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# **Information on home prices and the situation in the housing and commercial real estate market in Poland in 2020 Q1**

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The Report has been prepared at the Financial Stability 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.

## The analysis of the situation in the real estate market in Poland in 2020 Q1<sup>1</sup> leads to the following conclusions:

- **Restrictions that have been in place since March 2020 due to the Covid-19 pandemic also curbed the activity in the residential real estate market.** The consequences of the pandemic have not yet been reflected in specific data due to the inertia of processes playing out in the residential real estate market. In 2020 Q1 the activity in the real estate market was still intense. The number of sold home construction contracts in the largest primary markets in 2020 Q1 exceeded the numbers observed in the previous quarters, whereas the costs of home construction continued to rise due to the strong demand for construction in the entire economy. Consequently, neither the primary nor the secondary market witnessed any home price declines. Also the available data concerning the commercial real estate market do not cover the period of the pandemic.
- **According to data collected by NBP<sup>2</sup>, the analysed period did not see any impact of the pandemic on the direction of price changes. In the analysed period asking and transaction prices per square metre of housing in local primary (PM) and secondary markets (SM) continued on an upward trend.** Prices determined with the hedonic index<sup>3</sup> (prices per square metre of comparable housing) in 6 cities increased by approx. 1.9% q/q and by 14.2% y/y and in 10 cities by 2.9% q/q and 13.3% y/y, while in Warsaw the increases stood at 2.9% q/q and 12.1% y/y, respectively. Asking prices grew faster than transaction prices, which means that sellers expected faster price increases. The difference in average transaction and asking prices persisted, which may suggest that buyers do not accept excessively high asking prices. **Average (asking and transaction) rental rates per square metre of housing** (excluding service charges and fees for utilities) **declined in 2020 Q1.** At the end of March 2020 the largest cities saw a growing offer of long-term rental housing in the Internet - it included dwellings which used to be leased on a short-term basis and whose short-term rental proved unprofitable during the pandemic. This may put a downward pressure on rent rates in the future.
- **The index of the estimated availability of housing in large cities** (based on average wages in the enterprise sector) **stood at 0.80 square metre in the analysed quarter.** Consequently, it slightly exceeded the previous quarter's figure and was higher by 0.32 square metre (i.e. by approx. 67%) than the record

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<sup>1</sup> The analysis carried out in this issue of the *Information* is based on data available as at the end of 2020 Q1. Data gathered in the NBP database during listings from 01.03.2020 to 18.04.2020 include data as at 1 March 2020 and transactions concluded from December 2019 to February 2020. Due to delays in the access to certain data some charts contain information until 2019 Q4 (inclusive). Data series with average prices per square metre of housing, commercial rents and transaction prices per square metre of retail space reflect the pool of data available at that time. Historical data are subject to revision. Price quotations (BaRN database) for 2020 Q1 include approx. 104.7 thousand records, including approx. 30.4% concerning transactions and 69.6% concerning offers. The total of 3.6 million records have been gathered in the database, of which 24.1% concern transactions and 75.9% concern offers.

<sup>2</sup> Due to time lags in the scope of transaction data (according to sales date), the first quarter of 2020 analysed in this paper does not coincide with the calendar quarter. More information on BaRN study: [https://www.nbp.pl/home.aspx?f=/publikacje/rynek\\_nieruchomosci/ankieta.html](https://www.nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/ankieta.html).

<sup>3</sup> The hedonic index of home prices is adjusted for differences in various attributes of dwellings (e.g. location, usable area, standard of finishing) sold in particular periods. The hedonic index is calculated with the imputed method. A hedonic price is an average transaction price from the base period multiplied by the hedonic index.

low observed in 2007 Q3. The index of the estimated maximum availability of residential mortgage loans<sup>4</sup> increased slightly. The estimated affordability of loan-financed housing<sup>5</sup> for an average household also posted a slight increase. Growing wages were the main driving force behind the slight increase in the affordability of loan-financed housing.

- **Rent rates in long-term rental of housing declined, leading to falling profitability of rental.** Yet, housing investment (not taking into account transaction costs) compared with interest on deposits and on other available households' assets seemed a profitable investment.
- **In the analysed quarter the value of newly granted residential mortgage loans in PLN** <sup>6, 7, 8</sup> (excluding renegotiated agreements) **stood at approx. PLN 14.9 billion**, i.e. was PLN 2.1 billion (17.8%) higher than the figures recorded in the previous quarter and by approx. PLN 3.0 billion (6.1%) higher than the 2019 Q1 figures. According to NBP data, at the end of March 2020 the value of residential mortgage loans stood at PLN 460.1 billion, i.e. was by PLN 16.9 billion higher than in the previous quarter and by PLN 39.4 billion higher than the end of March 2019 figure (a 9.4% y/y increase, in 2019 the increase stood at 7.1%).

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<sup>4</sup> The maximum residential mortgage loan available in a particular market is a measure expressed in PLN thousand, taking into account banks' lending requirements and loan parameters (i.e. interest rate, amortisation period of 25 years, minimum subsistence level understood as the minimum income after the repayment of loan instalments). The decline would be stronger if we adopted minimum subsistence wage as the minimum income after the repayment of loan instalments (minimum wage increase from PLN 2.25 thousand in 2019 to PLN 2.60 thousand in 2020). The estimate does not take into consideration changes in banks' lending policy, including lending terms and criteria.

<sup>5</sup> Availability of loan-financed housing – a measure specifying how many square metres of housing may be purchased with a residential mortgage loan obtained with the average monthly wage in the enterprise sector in a particular market (Statistics Poland), in view of a given bank's lending requirements and loan parameters (interest rate, amortisation period, minimum subsistence level understood as the minimum income after payment of loan instalments) at an average transaction price of housing (40% in the primary market and 60% in the secondary market) in a particular market (BaRN). The pace of changes of the index and differences between particular markets provide important information.

<sup>6</sup> According to BIK data, in 2020 Q1 banks and SKOK credit unions granted 59.6 thousand residential mortgage loans totalling PLN 17.3 bn. Residential mortgage loans granted in March 2020 had been requested in January 2020 (the procedure takes approx. 2 months), which means that the "pandemic effect" on demand for this type of loan will manifest itself around June 2020. Positive growth in the sale of residential mortgage loans, both in terms of the number of loans and their value was seen in the case of loans in excess of PLN 200 thousand, including loans in excess of PLN 350 thousand, whose number in 2020 Q1 increased in year-on-year terms by 43.2% and 45.5%, respectively. The quality index of the housing loan portfolio confirmed the long-term low level of credit risk associated with granting residential mortgage loans, however the risk of default is growing, as a result of the observed fall in demand at the beginning of April of 2020 (increase in unemployment and decline in the income of potential home buyers). As at 1 June 2020, due to the pandemic, the BIK database recorded deferred payments of mortgage loan instalments of more than 100.5 thousand loans granted in PLN totalling PLN 24.3 bn and more than 48.9 thousand loans in foreign currency totalling PLN 17.4 bn.

<sup>7</sup> The data concerning the interest rate and the value of new residential mortgage loans based on the NBP data available in the "4 OPN2PLN" tab on the NBP site: [https://www.nbp.pl/home.aspx?f=statystyka/pieniezna\\_i\\_bankowa/oprocentowanie.html](https://www.nbp.pl/home.aspx?f=statystyka/pieniezna_i_bankowa/oprocentowanie.html)

<sup>8</sup> According to the AMRON report in 2020 Q1, the amount of residential mortgage loan averaged approx. PLN 294.8 thousand, i.e. increased by 9.6% y/y. The share of loans with LtV between 30% and 50% and over 80% declined slightly, while loans with the LtV ratio below 30% and between 50% and 80% gained popularity. In the structure of new loan agreements, compared to 2019 Q4, the share of residential mortgage loans with a maturity of 25 to 35 years increased, while the share of loans with other maturities decreased. At the end of 2020 Q1, the number of active loan agreements (in repayment) exceeded 2.43 million, i.e. increased in quarter-on-quarter terms by 41.7 thousand contracts; at the end of that period their value amounted to PLN 459.5bn (a quarter-on-quarter increase of PLN 16.3bn).

The NBP survey addressing the situation in the credit market<sup>9</sup> has found that banks have tightened the criteria of granting residential mortgage loans and the majority of lending terms. Banks reported a moderate increase in demand (on par with the last two-year average). In 2020 Q2 banks expect a serious tightening of lending policy and a very steep decline in demand<sup>10</sup>.

- **The estimated rate of return on investment projects for housing developers amounted to approx. 21% in 2020 Q1 and remains high in comparison to other sectors.** This was due to strong demand and high transaction prices offsetting the rising costs of home builders. Despite high level of equity (and, consequently, solvency) housing developers may face liquidity problems. This is due to projects being largely financed with debt to contractors rather than banking credit. According to Coface experts<sup>11</sup> the period surveyed saw a decrease in the number of bankruptcies and restructuring proceedings in the construction industry. At the same time the share of the construction industry in the total number of bankruptcies and restructuring proceedings fell by 1.8 pp in y/y terms, mainly due to the growing number of bankruptcies in agriculture and manufacturing. This report may, however, be burdened with a greater error due to the disturbed work of the judiciary and lagged response of enterprises to economic disturbances caused by COVID-19.
- **March 2020 saw the highest number of home completions in Poland in quarterly terms since 2005** <sup>12</sup>. The number of home construction starts<sup>13</sup> declined in comparison with the previous record-breaking periods. The estimated high rates of return on housing development projects and a strong demand urged real estate developers to apply for new home building permits<sup>14</sup>, which may be implemented over the next two years.
- **The annual sale of dwellings and home construction contracts in Poland's six largest primary markets<sup>15</sup> increased in comparison with the previous quarter and at the end of March 2020 reached approx. 67.7 thousand.** We estimate that the annual sale of dwellings by real estate developers amounted to approx. 150 thousand, while the number of developer dwellings under construction can be as high as approx. 250

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<sup>9</sup> "Situation in the credit market – results of the senior loan officer opinion surveys, 2020 Q2", NBP, April 2020 [https://www.nbp.pl/systemfinansowy/rynek\\_kredytowy\\_2020\\_2.pdf](https://www.nbp.pl/systemfinansowy/rynek_kredytowy_2020_2.pdf). According to the entities surveyed, the tightening of the lending policy was primarily due to deteriorating forecasts of the economic situation at home and abroad. The tightening of the lending policy was also due to weakening capital position of banks, change in demand for residential mortgage loans and deteriorating quality of the residential mortgage loan portfolio as well as other reasons not analysed in the survey, such as the risk of spread of the pandemic and limited cooperation with real estate brokers.

<sup>10</sup> On account of the uncertainty concerning the economic consequences of the COVID-19 pandemic, banks' answers concerning the expectations for 2020 Q2 should be treated with caution.

<sup>11</sup> According to Coface experts (Bankruptcy and restructuring proceedings of firms in Poland in the first half of 2020) the data do not depict a complete picture of the impact of COVID-19 on enterprises in Poland. Experts expect a marked acceleration in the number of proceedings in the second half of 2020.

<sup>12</sup> According to the Statistics Poland data, in 2020 Q1 the total of 49.5 thousand dwellings were completed and made ready for occupancy, i.e. approx. 2.1 thousand more than in 2019 Q1 and approx. 12.1 thousand less than in 2019 Q4. The total of 209.4 thousand dwellings were completed and made ready for occupancy over the last 4 quarters, i.e. 22.0 thousand more than in the corresponding period of 2019 (a rise of 11.7% y/y).

<sup>13</sup> According to the Statistics Poland data, in 2020 Q1 the construction of approx. 52.5 thousand dwellings was launched, i.e. approx. 1.3 thousand less than in 2019 Q1 and 6.3 thousand less than in 2019 Q4. In the last four quarters the construction of the total of 235.9 thousand dwellings was started, i.e. 8.1 thousand more than in the previous four quarters (a rise of 3.6% y/y).

<sup>14</sup> According to the Statistics Poland data, in 2020 Q1 approx. 59.1 thousand home building permits were issued in Poland, i.e. approx. 1.9 thousand more than in 2019 Q1, however, approx. 8.1 thousand less than in the previous quarter. In the last four quarters the total of approx. 270.3 thousand permits were issued, i.e. 22.5 thousand more than in the previous four quarters (a 9.1% y/y increase).

<sup>15</sup> Based on JLL/REAS data.

thousand. They will be gradually put on the market, particularly in 2021. The stock of unsold completed dwellings put on the market decreased from the previous quarter and amounted to approx. 44.3 thousand at the end of the analysed period. The number of completed dwellings put on sale in 6 cities dropped in comparison with the previous quarter by 0.5 thousand and the home selling time in the primary market in the six largest markets shrank to 2.6 quarters. In the case of dwindling demand the large number of dwellings under construction may lead to problems with their financing, particularly in poorer locations.

- **Work is under way on speeding up the National Housing Programme** The Ministry of Development is in constant contact with local authorities, housing cooperatives, Social Building Societies and real estate developers in order to remove obstacles hampering the real estate development process, such as the lack of building land and funds for social building. The new priority – in particular in the context of the pandemic – is to boost new investment in social building. Another project, to create a social rental agency, is being evaluated. Its role would be to broker the rental and long-term sub-rental of dwellings, also from private owners, in order to secure lower rent prices than market prices for people in financial distress.
- **The market of commercial real estate has also been affected by the Covid-19 pandemic, and the resulting limited activity of enterprises will affect rents and real estate sale transactions, particularly in a longer perspective<sup>16</sup>.** It should be remembered that rents in commercial properties are agreed on for a few years in advance and rescinding on these contracts results in sanctions. Sale and purchase transactions, on the other hand, are the effect of long negotiations. **It is to be expected that the pandemic will have a major impact on the structural changes in the sector, which will become evident only with time.**
- **In 2020 Q1 imbalances resulting from the previously observed excess supply of space for rent in relation to demand decreased in the office space markets.** The favourable economic situation, including the creation of new jobs, also by international companies, boosted demand. The supply of new space and space under construction continues on a high level. According to market data, at the end of 2020 Q1, the stock of office space in the nine largest office markets<sup>17</sup> stood at approx. 11.1 million square metres; approx. 1.75 million square metres of office space was under construction. The vacancy rate in these markets recorded a slight drop to 8.6% against 8.7%<sup>18</sup> at the end of 2019 Q4. In Warsaw at the end of 2020 Q1 it stood at 7.5%<sup>19</sup> (against 7.8% in 2019 Q4). The vacancy rate of office space depends on the age<sup>20</sup> and, in particular, on the location of the office building<sup>21</sup>. In view of a very large supply of modern office space, older office buildings were not in high demand. This situation improved in recent quarters, with emerging demand for co-working offices and the rearrangement of older building to fit the new working model.
- **The retail space market continues to see a slight oversupply** of space (with the vacancy rate in the largest cities at the end of 2019 Q4 standing at approx. 3.9%<sup>22</sup>). At the end of 2020 Q1 the total stock of modern commercial space exceeded 12.2 million square metres and space under construction stood at 440,700

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<sup>16</sup> Available data on the commercial market also fail to reflect the pandemic.

<sup>17</sup> The nine office space markets include: Warsaw, Kraków, Wrocław, Tri-City Agglomeration of Gdańsk, Sopot and Gdynia, Katowice, Łódź, Poznań, Szczecin, Lublin.

<sup>18</sup> See: the Colliers International "Market Insights - 2020 Q1 Report, Poland".

<sup>19</sup> See: the Colliers International "Market Insights - 2020 Annual Report, Poland".

<sup>20</sup> Cushman & Wakefield, Marketing as one of the key factors supporting the modernisation of older office buildings,, 2018.

<sup>21</sup> See: Knight Frank, Report: Poland, Commercial Market, 1st half of 2018.

<sup>22</sup> See: the Colliers International "Market Insights - 2020 Q1 Report, Poland".

sq.m.<sup>23</sup>. The low increase in new retail space may indicate that investors consider the market to be saturated, which is confirmed by the launch of projects transforming commercial centres into commercial and entertainment centres. Due to the epidemic being announced in Poland, the prohibition to carry out activities in commercial centres except groceries, pharmacies, drugstores, laundries and financial outlets, it can be assumed that commerce will be seriously affected by the Covid-19 pandemic.

- **High availability of foreign financing contributed to further growth in office space** and, to a lesser extent, retail real estate. This phenomenon may be largely attributed to low interest rate levels in developed countries.
- **The modern warehouse space market in Poland was still in the expansion phase. Supply and demand** remained high. Demand for warehouse space came from logistic and courier companies as well as retail chains with high share of the electronics sector. Also manufacturing companies showed considerable interest. At the end of 2020 Q1, the total stock of the warehouse space grew to 19.1 million square metres and modern space under construction stood at 2.2 million square metres. The vacancy all over Poland recorded a slight rise reaching 7.3%<sup>24</sup> against 7% at the end of 2019 Q1.
- **The estimated value of investment transactions<sup>25,26</sup> in the commercial real estate market at the end of 2020 Q1 stood at EUR 992 billion.** Office space accounted for approx. 44% of the value of the transactions, commercial space for 41.4%, while warehouse space for 13.9%. It is worth noting that there was growth in the market of mixed-use real estate, hotels and student dormitories.
- **The value of loans granted by domestic banks to enterprises at the end of 2020 Q1 amounted to PLN 66.1 billion**, which comprised loans granted to real estate developers for residential real estate, office space, retail space, warehouse space and industrial space and other real estate<sup>27</sup>. Corporate debt resulting from residential real estate at the end of 2020 Q1 remained at PLN 5.1 billion. The value of loans for office real estate rose to PLN 17.9 billion as compared to PLN 16 billion in 2019 Q4. The value of loans granted for retail real estate totalled PLN 18 billion as against PLN 17.2 billion in 2019 Q4. The value of loans granted for warehouse and industrial real estate rose to PLN 9.3 billion. The value of loans granted for other real estate<sup>28</sup> remained unchanged and stood at PLN 16 billion.
- **The ratio of non-performing loans in loans for real estate granted to enterprises was close to the one observed in the previous quarter.** The share of non-performing loans in the total loans for office space at the end of 2020 Q1 stood at 6% against 6.8% in 2019 Q4 and the share of loans granted for retail space rose to 12.3% as compared to 11.3% in 2019 Q4. The ratio of non-performing loans among loans granted for warehouse real estate and industrial space increased slightly to 8% against 7.7% in 2019 Q4, while loans for other real estate dropped to 8.2% against 8.8% in 2019 Q4. The non-performing loan ratio among loans

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<sup>23</sup> See: the Colliers International "Market Insights - 2020 Q1 Report, Poland".

<sup>24</sup> See: the Colliers International "Market Insights - 2020 Q1 Report, Poland".

<sup>25</sup> The above investments concern the sale of the entire operating company which leases the building and derives income from it. Such transactions are concluded between: 1/ the real estate developer who has commercialized the property and sells it to the investor, or 2 / two investors.

<sup>26</sup> See: Colliers International Report: Market Insights, Annual Report 2020, Poland.

<sup>27</sup> As of 2018 the category of loans granted for other real estate was divided into three categories, namely loans for warehouse and industrial space, loans for retail premises and loans for other real estate.

<sup>28</sup> See: the 2018 FINREP definition: "Loans for other real estate - loans for real estate other than residential, office, retail, industrial and warehouse premises (sub-category of loans for other real estate)".

granted for residential real estate decreased slightly to 19.2% from 21% in 2019 Q4. A relatively high value of this ratio is mainly due to banks holding loans from previous years in their loan portfolio<sup>29</sup>.

- **Transaction rents for A class office space in Warsaw (quoted in EUR per square metre per month) and in other cities at the end of 2019 slightly increased<sup>30</sup>.** In Warsaw rents in A class office buildings reached approx. EUR 19/sq. m./month. In the remaining 8 largest voivodship cities (8M) those prices ranged from EUR 11 to 14/sq. m./month. **Rents in B class office buildings in the largest markets also posted a slight increase.** In 2019 Q4 the hedonic index of rents<sup>31</sup>, which is resistant to the change in the analysed sample, remained stable for Warsaw and the Tricity Agglomeration. In Poznań, however, it exhibited a slight increase, which means that space of a similar quality was rented at a higher price than half a year before.
- **Transaction rents for retail space in shopping centres in Warsaw slightly declined at the end of 2019, and remained stable in the markets of other cities<sup>32</sup>.** In 2019 Q4 the hedonic index of rents for Warsaw and the Tricity Agglomeration remained stable, and increased slightly for Poznań as compared to 2019 Q2. In the market of small retail and office real estate the median of the asking price in Warsaw and Wrocław increased, while remained relatively stable all over Poland.

The figures below describe the key developments in the housing market in Poland's major cities in 2020 Q1. The figures present:

- 1) home prices and rent rates (Figures 1-15),
- 2) availability of loan-financed housing, loan availability, profitability of housing investment (Figures 16 - 23),
- 3) housing loan disbursements and interest rates (Figures 24-33),
- 4) operating profitability of housing and real estate development projects, costs of construction and assembly output and economic situation of real estate developers in Poland (Figures 34-49),
- 5) housing construction and the residential market in selected cities in Poland (Figures 50-63),
- 6) rents and transaction prices of commercial real estate (Figures 64-70),
- 7) in-depth analysis of the situation of real estate developers and construction companies involved in the construction of buildings, the sale of building materials and manufacturing of building materials (Figures 71-157).

The analysis of home prices (offer, transaction and hedonic) in the primary and secondary markets as well as housing rents relies on the data derived from the housing market survey of the Real Estate Market Database (BaRN, NBP). On the other hand, as part of the survey of the commercial real estate market, the Commercial

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<sup>29</sup> See: Financial Stability Report, NBP, December 2018.

<sup>30</sup> In the case of commercial real estate, the breakdown of the analysed cities is different than in the case of residential real estate. 8 large cities: Katowice, Kraków, Łódź, Poznań, Tricity Agglomeration, Wrocław The remaining seven cities (7M) include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra.

<sup>31</sup> The hedonic index of rents for commercial space includes an adjustment taking into account differences in attributes of buildings and space of the leased premises (e.g. location, usable area, finishing standard) in particular periods. The hedonic index is calculated with the imputed method.

<sup>32</sup> The analysis refers to premises with an area ranging from 100 to 500 square metres located in shopping centres in economically significant parts of cities.



Real Estate Market Database (BaNK, NBP) data on rent, offer prices and transaction prices of commercial real estate are collected and analysed.

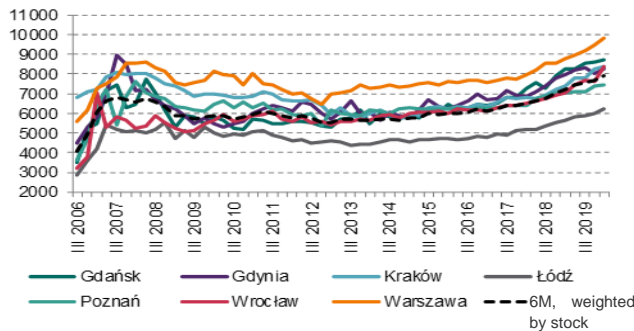
In addition, data from PONT Info Nieruchomości, AMRON and SARFIN of the Polish Banks' Association and Comparables.pl were used in the analyses. The analyses and reports of REAS/JLL, the Polish Financial Supervision Authority and the aggregate credit data from the Credit Information Bureau were also used. For the structural market analysis, data published by the Central Statistical Office and many studies containing sector data were used.

