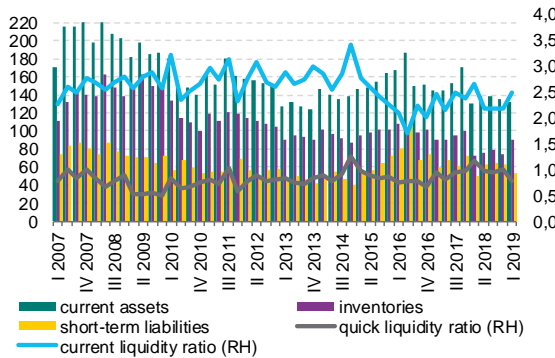
Source: NBP based Financial Statements

Figure 4.96 Liquidity ratios of real estate developers employing from 9 to 49 persons



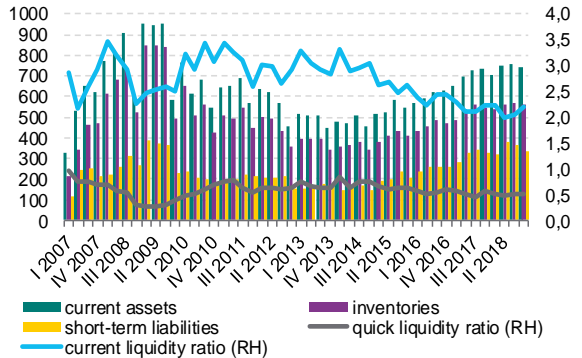
Source: NBP based on GUS (F01)

Figure 4.97 Liquidity ratios of real estate developers employing more than 49 persons



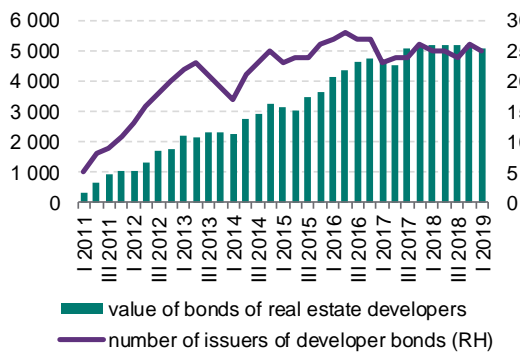
Source: NBP based on GUS (F01)

Figure 4.98 Liquidity ratios of real estate developers quoted on the WSE



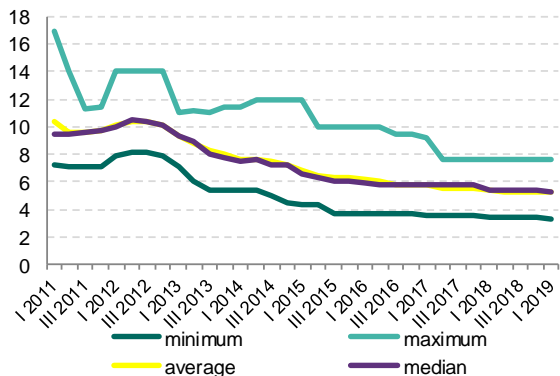
Source: NBP based on Financial Statements

Figure 4.99 Value of real estate developers' bonds and the number of issuers of real estate developers' bonds on the Catalyst market



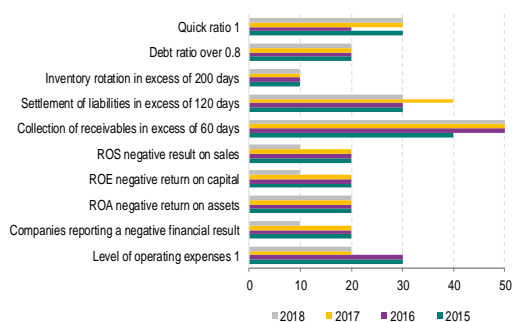
Source: NBP based on Catalyst data

Figure 4.100 Interest rate on bond coupons of real estate developers listed on the Catalyst market



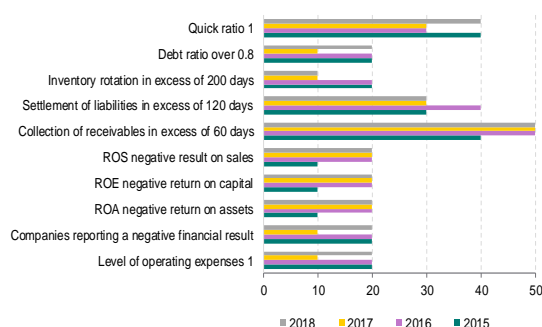
Source: NBP based on Catalyst data

Figure 4.101 Percentage of real estate developers employing from 9 to 49 persons reporting an unsatisfactory level of selected indicators



Source: NBP based on GUS (F01)

Figure 4.102 Percentage of real estate developers employing more than 49 persons reporting an unsatisfactory level of selected indicators



Source: NBP based on GUS (F01)

In order to get more in-dept information on the economic situation of companies operating on the supply side in the residential real estate sector, the authors carried out a financial analysis of companies dealing with building construction. The entries in F-01 reports submitted to Statistics Poland (GUS) – Polish classification of business activities: PKD 41.20 - construction works related to the construction of residential and non-residential buildings) confirm the weaker but stable situation of large construction companies in 2018 and an improvement of the situation of smaller companies. The average value of financial results as well as total revenues and expenses increased, which may confirm the growing number of executed contracts and improvement of their profitability.

Profitability was at a safe level, however the net margin of large companies was much lower than that of smaller companies, despite the fact that it has improved in year-on-year terms. Financial liquidity remains at a low, yet safe level, which means that companies are able to timely pay their current liabilities. 2019 Q saw an improvement in the financial standing of large construction companies. Slightly higher growth in revenues than expenses, which is associated with rising prices of constructed dwellings allowed to achieve a higher financial result than in 2018 Q1.

A characteristic feature of the entire construction sector is the persistent and high share of companies' getting financing from their liabilities to contractors. In 2018 in the group of smaller construction companies payment bottlenecks slightly diminished, which is indicated in a slight decrease in accounts payable to contractors and subcontractors amid a slight decrease in receivables, despite markedly higher turnover.

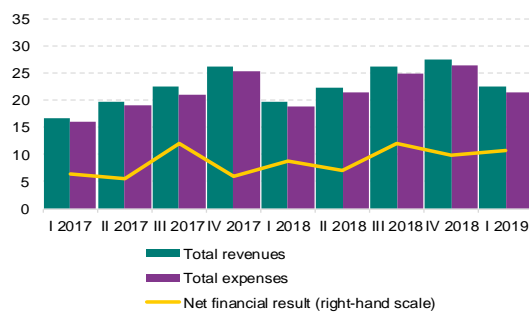
As regards external sources of financing, in the group of large companies, the value of debt resulting from bank loans has followed a slight upward trend since 2017, yet its share in the structure of liabilities of both groups of companies is similar (at the end of 2019 Q1 it amounted to 12% in the group of large construction companies and to 13% in the group of smaller construction companies).

Equity continues to be the basic source of financing, whose share in both groups of companies is high and slightly increased from 48% to 52% in 2019 Q1 in the group of large companies and from

59% to 60% in the second half of 2018 in the group of smaller companies as compared to the previous periods. Thanks to the implemented regulations, capital is now better protected.

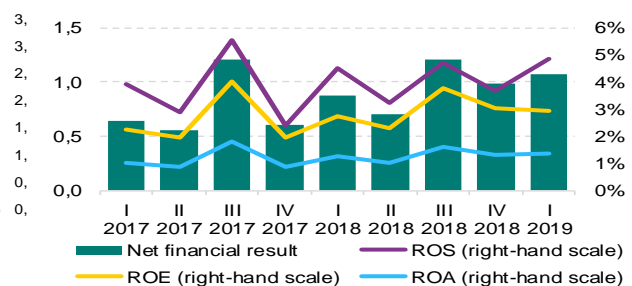
The high activity of companies in building construction is confirmed by the growing nominal value and growing share in the structure of production assets in progress. In 2018, the structure of operating expenses of medium and large construction companies did not change significantly. The share of external services prevailed in both groups (58% in the group of large companies at the end of 2019 Q1 and 54% in the group of smaller entities at the end of 2018). The remainder are expenses incurred directly by the analysed construction companies, more than one fourth of which concerns consumption of materials and electricity.

Figure 4.103 Economic indicators of construction companies employing more than 49 persons



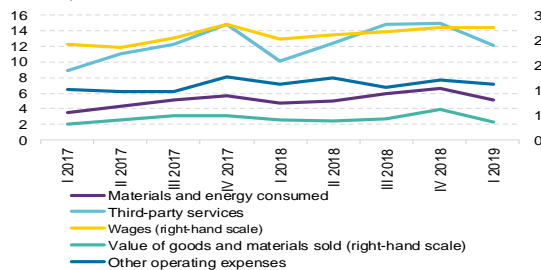
Source: NBP based on GUS (F01)

Figure 4.104 Profitability of operations of construction companies employing more than 49 persons



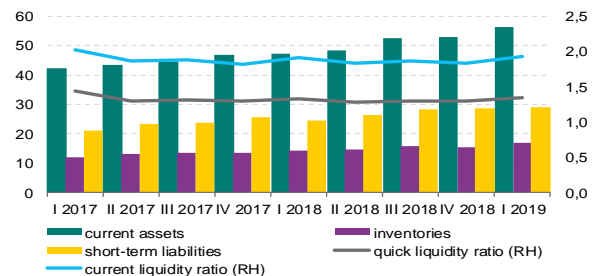
Source: NBP based on GUS (F01)

Figure 4.105 Operating expenses of construction companies employing more than 49 persons (PLN million)



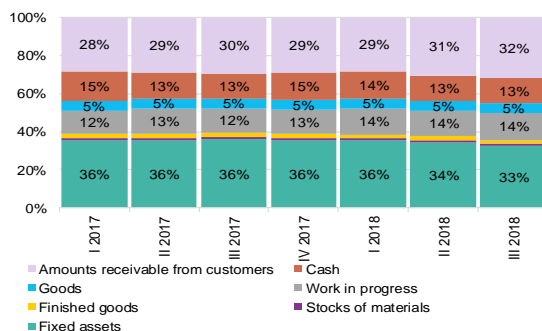
Source: NBP based on GUS (F01)

Figure 4.106 Liquidity ratios of construction companies employing more than 49 persons



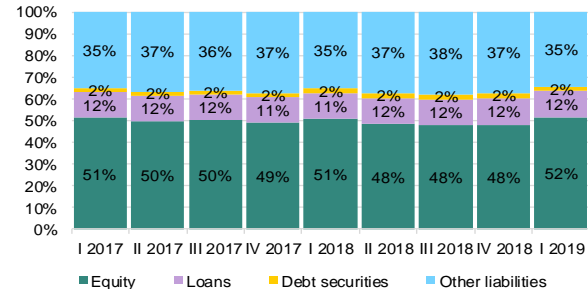
Source: NBP based on GUS (F01)

Figure 4.107 Structure of assets of construction companies employing more than 49 persons



Source: NBP based on GUS (F01)

Figure 4.108 Structure of liabilities of construction companies employing more than 49 persons



Source: NBP based on GUS (F01)

5. Analysis of other factors concerning demand and supply of housing

The currently observed tensions in the residential and commercial real estate markets require a broader view of the risk resulting from business cycles. Such an analysis should take into account both a closer look at entities operating in the industry (such as banks, real estate developers, construction companies, investors and consumers or tenants) as well as the macroeconomic environment. In the latter case, it is important to analyse the importance of the real estate sector for the economy, as well as the possible cumulative risk associated with this industry with other industries. The main cause of tensions - excessive demand in relation to the capabilities of the construction sector - is a consequence of the overlapping impact of monetary and fiscal policy in Poland and in the euro area. Demand for commercial real estate, accounting for approx. 51% of construction demand, is the result of the ECB's monetary policy subsidising the euro area economy through very low interest rates. Housing demand in Poland is largely the result of the impact of domestic low interest rates. The fiscal impact is additionally associated with the accumulation of infrastructure projects financed, in vast majority, with EU funds. As a consequence of the accumulating excessive demand in the real estate sector, execution costs are rising, which will eventually become a factor limiting demand in the three discussed markets.

According to the data of the Polskie Składy Budowlane Group, the prices of construction materials in the period January - April 2019 posted a rise in year-on-year terms in all product groups. The largest increase in prices concerned the following groups: walls, chimneys (+ 18.2%), cement, lime (+ 9.3%), home surroundings (+ 5.9%), OSB boards (+ 5.5%), waterproofing insulation (+ 5.2%), paints, varnishes (+ 4.4%), roofs, gutters (+ 4.1%), construction chemicals (+ 4.0%), dry construction (+ 4.0%)⁶⁴. The largest scale of investment and the relatively lowest rates of return in the infrastructure sector will cause this sector to face the biggest problems with satisfying the demand. This will translate into incomplete execution or prolonged execution of infrastructure development projects in the coming years.

The analysis of the entries in the F-01 reports submitted to the Statistics Poland (GUS) indicates a good overall situation of wholesalers⁶⁵ and producers of building materials⁶⁶ as well as

⁶⁴ Information on changes in the prices of construction materials was based on the report "Change in the prices of materials for construction, house and garden in April 2019 – PSB analysis" („Zmiana cen materiałów dla budownictwa oraz domu i ogrodu w kwietniu 2019 r. – analiza PSB”, Grupa PSB Handel S.A., May 2019).

⁶⁵ Calculations and conclusions were based on the data resulting from F01 reports submitted to the Statistics Poland (GUS) divided into two groups of companies: employing from 9 to 49 persons, data available until 2018 Q4 and employing more than 49 persons, data available until 2019 Q1 that are agents involved in the sale of wood and building materials (PKD 4613) and deal with the wholesale of building materials and sanitary equipment (PKD 4673).

⁶⁶ Calculations and conclusions were based on the data resulting from F01 reports submitted to the submitted to the Statistics Poland (GUS) divided into two groups of companies employing from 9 to 49 persons (data available until the second half of 2018) and employing more than 49 persons (data available until 2019 Q1) that are involved in the production of building materials (PKD 1623, 2223, 2320, 2332, 2351, 2352, 2361, 2362, 2363, 2364).

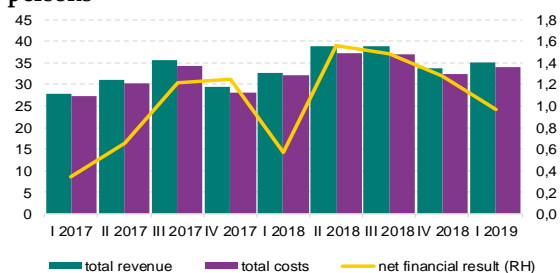
profitability of conducted activities. In 2019 Q1, compared to the same quarter a year ago, the financial situation of large companies in the construction materials industry improved.

The group of large wholesalers (employing more than 49 persons) in 2018 and in 2019 Q1, compared to the same periods a year before, recorded an increase in revenues and expenses amid a considerably higher increase in the financial result, which corroborates the persisting demand for construction materials and increased profitability of intermediation in the sale of construction materials. In 2019 Q1, compared to 2018 Q1, revenues were higher by 8%, total expenses by 6%, and the financial result by 69%. In the group of smaller wholesalers, in the second half of 2018 as compared to the second half of 2017, the increase in total revenues and expenses was lower. Despite the higher growth in expenses, the average financial result per company in this group posted a 10% increase. The return on sales ratio in the group of large warehouses involved in the trade of construction materials recorded in 2019 Q1 was higher than in the corresponding periods of 2017 and 2016, which indicates an improvement in their performance.

Manufacturers of building materials closed the 2018 financial year with a higher level of sales and a net financial result than a year ago. The average value of the financial result per company increased by approx. 23% in the case of large producers and by approx. 31% in the group of smaller ones. In 2019 Q1, compared to the corresponding period in 2018, lower cost growth and high demand for building materials allowed to generate higher margins. In both groups, the high and growing level of accounts payable to raw material suppliers and subcontractors, combined with the high level of unpaid receivables from customers and growing operating expenses, confirms the persistent difficulties with timely settlement of accounts, which is a typical sign of a strong acceleration of production.

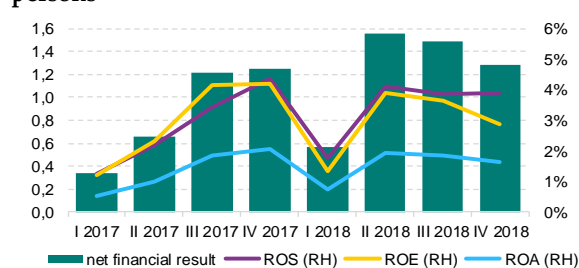
A characteristic feature of the entire construction sector is the persistent and high share of financing from liabilities. This is confirmed by both the reported financial data and interviews with sector representatives. Since this is a common phenomenon, it is difficult to clearly identify its sources. One of the reasons may be payment delays of the real estate development sector, which, unlike European companies, resorts to bank financing of the housing project implementation to a small extent. World experience shows that this is not a problem in the times of robust economic situation, but the economic downturn may bring the so-called “snowball” phenomenon, i.e. non-linear processes that ruin the sector.

Figure 5.1 Economic indicators of construction materials distributors employing more than 49 persons



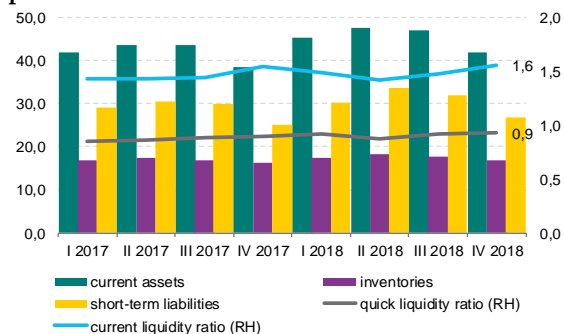
Source: NBP based on GUS (F01)

Figure 5.2 Profitability of operations of construction materials distributors employing more than 49 persons



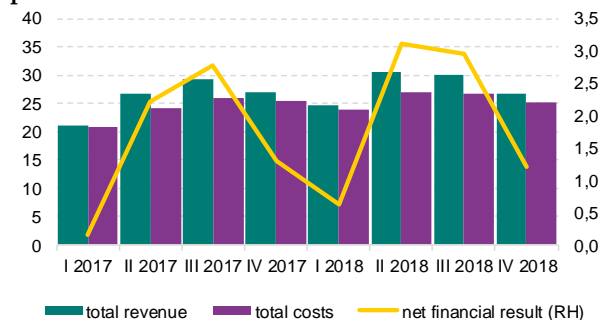
Source: NBP based on GUS (F01)

Figure 5.3 Liquidity indicators of construction materials distributors employing more than 49 persons



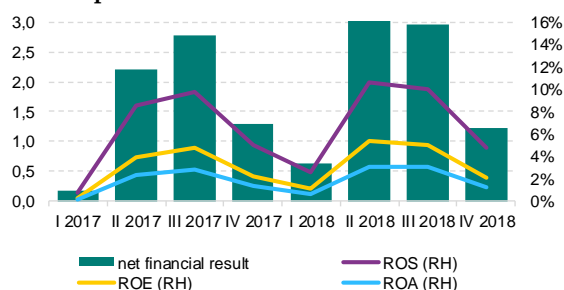
Source: NBP based on GUS (F01)

Figure 5.4 Economic indicators of construction materials distributors employing more than 49 persons



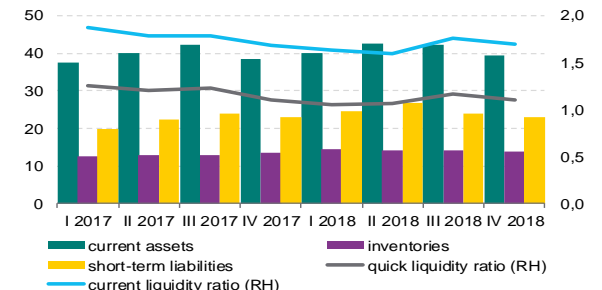
Source: NBP based on GUS (F01)

Figure 5.5 Profitability of operations of construction materials producers employing more than 49 persons



Source: NBP based on GUS (F01)

Figure 5.6 Liquidity indicators of construction materials producers employing more than 49 persons



Source: NBP based on GUS (F01)

Real estate developers' sector based on NBP surveys

From the point of view of the residential sector, the condition of all companies involved in the supply chain for real estate developers, which decides about the flexibility of supply, i.e. the production of dwellings, is of key microeconomic importance. Excessive demand and resulting tensions, especially related to payments, often translate into problems faced by wholesalers and producers of building materials. If accumulated, these problems may impede production.