**List of abbreviations:**

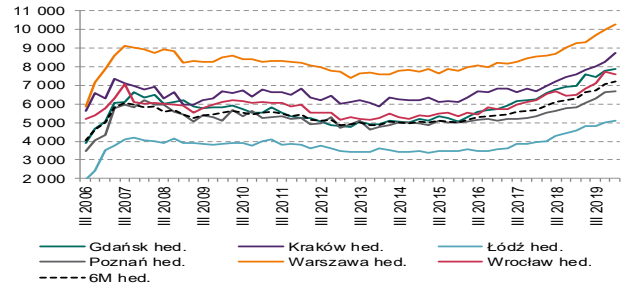
<b>5M</b>	5 largest cities: Gdańsk, Kraków, Łódź, Poznań, Wrocław
<b>6M</b>	6 largest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław
<b>7M</b>	7 largest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław
<b>10M</b>	10 large cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra
<b>BaNK</b>	Commercial Real Estate Market Database, created by NBP
<b>BaRN</b>	Real Estate Market Database, created by NBP
<b>BIK</b>	Credit Information Bureau
<b>CPI</b>	Consumer Price Index
<b>DFD</b>	Large real estate developer
<b>GD</b>	Households
<b>GUS</b>	Central Statistical Office
<b>EURIBOR</b>	Euro Interbank Offer Rate
<b>KNF</b>	Polish Financial Supervision Authority
<b>LIBOR</b>	London Interbank Offered Rate
<b>LTV</b>	The relation of loan value of loan to home value, i.e. Loan-to-Value
<b>MDM</b>	Government-subsidized housing scheme Mieszkanie dla Młodych [Housing for the Young]
<b>NBP</b>	Narodowy Bank Polski
<b>PONT</b>	PONT Info Nieruchomości
<b>RNS</b>	Government-subsidized housing scheme Rodzina na Swoim [Family on their own]
<b>RP</b>	Primary housing market
<b>RW</b>	Secondary housing market
<b>ROE</b>	Return on equity
<b>WIBOR</b>	Warsaw Interbank Offered Rate
<b>WIG20</b>	Index including the top 20 companies listed on the Warsaw Stock Exchange with the highest value of publicly traded shares
<b>ZBP</b>	Polish Bank Association
<b>ZKPK</b>	Accumulated index of changes in banks' credit policy criteria vis-a-vis residential mortgage loans

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

**Figure 1 Transaction prices per square metre of housing in Warsaw and in 6M- PM**



**Figure 2 Transaction prices per square metre of housing adjusted by the hedonic index in Warsaw and in 6M- SM**

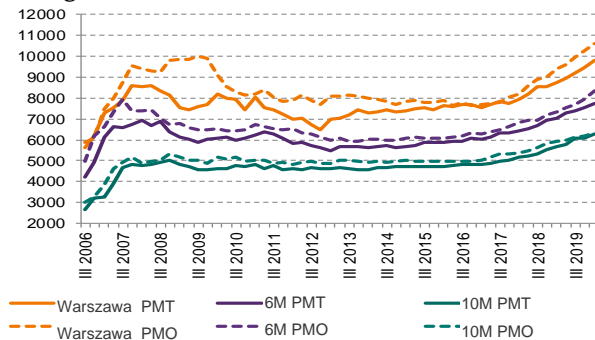


Note: the home price database of NBP (BaRN) has existed since 2006 Q3; the description of the database may be found in the “Report on home prices and the situation in housing and commercial real estate market in Poland in 2018” available on the bank’s website.

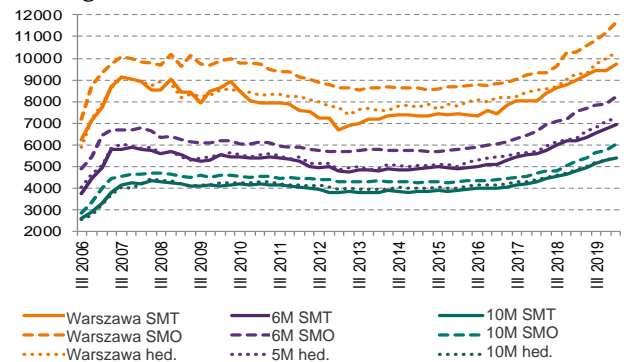
Source: NBP

Source: NBP

**Figure 3 Weighted average price per square metre of housing, offers (O) and transactions (T) - PM**



**Figure 4 Weighted average price per square metre of housing, offers (O) and transactions (T) - SM**

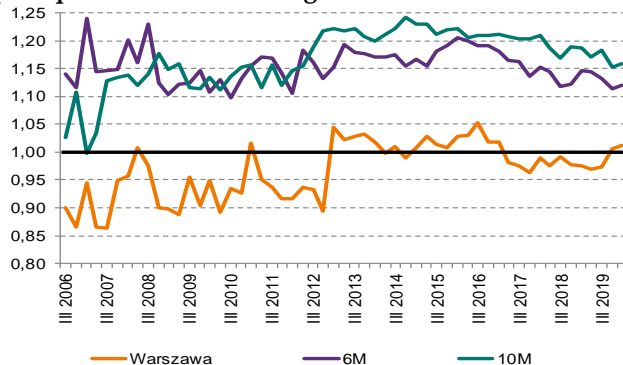


Note to Figures 3-10 and 14-15: prices and rents weighted with the share of housing stock, the average price for Warsaw

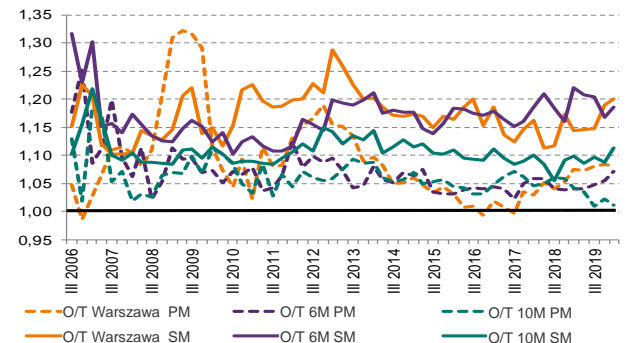
Source: NBP

Source: NBP

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



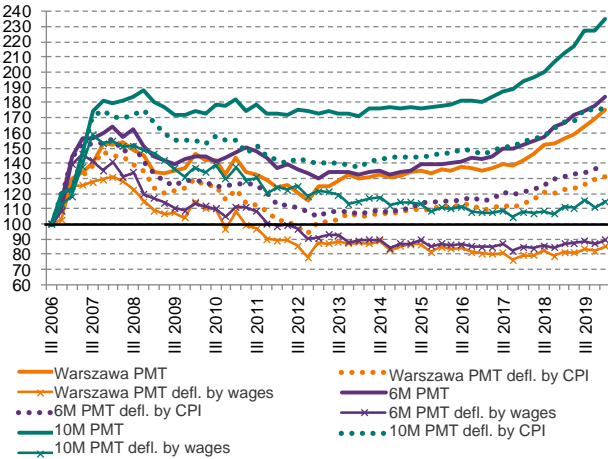
**Figure 6 Ratio of the average weighted offer price (O) to transaction price (T) per square metre of housing – PM and SM**



Source: NBP

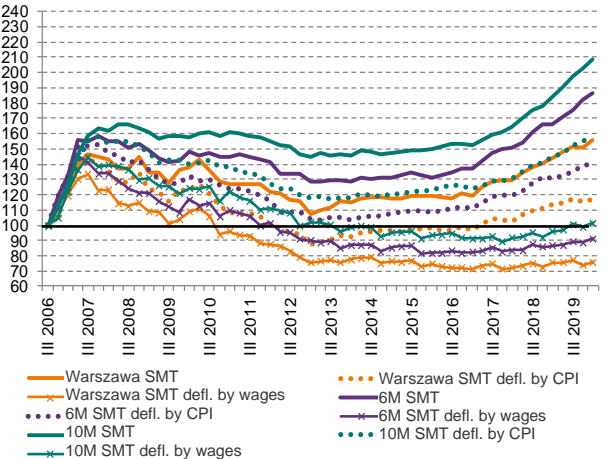
Source: NBP

**Figure 7 Index of the average weighted transaction price per square metre of housing in PM, real to CPI deflated price and real to average wage in the enterprise sector (2006 Q3 = 100)**



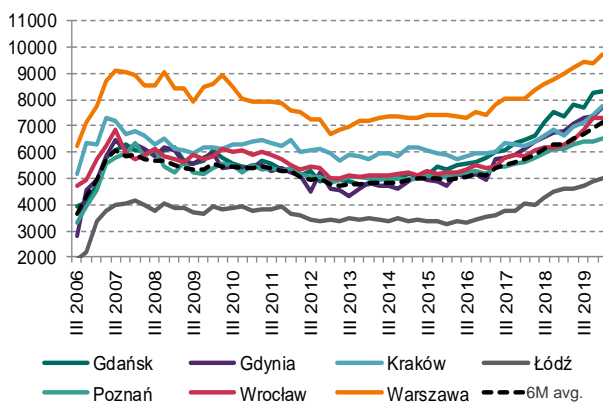
Source: NBP, ZBP (AMRON), Statistics Poland (GUS)

**Figure 8 Index of the average weighted transaction price per square metre of housing in SM, real to CPI deflated price and real to average wage in the enterprise sector (2006 Q3 = 100)**



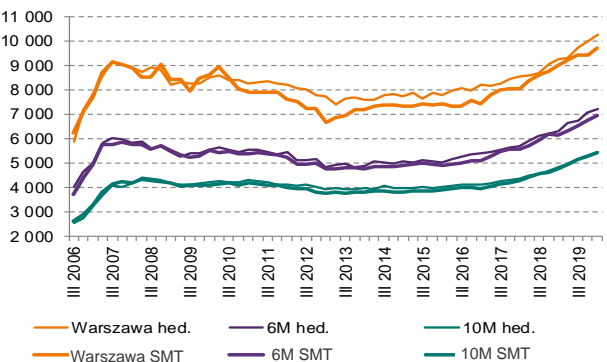
Source: NBP, ZBP (AMRON), Statistics Poland (GUS)

**Figure 9 Transaction price per square metre of housing in SM in Warsaw and in 6M**



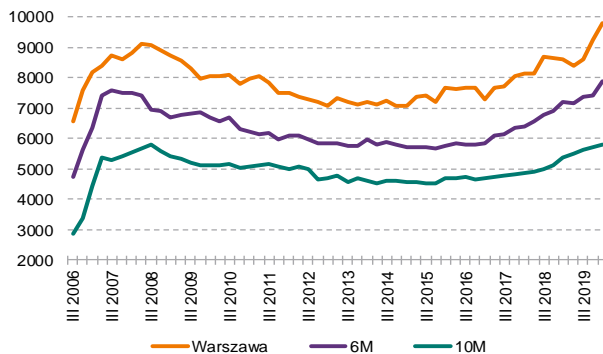
Source: NBP

**Figure 10 Weighted average transaction price per square metre of housing in SM and average price adjusted by the hedonic price index, in selected markets**

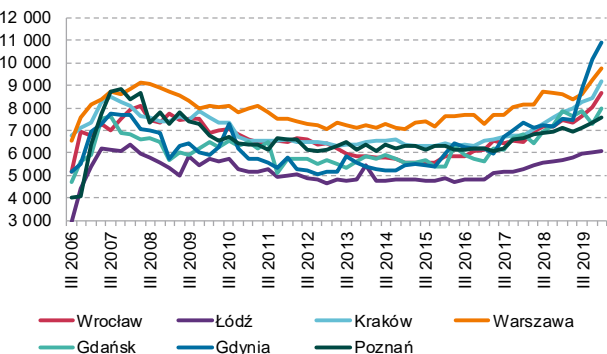


Source: NBP

**Figure 11 Average offer prices per square metre of housing in PM, selected markets**



**Figure 12 Average offer prices per square metre of housing in PM (Warsaw and 6M)**

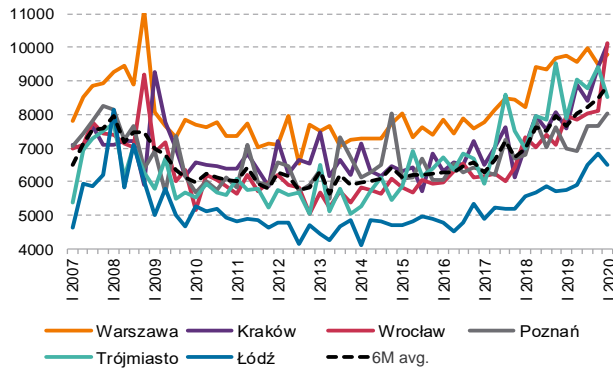


Note to Figures 11-12: prices are collected from all available sources. The data to Figure 12 show a large share of expensive development projects.

Source: PONT Info Nieruchomości

Source: PONT Info Nieruchomości

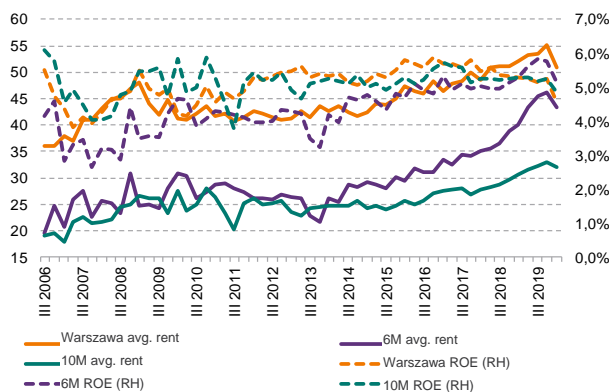
**Figure 13 Average offer prices per square metre of housing, new home construction contracts launched – PM, selected markets**



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

Source: JLL/REAS

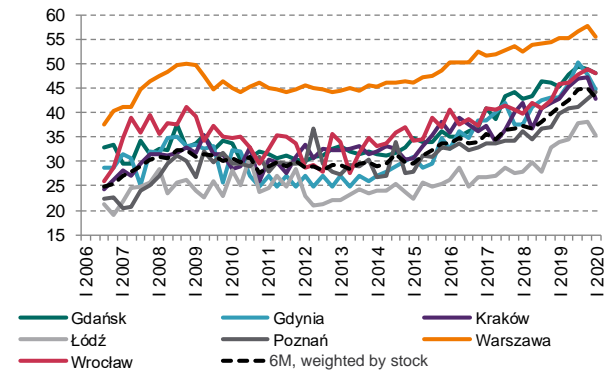
**Figure 15 Average rent rates (transactions) per square metre of housing in the SM (left-hand scale) and the estimated profitability of housing rental (right-hand scale) in selected cities**



Note to Figure 15: price per square metre of housing 50% PM and 50% SM; the price per square metre of housing in the PM was increased to include the average costs of home finishing and 1.5% amortisation; the analysis does not take into account the high transaction costs in the housing market and the potentially long period of disinvestment.

Source: NBP

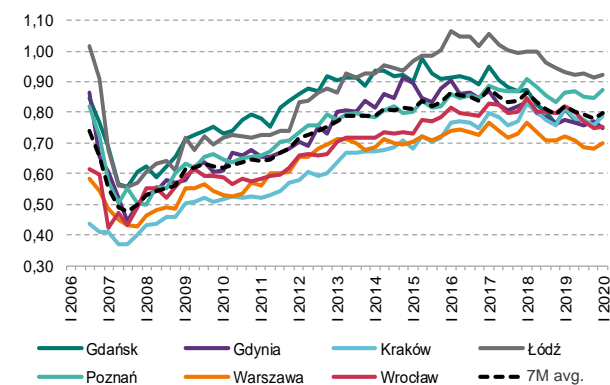
**Figure 14 Average rent rates (offers and transactions) per square metre of housing - SM, selected markets**



Note: In 2020 Q1 the sample was changed.

Source: NBP

**Figure 16 The estimated availability of housing in selected cities**

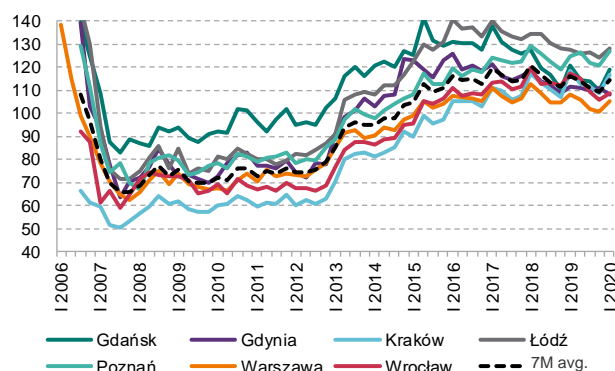


Housing availability – a measure of potential availability to purchase housing at the transaction price for an average wage in the enterprise sector in a particular city. It expresses the number of square metres of housing that can be purchased for an average wage in the enterprise sector in a particular city (Statistics Poland), at an average transaction price in a particular market (40% from the primary market and 60% from the secondary market according to the NBP database).

Source: NBP, Statistics Poland (GUS)

## 2. Availability of loan-financed housing, loan availability, profitability of housing investment

**Figure 17 Estimated availability of loan-financed housing (average for 7M)**



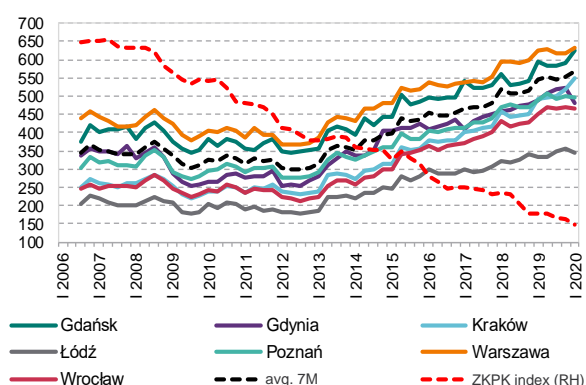
Source: NBP, Statistics Poland (GUS)

**Available residential mortgage loan** – a measure specifying the potential maximum residential mortgage loan; expressed in PLN thousand taking into account banks’ lending requirements and loan parameters (interest rate, amortisation period, minimum subsistence wage as the minimum income after payment of loan instalments).

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

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

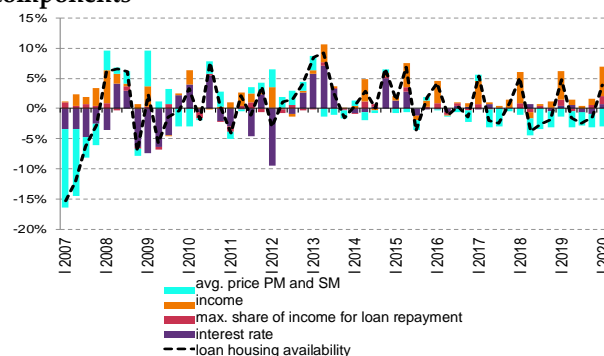
**Figure 19 Estimated availability of residential mortgage loan and accumulated index of banks’ mortgage lending policy (ZKPK, right-hand scale)**



Note: positive values of ZKPK mean easing while negative values - tightening of the banks’ lending policy in relation to the initial period, i.e. 2003 Q4.

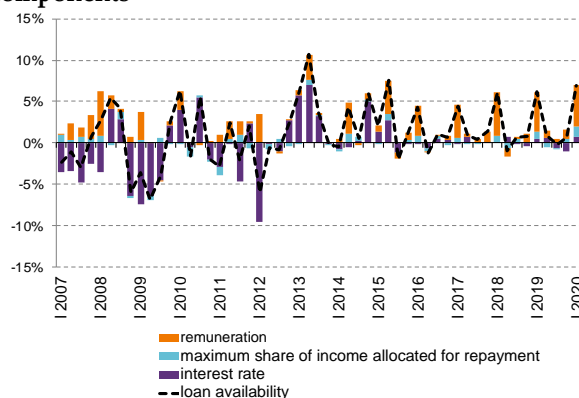
Source: NBP, Statistics Poland (GUS)

**Figure 18 Quarterly changes in the estimated availability of loan-financed housing in 7M and the force and directions of the impact of particular components**



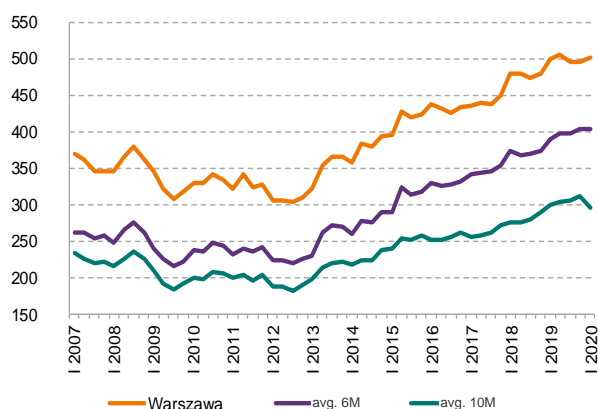
Source: NBP, Statistics Poland (GUS)

**Figure 20 Quarterly changes in the availability of an average residential mortgage loan in 7M and the force and directions of the impact of individual components**



Source: NBP, Statistics Poland (GUS)

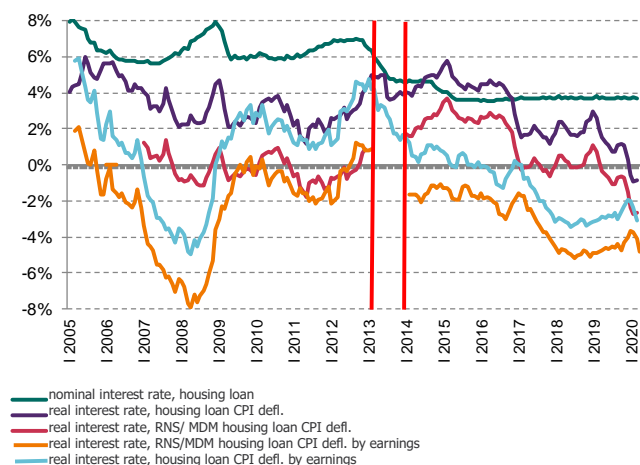
**Figure 21 Estimated available mortgage loan for average gross wage in the enterprise sector in selected cities**



Note: estimated values taking into account the minimum wage left to cover the borrower's living expenses

Source: NBP, Statistics Poland (GUS), BGK

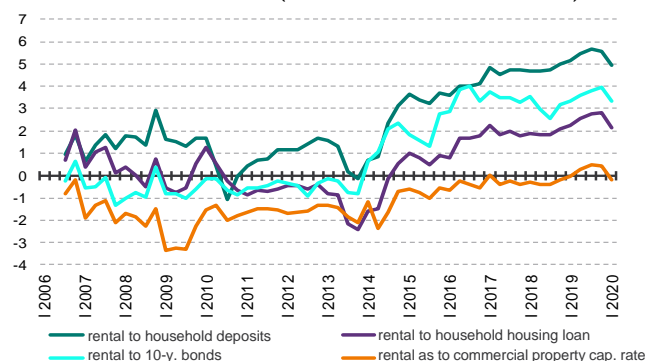
**Figure 22 Residential mortgage loan burden for consumer deflated with CPI or wage growth in the enterprise sector**



Note: values below 0 denote negative real interest rate for the borrower; red lines separate the one-year period of the absence of the government subsidised housing schemes, i.e. The RNS scheme (operating in the years 2007- 2012), the MDM scheme (operating in years 2014- 2018) and the MS (First Housing) scheme (operating since 2019).

Source: NBP, Statistics Poland (GUS), BGK

**Figure 23 Profitability of home rental (average in Warsaw and 6M) as compared with alternative household investments (interest rate differentials)**

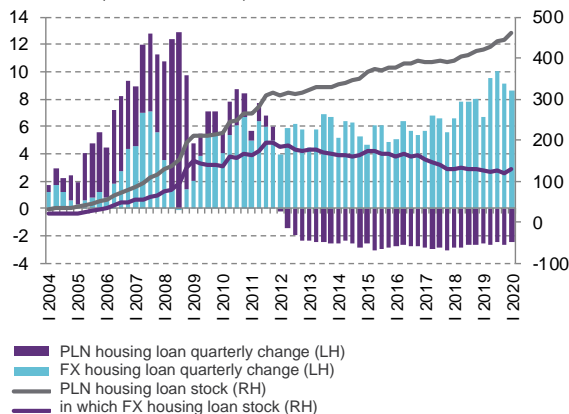


Note to Figure 23: values exceeding 0 denote higher profitability of purchasing property for rental than other household investment. Depreciation of 1.5 p.p. was deducted. This analysis does not take into account high transaction costs in the housing market and potentially long payback periods.

Source: NBP, Statistics Poland (GUS)

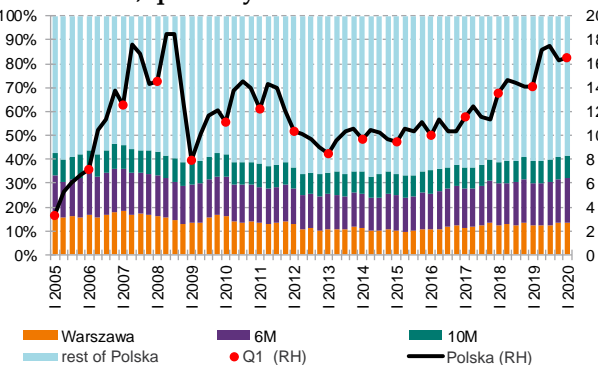
### 3. Disbursement of residential mortgage loans, interest rates

**Figure 24 Balance and quarter-on-quarter changes in housing loan receivables from households after adjustments and the currency structure of quarter-on-quarter changes in residential mortgage loan receivables (PLN billion)**



Source: NBP

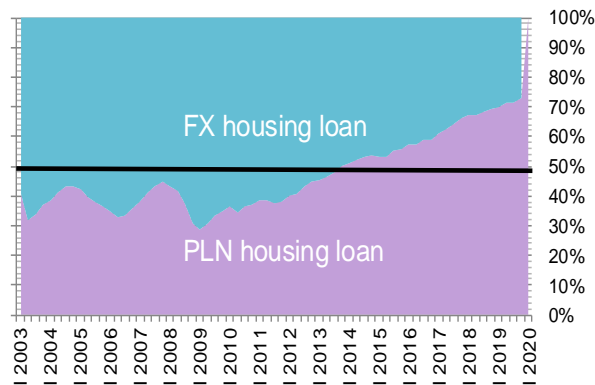
**Figure 26 Geographical structure of the value of new residential mortgage loan contracts in Poland's selected cities, quarterly data**



Note to Figures 26 and 27: the data provide information about the residential mortgage loan contracts signed and not the actual disbursement of loans. PP means "the rest of Poland". Only first quarters are marked by red points in Figure 26.