According to the survey data collected in 2019 Q1⁶⁷ the demand for housing in Poland was slightly in excess of the supply of dwellings in the primary market. A slight excess of demand is the result

⁶⁷ In March 2019, sixteen voivodeship cities conducted a survey of supply with elements of demand in the primary market of apartments in multi-family residential buildings. Due to the dynamically changing situation in the residential real estate market and the persistently high level of home sales, information and conclusions from the previous survey of supply were updated to account for the persisting problems faced by real estate developers. The data was supplemented with information collected during interviews with developers engaged in residential contracting business all over Poland. The survey updated the information on the structure of home buyers, the scale and motivation for home purchases in the primary market and the sources of home purchase financing. As regards the structure of the surveyed respondents, there was a high concentration of developers in terms of the level of annual home sales, in line with their structure in the sector. Approx. 7% of the largest real estate developers accounted for nearly half of the sales (48%) - their sales in 2018 exceeded 500 dwellings. The smallest real estate developers whose sales in 2017 did not exceed 100 dwellings accounted for 62% of respondents with a 15% share in the total number of dwellings sold.

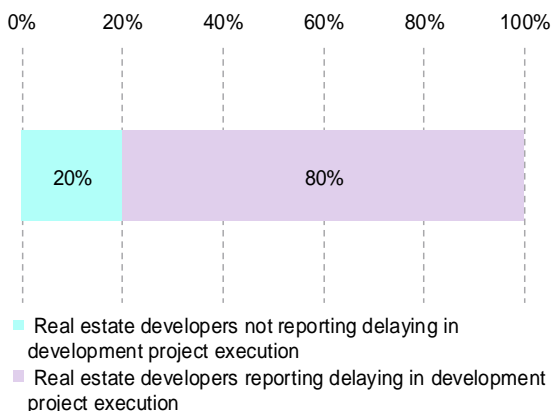
of production difficulties and the cautious approach of real estate developers in launching new development projects in fear of a reversal in demand. Developers do not expect any significant collapse in supply in the next two years, despite problems faced by building contractors. This is demonstrated by the high production in progress in 2019 Q1 which increased as compared to the corresponding quarter a year ago by approx. 24% and to the previous quarter by approx. 29%, mainly due to the large number of new home construction starts. The vast majority of dwellings are sold at the initial stage of the development process. Completed dwellings ready for occupancy accounted for a mere 9% of the developers' offer. Amid such high construction output, the main risk is borne by developers who, in the event of a collapse in demand, will be left with unsold dwellings and commenced development projects, as well as construction companies that commit significant amount of capital in contracting works. Capital commitment in development projects is currently higher than in the previous business cycle. In order to limit the risk and maintain the margin, some developers increased prices and reduced the scale of development projects. The key factors that could have a significant impact on reducing the scale of housing production included rising prices of services provided by contractors, growing prices of construction materials, difficulties in finding contractors, difficulties in obtaining administrative decisions, limited access to building land and shortage of employees. These are typical problems which affect the sector in the case of a rapid increase in demand. According to respondents, due to problems faced by building contractors, the project completion was delayed by an average of 4 months in 2019 Q1, and 22% of real estate developers gave up the launch of new projects in the second half of 2018. In 2017, the cost of construction of a residential building increased by 3.9%, in 2018 by 10%, and in 2019 Q1 by 2%. The high level of production as well as price and quality problems encountered when purchasing construction land have depleted the land supply (increase in prices by 24% in the second half of 2018 in the case of land in very good locations and by 14% in the case of land in poorer location). Most of the surveyed developers (64%) assessed sales profitability in 2018 as satisfactory, 34% of the surveyed assessed margins as less satisfactory or positive, and 2% of the surveyed developers reported losses. The gross margin on housing development projects in the middle segment was in the range of 15% -20%, and in the upper segment 25% -30%. Housing development projects with an assumed margin of less than 15% create difficulties in obtaining bank loans and in opening an open escrow account. When forecasting sales profitability for 2019, 40% of developers do not expect significant any changes, 36% expect small or significant increase in profitability, and approx. 24% anticipate a small or significant fall in profitability.

Table 1 Dwellings which may be built by the surveyed real estate developers on their own land bank in the years 2019-2021 and in subsequent years

Years	Dwellings to be built on the entire held land bank	Dwellings to be built on the held land bank with local area development plan (MPZP)	Share of dwellings with local area development plan (MPZP)
2019	25 793	16 189	63%
2020	29 588	18 589	63%
2021 and subsequent years	56 744	33 077	58%

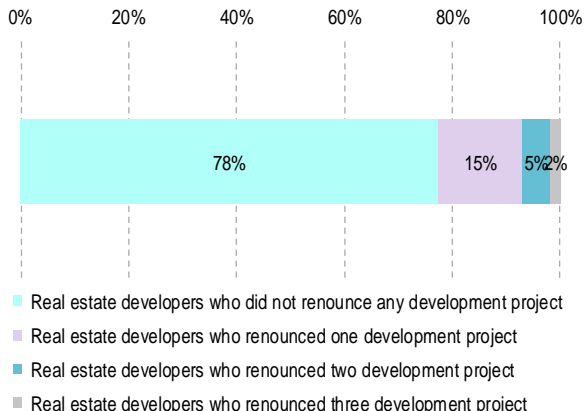
Source: NBP based on surveys

Figure 5.7 The structure of answers to the question whether the real estate developers are affected by delays in the execution of development project (in %)



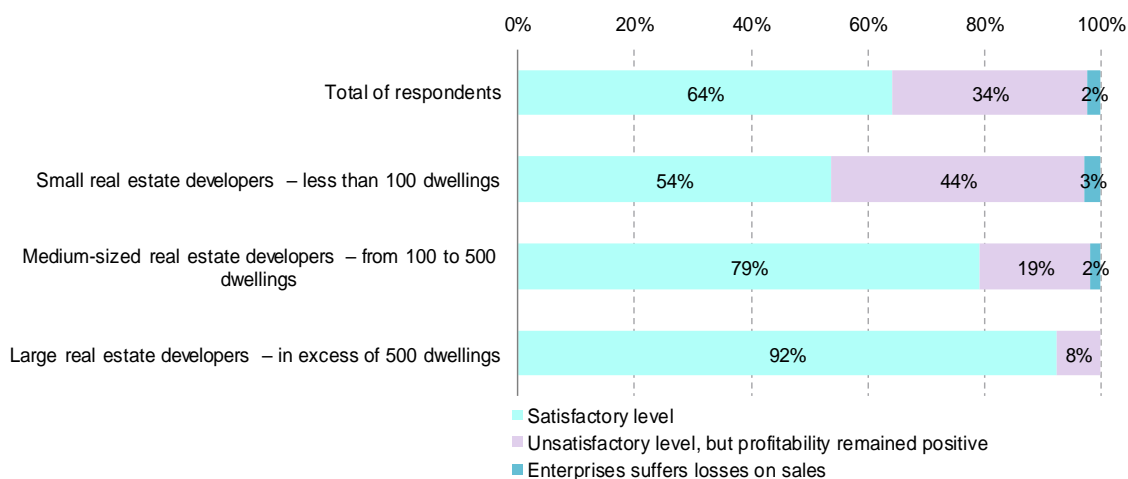
Source: NBP based on surveys

Figure 5.8 The structure of answers to the question how many residential development projects were given up by the real estate developer (in %)



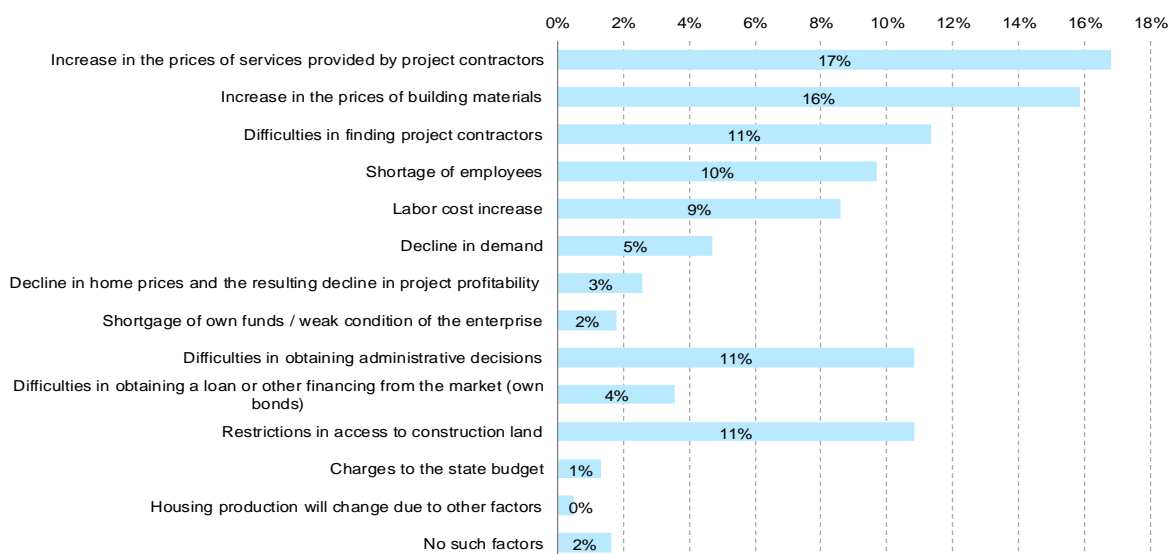
Source: NBP based on surveys

Figure 5.9 Assessment of sales profitability (net result) achieved by real estate developers in 2018



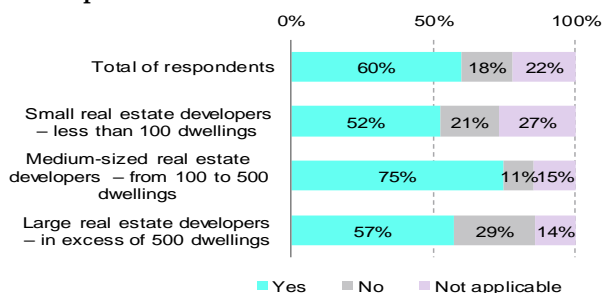
Source: NBP based on surveys

Figure 5.10 Factors which, in real estate developers' opinion, may have a key impact on the reduction of the number of dwellings or residential development projects that the developer would like to complete in 2019 (in %)



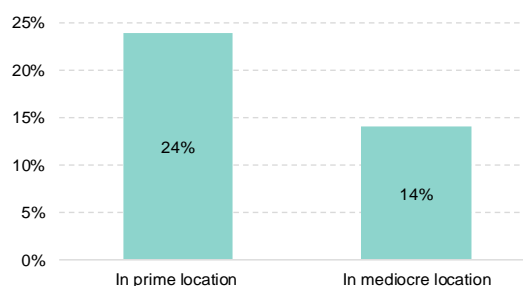
Source: NBP based on surveys

Figure 5.11 The structure of answers to the question whether, in the opinion of real estate developers, the second half of 2018 saw bigger problems with the purchase of land for multi-family housing construction as compared with the first half of 2018 (in %)



Source: NBP based on surveys

Figure 5.12 The structure of answers to the question how much net prices of land for multi-family residential construction have changed on average in the second half of 2018 as compared to the first half of 2018 (in %)



Source: NBP based on surveys

Construction sector based on NBP surveys

In order to provide more information on the problems faced by building contractors involved in residential projects in multi-family housing construction, in March 2019 NBP conducted a survey of the economic situation and production capacity of construction companies involved, among others, in residential construction⁶⁸.