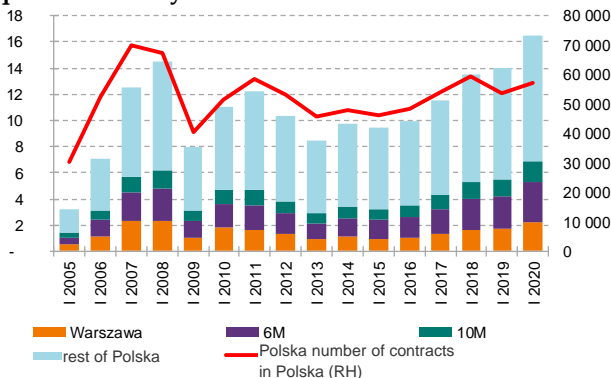
Source: BIK

**Figure 25 Currency structure of housing loan receivables from households (%)**



Source: NBP

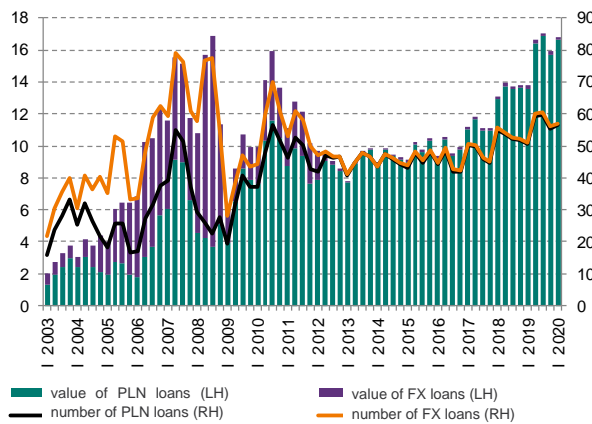
**Figure 27 Value and number of new residential mortgage loans in Poland's selected cities in first quarters in the years 2005-2020**



Source: BIK

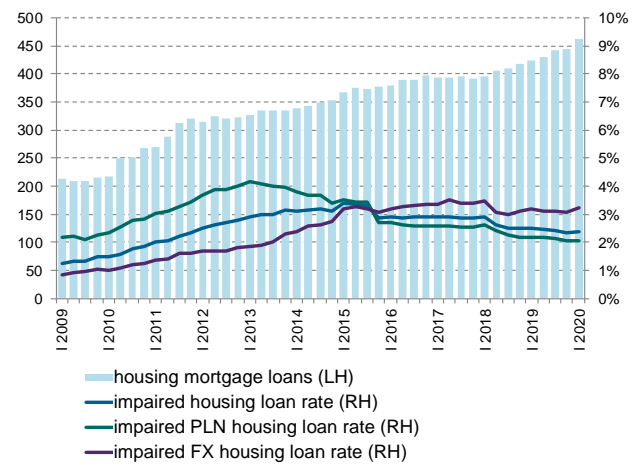


**Figure 28 New residential mortgage loans: value and number, quarterly values**



Source: ZBP (AMRON)

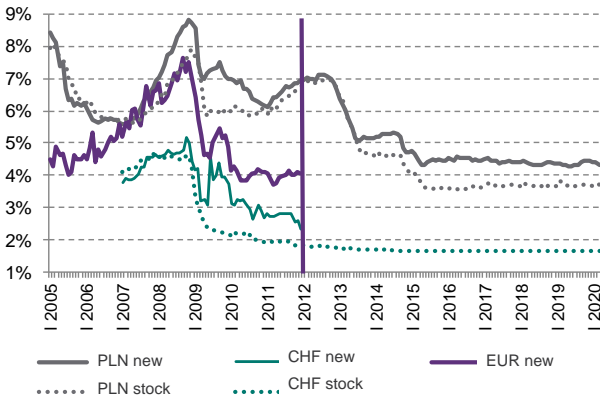
**Figure 29 Household loans for housing real estate and loans recognised as non-performing loans**



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

Source: NBP

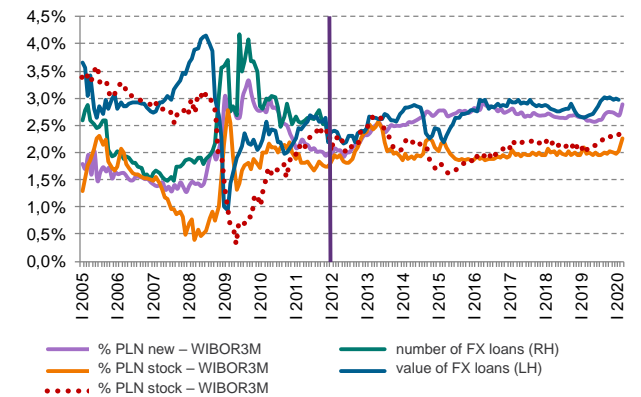
**Figure 30 Interest rates on residential mortgage loans for households in Poland**



Note to Figure 30 and 31: the violet vertical line separates a period with no FX loans; these loans practically ceased to be granted in 2012. Note to Figure 31: bank margin is the difference between the housing loan rate (NBP data) and the WIBOR3M rate or the LIBORCHF3M rate.

Source: NBP

**Figure 31 Bank margins (for WIBOR, LIBOR, EURIBOR 3M) in the case of residential mortgage loans**



Source: NBP

**Table 1 Estimated gross residential mortgage loan disbursements to households in Poland and the estimated value of cash and loan-financed\*/ purchases of developer housing in 7 cities (7M; in PLN million)**

Date	Estimated value of disbursed residential mortgage loans in Poland	Estimated value of housing transaction in the PM in 7M	Demand for lending with own contribution in the PM in 7M	Own contribution on to loans in the PM in 7M	Demand for cash (without own contribution) in the PM in 7M	Estimated share of cash home purchases in the RP in 7M **/
2015 Q1	8,996	3,980	2,051	513	1,929	61%
2015 Q2	10,640	4,435	2,426	606	2,010	59%
2015 Q3	10,341	4,709	2,358	589	2,351	62%
2015 Q4	11,237	5,113	2,562	641	2,551	62%
2016 Q1	9,742	5,158	2,221	555	2,937	68%
2016 Q2	11,661	5,425	2,659	665	2,767	63%
2016 Q3	9,632	5,234	2,196	549	3,038	69%
2016 Q4	9,933	6,635	2,265	566	4,370	74%
2017 Q1	10,945	6,851	2,495	624	4,356	73%
2017 Q2	12,139	6,480	2,768	692	3,712	68%
2017 Q3	11,794	6,676	2,689	672	3,987	70%
2017 Q4	10,652	7,152	2,429	607	4,724	75%
2018 Q1	11,914	7,015	2,716	679	4,299	71%
2018 Q2	12,807	6,072	2,920	730	3,152	64%
2018 Q3	13,024	5,697	2,969	742	2,727	61%
2018 Q4	12,584	6,759	2,869	717	3,890	68%
2019 Q1	11,865	7,156	2,705	676	4,450	72%
2019 Q2	14,653	6,713	3,341	835	3,372	63%
2019 Q3	14,554	7,282	3,318	830	3,964	66%
2019 Q4	12,770	8,147	2,912	728	5,235	73%
2020 Q1	14,871	9,059	3,391	848	5,669	72%

Note to Table 1: estimates are based on the following assumptions:

The estimated value of loan disbursements are based on the data collected from banks.

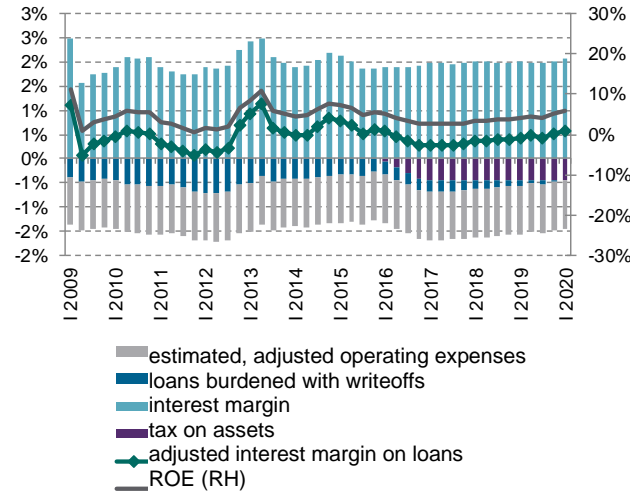
\*/ Loan-financed home purchases comprise purchases made based on a loan and the minimum cash contribution (a down payment of 25% was assumed; in large cities a more prudent assumption than the 20% requirement laid down by the amended S Recommendation), whereas cash-financed home purchases constitute the difference between the value of transactions and credit funds.

In order to calculate the estimated value of transactions in the primary market in 7M (Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław), the average home price in 7M (NBP) was multiplied by the average home size in square metres (Statistics Poland (GUS) data) and the number of dwellings sold (JLL based on REAS data). On the basis of ZBP data it was assumed that the value of newly granted loans for the purchase of housing in the primary markets of 7M amounts to approx. 57%. The estimated value of cash transactions constitutes the difference between the value of transactions in the market of 7M and loan disbursements, including own contribution. Data concerning prices for all the periods have been updated.

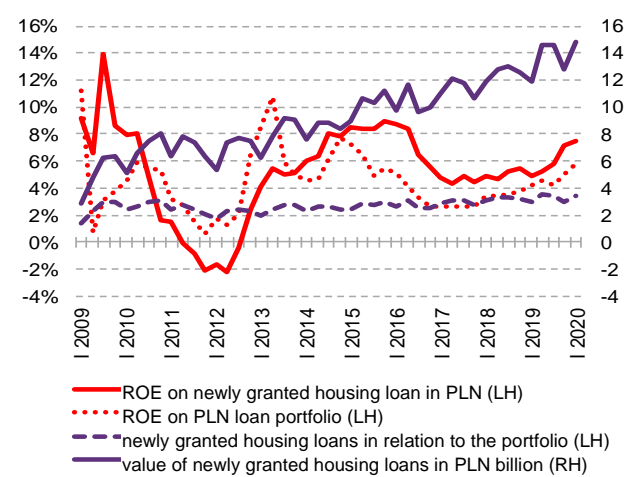
\*\*/ Other real estate sold/exchanged may also be the source of own funds.

Source: NBP, JLL/REAS, ZBP, Statistics Poland (GUS)

**Figure 32 Estimated ROE on residential mortgage loans portfolio denominated in PLN for banks in Poland, taking into account interest income and non-interest profit as well as operating expenses and bank tax**



**Figure 33 Estimated ROE on newly granted residential mortgage loans denominated in PLN for banks in Poland, taking into account interest income and non-interest profit as well as operating costs and bank tax**



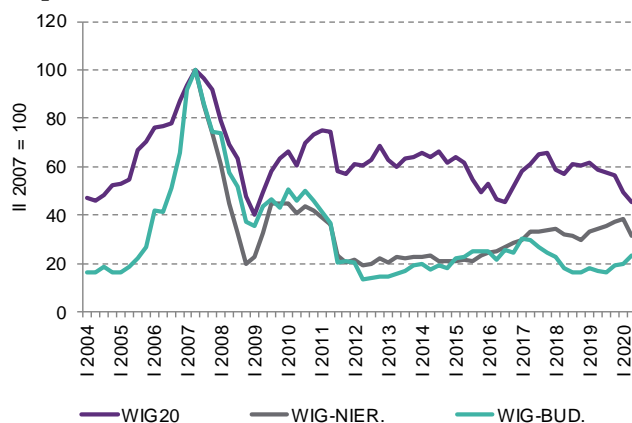
Note to Figures 32 and 33: for calculation, interest income, non-interest income and operating costs were taken into account. The estimated ROE is calculated as the adjusted interest margin in relation to equity. The adjusted interest margin is the interest margin less write-offs, less the estimated operating expenses (adjusted for the non-interest result on residential mortgage loans), less bank tax. Operating expenses less non-interest income were estimated at 1% of the value of the credit portfolio and at 1.5% of the value of new loans. Data concerning equity calculated on the basis of KNF publications. Interest margin based on NBP data.

Source: NBP, KNF

Source: NBP, KNF

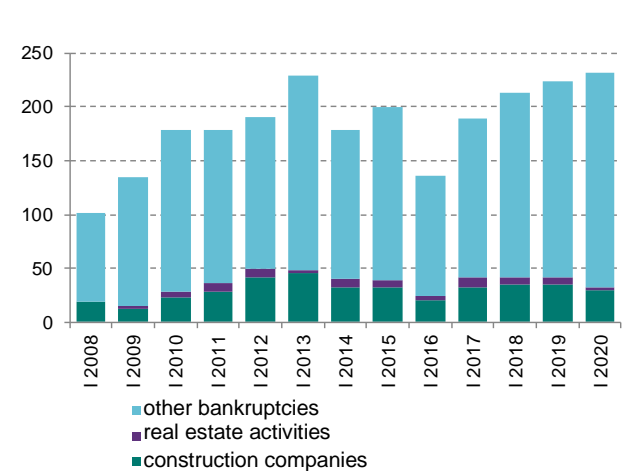
#### 4. Operating profitability of housing and real estate development projects, costs of construction and assembly output and economic situation of real estate developers in Poland

**Figure 34 Rescaled stock exchange indices: WIG20 and for real estate developers (WIG-NIER) and construction companies (WIG-BUD) (2007 Q2=100)**



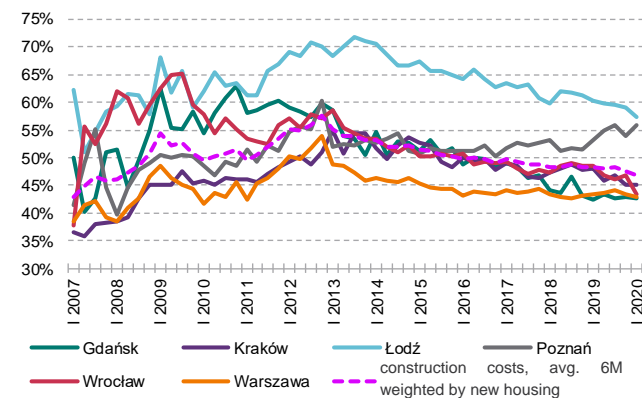
Note: harmonized data, 2007 Q2 = 100 (WIG for real estate developers has been quoted since 2007 Q2); 2020 Q1 - data as at 26 May 2020  
Source: Warsaw Stock Exchange

**Figure 35 Number of bankruptcies in construction industry (as at the end of the first quarter)**



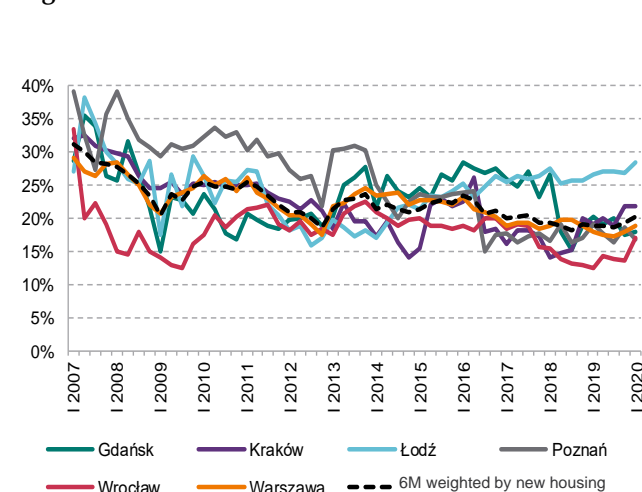
Note: breakdown according to the first entry into the KRS.  
Source: Coface Poland

**Figure 36 Estimated share of direct construction costs per square metre of the residential building's usable area (type 1122-302<sup>33</sup>) in net transaction price in 6M in PM**



Note to Figure 36: Since 2014 NBP has used its own appraisal of land for residential multifamily construction.  
Source: NBP based on Sekocenbud

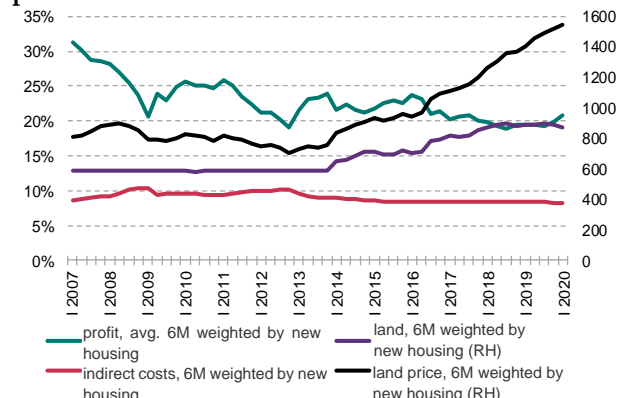
**Figure 38 Estimated rate of return on equity in real estate development projects (type 1122-302<sup>33</sup>) in the largest cities**



\* /ROE modified = net financial result/ (income from sale – net result from sale); \*\*/ DFD – average large real estate development company (according to Statistics Poland employment =>50 employees), MFD – average small real estate development company (employment 9-49 employees).

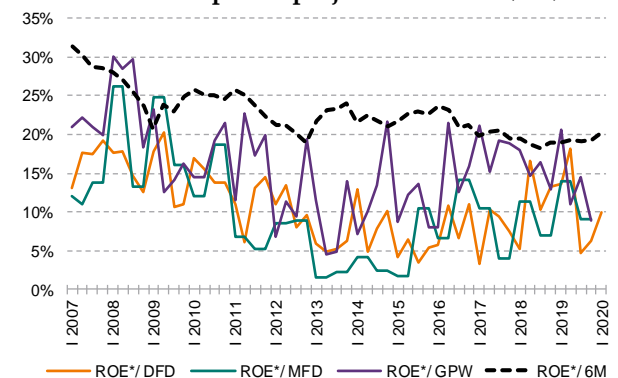
Source: NBP based on Sekocenbud, Statistics Poland (GUS) (F01)

**Figure 37 Estimated share of various construction costs per square metre of the residential building's usable area (type 1122-302<sup>33</sup>) in the net transaction price in 6M in PM**



Source: NBP based on Sekocenbud

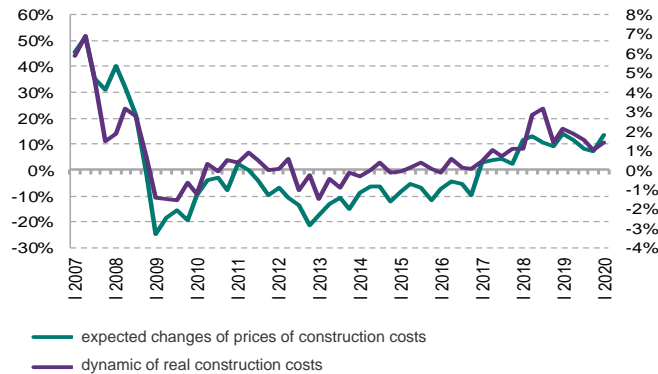
**Figure 39 Estimated profitability indicators (ROE\*) of development projects of real estate developers listed on the Stock Exchange, of large real estate developers (DFD) and small real estate developers (MFD)\*\*/ and real estate development projects in 6 cities (6M)**



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

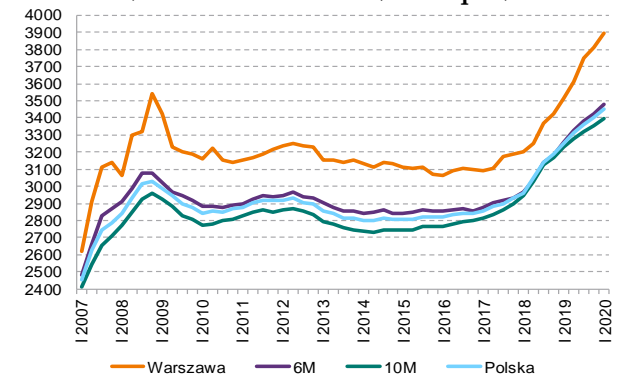
<sup>33</sup> Half of the building (type 1122-302) monitored by NBP since the second half of 2016 based on Sekocenbud data: An average residential five-storey multifamily building, with an underground garage constructed in the following technology: foundation footings, construction walls and ceilings from monolithic reinforced concrete, curtain walling in the form of bricked walls of hollow MAX blocks. Change of the type of the analysed building in 2017 is related to closing of the cost estimation of the building 1121. Analytical assumptions related to building 1121 have been maintained.

**Figure 40 Predicted changes in prices of construction and assembly works (+3M) and growth in construction costs of usable area of a residential building (type 1122-302<sup>33</sup>)**



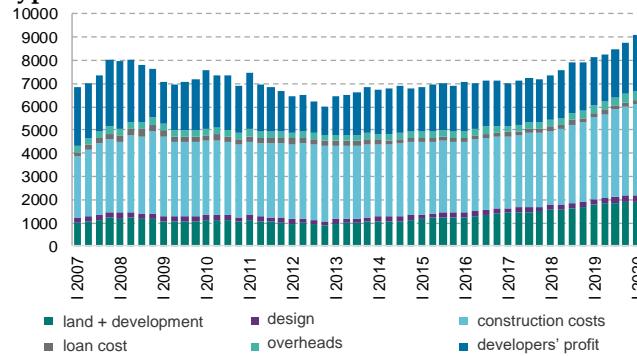
Source: NBP based on Statistics Poland (GUS) (business conditions survey), Sekocenbud

**Figure 41 Average cost of construction of square metre of the residential building's usable area (type 1122-302<sup>33</sup>) in selected markets (PLN/sq.m.)**



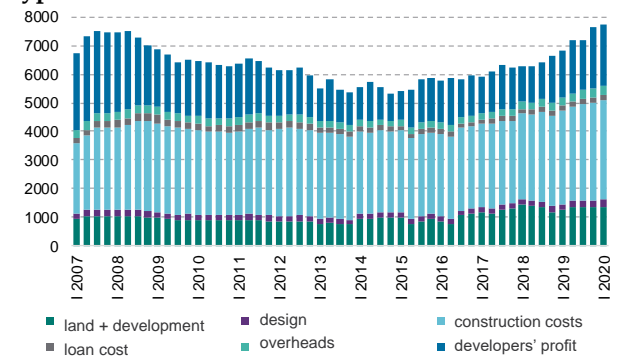
Source: NBP based on Sekocenbud

**Figure 42 Warsaw – estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33</sup>) for consumer**



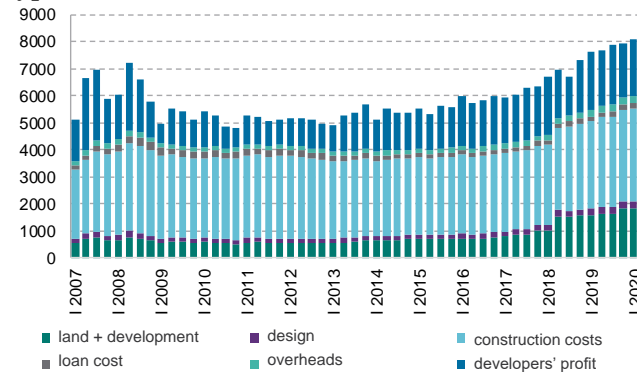
Source: NBP based on Sekocenbud, JLL/REAS

**Figure 43 Kraków - estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33</sup>) for consumer**



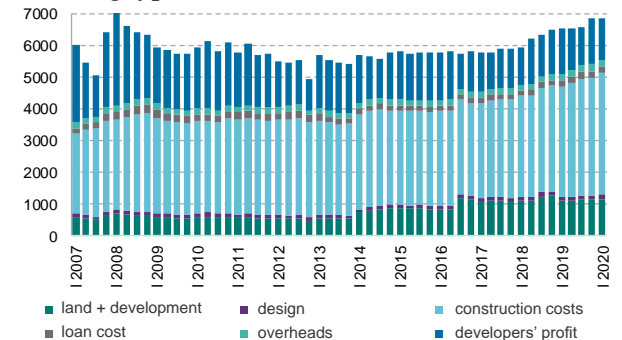
Source: NBP based on Sekocenbud, JLL/REAS

**Figure 44 Gdańsk – estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33</sup>) for consumer**



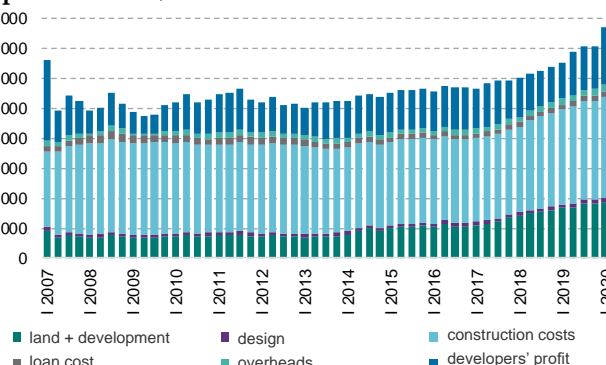
Source: NBP based on Sekocenbud, JLL/REAS

**Figure 45 Poznań - estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33</sup>) for consumer**



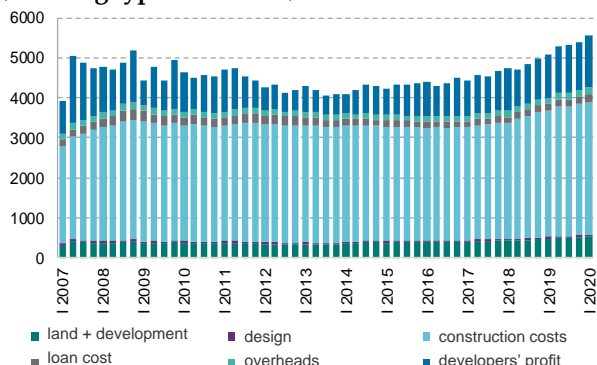
Source: NBP based on Sekocenbud, JLL/REAS

**Figure 46 Wrocław - estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33/</sup>) for consumer**



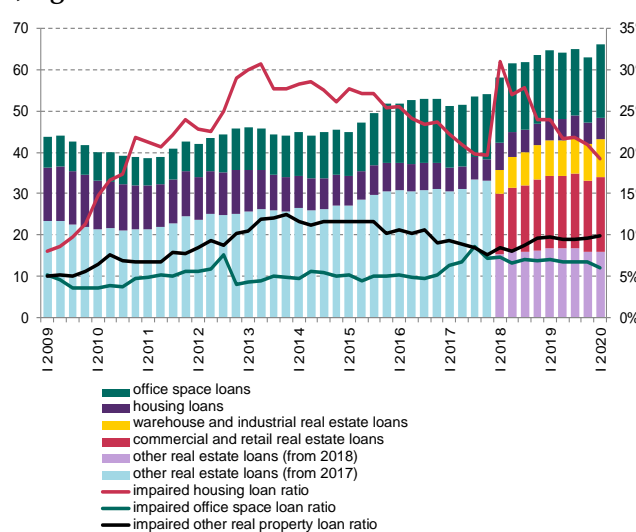
Source: NBP based on Sekocenbud, JLL/REAS

**Figure 47 Łódź – estimated structure of price per square metre of housing usable area in PM (building type 1122-302<sup>33/</sup>) for consumer**



Source: NBP based on Sekocenbud, JLL/REAS

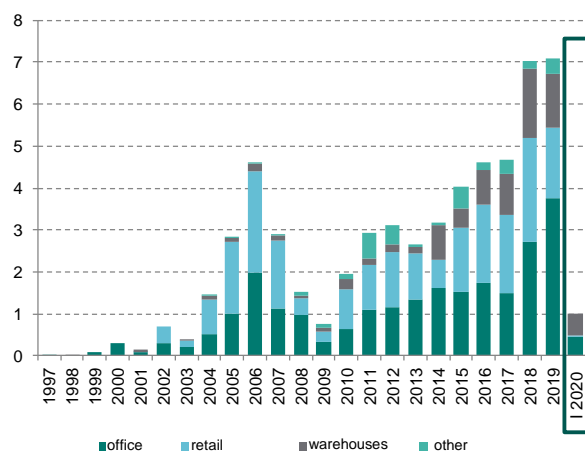
**Figure 48 Loans to corporations for real estate purchases (in PLN billion, left-hand scale) and the share of loans recognised as non-performing loans (in %, right-hand scale)**



Data exclusive of BGK. Since 2018, new accounting standards have been in place.

Source: NBP

**Figure 49 Value of investment transactions in the commercial real estate market (EUR billion)**



Source: Comparables.pl

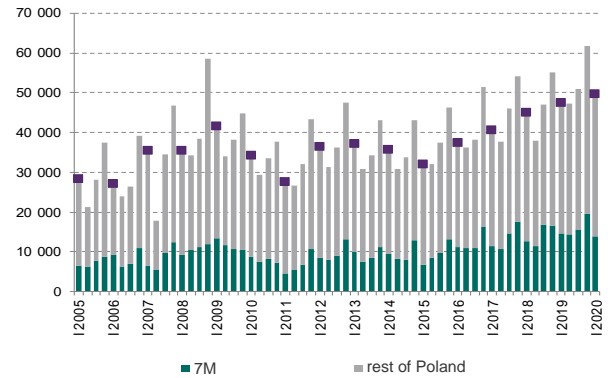
### 5. Housing construction and the residential market in Poland's selected cities

**Figure 50 Structure of investors in housing construction in Poland in first quarters of the years 2017-2020**



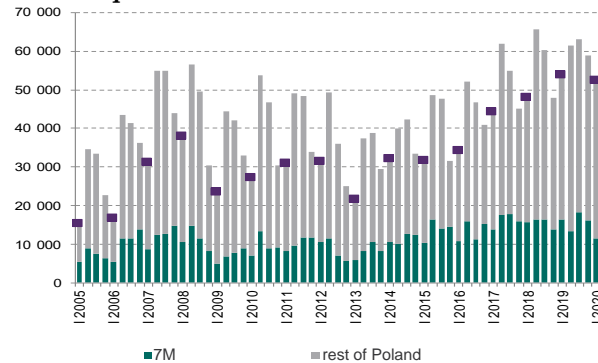
Source: Statistics Poland (GUS)

**Figure 51 Dwellings completed and made ready for occupancy in Poland, in quarter-on-quarter terms**



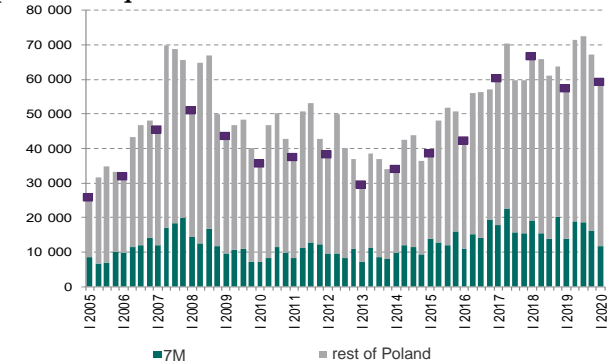
Note to Figures 51–53: only first quarters have been marked in violet. Source: Statistics Poland (GUS)

**Figure 52 Dwellings under construction in Poland, in quarter-on-quarter terms**



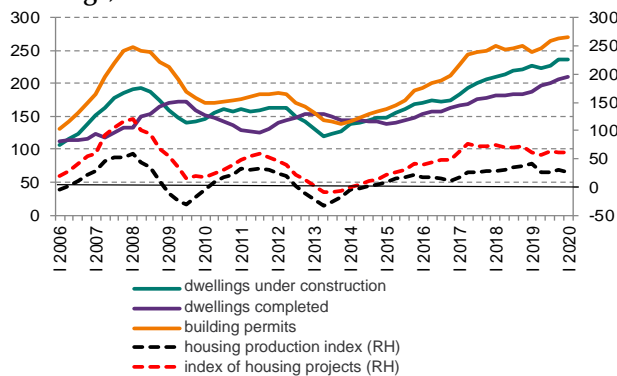
Source: Statistics Poland (GUS)

**Figure 53 Issued home building permits in Poland, in quarter-on-quarter terms**



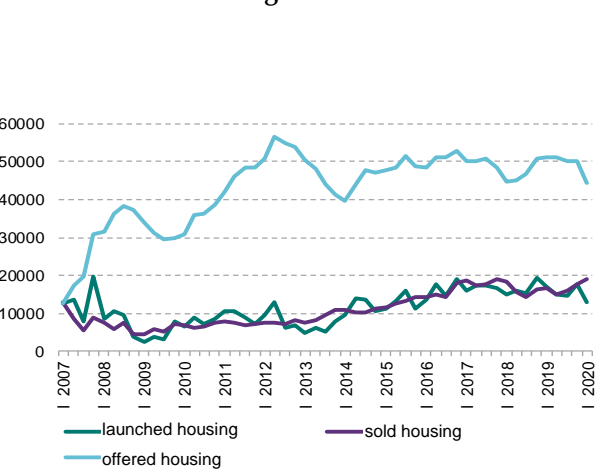
Source: Statistics Poland (GUS)

**Figure 54 Housing construction in Poland (in thousands of dwellings) and home construction in progress (dwellings under construction minus completed dwelling) and investment projects in progress (home construction permits minus completed dwellings)**



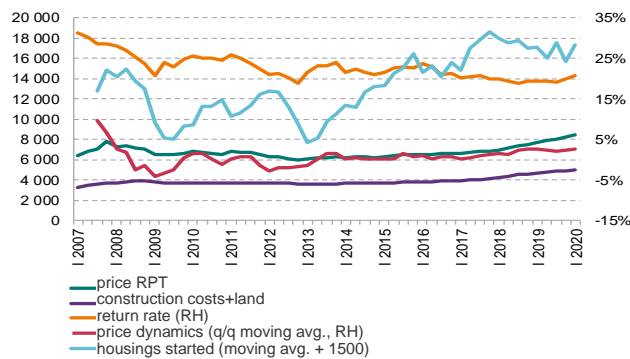
Note: rolling averages for the last four quarters. Source: NBP based on PABB and Statistics Poland (GUS)

**Figure 55 Number of contracts for the construction of dwellings put on the market, both sold and offered for sale in Poland's 6 largest markets.\*/**

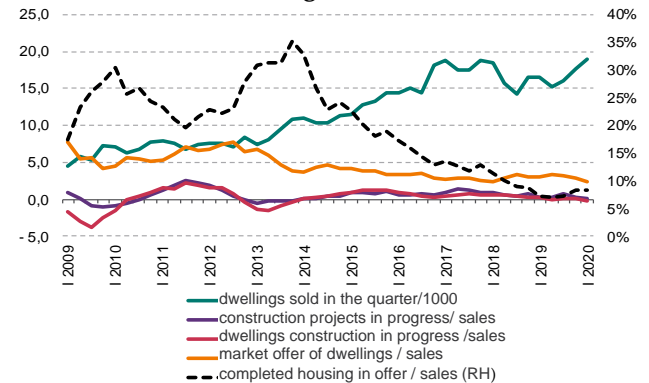


\*/Warsaw, Kraków, Tri-City Agglomeration, Wrocław, Poznań, Łódź. Source: JLL/REAS

**Figure 56 Housing supply and the estimated rate of return on housing development projects in PM in 7M**



**Figure 57 Housing projects and dwellings under construction and dwellings offered for sale in 7M**

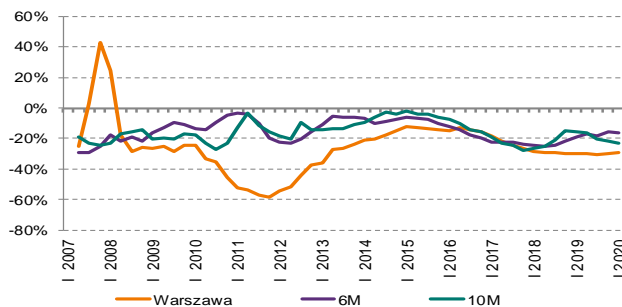


Note to Figure 57: Housing projects in progress = building permits for dwellings minus completed dwellings; home constructions in progress = dwellings whose construction has begun minus completed dwellings; cumulative values of the last 4 quarters, divided by sales in the given period.

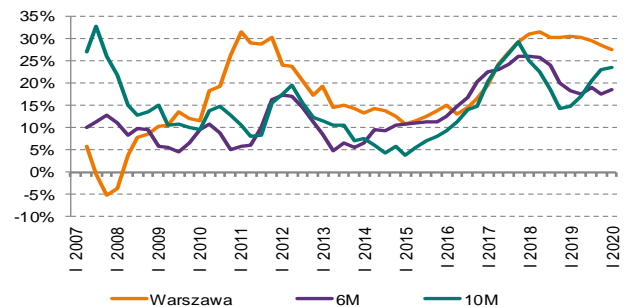
Source: NBP, Statistics Poland (GUS), JLL/REAS, Sekocenbud

Source: NBP based on Statistics Poland (GUS)

**Figure 58 Measure of adjustment of housing units on offer to demand in terms of area ≤ 50 sq. m., PM in selected cities in Poland**



**Figure 59 Measure of adjustment of housing units on offer to demand in terms of area > 50 sq. m., PM in selected cities in Poland**

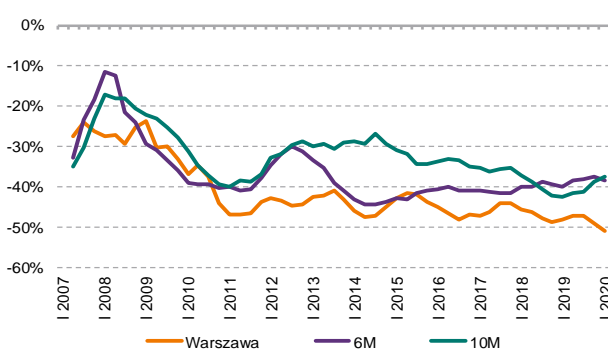


Note: figure 58 presents, in percentage terms, a short-term mismatch in the primary market between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the dwelling's size, according to the data from the BaRN database. The mismatch is calculated as the ratio of the share of housing units with usable area of up to 50 square metres offered for sale to the number of transactions involving housing units with a total area of up to 50 square metres (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 59 is parallel for the space above 50 sq.m. Figures 60-61 are parallel, but they concern the secondary market only.

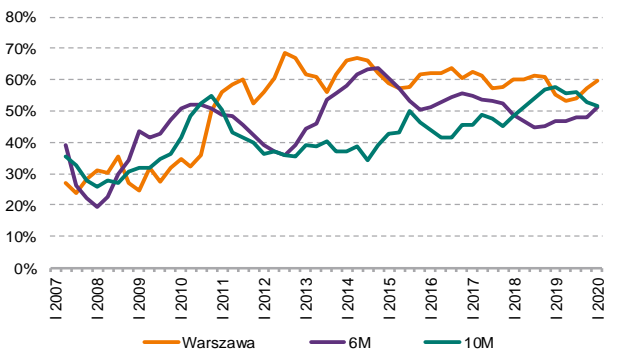
Source: NBP

Source: NBP

**Figure 60 Measure of adjustment of housing units on offer to demand\* in terms of area ≤ 50 sq. m, SM in selected cities of Poland**



**Figure 61 Measure of adjustment of housing units on offer to demand\* in terms of area ≤ 50 sq. m, SM in selected cities of Poland**

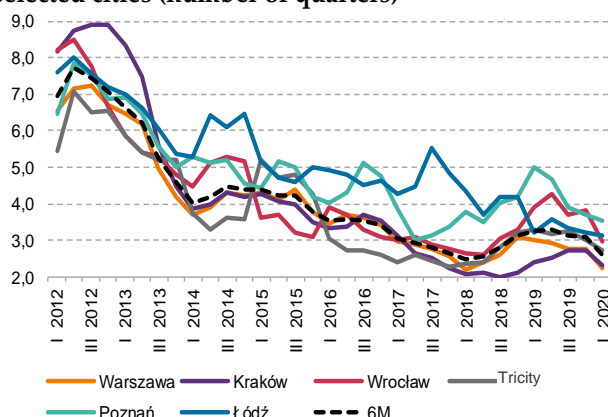


Source: NBP

Source: NBP



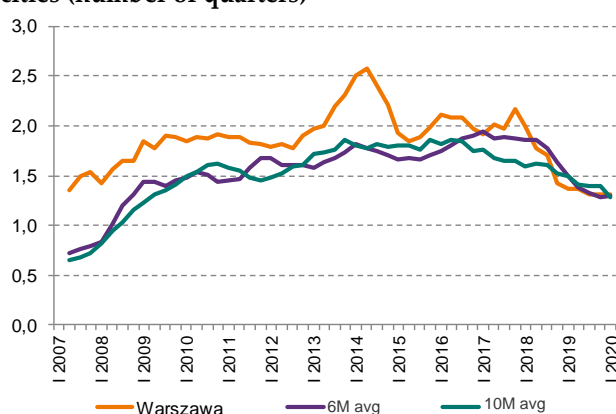
**Figure 62 Selling time of dwellings on offer in PM in selected cities (number of quarters)**



Note: selling time in primary markets is the relation of the number of housing units on offer at the end of the current quarter in relation to the number of housing units sold in the last four quarters.

Source: NBP based on JLL/REAS

**Figure 63 Selling time of dwellings in SM in selected cities (number of quarters)**

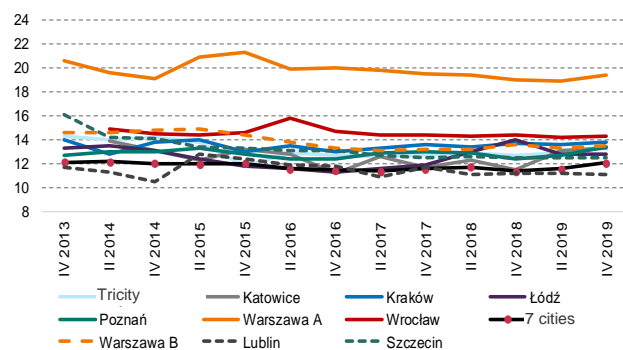


Note: the actual selling time, average of the last four quarters; data are not comparable with Figure 62. Home selling time in the secondary market takes into account only transactions ended with a sale deal. The data are underestimated since they do not contain offers entered but not sold yet.

Source: NBP

## 6. Rents and transaction prices of commercial real estate

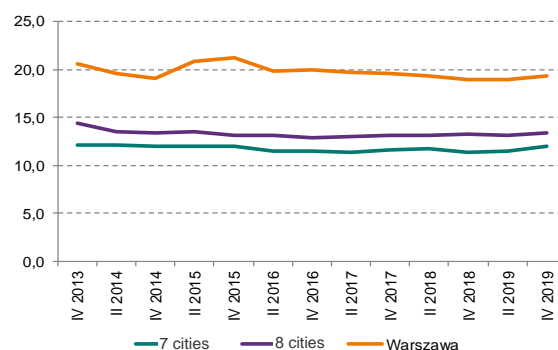
**Figure 64 Transaction rents for A class office space (average prices in EUR/sq.m./month)**



Note: Warsaw A - A class office buildings, Warsaw B - B class office buildings. 7 cities include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra

Source: NBP

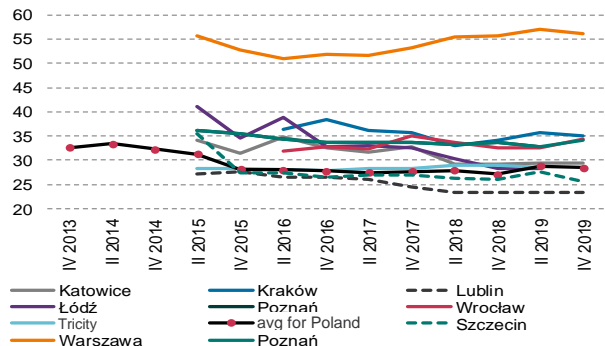
**Figure 65 Transaction rents for B class office space (average prices in EUR/sq.m./month)**



Note: 8 cities include: Katowice, Kraków, Lublin, Łódź, Poznań, Szczecin, Tri-City Agglomeration, Wrocław. 7 cities include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra.

Source: NBP

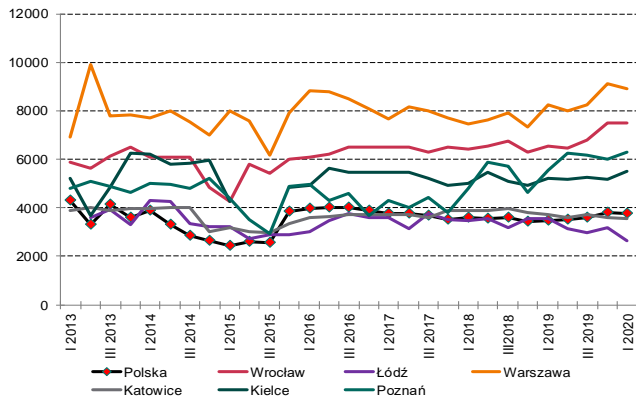
**Figure 66 Transaction rents for retail space in shopping centres (shopping malls) with an area of 100-500 sq. m (EUR/ sq.m./month)**



Source: NBP

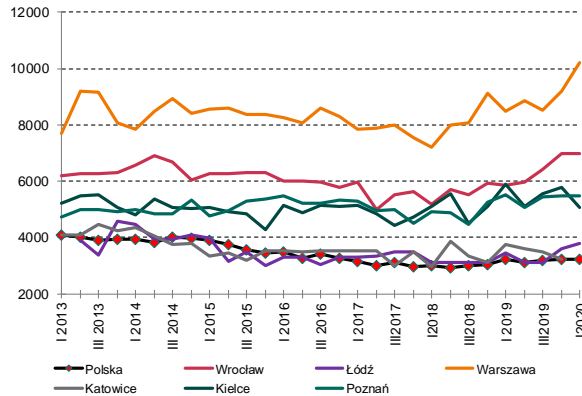
Note to Figure 66: as of the beginning of 2015 Q4, the number of records in the base, including respondents, has increased significantly, consequently changing the analysed sample. Rents for premises located in economically significant parts of the city are analysed.

**Figure 67 Median of offer selling price of small office premises in SM (PLN/sq.m.)**



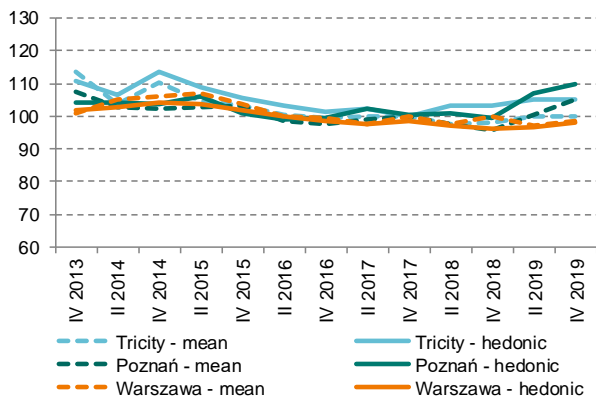
Source: PONT, NBP

**Figure 68 Median of offer selling price of small retail premises in SM (PLN/sq.m.)**



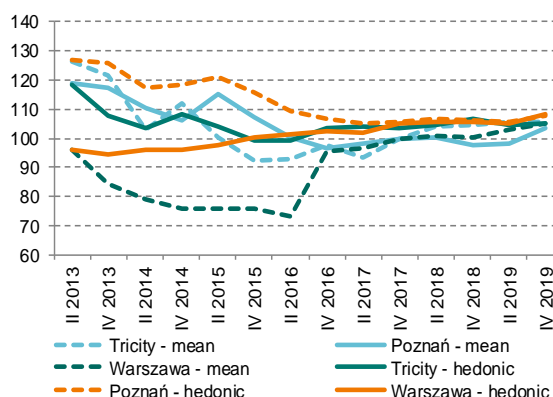
Source: PONT, NBP

**Figure 69 Index of rents for offices, average and hedonic index (2017 Q4 = 100)**



Source: NBP

**Figure 70 Index of rents for shopping centres, average and hedonic index (2017 Q4 = 100)**



Source: NBP

**Table 2 Estimated rate of return on equity from investment in B class office space in Warsaw**

Date	Hedonic rent per sq.m of space in EUR	Hedonic price per sq.m. of space in EUR	Calculated capitalisation rate (yield)	Market capitalisation rate (yield)	ROE with LTC = 0%	ROE with LTC = 50%	ROE with LTC = 80%	Average market rates of return on 10-year Treasury bonds	Estimated ROE for LTC = 0% for the euro area
IV 2013	14,6	2318	7,5%	7,0%	3,7%	5,4%	10,5%	4,4%	2,7%
II 2014	15,0	2172	8,3%	7,0%	4,2%	6,5%	13,2%	3,4%	3,2%
IV 2014	15,0	2172	8,3%	7,0%	4,2%	6,5%	13,2%	2,6%	3,2%
II 2015	15,2	2531	7,2%	7,0%	3,5%	5,0%	9,4%	2,8%	2,5%
IV 2015	15,0	2531	7,1%	7,0%	3,4%	4,8%	8,9%	2,8%	2,4%
II 2016	14,8	2499	7,1%	6,5%	3,4%	4,8%	8,9%	3,0%	2,4%
IV 2016	14,9	2499	7,1%	6,5%	3,4%	4,9%	9,1%	3,3%	2,4%
II 2017	14,7	2700	6,5%	6,0%	3,0%	4,0%	6,9%	3,3%	2,0%
IV 2017	15,0	2700	6,6%	6,0%	3,1%	4,1%	7,4%	3,4%	2,1%
II 2018	14,8	2600	6,8%	6,0%	3,2%	4,4%	8,0%	3,2%	2,2%
IV 2018	15,3	2600	7,0%	6,0%	3,4%	4,7%	8,8%	3,1%	2,4%
II 2019	14,7	2700	6,5%	6,0%	3,0%	4,0%	7,0%	2,7%	2,0%
IV 2019	14,8	2700	6,6%	6,0%	3,0%	4,0%	7,1%	2,1%	2,0%

Assumptions: Loan in EUR granted for 25 years, equal instalments payable four times a year. Building amortization of 2.5%, standard for commercial real estate. It was assumed that the cost of land accounts for 20% of the investment cost. The calculated capitalization rate includes building amortization costs. CIT has been accounted for. ROE – net income/equity.