⁶⁸ The total of 168 companies involved in construction works in Poland participated in the survey. The majority of the respondents were companies engaged in construction works involving residential and non-residential buildings (PKD 4120).

The Statistics Poland (GUS) data and information collected during the survey and interviews confirmed the persistently robust economic situation on the housing market, which was reflected in a several percent increase in the number of dwellings completed and the number of dwellings whose construction started in 2018 and in 2019 Q1. Growing tensions and related risks are mainly seen in the real estate development and construction sectors, which are the result of excessive demand in relation to the available resources. They translate into an accelerated increase in construction production costs and housing prices.

The information obtained during interviews shows diverse situation of construction companies involved in building construction in Poland. Smaller, more specialised companies feature greater flexibility and achieve higher profitability on contracts. Larger construction companies face more financial problems.

According to the survey data, the current economic situation of most construction companies (68%) was good and about 22% described their situation as poor. Over 3% of the surveyed companies believe that despite their poor financial situation, there are prospects for economic improvement and chances to remain in business. According to the forecasts of the majority of construction companies (79%), their situation will not change significantly in 2019, and according to 18% their economic situation will improve. Only a few companies expect their economic situation to worsen in 2019.

Given the adopted prudent pricing policy when concluding contracts, the condition of companies involved in various types of construction work may be expected to see a slow improvement.

As a result of too low budgets proposed by investors in 2018, contracting works were often abandoned. The difference between the budget offered by the investor and assumed by the contractor ranged from 15% to 20%, and even 40%. Enterprises that completed the contracts involving housing construction in 2018 recorded a ca. 14% higher expenses than previously assumed. Companies only decide on profitable contracts, giving up orders with an underestimated budget. This is possible as the market sees strong competition among real estate developers looking for contractors. The highest sectoral profitability of housing development projects and high profitability of office and logistics projects puts infrastructure projects implemented by public investors at a disadvantage. More than half of construction companies achieved a positive but unsatisfactory level of profitability on contracts completed in 2018, 21% of them achieved a satisfactory level of profitability and approx. 11% suffered losses. A slight boost in optimism is visible in the assessment of the profitability of contracts that will be completed in 2019 (44% of respondents expect a slight increase in profitability, and only 3% a significant increase). According to 31% of respondents, profitability will remain at a level similar to that recorded in 2018. It follows from interviews that construction companies may be expected to undertake more intense activities to improve their financial results, which will be supported by the situation in these markets. This means a further increase in expenses and a related rise in real estate prices.

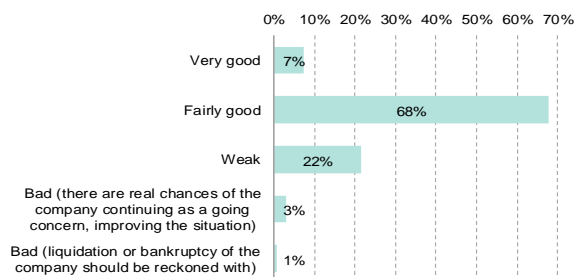
The respondents reported changes in the factors of production. Construction costs (prices of construction materials and prices of services provided by subcontractors) have been on a rise since 2017. The continuing high level of production, with already fully utilised capacity (in 95%),

generates labour tensions, however, the shortage of employees in 2019 should not be as severe as in 2018. According to the companies, the rise in wages, which becomes a factor behind rising expenses, is the aspect that effectively regulates the labour market. From a macroeconomic point of view, such a policy will bring a further increase in the costs and prices of works and building materials.

In 2018, 40% of respondents faced liquidity problems, half had difficulties with timely settlement of non-bank liabilities. This problem was observed in all branches, which is related to the specific natures of the sector, which is characterized by strong interdependencies.

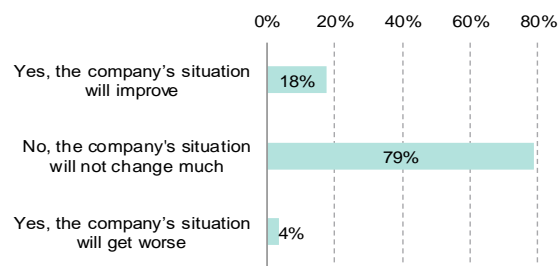
In their 2019 forecasts, most construction companies do not expect changes in financial liquidity, a large part expect their liquidity to improve, and a small percentage fear their liquidity might deteriorate. As regards non-bank and bank liabilities, most companies do not expect significant changes in 2019.

Figure 5.13 Assessment of the economic situation of construction companies at the end of February 2019 (in %)



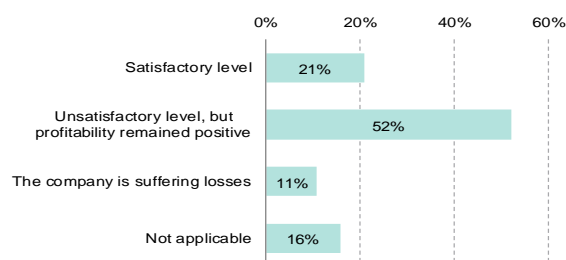
Source: NBP based on surveys

Figure 5.14 Forecasts of changes in the economic situation of construction companies in 2019 (in %)



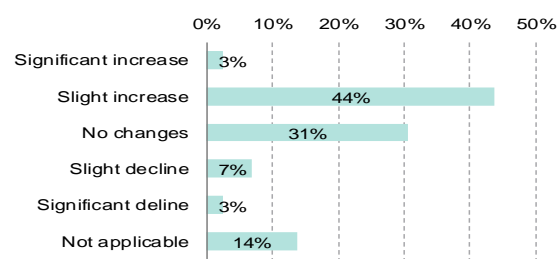
Source: NBP based on surveys

Figure 5.15 Profitability of residential construction contracts completed in 2018 (in %)



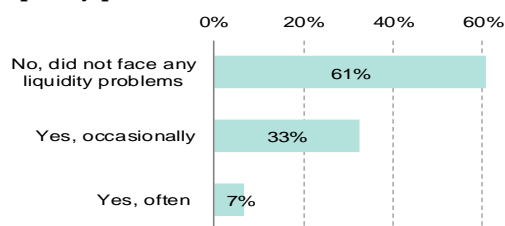
Source: NBP based on surveys

Figure 5.16 Forecasts of changes in the profitability of residential construction contracts to be executed in 2019 (%)



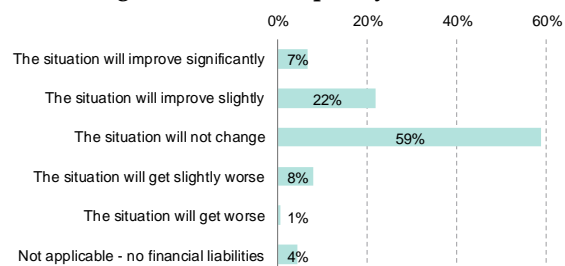
Source: NBP based on surveys

Figure 5.17 The structure of answers to the question whether in 2018 the construction company faced liquidity problems (in %)



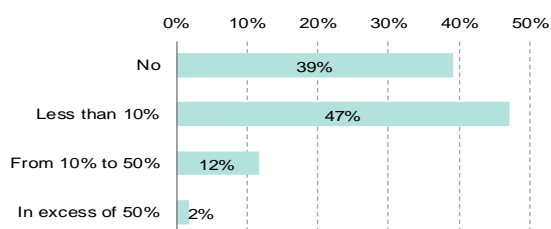
Source: NBP based on surveys

Figure 5.18 The structure of answers to the question whether the construction company expects significant changes in financial liquidity in 2019 (in %)



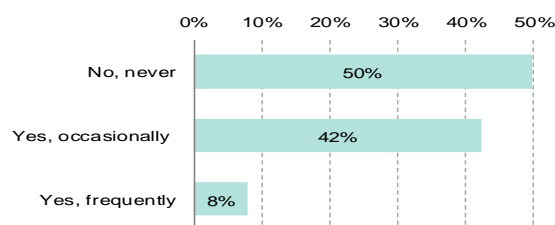
Source: NBP based on surveys

Figure 5.19 The structure of answers to the question about the share of outstanding receivables resulting from provided construction services in the total receivables resulting from provided services as at the end of 2018 (in %)



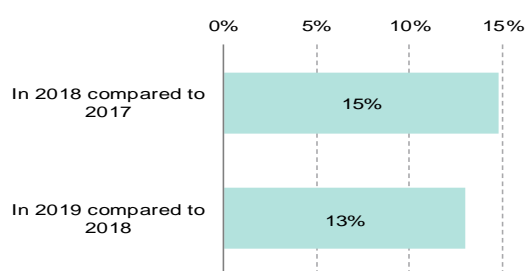
Source: NBP based on surveys

Figure 5.20 The structure of answers to the question whether the construction company experienced problems with timely settlement of non-banking liabilities in 2018 (in %)



Source: NBP based on surveys

Figure 5.21 Changes in prices of construction services provided by companies in residential construction (in %)



Source: NBP based on surveys

6. Developments in the income generating real estate market – commercial and residential real estate for rental (buy to let) in Poland in 2018

The income-generating real estate market consists of commercial and residential properties for rent. So far, the Report has focused on commercial real estate, however, since the scale of rental dwellings bought by both private individuals and enterprises is beginning to grow, this segment has been included in the analysis of income-producing real estate. In order to systematize the real estate market, the break down proposed by Lo Duca and Peltonen (2018) may be relied upon⁶⁹. The market can be divided into residential and commercial real estate, with the spectrum ranging from privately-owned dwellings to commercial real estate bought by companies for their own use. The market also encompasses dwellings bought by private individuals for rent and dwellings purchased by enterprises. In previous editions of the Report, we focused on commercial real estate for rent. This Report addresses dwellings purchased by private individuals for the first time. They are discussed in detail in section 5.3. On the other hand, Box C presents the method of calculating the capitalization rate and the rate of return on a residential investment made by a private individual.