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

**Table 3 Estimated rate of return on investment in housing of 50 sq. m. in Warsaw**

Date	Transaction rate (PLN/sq.m.)	Average transaction price (50% PM, 50% SM) (PLN/sq.m.)	Calculated capitalisation rate (yield)	ROE with LTV = 0%	ROE with LTV = 50%	ROE with LTV = 80%	Average market rates of return on 10-year Treasury bonds
2013 Q4	43.5	7,558	6.9%	4.3%	3.4%	0.9%	4.4%
2014 Q2	43.4	7,574	6.9%	4.3%	2.9%	0.2%	3.4%
2014 Q4	43.6	7,601	6.9%	4.3%	2.9%	0.3%	2.6%
2015 Q2	43.8	7,659	6.9%	4.2%	3.8%	3.8%	2.8%
2015 Q4	45.0	7,682	7.0%	4.4%	3.9%	4.0%	2.8%
2016 Q2	46.4	7,719	7.2%	4.5%	4.2%	4.4%	3.0%
2016 Q4	48.4	7,871	7.4%	4.7%	4.5%	5.5%	3.3%
2017 Q2	47.9	8,002	7.2%	4.5%	4.2%	4.8%	3.3%
2017 Q4	49.7	8,202	7.3%	4.6%	4.4%	5.3%	3.4%
2018 Q2	51.2	8,638	7.1%	4.5%	4.2%	4.9%	3.2%
2018 Q4	52.2	9,013	7.0%	4.3%	3.9%	4.1%	3.1%
2019 Q2	53.3	9,414	6.8%	4.2%	3.8%	3.8%	2.7%
2019 Q4	55.1	9,738	6.8%	4.2%	3.6%	3.2%	2.0%

Assumptions: Transaction price per square metre of housing (50% from the primary market, increased by finishing costs - amounting to +PLN 700.00/sq.m. since 2018 - and 50% from the secondary market). Average transaction rent. Loan in PLN granted for 25 years, equal instalments payable four times a year. Occupancy of 95%. Calculated capitalization rate include amortization costs (1.5%; two thorough renovations in the period of 100 years). Taxable with lump-sum tax of 8.5%. ROE – net income/equity. Calculations have been verified against those presented before.

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

**Table 4 Average prices of a square metre of housing in the primary market in Gdańsk**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	8 259	8 262	9 033	8 288	9 474	8 534	9 806	8 585	9 904	8 741
growth (q-o-q)	96,0	104,4	109,4	100,3	104,9	103,0	103,5	100,6	101,0	101,8
growth (y-o-y)	102,6	114,0	107,3	111,2	114,6	118,4	114,0	108,4	119,9	105,8
dwelling price range	3 967	1 309	3 780	1 424	4 118	1 331	3 625	1 478	3 110	1 204
<=4 000 PLN/sq.m	27	0	10	4	9	2	14	1	4	1
( 4 001; 6 000] PLN/sq.m	994	327	594	262	412	168	172	204	59	84
( 6 001; 8 000] PLN/sq.m	1 056	447	940	494	1 209	441	957	540	1 000	478
( 8 001; 10 000] PLN/sq.m	1 057	287	1 137	392	945	410	1 004	331	613	297
>10 001 PLN/sq.m	833	248	1 099	272	1 543	310	1 478	402	1 434	344
dwelling space range	3 967	1 309	3 780	1 424	4 118	1 331	3 625	1 478	3 110	1 204
<= 40 sq.m	553	349	512	388	607	341	600	361	416	290
(40,1; 60] sq.m	1755	550	1710	596	1838	588	1605	707	1430	548
(60,1; 80] sq.m	1289	318	1160	356	1225	334	998	323	872	288
> 80,1 sq.m	370	92	398	84	448	68	422	87	392	78
average price of 1 sq.m. of dwelling	8 259	8 262	9 033	8 288	9 474	8 534	9 806	8 585	9 904	8 741
<=4 000 sq.m	9 181	9 527	9 794	8 772	10112	9303	10941	8744	10456	9575
(40,1; 60] sq.m	8 084	7 661	8 936	8 010	9398	8141	9681	8404	9769	8536
(60,1; 80] sq.m	7 714	7 630	8 382	8 067	8754	8320	8932	8306	9257	8024
> 80,1 sq.m	9 604	9 246	10 364	8 964	10890	9128	10736	10438	11252	9731
average offer price deviation	0,0%	x	9,0%	x	11,0%	x	14,2%	x	13,3%	x
<= 40 sq.m	-3,6%	x	11,7%	x	8,7%	x	25,1%	x	9,2%	x
(40,1; 60] sq.m	5,5%	x	11,6%	x	15,4%	x	15,2%	x	14,4%	x
(60,1; 80] sq.m	1,1%	x	3,9%	x	5,2%	x	7,5%	x	15,4%	x
> 80,1 sq.m	3,9%	x	15,6%	x	19,3%	x	2,9%	x	15,6%	x

Source: NBP

**Table 5 Average prices of a square metre of housing in the secondary market in Gdańsk**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 415	7 351	9 345	7 823	9 958	7 687	9 889	8 268	10 562	8 347
growth (q-o-q)	106,3	97,9	99,3	106,4	106,6	98,3	99,3	107,6	106,8	101,0
growth (y-o-y)	121,8	113,4	109,1	118,1	113,9	107,5	111,7	110,1	112,2	113,6
dwelling price range	1 467	863	1 314	1 008	1 080	904	1 247	988	885	888
<=4 000 PLN/sq.m	4	16	1	2	1	9	0	3	0	8
( 4 001; 6 000] PLN/sq.m	129	187	86	156	47	139	40	104	27	74
( 6 001; 8 000] PLN/sq.m	450	413	491	458	295	431	351	423	178	359
( 8 001; 10 000] PLN/sq.m	394	166	319	252	306	231	393	289	259	302
>10 001 PLN/sq.m	490	81	417	140	431	94	463	169	421	145
dwelling space range	1 467	863	1 314	1 008	1 080	904	1 247	988	885	888
<= 40 sq.m	238	211	289	260	204	224	242	242	124	216
(40,1; 60] sq.m	534	376	471	443	409	406	453	496	336	433
(60,1; 80] sq.m	418	181	335	206	279	191	343	179	253	190
> 80,1 sq.m	277	95	219	99	188	83	209	71	172	49
average price of 1 sq.m. of dwelling	9 415	7 351	9 345	7 823	9 958	7 687	9 889	8 268	10 562	8 347
<=4 000 sq.m	10 469	8 134	9 658	8 607	10691	8618	10385	9094	11571	8923
(40,1; 60] sq.m	9 652	7 323	9 421	7 723	10198	7705	10023	8215	10951	8330
(60,1; 80] sq.m	8 641	6 875	9 010	7 396	9224	7043	9487	7473	9700	7692
> 80,1 sq.m	9 222	6 628	9 280	7 100	9728	6571	9681	7829	10342	8501
average offer price deviation	28,1%	x	19,5%	x	29,5%	x	19,6%	x	26,5%	x
<= 40 sq.m	28,7%	x	12,2%	x	24,1%	x	14,2%	x	29,7%	x
(40,1; 60] sq.m	31,8%	x	22,0%	x	32,4%	x	22,0%	x	31,5%	x
(60,1; 80] sq.m	25,7%	x	21,8%	x	31,0%	x	27,0%	x	26,1%	x
> 80,1 sq.m	39,1%	x	30,7%	x	48,0%	x	23,7%	x	21,7%	x

Source: NBP

**Table 6 Average prices of a square metre of housing in the primary market in Kraków**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 630	7 370	7 968	7 775	8 021	7 787	8 544	8 243	9 188	8 356
growth (q-o-q)	103,7	102,4	104,4	105,5	100,7	100,2	106,5	105,8	107,5	101,4
growth (y-o-y)	110,3	108,5	115,4	114,7	113,9	112,1	116,2	114,5	120,4	113,4
dwelling price range	4 860	1 586	5 247	1 720	5 459	1 572	6 553	2 031	5 456	2 103
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
( 4 001; 6 000] PLN/sq.m	445	254	496	176	506	186	358	152	98	157
( 6 001; 8 000] PLN/sq.m	2 891	860	2 419	864	2 485	772	2 342	797	1 471	788
(8 001; 10 000] PLN/sq.m	1 174	351	1 819	557	1 988	480	2 872	862	2 381	878
>10 001 PLN/sq.m	350	121	513	123	480	134	981	220	1 506	280
dwelling space range	4 860	1 586	5 247	1 720	5 459	1 572	6 553	2 031	5 456	2 103
<= 40 sq.m	1017	449	937	494	980	420	1227	558	1010	538
(40,1; 60] sq.m	2440	794	2768	812	2803	807	3269	1018	2594	1091
(60,1; 80] sq.m	1095	297	1196	315	1319	264	1642	353	1479	372
> 80,1 sq.m	308	46	346	99	357	81	415	102	373	102
average price of 1 sq.m. of dwelling	7 630	7 370	7 968	7 775	8 021	7 787	8 544	8 243	9 188	8 356
<=4 000 sq.m	8074	7998	8389	8302	8528	8237	8930	8714	9871	8820
(40,1; 60] sq.m	7539	7134	7901	7605	8020	7672	8542	8138	9133	8379
(60,1; 80] sq.m	7458	7059	7777	7420	7694	7499	8269	7827	8839	7750
> 80,1 sq.m	7493	7336	8031	7673	7840	7536	8500	8147	9107	7868
average offer price deviation	3,5%	x	2,5%	x	3,0%	x	3,7%	x	10,0%	x
<= 40 sq.m	0,9%	x	1,0%	x	3,5%	x	2,5%	x	11,9%	x
(40,1; 60] sq.m	5,7%	x	3,9%	x	4,5%	x	5,0%	x	9,0%	x
(60,1; 80] sq.m	5,7%	x	4,8%	x	2,6%	x	5,6%	x	14,0%	x
> 80,1 sq.m	2,1%	x	4,7%	x	4,0%	x	4,3%	x	15,7%	x

Source: NBP

**Table 7 Average prices of a square metre of housing in the secondary market in Kraków**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	8 697	6 626	8 899	6 956	8 913	7 135	9 109	7 414	9 518	7 766
growth (q-o-q)	102,7	96,8	102,3	105,0	100,2	102,6	102,2	103,9	104,5	104,8
growth (y-o-y)	112,0	106,6	111,2	108,7	110,6	107,8	107,6	108,3	109,4	117,2
dwelling price range	597	303	656	316	493	344	493	330	569	310
<=4 000 PLN/sq.m	0	3	0	2	0	0	0	0	0	0
( 4 001; 6 000] PLN/sq.m	49	107	35	86	19	66	15	47	6	32
( 6 001; 8 000] PLN/sq.m	217	154	231	161	175	200	139	176	138	147
(8 001; 10 000] PLN/sq.m	204	33	229	62	181	65	211	94	239	108
>10 001 PLN/sq.m	127	6	161	5	118	13	128	13	186	23
dwelling space range	597	303	656	316	493	344	493	330	569	310
<= 40 sq.m	124	120	160	135	113	154	123	155	145	128
(40,1; 60] sq.m	240	141	252	135	199	147	208	132	251	140
(60,1; 80] sq.m	136	35	142	38	122	38	111	40	121	39
> 80,1 sq.m	97	7	102	8	59	5	51	3	52	3
average price of 1 sq.m. of dwelling	8 697	6 626	8 899	6 956	8 913	7 135	9 109	7 414	9 518	7 766
<=4 000 sq.m	9 520	7 084	9 591	7 403	9894	7674	10079	7821	10512	8463
(40,1; 60] sq.m	8 476	6 415	8 600	6 671	8579	6888	8782	7228	9275	7442
(60,1; 80] sq.m	8 232	5 975	8 407	6 297	8426	6052	8602	6401	8875	6733
> 80,1 sq.m	8 844	6 300	9 238	7 366	9168	6009	9205	8036	9413	6618
average offer price deviation	31,2%	x	27,9%	x	24,9%	x	22,9%	x	22,6%	x
<= 40 sq.m	34,4%	x	29,6%	x	28,9%	x	28,9%	x	24,2%	x
(40,1; 60] sq.m	32,1%	x	28,9%	x	24,6%	x	21,5%	x	24,6%	x
(60,1; 80] sq.m	37,8%	x	33,5%	x	39,2%	x	34,4%	x	31,8%	x
> 80,1 sq.m	40,4%	x	25,4%	x	52,6%	x	14,5%	x	42,2%	x

Source: NBP

**Table 8 Average prices of a square metre of housing in the primary market in Łódź**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.		
average price (PLN/sq.m.)	5 796	5 631	6 010	5 853	6 027	5 881	6 274	6 026	6 608	6 249
growth (q-o-q)	102,3	102,3	103,7	103,9	100,3	100,5	104,1	102,5	105,3	103,7
growth (y-o-y)	104,9	108,1	109,8	112,4	109,0	109,8	110,8	109,4	114,0	111,0
dwelling price range	1 253	254	1 442	408	1 465	467	1 869	420	1 049	323
<=4 000 PLN/sq.m	2	0	0	0	2	0	4	0	0	0
(4 001; 5 000] PLN/sq.m	43	26	41	26	34	1	26	4	13	6
(5 001; 6 000] PLN/sq.m	859	170	779	235	800	326	759	260	326	117
(6 001; 7 000] PLN/sq.m	322	54	533	129	559	127	792	129	391	169
> 7 000 PLN/sq.m	27	4	89	18	70	13	288	27	319	31
dwelling space range	1 253	254	1 442	408	1 465	467	1 869	420	1 049	323
<= 40 sq.m	138	49	207	87	167	91	362	75	232	105
(40,1; 60] sq.m	564	148	663	204	701	240	921	216	529	174
(60,1; 80] sq.m	476	35	486	94	472	79	480	111	221	35
> 80,1 sq.m	75	22	86	23	125	57	106	18	67	9
average price of 1 sq.m. of dwelling	5 796	5 631	6 010	5 853	6 027	5 881	6 274	6 026	6 608	6 249
<=4 000 sq.m	6 252	6 028	6 538	6 254	6 610	6 215	6 952	6 504	7 481	6 692
(40,1; 60] sq.m	5 805	5 592	6 044	5 886	6 084	5 875	6 177	6 007	6 542	6 079
(60,1; 80] sq.m	5 656	5 507	5 779	5 481	5 812	5 679	5 931	5 722	5 895	5 781
> 80,1 sq.m	5 772	5 198	5 782	5 571	5 742	5 656	6 354	6 143	6 467	6 200
average offer price deviation	2,9%	x	2,7%	x	2,5%	x	4,1%	x	5,7%	x
<= 40 sq.m	3,7%	x	4,5%	x	6,4%	x	6,9%	x	11,8%	x
(40,1; 60] sq.m	3,8%	x	2,7%	x	3,6%	x	2,8%	x	7,6%	x
(60,1; 80] sq.m	2,7%	x	5,4%	x	2,3%	x	3,6%	x	2,0%	x
> 80,1 sq.m	11,0%	x	3,8%	x	1,5%	x	3,4%	x	4,3%	x

Source: NBP

**Table 9 Average prices of a square metre of housing in the secondary market in Łódź**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	5 053	4 616	5 116	4 596	5 203	4 708	5 392	4 870	5 465	5 011
growth (q-o-q)	105,0	103,4	101,2	99,6	101,7	102,4	103,6	103,4	101,3	102,9
growth (y-o-y)	114,0	114,8	110,2	116,1	110,4	110,6	112,1	109,1	108,1	108,6
dwelling price range	610	88	503	98	425	179	304	83	243	167
<= 3 000 PLN/sq.m	9	1	15	4	3	10	4	0	0	2
(3 001; 4 000] PLN/sq.m	89	4	68	18	53	24	25	11	27	19
(4 001; 5 000] PLN/sq.m	234	10	178	56	145	85	87	44	69	71
(5 001; 6 000] PLN/sq.m	185	29	159	16	146	41	122	18	84	49
(6 001; 7 000] PLN/sq.m.	59	21	51	4	52	16	38	10	33	22
> 7 001 PLN/sq.m	34	23	32	0	26	3	28	0	30	4
dwelling space range	610	88	503	98	425	179	304	83	243	167
<= 40 sq.m	77	27	93	30	68	67	50	27	25	57
(40,1; 60] sq.m	226	37	171	42	148	76	101	35	84	79
(60,1; 80] sq.m	140	13	112	11	91	25	78	14	57	23
> 80,1 sq.m	167	11	127	15	118	11	75	7	77	8
average price of 1 sq.m. of dwelling	5 053	4 616	5 116	4 596	5 203	4 708	5 392	4 870	5 465	5 011
<=4 000 sq.m	5 436	4 809	5 604	4 835	5 692	4 804	5 871	4 982	6 040	5 317
(40,1; 60] sq.m	5 188	4 527	5 180	4 644	5 295	4 653	5 507	4 970	5 660	4 887
(60,1; 80] sq.m	5 200	4 582	5 294	4 722	5 187	4 739	5 349	4 864	5 437	4 810
> 80,1 sq.m	4 570	4 478	4 514	3 892	4 817	4 436	4 962	3 953	5 085	4 631
average offer price deviation	9,5%	x	11,3%	x	10,5%	x	10,7%	x	9,1%	x
<= 40 sq.m	13,0%	x	15,9%	x	18,5%	x	17,8%	x	13,6%	x
(40,1; 60] sq.m	14,6%	x	11,5%	x	13,8%	x	10,8%	x	15,8%	x
(60,1; 80] sq.m	13,5%	x	12,1%	x	9,5%	x	10,0%	x	13,0%	x
> 80,1 sq.m	2,0%	x	16,0%	x	8,6%	x	25,5%	x	9,8%	x

Source: NBP

**Table 10 Average prices of a square metre of housing in the primary market in Poznań**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 349	7 057	7 228	7 080	7 380	7 124	7 384	7 406	7 526	7 424
growth (q-o-q)	104,5	100,6	98,3	100,3	102,1	100,6	100,1	104,0	101,9	100,2
growth (y-o-y)	110,1	109,7	105,3	105,1	106,5	104,0	105,0	105,6	102,4	105,2
dwelling price range	6 123	1 068	6 816	1 433	6 652	1 335	6 056	1 566	6 252	1 299
<=4 000 PLN/sq.m	1	1	1	0	0	0	0	0	0	0
( 4 001; 6 000] PLN/sq.m	807	151	732	314	564	243	493	167	431	121
( 6 001; 8 000] PLN/sq.m	3 938	741	4 801	839	4 585	857	4 251	1 016	3 972	884
(8 001; 10 000] PLN/sq.m	1 212	148	1 150	244	1 344	215	1 163	351	1 692	259
>10 001 PLN/sq.m	165	27	132	36	159	20	149	32	157	35
dwelling space range	6 123	1 068	6 816	1 433	6 652	1 335	6 056	1 566	6 252	1 299
<= 40 sq.m	1243	303	1334	370	1328	329	1054	391	1173	371
(40,1; 60] sq.m	3128	518	3367	758	3098	748	2874	857	2766	630
(60,1; 80] sq.m	1394	188	1760	218	1823	207	1757	237	1862	258
> 80,1 sq.m	358	59	355	87	403	51	371	81	451	40
average price of 1 sq.m. of dwelling	7 349	7 057	7 228	7 080	7 380	7 124	7 384	7 406	7 526	7 424
<=4 000 sq.m	7 698	7 419	7 719	7 169	7 873	7 483	7 958	7 663	8 177	7 708
(40,1; 60] sq.m	7 277	6 907	7 169	6 990	7 350	7 019	7 367	7 326	7 498	7 466
(60,1; 80] sq.m	7 142	6 726	6 953	7 079	7 089	7 006	7 055	7 290	7 148	6 981
> 80,1 sq.m	7 573	7 568	7 302	7 493	7 309	6 832	7 450	7 358	7 565	6 975
average offer price deviation	4,1%	x	2,1%	x	3,6%	x	-0,3%	x	1,4%	x
<= 40 sq.m	3,8%	x	7,7%	x	5,2%	x	3,8%	x	6,1%	x
(40,1; 60] sq.m	5,4%	x	2,6%	x	4,7%	x	0,6%	x	0,4%	x
(60,1; 80] sq.m	6,2%	x	-1,8%	x	1,2%	x	-3,2%	x	2,4%	x
> 80,1 sq.m	0,1%	x	-2,6%	x	0	x	0	x	0	x

Source: NBP

**Table 11 Average prices of a square metre of housing in the secondary market in Poznań**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	6 959	6 151	7 073	6 305	7 188	6 390	7 639	6 382	7 809	6 531
growth (q-o-q)	100,3	100,6	101,6	102,5	101,6	101,3	106,3	99,9	102,2	102,3
growth (y-o-y)	106,7	109,4	106,3	109,1	106,3	107,7	110,1	104,4	112,2	106,2
dwelling price range	1453	1058	1127	979	1 530	686	740	502	1 192	418
<=4 000 PLN/sq.m	32	55	22	28	21	11	5	9	3	11
( 4 001; 6 000] PLN/sq.m	374	467	279	406	325	252	115	168	156	133
( 6 001; 8 000] PLN/sq.m	772	432	575	440	815	361	367	290	559	234
(8 001; 10 000] PLN/sq.m	205	94	197	90	288	57	175	31	355	35
>10 001 PLN/sq.m	70	10	54	15	81	5	78	4	119	5
dwelling space range	1453	1058	1127	979	1 530	686	740	502	1 192	418
<= 40 sq.m	259	303	202	287	267	217	127	149	207	140
(40,1; 60] sq.m	600	461	453	438	652	306	307	245	469	177
(60,1; 80] sq.m	331	209	276	181	357	122	193	87	333	88
> 80,1 sq.m	263	85	196	73	254	41	113	21	183	13
average price of 1 sq.m. of dwelling	6959	6151	7073	6305	7 188	6 390	7 639	6 382	7 809	6 531
<=4 000 sq.m	7753	6772	7957	7000	8 169	7 056	8 832	7 123	8 895	7 426
(40,1; 60] sq.m	7005	6215	7302	6187	7 295	6 293	7 816	6 255	8 132	6 356
(60,1; 80] sq.m	6672	5465	6576	5812	6 742	5 748	6 902	5 803	7 115	5 654
> 80,1 sq.m	6431	5274	6334	5496	6 509	5 497	7 074	4 998	7 016	5 215
average offer price deviation	13,1%	x	12,2%	x	12,5%	x	19,7%	x	19,6%	x
<= 40 sq.m	14,5%	x	13,7%	x	15,8%	x	24,0%	x	19,8%	x
(40,1; 60] sq.m	12,7%	x	18,0%	x	15,9%	x	25,0%	x	28,0%	x
(60,1; 80] sq.m	22,1%	x	13,1%	x	17,3%	x	18,9%	x	25,8%	x
> 80,1 sq.m	21,9%	x	15,3%	x	18,4%	x	41,5%	x	34,5%	x

Source: NBP

**Table 12 Average prices of a square metre of housing in the primary market in Warsaw**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 427	8 771	9 591	8 932	9 935	9 188	10 280	9 476	10 610	9 819
growth (q-o-q)	104,5	102,4	101,7	101,8	103,6	102,9	103,5	103,1	103,2	103,6
growth (y-o-y)	118,4	101,9	117,2	100,5	116,4	101,9	120,0	100,5	121,0	102,4
dwelling price range	12 709	4 296	14 945	4 348	13 824	4 128	12 204	4 622	11 516	4 773
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
( 4 001; 6 000] PLN/sq.m	142	172	108	121	61	28	35	31	40	15
( 6 001; 8 000] PLN/sq.m	3 797	1 422	4 109	1 535	3 574	1 285	2 381	1 190	2 089	1 117
( 8 001; 10 000] PLN/sq.m	5 320	1 886	6 139	1 804	5 278	1 790	4 679	2 092	3 672	1 996
>10 001 PLN/sq.m	3 450	816	4 589	888	4 911	1 025	5 109	1 309	5 715	1 645
dwelling space range	12 709	4 296	14 945	4 348	13 824	4 128	12 204	4 622	11 516	4 773
<= 40 sq.m	1 393	989	1 835	911	1 657	799	1 543	911	1 576	1 048
(40,1; 60] sq.m	5 443	1 964	6 532	2 004	5 898	1 997	4 972	2 193	4 617	2 248
(60,1; 80] sq.m	4 189	1 023	4 710	1 053	4 554	986	4 101	1 116	3 864	1 129
> 80,1 sq.m	1 684	320	1 868	380	1 715	346	1 588	402	1 459	348
average price of 1 sq.m. of dwelling	9 427	8 771	9 591	8 932	9 935	9 188	10 280	9 476	10 610	9 819
<=4 000 sq.m	11 646	9 358	11 400	9 675	12 060	9 829	12 425	10 474	12 458	10 330
(40,1; 60] sq.m	9 104	8 538	9 332	8 694	9 706	9 022	10 088	9 238	10 460	9 826
(60,1; 80] sq.m	8 782	8 527	8 920	8 542	9 136	8 804	9 389	8 991	9 717	9 245
> 80,1 sq.m	10 242	9 166	10 407	9 487	10 790	9 769	11 098	9 856	11 456	10 088
average offer price deviation	7,5%	x	7,4%	x	8,1%	x	8,5%	x	8,1%	x
<= 40 sq.m	24,4%	x	17,8%	x	22,7%	x	18,6%	x	20,6%	x
(40,1; 60] sq.m	6,6%	x	7,3%	x	7,6%	x	9,2%	x	6,4%	x
(60,1; 80] sq.m	3,0%	x	4,4%	x	3,8%	x	4,4%	x	5,1%	x
> 80,1 sq.m	11,7%	x	9,7%	x	10,5%	x	12,6%	x	13,6%	x

Source: NBP

**Table 13 Average prices of a square metre of housing in the secondary market in Warsaw**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 284	8 992	10 570	9 223	10 832	9 442	11 193	9 414	11 656	9 705
growth (q-o-q)	100,1	102,6	102,8	102,6	102,5	102,4	103,3	99,7	104,1	103,1
growth (y-o-y)	110,0	111,7	113,1	109,9	112,7	109,7	108,9	107,4	113,3	107,9
dwelling price range	2 299	3 335	2 535	4 006	2 135	3 839	1 916	1 714	1 860	1 901
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
( 4 001; 6 000] PLN/sq.m	50	164	36	131	30	87	19	25	12	18
( 6 001; 8 000] PLN/sq.m	450	1 082	458	1 145	332	974	247	444	186	395
( 8 001; 10 000] PLN/sq.m	784	1 155	802	1 504	651	1 476	549	666	471	785
>10 001 PLN/sq.m	1 015	934	1 239	1 226	1 122	1 302	1 101	579	1 191	703
dwelling space range	2 299	3 335	2 535	4 006	2 135	3 839	1 916	1 714	1 860	1 901
<= 40 sq.m	297	940	340	1 139	284	1 116	232	550	209	556
(40,1; 60] sq.m	778	1 438	863	1 750	712	1 699	617	731	581	837
(60,1; 80] sq.m	598	588	631	703	518	659	450	284	456	335
> 80,1 sq.m	626	369	701	414	621	365	617	149	614	173
average price of 1 sq.m. of dwelling	10 284	8 992	10 570	9 223	10 832	9 442	11 193	9 414	11 656	9 705
<=4 000 sq.m	11 316	9 541	11 688	9 813	11 901	10 134	12 586	10 316	13 095	10 559
(40,1; 60] sq.m	10 202	8 765	10 281	8 877	10 768	9 087	11 159	8 992	11 679	9 326
(60,1; 80] sq.m	9 694	8 511	10 038	8 860	10 230	9 079	10 669	8 831	11 089	8 998
> 80,1 sq.m	10 459	9 243	10 863	9 677	10 917	9 630	11 085	9 267	11 566	10 165
average offer price deviation	14,4%	x	14,6%	x	14,7%	x	18,9%	x	20,1%	x
<= 40 sq.m	18,6%	x	19,1%	x	17,4%	x	22,0%	x	24,0%	x
(40,1; 60] sq.m	16,4%	x	15,8%	x	18,5%	x	24,1%	x	25,2%	x
(60,1; 80] sq.m	13,9%	x	13,3%	x	12,7%	x	20,8%	x	23,2%	x
> 80,1 sq.m	13,2%	x	12,3%	x	13,4%	x	19,6%	x	13,8%	x

Source: NBP



**Table 14 Average prices of a square metre of housing in the primary market in Wrocław**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 457	7 032	7 636	7 435	7 909	7 661	7 976	7 634	8 483	8 354
growth (q-o-q)	103,1	101,8	102,4	105,7	103,6	103,0	100,8	99,6	106,4	109,4
growth (y-o-y)	110,6	108,0	108,8	111,8	110,7	113,5	110,3	110,6	113,8	118,8
dwelling price range	5 939	1 695	6 360	1 464	6 747	1 563	6 456	1 724	6 491	2 157
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	2	0	0
( 4 001; 6 000] PLN/sq.m	906	391	807	222	498	160	609	259	531	138
( 6 001; 8 000] PLN/sq.m	3 319	905	3 477	833	3 595	838	3 060	874	2 445	777
(8 001; 10 000] PLN/sq.m	1 285	348	1 552	316	1 981	467	2 073	457	2 120	957
>10 001 PLN/sq.m	429	51	524	93	673	98	714	132	1 395	285
dwelling space range	5 939	1 695	6 360	1 464	6 747	1 563	6 456	1 724	6 491	2 157
<= 40 sq.m	961	362	1235	289	1213	383	1240	345	1292	559
(40,1; 60] sq.m	2837	829	2946	695	3241	672	3072	856	3133	1046
(60,1; 80] sq.m	1709	418	1685	394	1820	426	1644	446	1581	434
> 80,1 sq.m	432	86	494	86	473	82	500	77	485	118
average price of 1 sq.m. of dwelling	7 457	7 032	7 636	7 435	7 909	7 661	7 976	7 634	8 483	8 354
<=4 000 sq.m	8613	7971	8683	8513	8948	8604	8913	8411	9789	9077
(40,1; 60] sq.m	7289	6825	7498	7192	7771	7339	7840	7527	8316	8162
(60,1; 80] sq.m	7055	6509	7076	7077	7389	7262	7489	7253	7771	7816
> 80,1 sq.m	7586	7624	7749	7415	8192	7964	8091	7545	8402	8616
average offer price deviation	6,0%	x	2,7%	x	3,2%	x	4,5%	x	1,5%	x
<= 40 sq.m	8,0%	x	2,0%	x	4,0%	x	6,0%	x	7,8%	x
(40,1; 60] sq.m	6,8%	x	4,3%	x	5,9%	x	4,2%	x	1,9%	x
(60,1; 80] sq.m	8,4%	x	0,0%	x	1,7%	x	3,3%	x	-0,6%	x
> 80,1 sq.m	-0,5%	x	4,5%	x	2,9%	x	7,2%	x	-2,5%	x

Source: NBP

**Table 15 Average prices of a square metre of housing in the secondary market in Wrocław**

specification	I Q 2019		II Q 2019		III Q 2019		IV Q 2019		I Q 2020	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 339	6 267	7 441	6 482	7 572	6 858	7 720	7 316	8 158	7 315
growth (q-o-q)	111,7	101,2	101,4	103,4	101,8	105,8	102,0	106,7	105,7	100,0
growth (y-o-y)	114,3	107,3	114,7	106,7	116,7	111,3	117,5	118,2	111,2	116,7
dwelling price range	321	236	1 703	201	1 154	233	1 719	263	1 227	188
<=4 000 PLN/sq.m	2	10	5	3	0	3	1	5	2	0
( 4 001; 6 000] PLN/sq.m	73	94	301	75	144	61	180	53	81	33
( 6 001; 8 000] PLN/sq.m	147	106	926	103	666	124	957	123	554	97
(8 001; 10 000] PLN/sq.m	75	22	324	13	266	39	430	65	446	50
>10 001 PLN/sq.m	24	4	147	7	78	6	151	17	144	8
dwelling space range	321	236	1 703	201	1 154	233	1 719	263	1 227	188
<= 40 sq.m	45	53	221	38	117	41	214	60	137	34
(40,1; 60] sq.m	127	98	656	95	441	114	660	122	455	78
(60,1; 80] sq.m	94	54	529	51	387	57	548	52	394	50
> 80,1 sq.m	55	31	297	17	209	21	297	29	241	26
average price of 1 sq.m. of dwelling	7 339	6 267	7 441	6 482	7 572	6 858	7 720	7 316	8 158	7 315
<=4 000 sq.m	8 152	7 150	8 796	7 592	8 840	8 021	9 099	8 172	9 486	8 196
(40,1; 60] sq.m	7 345	6 182	7 502	6 447	7 666	6 736	7 767	7 128	8 366	7 330
(60,1; 80] sq.m	7 099	5 821	7 066	5 947	7 165	6 393	7 244	6 905	7 826	6 925
> 80,1 sq.m	7 071	5 801	6 967	5 807	7 415	6 510	7 498	7 076	7 555	6 872
average offer price deviation	17,1%	x	14,8%	x	10,4%	x	5,5%	x	11,5%	x
<= 40 sq.m	14,0%	x	15,9%	x	10,2%	x	11,3%	x	15,7%	x
(40,1; 60] sq.m	18,8%	x	16,4%	x	13,8%	x	9,0%	x	14,1%	x
(60,1; 80] sq.m	21,9%	x	18,8%	x	12,1%	x	4,9%	x	13,0%	x
> 80,1 sq.m	21,9%	x	20,0%	x	13,9%	x	6,0%	x	9,9%	x

Source: NBP

## 7. In-depth analysis of the situation of real estate developers and construction companies

### 7.1. Analysis of the financial situation of real estate developers<sup>34</sup>

The analysis of NBP data and data available from other sources indicates that the effect of the pandemic has not yet made itself evident in the majority of indexes of the housing market for 2020 Q1. According to NBP estimates, in 2020 Q1, as in the previous quarter, most of the voivodship capitals saw high level of home sales and an increase in average offer and transaction prices of dwellings. In 2020 Q1 real estate developers with bonds on the Catalyst market signed agreements for the purchase of 4571 dwellings, a 2.3% increase in comparison with the corresponding period in 2019 and a decrease of 15.3% in comparison with the previous quarter.

According to Statistics Poland data for 2020 Q1, the number of completed dwellings increased with respect to 2019 Q1 (by 4.4%) and so did the number of building permits for housing construction all over the country (by 3.3%). The Statistics Poland data in terms of the larger number of dwellings completed in this period have been confirmed by the higher value of average income from sales reported in the F01 financial statements (an increase of 8%) in the group of large and medium-sized real estate developers (employing over 49 people). This situation has improved the condition of real estate developers (disclosure of income) but has no bearing on the market condition since those dwellings were bought approx. two years ago.

In turn, the number of dwellings whose construction was launched decreased slightly (according to Statistics Poland data, a 2.4% decline from 2019 Q1 to 2020 Q1). This, however, will affect the market situation in a year's or two years' time. According to the accounting records submitted by the analysed group of real estate developers, the value of housing development projects in 2019 Q4 and 2020 Q1 increased following their 4492notable decrease in earlier periods (i.e. 2019 Q2 and Q3). This is also due to the high inertia of the sector, where effects are observed with a significant lag. The increase in the average value of dwellings under construction between 2019 Q4 and 2020 Q1 amounted to 30%. The share of dwellings under construction reached 45.1% of the value of total liabilities. In quarter-on-quarter terms it was the highest in the last three years. This period also saw a significant increase in the value of completed dwellings in buildings made ready for occupancy, which may indicate a fall in demand for completed dwellings. However, the stock of completed dwellings remains relatively small when total assets are taken into account (a 5.3% share). It can be estimated that the construction of at least 250 thousand dwellings is under way in Polish cities.

According to analysts of the Catalyst market, in March 2020 the situation in the primary residential real estate market changed considerably. Some of the largest real estate developers listed on the Catalyst market saw a drop in the number of contracts for new housing of as much as 70%. The demand from buyers purchasing dwellings for their own needs and investment purposes decreased. The decline in demand in the long-term

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<sup>34</sup> Calculations and conclusions in this edition of the Information are based on data from F01 reports submitted to Statistics Poland (GUS), broken down into two groups of companies: those employing from 9 to 49 persons (data available until the second half of 2019, in half-a-year periods) and those whose staff exceeds 49 persons (data available until 2020 Q1 in quarterly periods), involved in the execution of construction projects related to the construction of buildings (PKD 41.10). As some data were disclosed at a later date, the analysis of accounting entries in the financial statements of real estate developers listed on the Warsaw Stock Exchange was based on the data covering the period up to 2019 Q4. The analysis of the accounting entries was supplemented with the information on a dozen or so real estate developers specializing in residential development listed on the Catalyst market (report "Situation of the largest residential real estate developers listed on the Catalyst market after 2019 Q4", Nawigator Dom Maklerski, Warsaw, January 2020 and the report "Situation of the largest residential real estate developers listed on the Catalyst market after 2020 Q1", Nawigator Dom Maklerski, Warsaw, May 2020).

may result in real estate developers abstaining from launching new construction projects, which may lead to a leaner offer of dwellings in the primary market. The conducted interest rate cut may turn out to be a factor propping up the demand for dwellings by encouraging to invest savings in real estate. On the other hand, the historically lowest interest rate level and a less stable situation in the labour market limited banks' activity on the residential mortgage loans' market. The situation of real estate developers as suggested by financial data for 2020 Q1 is unclear and difficult to interpret unequivocally. It is difficult to assess to what extent the existing problems are due to overly risky business schemes (excessively large number of launched real estate development projects coupled with rising construction costs, lack of stable financing and buyers' shrinking budgets), and to what extent they result from restrictions imposed during the pandemic.

According to the entries in the financial statements of large and medium-sized real estate developers, from 2019 Q1 to 2020 Q1 there was a steeper rise in total costs (13%) in comparison with total revenue (9%), which led to the average net income declining by 19%. This was largely due to the persistent rise in construction costs. In the analysed group of real-estate developers in 2020 Q1, the share of entities with a positive net result fell to 65% against 75% in 2019 Q4 and 67% in 2019 Q1. Consequently, the share of companies with negative net result increased to 35% against 25% in 2019 Q4 and 33% in 2019 Q1. The period from 2019 Q2 to 2020 Q1 saw lower profitability of real estate development in comparison with the previous three quarters, which was due to the rising costs, increased share of external financing of developers' activity and the increase in the value of inventories, including real estate development in progress. In the analysed group, in 2020 Q1, the average return on sales stood at 9.0%, return on equity at 4.0% and return on assets at 1.5%, a lower level than a year earlier (11.9% for ROS, 5.0% for ROE and 2.2% for ROA).

Equity played the key role in financing the activity of the analysed large and medium-sized real estate developers. Its share in liabilities, though, decreased significantly over the year (from 45% in 2019 Q1 to 36% in 2020 Q1). Home buyers' advance payments played an important role among external sources of financing. Their share in liabilities increased since the beginning of 2019 (to the share in excess of 22% share in 2020 Q1 against approx. 16% in 2019 Q1), which corroborates the high level of new housing contracts in this period. Accounts payable to building contractors constitute an important share (share in excess of 20% in 2020 Q1) and their value is usually lower at the beginning of the year, following the larger number of dwellings handed over to home buyers in the last quarter of the previous year. Receipt of tranches from the completed projects allowed developers to partially settle their liabilities. In 2020 Q1 the share of liabilities resulting from bank loans and debt securities in total liabilities amounted to approx. 11% and over 10%, respectively. The low share of developer loans, which are a stable source of project financing, constitutes the main problem for real estate developers. Housing developers holding bonds on the Catalyst market saw low activity, against a slight decrease in the average interest rate on bond coupons.

The launch of new real estate development projects increased operating expenses by 12%, including their particular components. The largest increase involved the costs of services provided by building contractors, whose share in operating expenses amounted to over 57% in 2020 Q1, a considerably lower level than a year before (over 39%). Payroll expenses increased by 7%. Despite many announcements, real estate developers failed to manage to control their expenses.

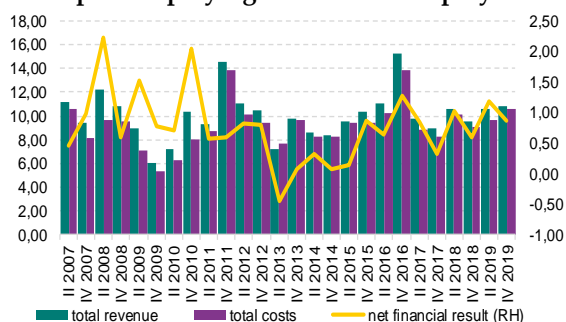
In 2020 Q1, the analysed group of real estate developers maintained stable, though low, financial liquidity. It can be assumed that liquidity will be main problem faced by the sector in the nearest future. The total debt

ratio and the debt-to-equity ratio as well as the debt coverage ratio were less favourable than before but their level was still adequate, which ensures acceptable safety of funds entrusted by creditors.

Financial data reported by the group of small real estate developers (employing from 9 to 49 persons) as well as by developers listed on the Warsaw Stock Exchange, available at the end of 2019 (during a boom on the housing market) indicated a good and rather stable situation of these entities. Both groups had a high share of equity in financing their activity (over 40% in total liabilities) and a relatively stable level of external financing. The ratio of operating expenses to revenue enabled them to generate return on sales in excess of 8%. Financial liquidity remained low but stable.

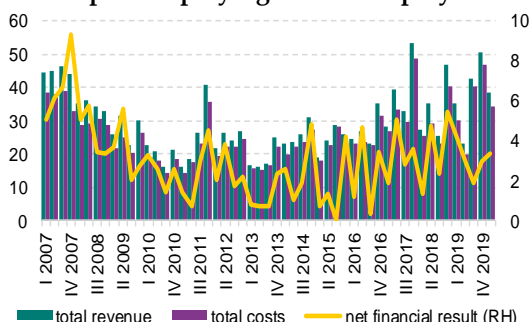
The main risk faced by real estate developers was the risk of falling demand and the related risk of losing liquidity as real development projects were largely financed with liabilities such as advance payments and it was necessary to incur considerable expenses related to an extremely broad extent of works.

**Figure 71 Economic indicators of real estate developers employing from 9 to 49 employees**



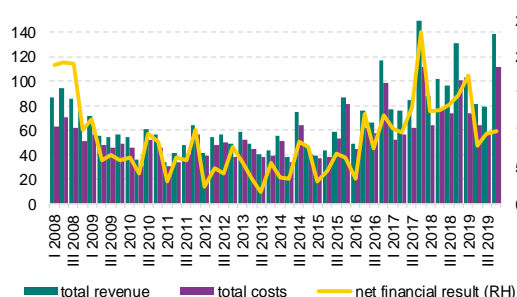
Source: NBP based on Statistics Poland (F01)

**Figure 72 Economic indicators of real estate developers employing over 49 employees**



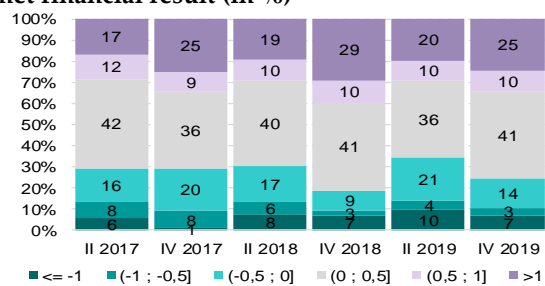
Source: NBP based on Statistics Poland (F01)

**Figure 73 Economic indicators of real estate developers listed on the Warsaw Stock Exchange**



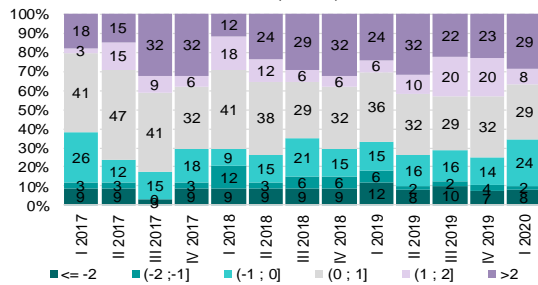
Source: NBP based on financial statements

**Figure 74 Structure of real estate developers employing from 9 to 49 persons depending on the net financial result (in %)**



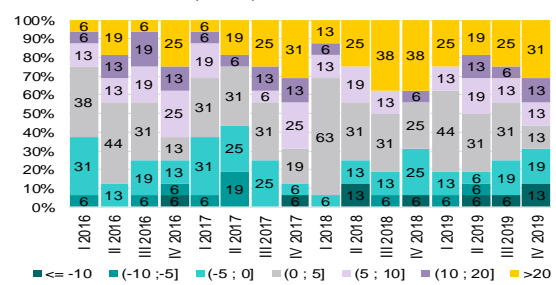
Source: NBP based on Statistics Poland (F01)

**Figure 75 Structure of real estate developers employing more than 49 employees depending on the net financial result (in %)**



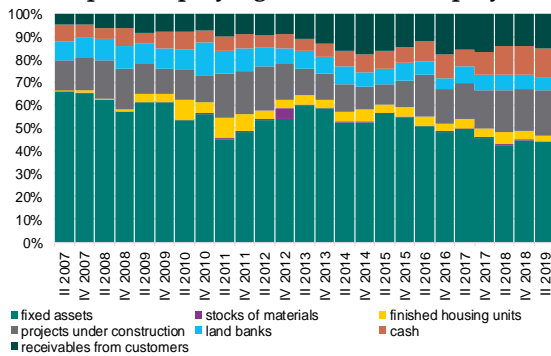
Source: NBP based on Statistics Poland (F01)

**Figure 76 Structure of real estate developers listed on the Stock Exchange depending on the net financial result (in %)**



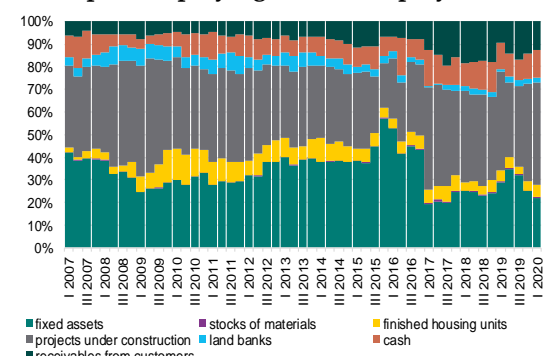
Source: NBP based on financial statements

**Figure 77 Structure of assets of real estate developers employing from 9 to 49 employees**



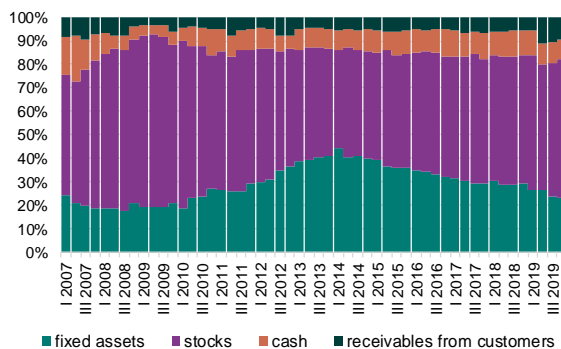
Source: NBP based on Statistics Poland (F01)

**Figure 78 Structure of assets of real estate developers employing over 49 employees**



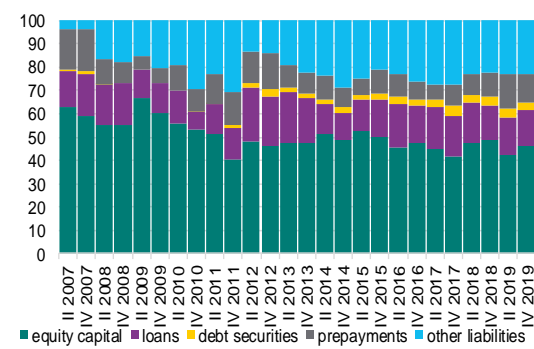
Source: NBP based on Statistics Poland (F01)

**Figure 79 Structure of assets of real estate developers listed on the Warsaw Stock Exchange**



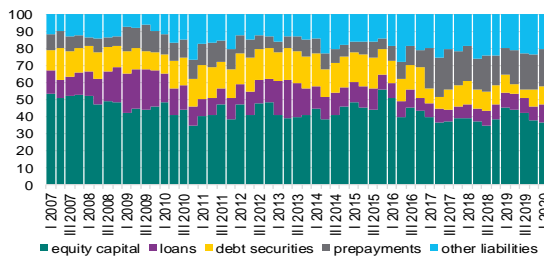
Source: NBP based on financial statements

**Figure 80 Structure of liabilities of real estate developers employing from 9 to 49 employees**



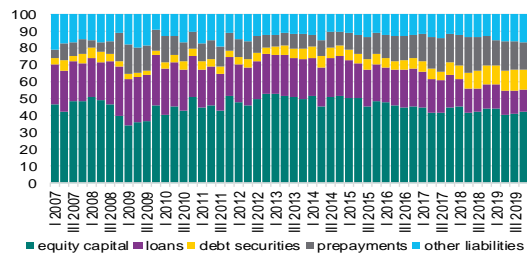
Source: NBP based on Statistics Poland (F01)

**Figure 81 Structure of liabilities of real estate developers employing over 49 employees**



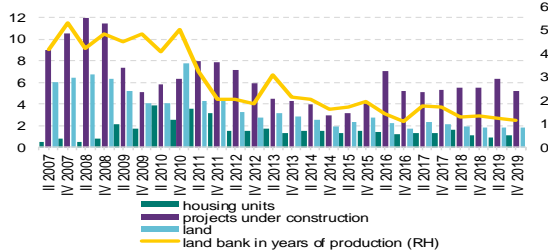
Source: NBP based on Statistics Poland (F01)