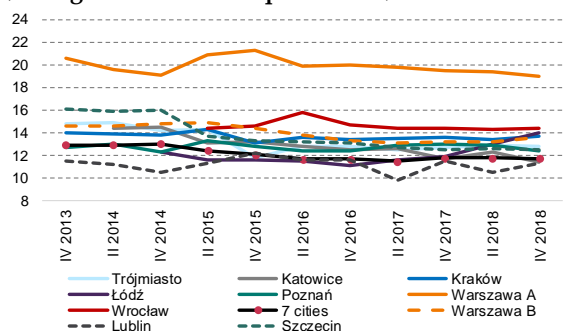
6.1 Transaction rents in commercial real estate⁷⁰

Rents in A-class office buildings, which are generally quoted in EUR, fell slightly in Warsaw, and remained stable in other large cities and in seven smaller cities. The highest monthly rents in this class of office space are recorded in Warsaw, where they ranged from 19 to 20 EUR/sq.m./ month. In the remaining eight large cities and seven other smaller voivodeship cities they ranged from 12 to 14 EUR/sq.m./ month. In Warsaw and in most major markets, rents for B-class office buildings, quoted in EUR, showed a slight increase. In the remaining seven smaller cities they remained stable. It should be noted that the rents for B-class office buildings in Warsaw were at a similar level as the rents for A-class buildings in 6 large cities.

⁶⁹ Marco Lo Duca and Tuomas Peltonen (2018) Macroprudential Policy Implementation in Europe. Session 5: Macroprudential analysis of the real estate sector. ESRB. 17-19 October 2018.

⁷⁰ The analysis of rents is based on BaNK base kept by NBP; quotations are made once half-a-year.

Figure 6.1 Transaction rents for A class office space (average rents in EUR/sq.m./month)

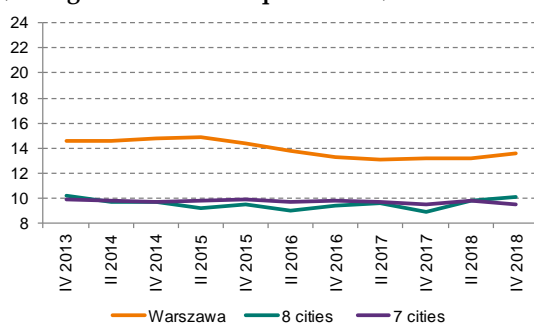


Note: A – A class office buildings, B – B class office building. Buildings classification in accordance with the standards of BOMA International.

7 cities include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra.

Source: NBP

Figure 6.2 Transaction rents for B class office space (average rents in EUR/sq.m./month)



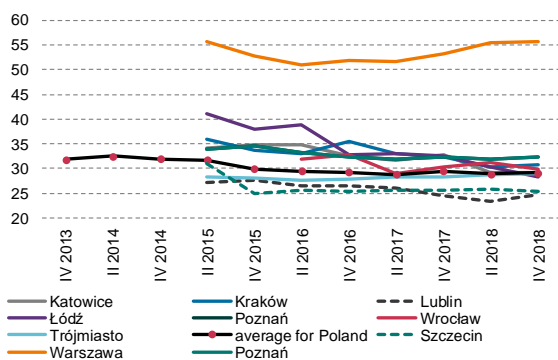
Note: 8 cities include: Katowice, Kraków, Łódź, Poznań, Szczecin, Trójmiasto, Wrocław.

7 cities include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra.

Source: NBP

The retail space in shopping centres saw a general stabilization of rents whereas the Warsaw market saw a slight increase in rents. This may suggest strong demand for commercial space in shopping centres located in Warsaw and may be due to the growing purchasing power of persons living in Warsaw and visiting it.

Figure 6.3 Transaction rents for retail space rental in shopping centres (shopping malls) with an area of 100-500 sq.m. (EUR/sq.m./month)



Note: since 2015 Q4 the number of records in the database, including the respondents, has increased considerably which changed the analysed sample. The analysis covers transaction rents for retail premises ranging from 100 to 500 square meters in shopping centres located in parts of the city which are important from the business point of view⁷¹.

Source: NBP

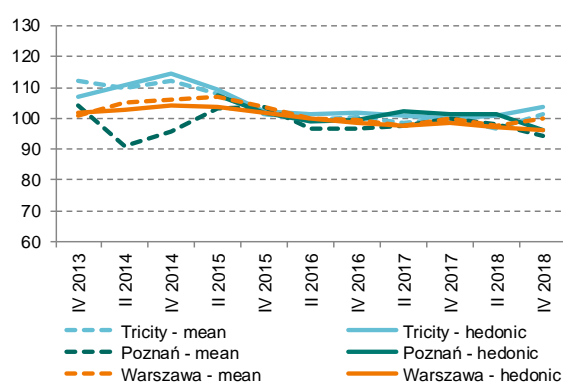
Since 2015 Q4, we have gathered information on transaction rents for an increasing number of shopping centres and the number of individual retail premises (shops) in these centres. It is therefore necessary to analyse the situation on the rental markets also with the use of the hedonic index, which is resistant to the above described changes in the sample. Based on the methodology presented in the 2016 Report, we have compiled hedonic price indices for Warsaw, Poznań and the Tri-City Agglomeration. In the office market, the average rent index is very similar to the hedonic

⁷¹ This is an area with a wide retail and services offer, addressed to people with varying wealth status, with good communication links; it may be located outside the strict city centre.

index, as rents for particular shopping centres or retail premises in a given building are relatively similar. The hedonic rent index in 2018 Q4 remained stable for Warsaw and fell for Poznań.

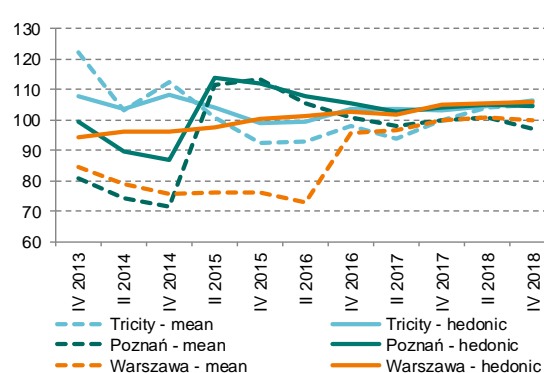
However, for the Tri-City Agglomeration this index showed a slight increase, which means that areas of similar quality were leased at a higher rent than six months earlier. On the other hand, in the shopping centres market, the hedonic analysis showed that, along with the size of the premises, transaction rents per square meter fall. In the case of shopping centres in the Tri-City Agglomeration, the average rental index and the hedonic index have been very similar since the beginning of the quotations. In 2018 Q4 the hedonic rent index for the analysed cities, i.e. Warsaw, Poznań and the Tri-City Agglomeration slightly increased compared to 2017 Q4.

Figure 6.4 Index of rents for office space, average and hedonic index (2017 Q4 = 100)



Source: NBP

Figure 6.5 Index of rents for shopping centres, average and hedonic index (2017 Q4 = 100)



Source: NBP

6.2 Situation in the market of rental housing purchased by private individuals

According to NBP data and information collected from real estate developers and real estate brokers⁷² in 2018 and 2019 Q1, the supply of rental housing offered by private individuals, including dwellings bought in the primary and secondary market in the recent years, has increased. People invested in real estate as income earned on bank deposits was unsatisfactory; moreover, it is an additional form of saving to ensure affluence at a later age.

Home purchase for investment purposes

Demand and home price increases are strongly supported by investment home purchases observed for three years, despite the fact that the share of home sales for investment purposes has decreased by 10% in year-on-year terms (46% of demand according to the June 2019 survey against 56% according to the May 2018 survey). The scale of investment purchases is confirmed by the percentage of home buyers whose place of residence is in another city or town than the one in

⁷² The results of the analysis of the survey and interviews conducted in June 2019 among 209 real estate broker operating in the secondary market of the sixteen voivodeship cities and in Gdynia (real estate brokers). The results of the demand and supply analysis in the secondary housing market and the rental market conducted in May 2018 were updated.

which the purchased real estate is located (29% of transactions in Warsaw and 23% in the 6 largest cities).

According to real estate brokers, the largest secondary markets in 2018 and in the first half of 2019 reported a large number to purchases of smaller dwellings, in good location and with a higher finishing standard, i.e. in the segment of premises preferred for investment purposes. In the respondents' opinion, the survey of rental housing purchased in the period from May 2018 to June 2019 shows that the smallest dwellings enjoy greater popularity than a year ago. According to the survey data, the sale of the smallest dwellings - up to 30 sq. m. - increased by more than half (up to 32% of transactions compared to 15% of sales in the May 2018 survey). During the year, the popularity of larger dwellings for rent has markedly decreased – as regards dwellings from 30 to 50 sq.m. (down to 49% from 61% recorded in the May 2018 survey) and dwellings over 50 sq. m. (down to 19% from 24% recorded in the May 2018 survey).

According to real estate brokers, in 2020 a large number of rental dwellings whose rental has become unprofitable may re-enter the market which will, in turn, increase supply and cut selling prices. The oversupply of rental dwellings makes it often difficult to find tenants which curbs rental rates and combined with rising home purchase prices, reduces rental profitability. Despite rising home purchase prices, NBP estimates confirm still relatively high rates of return on rental of residential real estate, as a result of which investment demand may be expected to continue.

The growing share of the supply of dwellings built in the period of four years from their resale is one of the indicators of declining rental profitability when some of the landlords decide to "exit" from investment. The scale of much more frequent resale of the relatively recently purchased dwellings in the primary market is bigger on the Warsaw market (31% of respondents) and in the six largest cities (30% of respondents) than in the remaining ten large cities (22% of respondents). In June 2019, in the total of dwellings on the secondary market offered by the surveyed real estate brokers, the share of new dwellings reached 15% in Warsaw and in the six major cities, and slightly less, i.e. 10% in the remaining ten large cities. It can be assumed that this is the resale of some of buy-to-lets, which turned out to be less attractive than previously assumed.