**Figure 82 Structure of liabilities of real estate developers listed on the Warsaw Stock Exchange**



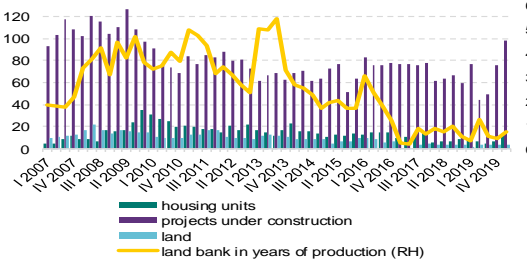
Source: NBP based on financial statements

**Figure 83 Sources of financing of real estate developers employing from 9 to 49 employees**



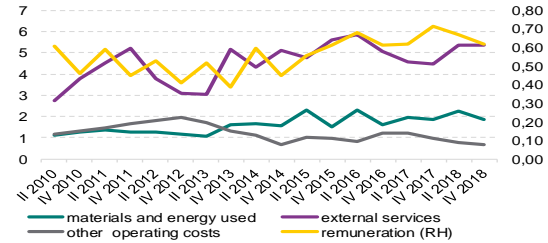
Source: NBP based on Statistics Poland (F01)

**Figure 84 Situation of real estate developers employing over 49 employees**



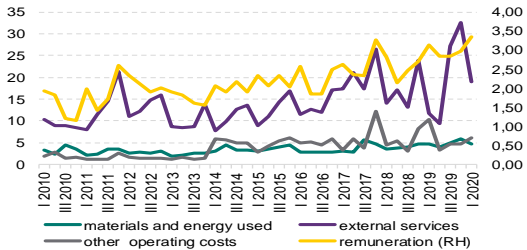
Source: NBP based on Statistics Poland (F01)

**Figure 85 Operating expenses of real estate developers employing from 9 to 49 employees**



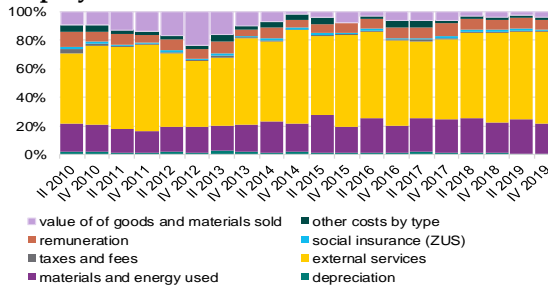
Source: NBP based on Statistics Poland (GUS) (F01)

**Figure 86 Operating expenses of real estate developers employing over 49 employees**



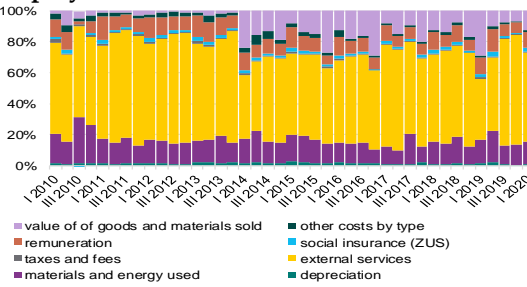
Source: NBP based on Statistics Poland (GUS) (F01)

**Figure 87 Structure of operating expenses of real estate developers employing from 9 to 49 employees**



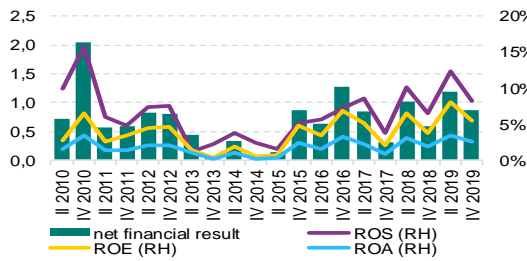
Source: NBP based on Statistics Poland (GUS) (F01)

**Figure 88 Structure of operating expenses of real estate developers employing more than 49 employees**



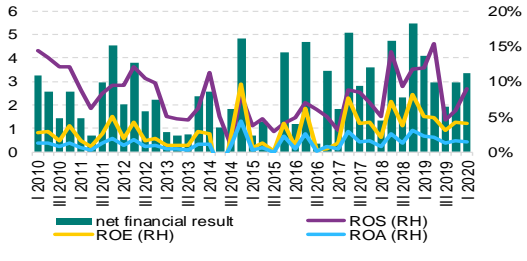
Source: NBP based on Statistics Poland (GUS) (F01)

**Figure 89 Profitability of real estate developers employing from 9 to 49 employees**



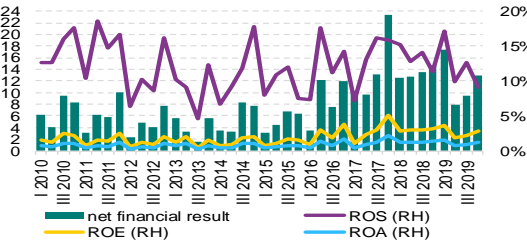
Source: NBP based on Statistics Poland (F01)

**Figure 90 Profitability of real estate developers employing over 49 employees**



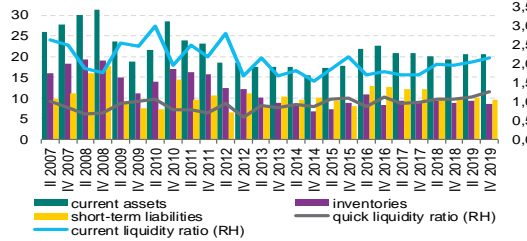
Source: NBP based on Statistics Poland (F01)

**Figure 91 Profitability of real estate developers listed on the Warsaw Stock Exchange**



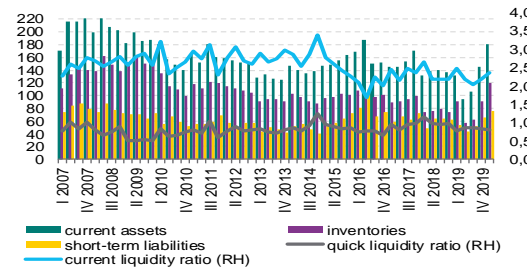
Source: NBP based on financial statements

**Figure 92 Economic indicators of real estate developers employing from 9 to 49 employees**



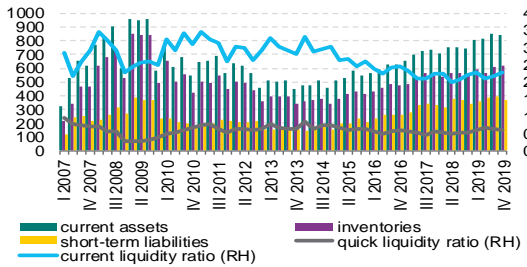
Source: NBP based on Statistics Poland (F01)

**Figure 93 Liquidity ratios of real estate developers employing over 49 employees**



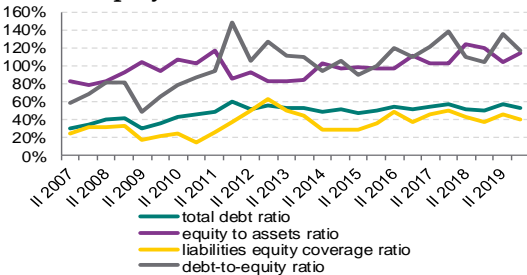
Source: NBP based on Statistics Poland (F01)

**Figure 94 Liquidity ratios of real estate developers listed on the Warsaw Stock Exchange**



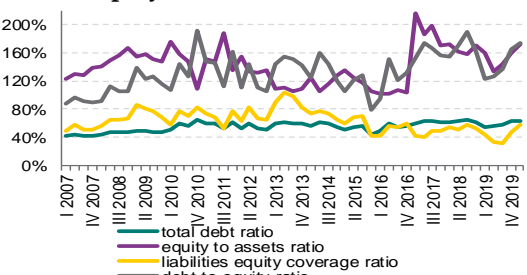
Source: NBP based on financial statements

**Figure 95 Debt ratios and debt-service coverage ratios of real estate developers employing from 9 to 49 employees**



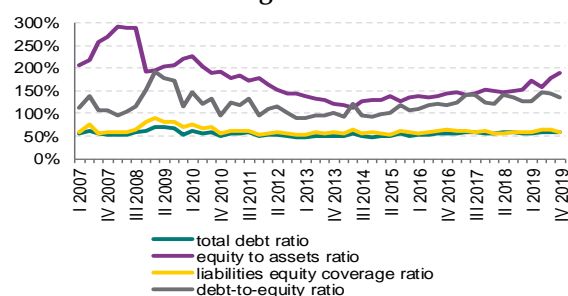
Source: NBP based on Statistics Poland (F01)

**Figure 96 Debt ratios and debt-service coverage ratios of real estate developers employing from 9 to 49 employees**



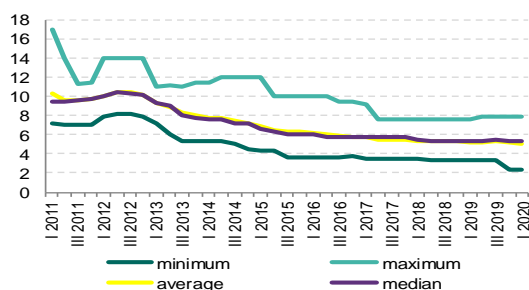
Source: NBP based on Statistics Poland (F01)

**Figure 97 Debt ratios and debt-service coverage ratios of real estate developers listed on the Warsaw Stock Exchange**



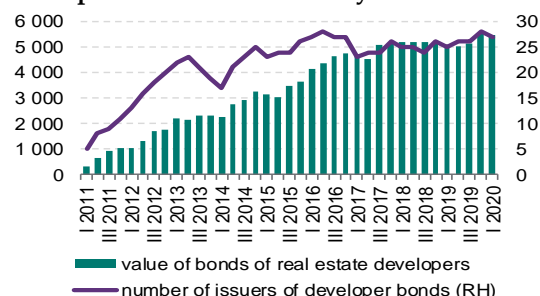
Source: NBP based on financial statements

**Figure 99 Interest rate on bond coupons of real estate developers listed on the Catalyst market**



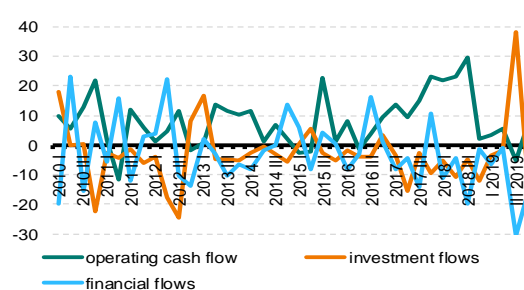
Source: NBP based on Catalyst data

**Figure 98 Value of bonds of real estate developers and the number of issuers or developers' bonds on the Catalyst market**



Source: NBP based on Catalyst data

**Figure 100 Cash flows of real estate developers listed on the Warsaw Stock Exchange**



Source: NBP based on financial statements

## 7.2. Analysis of financial standing of construction companies<sup>35</sup>

The financial data for 2020 Q1 when compared with the previous quarters show a relatively stable growth in the construction of buildings. In the first months of 2020 the key business indicators like the net financial result, profitability as well as expenses and debt deteriorated slightly. According to the expectations expressed by construction companies in the NBP survey carried out in February 2020, among companies involved in building construction, including residential construction, the 2020 should be another good year. This optimism is partly confirmed by a 13% y/y increase in total revenue in 2020 Q1, as evidenced in the financial data of large and medium-sized construction companies (employing over 49 persons). A one-time drop in revenue in 2019 Q4 by 2% y/y recorded for the first time in three years was short-lived and did not trigger a downward trend. The high value of housing projects in progress point to a sustained demand for building contractor services. However, a declining value of building construction in the last two quarters reported by the analysed building companies following its marked increase in the first two quarters of 2019 may indicate that large real estate developers shifted to the implementation of housing development projects on their own due to rising construction costs and fall in profitability.

<sup>35</sup> Calculations and conclusions in this edition of the Information are based on data resulting from F01 reports submitted to Statistics Poland (GUS), broken down into two groups of companies: those employing from 9 to 49 persons (data available until the second half of 2019 in half-year intervals) and those whose staff exceeds 49 persons (data available until 2020 Q1, in half-year intervals), involved in the construction of residential and non-residential buildings (PKD 41.10).



A more prominent rise of total costs in building construction (by 14% y/y in 2020 Q1) than that of total revenues, translated into a 7% drop in the average net financial result. Profitability indicators of construction companies remained relatively stable and low. In 2020 Q1 profitability indicators (ROS – 4.0%, ROE – 3.0% and ROA – 1.2%) were close to those recorded in the same period a year before (ROS – 4.9%, ROE – 2.9% and ROA – 1.6%).

Operating expenses saw a significant rise in year-on-year terms of the majority of components, including the main ones, i.e. those owing to third-party services (by 20.7%) and payroll expenses (12.1%), which confirms the persistent rise in the prices of subcontractor services and cost of labour. A slight decrease could be observed in the costs of materials and electricity consumed (of 3.1%) and in terms of fees and taxes (of 3.6%). Slowing demand in the housing market may lead to difficulties for construction companies in acquiring new contracts, contributing to the stabilization of prices of construction services.

The rise in the share of cash in the structure of assets to 20% (by 5 pp y/y) and a similar share of liabilities (31% against 29% in 2019 Q1) means that some of the work in progress has been completed and settled. A relatively larger stock of cash during the shut-down of the economy may constitute a short-term collateral of ongoing needs, often at the expense of delays in the payment of liabilities to subcontractors and suppliers of materials.

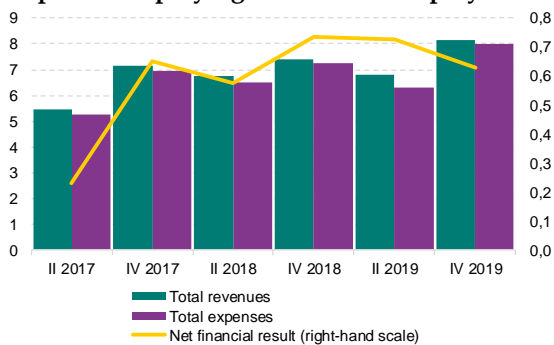
Equity remained the main source of financing in the liabilities of the analysed group of medium-sized and large building construction companies. Its share over the year declined by 5 pp. (to 47% in the structure of liabilities in 2020 Q1). Throughout 2019 there was a steady increase in liabilities to contractors, which stood at 41% in 2020 Q1 against 35% in 2019 Q1. The share of bank debt in the structure of liabilities decreased by 2 pp. to 10%. Liabilities resulting from the issue of debt securities remained stable and low, at 2%.

Liquidity ratios in 2020 Q1 stayed at a safe, high level despite their slight weakening since mid-2019. The total debt ratio, debt-to-equity ratio and equity-to-assets ratio also continued at a safe level with a slight weakening trend observed since 2019 Q3.

The analysis of balance sheets of construction companies indicates that they finance the real estate developer sector to a large extent, being at the same time financed by construction material producers and sellers.

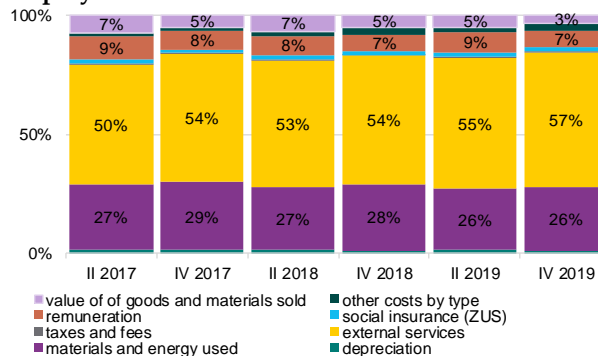
The financial situation of small companies providing services in building construction slightly deteriorated as evidenced by the data from F01 financial statements for the second half of 2019. In comparison to the corresponding period a year before, the financial result was approx. 15% lower and profitability indicators deteriorated, although they still ran higher than those of large construction companies. Financial liquidity and debt indicators deteriorated slightly, yet remained at a safe level. Financial analyses and surveys confirm better results and more optimism among large companies carrying out infrastructure projects financed from state budget funds. So far they are not under threat. However, the prospects of smaller companies involved in local government projects may look bleaker as financial problems of local governments lead to cuts in investment.

**Figure 101 Economic indicators of construction companies employing from 9 to 49 employees**



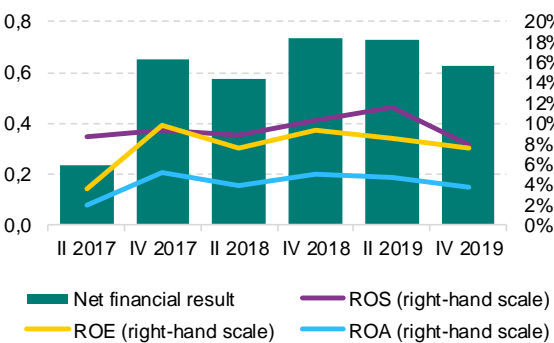
Source: NBP based on Statistics Poland

**Figure 103 Structure of operating expenses of construction companies employing from 9 to 49 employees**



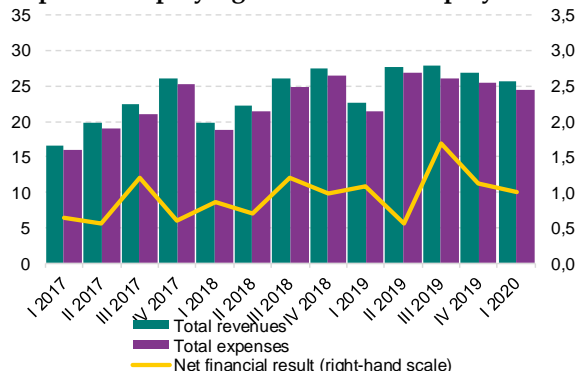
Source: NBP based on Statistics Poland

**Figure 105 Profitability of construction companies employing from 9 to 49 employees**



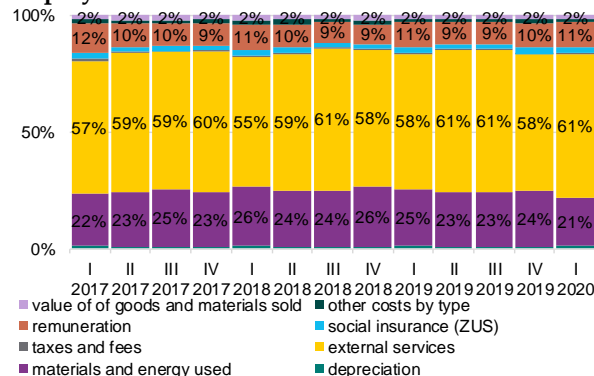
Source: NBP based on Statistics Poland

**Figure 102 Economic indicators of construction companies employing more than 49 employees**



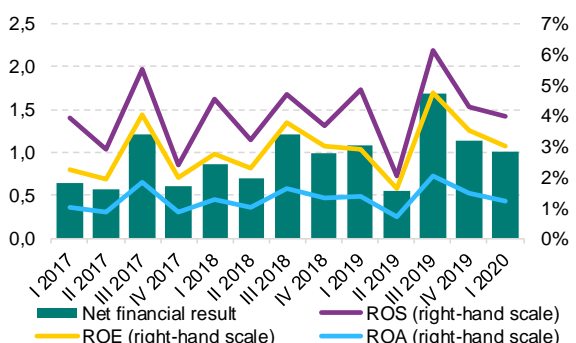
Source: NBP based on Statistics Poland

**Figure 104 Structure of operating expenses of construction companies employing more than 49 employees**



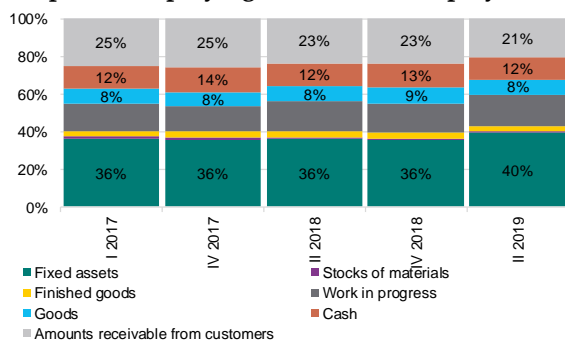
Source: NBP based on Statistics Poland

**Figure 106 Profitability of construction companies employing more than 49 employees**



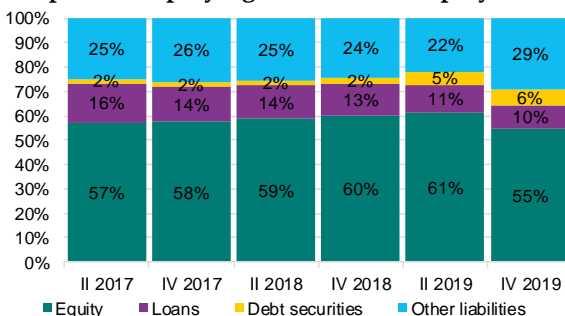
Source: NBP based on Statistics Poland

**Figure 107 Structure of assets of construction companies employing from 9 to 49 employees**



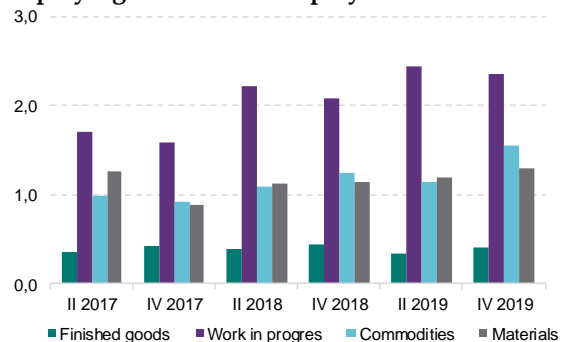
Source: NBP based on Statistics Poland

**Figure 109 Structure of liabilities of construction companies employing from 9 to 49 employees**



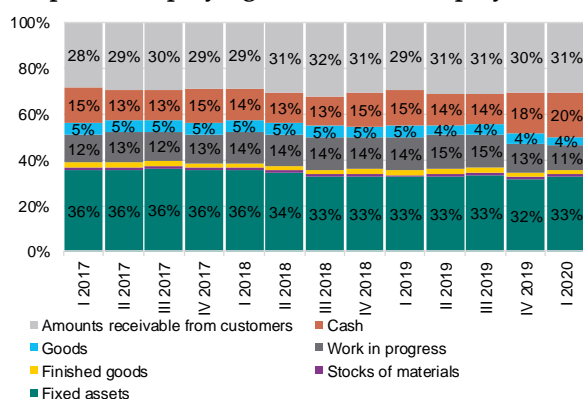
Source: NBP based on Statistics Poland

**Figure 111 Situation of construction companies employing from 9 to 49 employees**



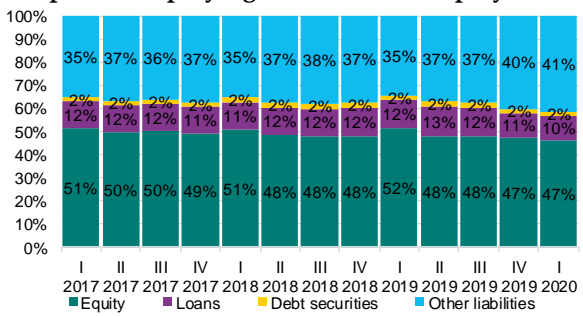
Source: NBP based on Statistics Poland

**Figure 108 Structure of assets of construction companies employing more than 49 employees**



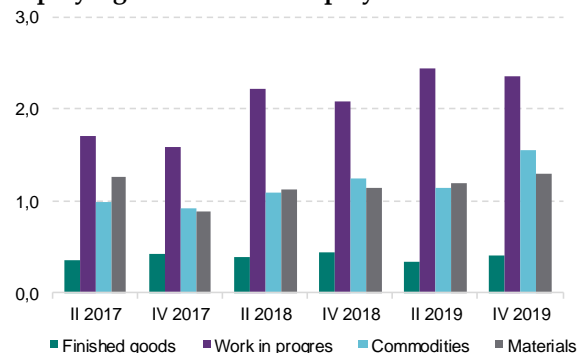
Source: NBP based on Statistics Poland

**Figure 110 Structure of liabilities of construction companies employing more than 49 employees**

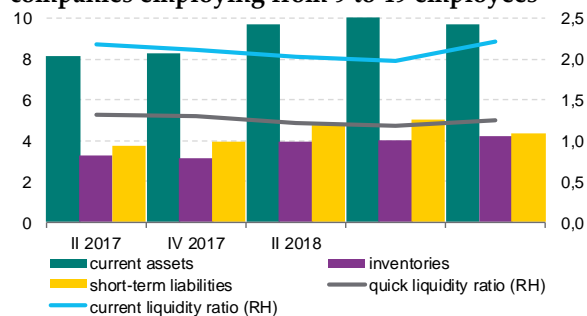


Source: NBP based on Statistics Poland

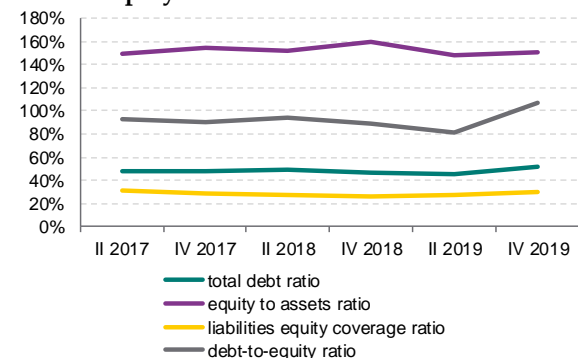
**Figure 112 Situation of construction companies employing more than 49 employees**