Respondents indicate that dwellings which investors have failed to rent are rare on the market. According to the survey data, 12% of real estate brokers had in their offer dwellings whose owners had difficulties with rental. There are few such dwellings on the Warsaw market (approx. 2% of the sale offer of approx. 4% of the surveyed brokers). On the market of the six large cities, the share of such dwellings in the sale offer is higher - 18% of the current sale offer reported by 21% of respondents. In the other 10 cities this share is slightly smaller - 14% of the current sale offer in 10% of respondents. According to NBP data, the largest secondary markets see a growing share of offers and transactions involving housing built in the period of up to 4 years, however this is not occurring at a rapid rate. The surveyed real estate brokers expect that, amid diminishing return on rental, some dwelling will return to the sales market.

Supply in the rental market

Saturation of local markets with rental apartments is varied. According to 56% of respondents, the supply on the rental market is close to demand, and in Warsaw, according to 70%, the situation is balanced.

In 2018 and in 2019 Q1 the monthly rental cost in many cities was similar to the instalment of the residential mortgage loan for home purchase. As a result, long-term rental for housing purposes becomes unprofitable. After getting a permanent job and appropriate remuneration, the tenant often decides to buy housing. The advantage of home rental is the freedom to change the place of residence which become more difficult once a mortgage is taken out as it is a long-term commitment. When renting a house, it is easier for the tenant to change it from smaller to a larger one and vice versa, while, at the same time, adapting the standard of dwelling to their current financial possibilities.

According to NBP data, most cities in the secondary market saw growing offer of rental housing built after 2014 (new dwellings). Some real estate brokers (42%) more often than in the previous year's accept offers of rental apartments purchased in the primary market after 2014.

In 2018 in the group of the six cities the percentage of the surveyed real estate brokers who more often than in the previous years received rental offers of dwellings built after 2014 accounted for 42% of the total rental offer, in the case of Gdańsk as much as 59%. In 2018 Q4, the percentage of such offers was 46% in Gdańsk, 33% in Wrocław, 28% in Kraków, 13% in Poznań and only 5% in Łódź. According to NBP data, the share of rental transactions involving new housing is decreasing⁷³.

As expected by the surveyed real estate brokers, in the next 12 months the market of the six cities will see a large home rental offer. On the Warsaw market, 58% of respondents reported that the level of rent offers involving new dwellings they received was at a level comparable with the previous years, and 21% of respondents received more such offers than in the previous years. These figures show that the rental market in Warsaw does not experience an increase in rental offers of dwellings built after 2014, which means that the market for new dwellings in Warsaw does not generate tensions.

Home rental rates

According to NBP data, in 2019 Q1, most voivodeship cities saw continuing rise in average rents per square meter of rented housing (calculated without administrative fees and broker's commissions), which confirms the persisting demand for rental housing and the profitability of home rental estimated by NBP. According to real estate brokers, the supply of rental housing in the secondary market will increase in relation to demand, which will be reflected in the stabilization or even a decline in rental rates. As long as interest rates are at a low, stable level, the

⁷³ NBP relies on the data provided by real estate brokers. The declining share of rental transactions may result from a growing number of individual lease contracts concluded without a real estate broker (via the Internet).

profitability of rental should not be expected to decline as much as to urge home owners to resell their rental housing.

According to NBP data, in 2018 in the six large cities the growth in transaction rates of home rental slowed down, and the growth rate of offer rates also slowed down with a slight delay. In 2018 the difference in the percentage between the median offer and transaction rates declined compared to the previous years, which may suggest that the market is more balanced and the expectations of landlords are similar to those of tenants. On the Warsaw market, the pace of changes in offer rental rates in 2018 follows a downward trend, and tenants accept an increasingly higher rental rates, whose growth picked up significantly in 2018.

The dynamic increase in rental rates of housing built before 2014 reduced the difference in the level of transaction rates for the rental of housing built before 2014 compared to housing built after 2014. The median rental rates of new dwellings (built after 2014) was by 45% higher in 2018 Q4 as compared to the median rental rate of dwelling built before 2014, and by the end of 2018 only by 27%. The decline in this difference resulted from the increase in transaction rates for dwellings built before 2014 by 17% y/y, with a mere 2% y/y increase in rental rates for new dwellings. In the case of Warsaw, new dwellings which entered the market in 2015-2016 set the level of the average offer rent, which remains almost at a similar level, with a growing supply of rental housing bought in the primary market.

Real estate brokers most often expect rental rates to increase, but the percentage predicting their decrease is significant and is observed in almost all cities, which means that there is uncertainty as to the direction of changes in the rental market.

Rental transactions

In the first half of 2019, there were no significant changes in the number of home rental transactions by domestic private individuals as compared to the second half of 2018. In the opinion of real estate brokers, however, there was an increase in the number of rental transactions concluded by foreign private individuals, especially from Eastern European countries. Interviews with the surveyed real estate brokers show that the majority of people from Eastern European countries are people who have achieved such a certain occupational status to be able to rent higher standard or larger independent dwellings.

According to BaRN data, in 2018 the group of the six cities saw a considerable increase in transactions rents for the rental of dwellings built before 2014, which in confirms the rising demand for such housing. Rental of such housing meets the most important criteria for choosing a rented apartment, indicated in the survey, which, in the case of domestic persons, is the amount of rent (54% of positive answers) and location (31%), and in the case of foreign persons from Eastern Europe - rent (71% of positive answers).

The surveyed real estate brokers expect an increase in the number of transactions, but there are fewer responses pointing to an increase in the number of transactions than responses pointing to the increase in the number of offers. The percentage expecting the number of transactions to

increase by more than 6% was 33% among respondents from the six cities, 31% from the ten cities and 45% from Warsaw.

The share of short-term rental transactions in the total of transactions concluded by the surveyed real estate agents is not large, but a significant proportion of the surveyed real estate brokers noted an increase in the number of short-term rental transactions.

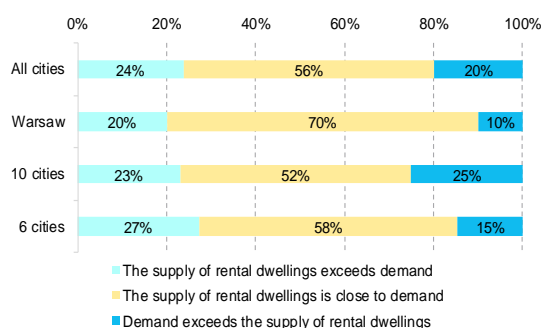
Table 6.1 * Home rental rates and mortgage loan instalments for home purchase in PLN *

Market	Home rental rate (PLN)	Average area of rented dwelling	Purchase price of 1 sq.m. of housing	Value of housing	Buyer's own contribution	Mortgage loan	Instalment of a mortgage loan for 30 years	Instalment of a mortgage loan for 20 years	Instalment of a mortgage loan for 15 years
PM	1 426	42.4	7 061	299 532	20%	239 626	1 186	1 491	1 810
SM	1 426	42.4	6 120	259 615	20%	207 692	1 028	1 292	1 569

*/The calculations used the mortgage loan calculator of one of commercial banks, interest rate of PLN mortgage loan of 4.29% in the standard offer; data concern rent rates and the area of rented housing - BaRN for the six cities).

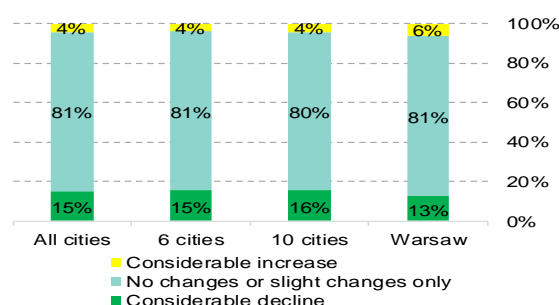
Source: NBP based on BaRN

Figure 6.6 Assessment of the current situation in the rental housing market



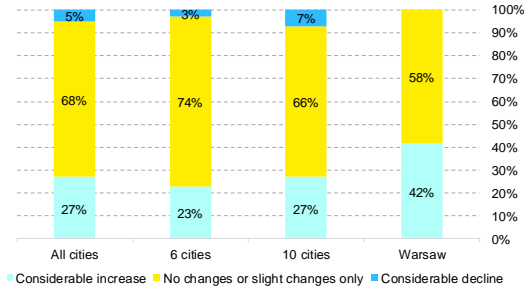
Source: NBP based on surveys

Figure 6.7 Assessment of the level of home rental by domestic persons in the first half of 2019 compared with the second half of 2018



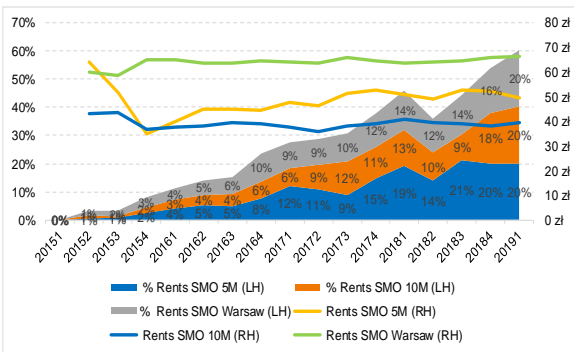
Source: NBP based on surveys

Figure 6.8 Assessment of the level of home rental by foreign persons in the first half of 2019 compared with the second half of 2018



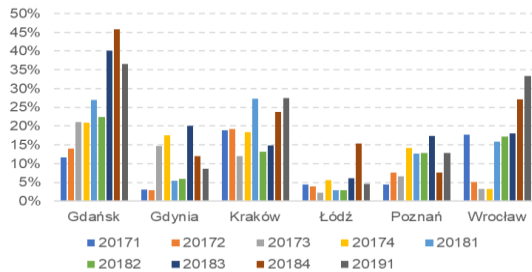
Source: NBP based on surveys

Figure 6.10 The share of rental offers of dwellings built after 2014 and asking rental rates for such dwellings



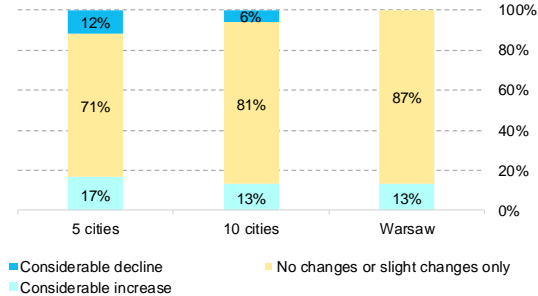
Source: NBP based on BaRN

Figure 6.12 The share of rental offers of new housing in the six cities



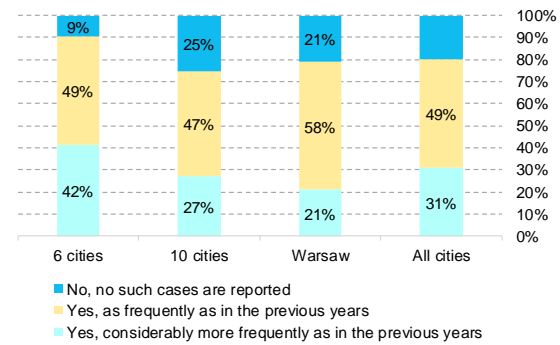
Source: NBP based on BaRN

Figure 6.9 Assessment of the level of home rental by foreign persons from other countries in the first half of 2019 compared with the second half of 2018r.



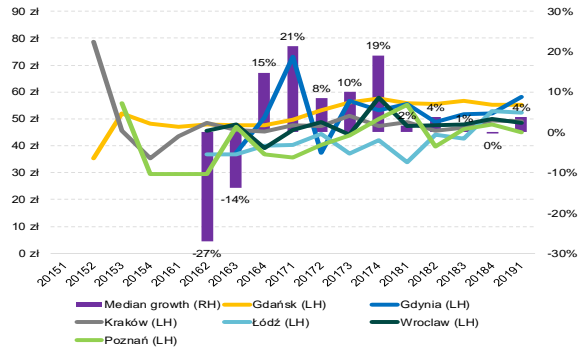
Source: NBP based on surveys

Figure 6.11 Comparison of the frequency that real estate brokers receive rental offers of dwellings purchased after 2014 in the primary market



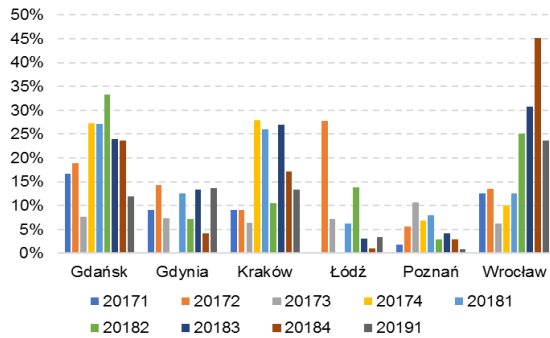
Source: NBP based on surveys

Figure 6.13 Asking rental rates of new housing in the six cities



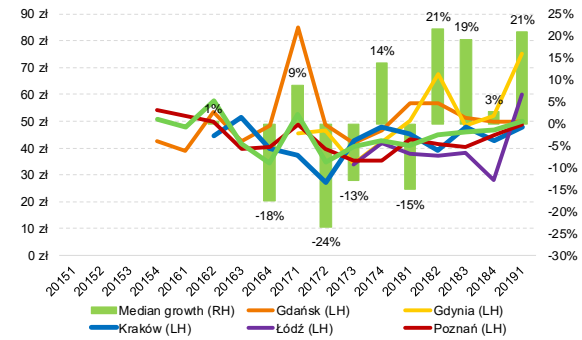
Source: NBP based on BaRN

Figure 6.14 The share of rental transactions of new housing in the six cities



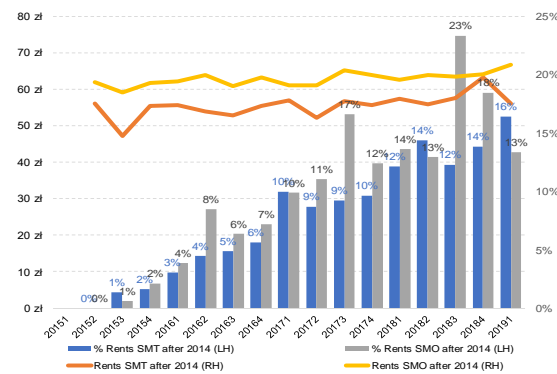
Source: NBP based on BaRN

Figure 6.15 Transaction rental rates of new housing in the six cities



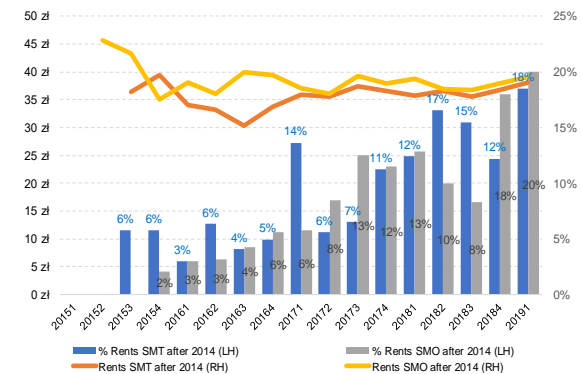
Source: NBP based on BaRN

Figure 6.16 The share of rental transactions and rental offers of new housing and medians of transaction and asking prices of new housing in Warsaw



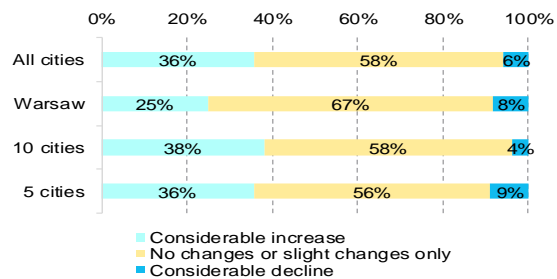
Source: NBP based on BaRN

Figure 6.17 The share of rental transactions and rental offers and medians of transaction and asking prices of new housing in the ten cities



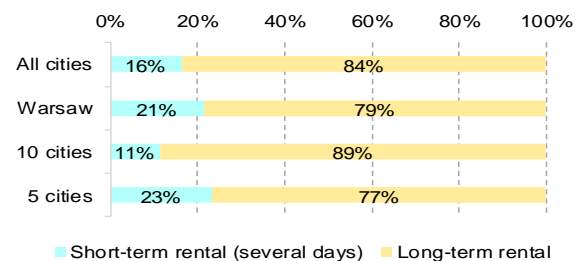
Source: NBP based on BaRN

Figure 6.18 Assessment of changes in the number of short-term home rental transactions in the first half of 2019 compared with the second half of 2018



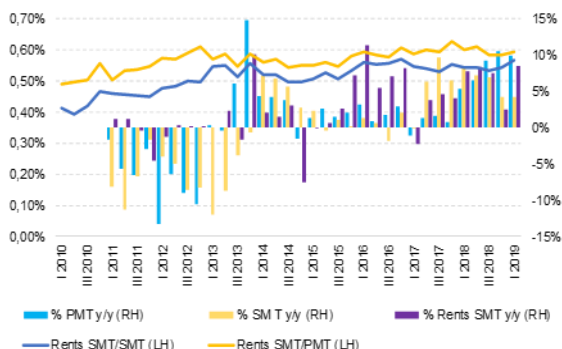
Source: NBP based on surveys

Figure 6.19 The share of rented dwellings in the total of transactions concluded in the past 12 months depending on the term of the lease contract



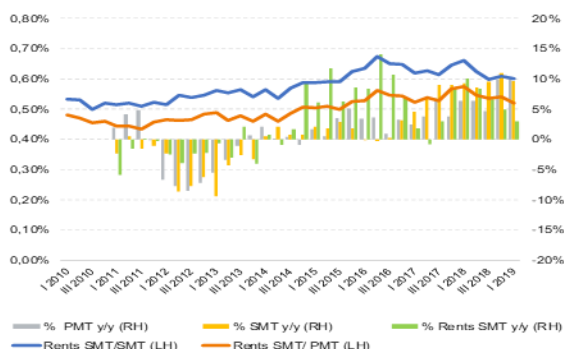
Source: NBP based on surveys

Figure 6.20 Relation of the average transaction rate of home rental to the transaction price of housing in the primary and in the secondary market in Warsaw



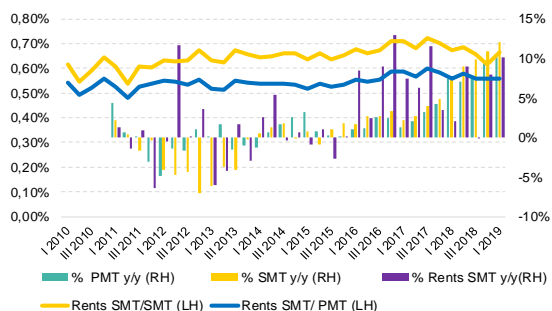
Source: NBP based on BaRN

Figure 6.21 Relation of the average transaction rate of home rental to the transaction price of housing in the primary and in the secondary market, changes in transaction home rental rates in the primary and in the secondary market of the six cities.



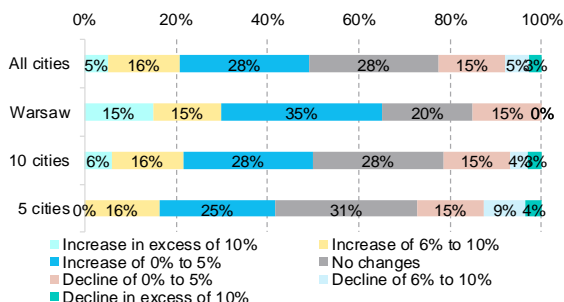
Source: NBP based on BaRN

Figure 6.22 Relation of the average transaction rate of home rental to the transaction price of housing in the primary and in the secondary market, changes in transaction home rental rates in the primary and in the secondary market of the ten cities.



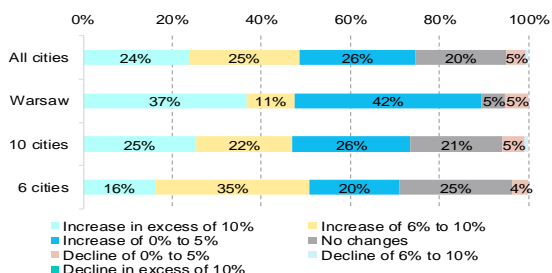
Source: NBP based on BaRN

Figure 6.23 Expected change in home rental rates in the coming 12 months as compared with the past 12 months



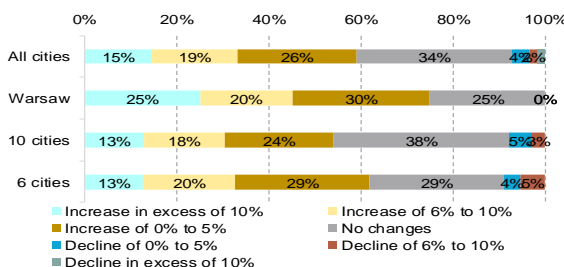
Source: NBP based on AWP2

Figure 6.24 Expected change in the number of rental offers in the coming 10 months as compared to the past 12 months



Source: NBP based on surveys

Figure 6.25 Expected change in the number of rental transactions in the coming 12 months as compared to the past 12 months



Source: NBP based on surveys

Trends in the investment real property market

According to respondents interviewed during the survey conducted by NBP in June 2019, the market is experiencing a new, dynamic phenomenon, namely the creation of private student dormitories and micro-apartments (created by converting larger dwellings into 2-3 smaller studio apartments). This is the market's response to the low supply of the cheapest housing and rising home prices. Micro-apartments can drive out the thriving rental room segment from the market. There are currently no legal regulations prohibiting the division of a housing unit into two smaller ones.

Investment in condo hotels where rooms (apartments) for rent, being separate property of many individuals, are managed by so-called operator, are increasingly popular form of capital investment. The largest number of holiday condo hotels and holiday apartments are located at the Baltic coast, accounting for approximately 46% of the total number of this type of real estate. The share of these properties in the mountain regions is approx. 40%, in large urban agglomerations approx. 10% and in the Warmia and Mazury Region 4%⁷⁴.

Box C Analysis of investment in housing real estate as compared with investment in office real estate

The box presents a simplified analysis of investment in rental housing made by a private individual, taxed with a flat-rate tax. The profitability of investments in rental housing can be analysed in a similar way as it the case of the commercial real estate market, i.e. by calculating profitability and ROE (return on equity). The capitalization rate is calculated as the annual rental income to the price of one square meter of housing. ROE, on the other hand, is calculated as follows. First of all, we must adopt various possible levels of financial leverage. To make it simple, we analyse a fully cash-financed investment (LTV is 0%) and an investment where LTV is 50%, as well as a highly leveraged investment with 80% LTV. In order to calculate financial profits, we take into account rental income, we deduct a flat-rate tax of 8.5%, repayment of interest on mortgage loan, as well as depreciation of the building in the amount of 1.5% of its value. Unlike in the case of commercial real estate, tax is paid on all rental income, before cost deduction. The results are shown in Table C1.

The calculated capitalization rate was around 6-7%, a value that can also be observed in the case of commercial real estate investments. However, ROE on dwellings for rent is much lower. When the entire investment is financed with cash, the ROE is around 4%. This result only slightly exceeds the risk-free rate of return on government bonds. When financial leverage is used, we get even lower rates of return. In the case of LTV = 50%, the ROE ratio is almost 1 percentage point lower, and in the case of high leverage (at LTV = 80%), the ROE is even below 1%.

⁷⁴ The hotel and condo hotel market in Poland 2018, Emmerson Evaluation, Warsaw 2019

This may be surprising because leverage should boost the ROE. The reason is a flat-rate tax paid on all income from home rental. As regards commercial real estate, a tax shield is used - all expenses are deducted from the rent and the tax is paid on the profit only. This explains why, in the case of investment in residential real estate taxed with a flat-rate tax, financial leverage reduces the ROE ratio.

Table C1 The estimated rate of return on equity (ROE) on investment in a 50 sq.m. dwelling in Warsaw

Date	Transaction rent (PLN/sq.m.)	Transaction price in the PM (PLN/sq.m.)	Calculated capitalisation rate	ROE with LTV = 0%	ROE with LTV = 50%	ROE with LTV = 80%	Average market rates on 10-years Treasury bonds
2013 Q4	43.5	7989	6.4%	3.8%	2.4%	-0.4%	4.4%
2014 Q2	43.4	8132	6.3%	3.6%	1.6%	-0.7%	3.4%
2014 Q4	41.4	8187	5.9%	3.4%	1.5%	-0.5%	2.6%
2015 Q2	43.8	8108	6.3%	3.7%	2.6%	0.3%	2.8%
2015 Q4	45.0	8201	6.4%	3.8%	2.7%	0.3%	2.8%
2016 Q2	46.4	8155	6.7%	4.0%	3.0%	0.5%	3.0%
2016 Q4	48.4	8356	6.8%	4.1%	3.3%	0.7%	3.3%
2017 Q2	47.9	8621	6.5%	3.9%	2.9%	0.5%	3.3%
2017 Q4	49.7	8854	6.6%	3.9%	3.1%	0.6%	3.4%
I2018 Q2	51.2	9120	6.6%	4.0%	3.2%	0.6%	3.2%
2018 Q4	52.2	8259	6.8%	4.1%	3.4%	0.8%	3.1%

Assumptions: PLN-denominated loan granted for 25 years, equal instalments, payable four times a year. 1.5% depreciation (two major overhauls in the period of 100 years). 95% occupancy rate. The calculated capitalization rate includes the cost of depreciation. Taxed with a flat-rate tax of 8.5%. ROE means net profit (return) on equity employed.

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

The ROE on investment in rental housing can be compared with the ROE on office space⁷⁵. The main difference, apart from the scale of investment, is taxation. In the case of investment in commercial real estate, 19% CIT is paid, however it is calculated on the basis of profit, after deducting all investment expenses. However, in the case of rentals by private individuals, a lower flat-rate personal income tax (PIT) of 8.5% applies, which is however levied on all rental income.

Therefore, the financial leverage allows large home purchase with the same own contribution, but does not generate a tax shield. An equivalent table for office investment is presented below, which was explained in detail in the Report on the situation on the residential and commercial real estate market in Poland in 2017 in Box D.

⁷⁵ The detailed description of the method of computing the rate of return (ROR) on investment in office space by an investment company is included in the Report on the situation in residential and commercial real estate market in Poland in 2017 in Box D.

Table C2 The estimated rate of return on equity (ROE) on investment in B class office building in Warsaw

Date	Hedonic rent per 1 sq.m. of space in EUR	Hedonic price per 1 sq.m. of space in EUR	Calculated capitalisation rate (yield)	Market capitalisation rate (yield)	ROE with LTC = 0%	ROE with LTC = 50%	ROE with LTC = 80%	Average market rates on 10-years Treasury bonds
2013 Q4	14.6	2309	7.6%	7.0%	3.4%	5.1%	10.1%	4.4%
2014 Q2	15.0	2163	8,3%	7.0%	3.7%	5.7%	11.9%	3.4%
2014 Q4	15.0	2163	8.3%	7.0%	3.7%	5.7%	11.9%	2.6%
2015 Q2	15.2	2496	7.3%	7.0%	3.5%	5.1%	10.0%	2.8%
2015 Q4	15.0	2496	7.2%	7.0%	3.4%	4.9%	9.5%	2.8%
2016 Q2	14.8	2489	7.1%	6.5%	3.3%	4.8%	9.3%	3.0%
2016 Q4	14.9	2489	7.2%	6.5%	3.4%	4.9%	9.4%	3.3%
2017 Q2	14.7	2700	6.5%	6.0%	3.1%	4.3%	7.7%	3.3%
2017 Q4	15.0	2700	6.6%	6.0%	3.2%	4,5%	8.1%	3.4%
2018 Q2	14.8	2600	6.8%	6.0%	3.3%	4,6%	8.5%	3.2%
2018 Q4	15.3	2600	7.0%	6.0%	3.4%	4,9%	9.3%	3.1%

Assumptions: EUR-denominated loan granted for 25 years, equal instalments, payable four times a year. 2.5% depreciation, standard for commercial real estate. The calculated capitalization rate includes the cost of depreciation. Corporate income tax (CIT). ROE means net profit (return) on equity employed.

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

References:

Łaszek, J. H. Augustyniak i K. Olszewski (2019). *The development of the rental market in Poland*. Article presented at the UMCS and NBP conference "Rynek Nieruchomości – aspekty prawne i ekonomiczne" (Real estate market – legal and economic aspects) 2018, Lublin.

Glossary of terms and abbreviations

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 designed, built and is managed as one retail entity. It consists of common areas with a gross leasable area (GLA) of 5000 square metre and a minimum of 10 shops.

DI – Disposable Income – gross disposable income of households.

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 house 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 persons.

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.

Mieszkanie dla Młodych (MDM) – Housing for the Young – 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.

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.

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).

Plan 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.

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 markets: Gdańsk, Kraków, Łódź, Poznań, Wrocław
- 6M** 6 markets: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław
- 7M** 7 markets: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław
- 10M** 10 markets: 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
- DFD** Average Large Real Estate Developer (according to GUS, employment =>50 osób)
 - 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
- LH** Left-hand scale
- LIBOR** London Interbank Offered Rate
- LTV** Loan-to-Value
- MDM** Housing for the Young - government-subsidized housing scheme (Mieszkanie dla Młodych – MDM)
- MFD** Average Small Real Estate Developer (according to GUS employment from 9 to 49 persons)
- NBP** Narodowy Bank Polski
- NFM** National Housing Fund

NPM	National Housing Scheme
NSP	National Census
O/O	District Branch
OOH	Owner Occupied Housing
P/I	Price to Income
RH	Right-hand scale
PAB	Polish Construction Research and Forecasting Agency
RP	Rest of Poland
PUM	Usable area of housing
RNS	Government-subsidized housing scheme Rodzina na Swoim (Family on their own)
PM	Primary housing market
PMO	Offer in the primary market
PMT	Transaction in the primary market
SM	Secondary housing market
SMO	Offer in the secondary market
SMT	Transaction in the secondary market
ROA	Return on Assets
ROE	Return on Equity
SARFIN	Analytical System for the Real Estate Financing Market
TBS	Social Building Society
EU	European Union
WIBOR	Warsaw Interbank Offered Rate
WIG20	Index including top 20 companies listed on the Warsaw Stock Exchange with the highest value of publicly traded free-floating shares
ZBP	Polish Bank Association
ZKPK	Accumulated index of changes in banks' credit policy criteria