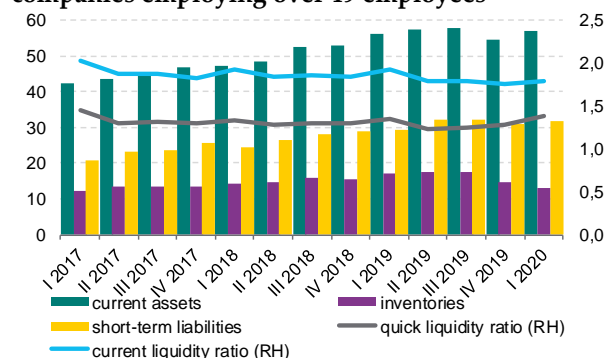
Source: NBP based on Statistics Poland

**Figure 113 Liquidity ratios of construction companies employing from 9 to 49 employees**


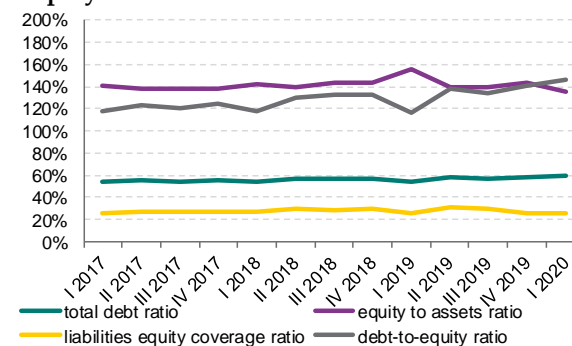
Source: NBP based on Statistics Poland

**Figure 115 Debt ratios and debt-service coverage ratios of construction companies employing from 9 to 49 employees**


Source: NBP based on Statistics Poland

**Figure 114 Liquidity ratios of construction companies employing over 49 employees**


Source: NBP based on Statistics Poland

**Figure 116 Debt ratios and debt-service coverage ratios of construction companies employing over 49 employees**


Source: NBP based on Statistics Poland

### 7.3. Analysis of financial situation of construction material suppliers <sup>36</sup>

According to the data of the Polskie Składy Budowlane Group, prices of materials in the period from January to April 2020 compared to the corresponding period of 2019 increased by an average of 1.5% in 17 product groups. The largest price increases were noted in the following product groups: cement, lime (by 6.5%), walls, chimneys (by 3.7%), carpentry and joinery (by 3.2%), equipment, systems and heating (by 3.1%), construction chemicals (by 3.1%), decoration (by 2.9%), paints and varnishes (by 2.8%), tools (by 2.8%), garden, hobby (by 2.6%), lighting and electrical equipment (by 2.3%), equipment, home appliances (by 2.2%), tiles, bathrooms and kitchens (by 1.9%), fixtures (of 1.8%), drywall (by 1.8%), house surroundings (by 1.6%), roofs, gutters (by 1.5%) and automotive equipment (by 0.8%). Price decreases were noted in three product groups: waterproofing (by

<sup>36</sup> The calculations and conclusions presented in this edition of the Information were based on data resulting from F01 reports submitted to Statistics Poland (GUS) broken down into two groups of companies: employing from 9 to 49 persons (data available until the second half of 2019, in half-year intervals) and those with staff exceeding 49 persons (data available until 2020 Q1, in quarterly intervals), which are involved in the sale of wood and constructions materials (PKD 46.13) and in the wholesale of construction materials and sanitary equipment (PKD 46.73). The accounting entries were supplemented with information on changes in the prices of construction materials ("Zmiana cen materiałów dla budownictwa oraz domu i ogrodu w kwietniu 2020 r. – analiza PSB", Grupa PSB Handel S.A., - "Change in prices of construction materials and home and garden equipment in April 2020 - PSB analysis", PSB Handel SA Group, May 2020).

1.9%), thermal insulation (by 4.3%) and oriented strand boards (by 12.4%). In the corresponding period of 2019, the price rise in y/y terms was higher and stood at 4%.

In order to make a more in-depth assessment of the supply side of the real estate market during the domestic economic slowdown driven by Covid-19 we analysed the economic and financial condition of medium-sized and large suppliers of construction materials on the basis of financial data from F01 reports for 2020 Q1.

The analysis of financial data in 2020 Q1 in comparison with 2019 Q1 showed a slight increase in total revenue (by 1.4%) and total cost (by 1.7%), and a decrease in the generated net financial result (by 7.6%), which resulted in lower profitability indicators, including a relatively low return-on-sales (2.5%). The share of companies with a positive net financial result decreased (to 66% in 2020 Q1 from 68% in 2019 Q1).

Cash balance which was higher by 2 pp (6% in the structure of assets) and accounts receivable from customers lower by 1 pp as at the end of March 2020 in comparison with end-March 2019, against the background of an increase in liabilities to producers of construction materials of 2 pp (i.e. to 37% in the structure of liabilities) indicates the pooling of resources in order to ensure the liquidity of wholesalers at the time of decreased sales at the expense of the timely settlement of liabilities.

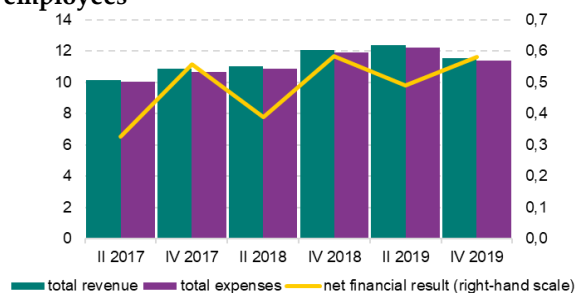
In 2020 Q1 equity remained the main source of financing and its share in the structure of liabilities stood at 51%, being relatively stable over the last three years. The share of bank debt decreased (to 13% in the structure of liabilities at the end of March 2020 against 15% at the end of March 2019). The liquidity ratio, the debt ratio and the equity-to-assets ratio remained stable and safe.

Operating expenses in 2020 Q1 rose by 1.4% in comparison with 2019 Q1. The rise was due to hikes related to the sales of goods (1.4%), payroll expenses (5.2%) and the value of third party services (1.9%). The ratio of the average stock of goods in the analysed group of wholesalers to the value of goods sold in 2020 Q1 remained close to levels reported in the particular quarters over the previous three years.

The structure of assets of suppliers of construction materials stands out by the high share of receivables from purchasers (approx. 34% for small and large companies). This means that those companies are financing the construction and real estate sector.

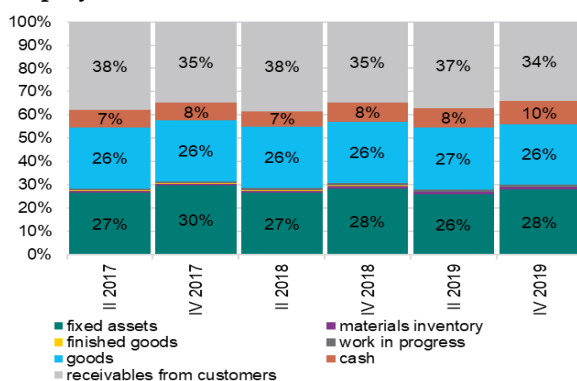
Financial data reported in half a year intervals by small wholesalers of construction materials at the end of 2019 showed their better financial position than that of large wholesalers and a favourable and stable level of liquidity, debt and profitability indicators. The share of companies with a positive net financial result in the particular quarters of the previous two years in the group of small wholesalers reached over 80%.

**Figure 117 Economic indicators of construction material suppliers employing from 9 to 49 employees**



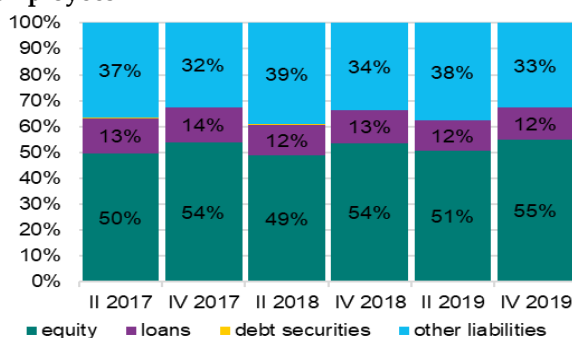
Source: NBP based on Statistics Poland (F01)

**Figure 119 Structure of assets of construction material suppliers employing from 9 to 49 employees**



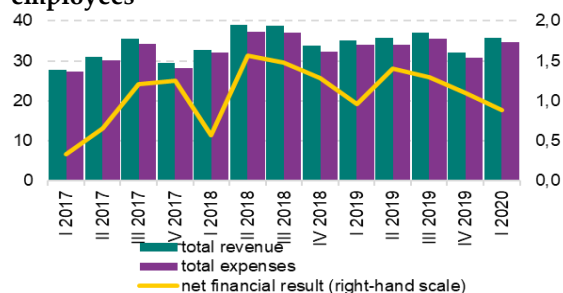
Source: NBP based on Statistics Poland (F01)

**Figure 121 Structure of liabilities of construction material suppliers employing from 9 to 49 employees**



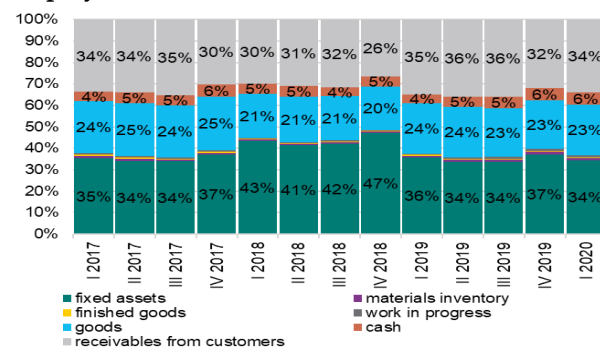
Source: NBP based on Statistics Poland (F01)

**Figure 118 Economic indicators of construction material suppliers employing more than 49 employees**



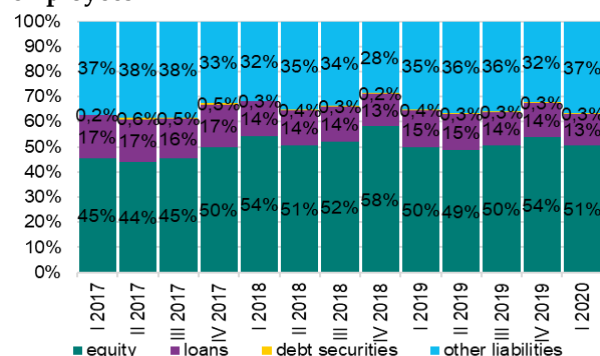
Source: NBP based on Statistics Poland (F01)

**Figure 120 Structure of assets of construction material suppliers employing more than 49 employees**



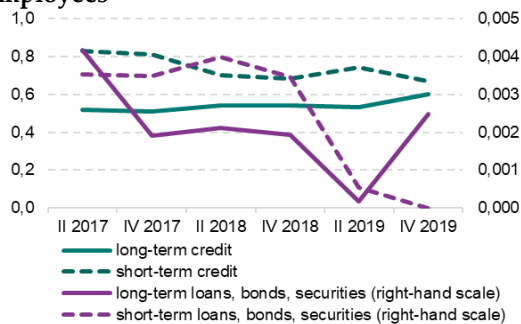
Source: NBP based on Statistics Poland (F01)

**Figure 122 Structure of liabilities of construction material suppliers employing more than 49 employees**



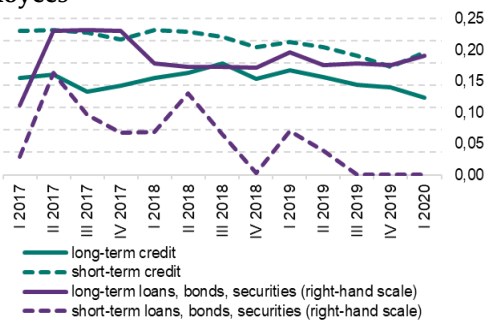
Source: NBP based on Statistics Poland (F01)

**Figure 123 Sources of financing of construction material suppliers employing from 9 to 49 employees**



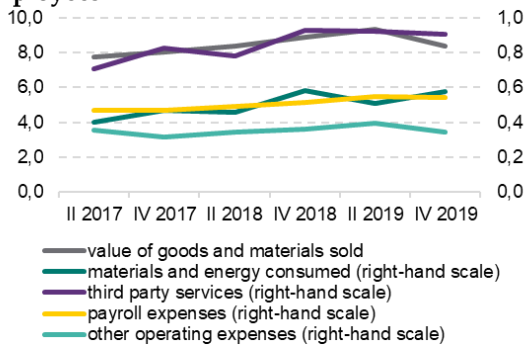
Source: NBP based on financial statements

**Figure 124 Sources of financing of construction material suppliers employing more than 49 employees**



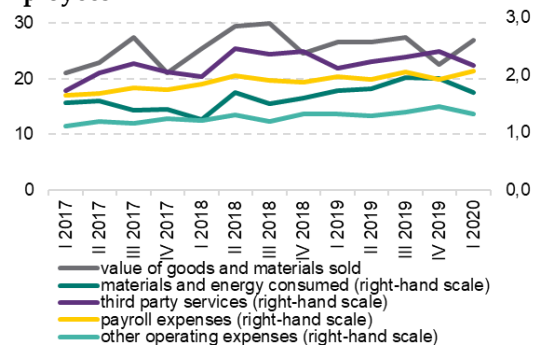
Source: NBP based on Statistics Poland (F01)

**Figure 125 Operating expenses of construction material producers employing from 9 to 49 employees**



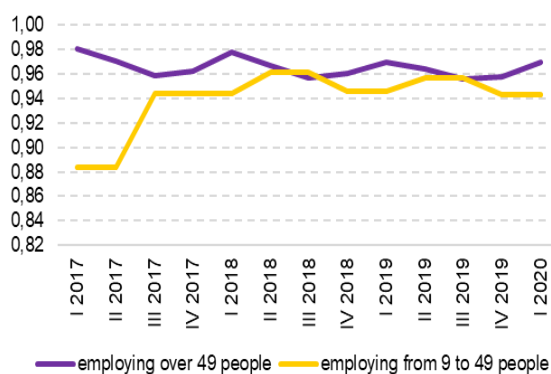
Source: NBP based on Statistics Poland (F01)

**Figure 126 Operating expenses of construction material producers employing more than 49 employees**



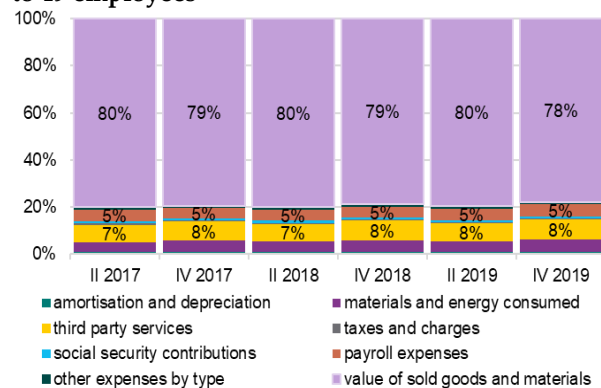
Source: NBP based on Statistics Poland (F01)

**Figure 127 Level of operating expenses by groups of construction material suppliers**



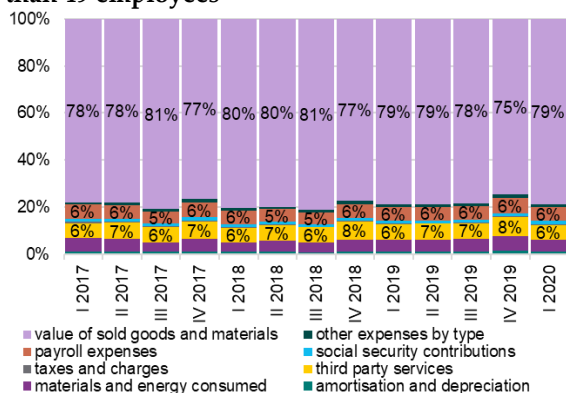
Source: NBP based on Statistics Poland (F01)

**Figure 128 Structure of operating expenses of construction material suppliers employing from 9 to 49 employees**



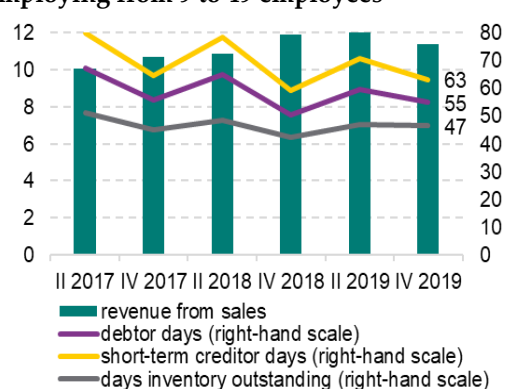
Source: NBP based on Statistics Poland (F01) and Financial Statements

**Figure 129 Structure of operating expenses of construction material suppliers employing more than 49 employees**



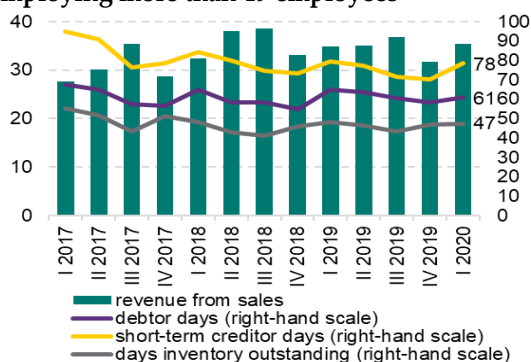
Source: NBP based on Statistics Poland (F01)

**Figure 130 Turnover of stock, receivables and liabilities of construction material suppliers employing from 9 to 49 employees**



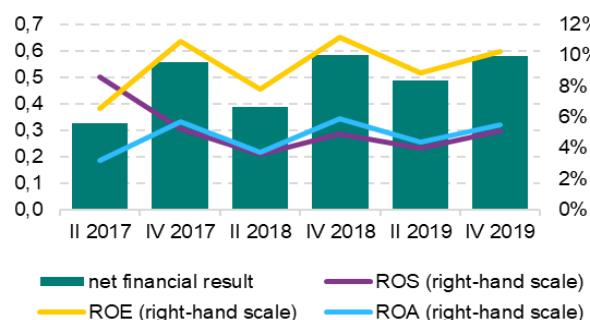
Source: NBP based on Statistics Poland (F01)

**Figure 131 Turnover of stock, receivables and liabilities of construction material suppliers employing more than 49 employees**



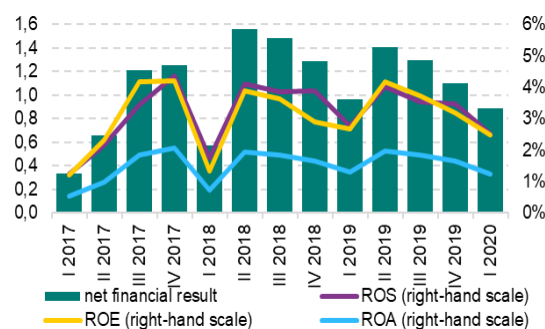
Source: NBP based on Statistics Poland (F01)

**Figure 132 Profitability of construction material suppliers employing from 9 to 49 employees**



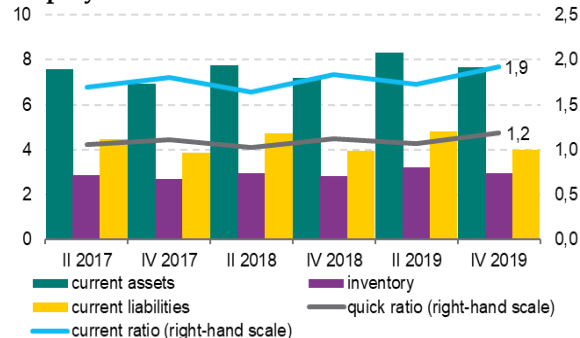
Source: NBP based on Statistics Poland (F01)

**Figure 133 Profitability of construction material suppliers employing more than 49 employees**



Source: NBP based on Statistics Poland (F01)

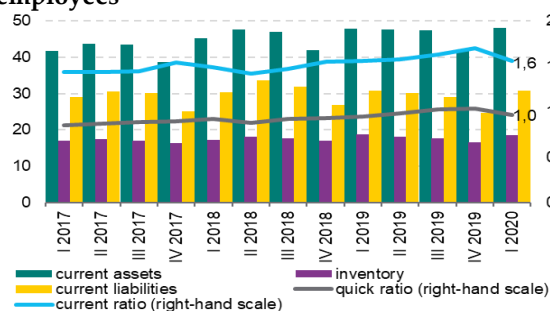
**Figure 134 Liquidity ratios of construction material suppliers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

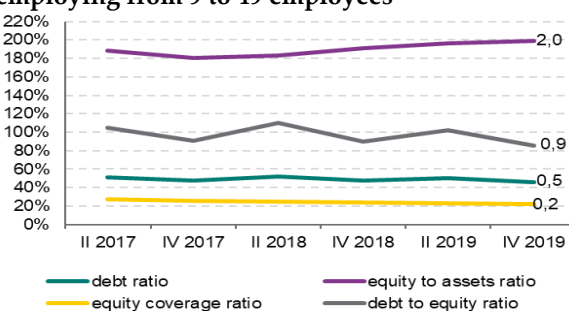


**Figure 135 Liquidity ratios of construction material suppliers employing more than 49 employees**



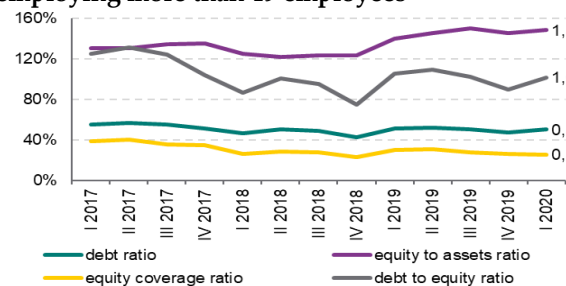
Source: NBP based on financial statements

**Figure 136 Debt ratios and debt-service coverage ratios of construction material suppliers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

**Figure 137 Debt ratios and debt-service coverage ratios of construction material suppliers employing more than 49 employees**



Source: NBP based on Statistics Poland (F01)

#### 7.4. Analysis of financial situation of construction material producers <sup>37</sup>

According to financial data reported by the group of larger producers of construction materials, in 2020 Q1 the production and demand for construction materials did not wane, which resulted in a safe and favourable level of key economic indicators in this period (net financial result, profitability, operating expenses and financial liquidity)..

Revenue from the sales of construction materials in 2020 Q1 stood at a similar level as in 2019 Q1. There was a slight decrease of operating expenses (by 2.5%), including expenses on subcontractor services (6%) and materials and energy consumed (by 4.2%). The costs of materials and energy consumed constitute the largest share (50%) in the producers' operating expenses. On the other hand producers saw a rise in the average payroll expenses (by 1.9%) and costs related to goods and materials sold (by 2.5%). A markedly higher net financial result (an over 21% increase) enabled them to slightly improve profitability indicators. In 2020 Q1 the return-on-sales stood at 6.4%, return-on-equity at 2.7% and return-on-assets at 1.7%, as compared with slightly lower levels recorded a year before (5.0%, 2.2% and 1.3% respectively). Investment outlays decreased.

<sup>37</sup> The calculations and conclusions in this edition of the Information were based on data resulting from F01 reports submitted to the Statistics Poland (GUS) broken down into two groups of companies: those employing from 9 to 49 persons (data available until the second half of 2019, in half-year intervals) and those with staff exceeding 49 persons (data available until 2020 Q1, in quarterly intervals), being manufacturers of constructions materials (PKD 1623, 2223, 2320, 2332, 2351, 2352, 2361, 2362, 2363, 2364)

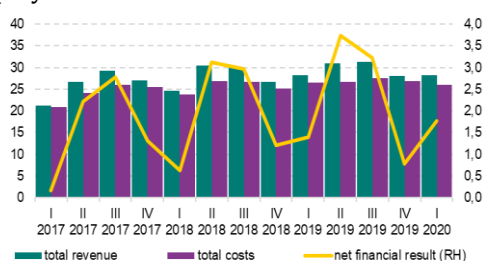
The structure of liabilities remained stable, including equity (63%), liabilities to service providers (22%) and bank debt (14%). Equity and bank loans, i.e. almost 80% of corporate expenses, constitute a factor stabilizing the entire sector. Since 2017 a steady, minor drop in the value of bank debt can be observed.

The analysed group of producers saw a stable structure of assets, including the low level of receivables from customers (16%) due to good collection of receivables (up to 51 days on average). The average share of cash increased to 8% in 2020 Q1, as compared with its average level of 6% to 7% share in the previous quarters. This increases the safety of construction material producers during turnover slump and enhances financial liquidity, which remains stable and favourable in this group of companies.

Smaller companies from this sector (employing from 9 to 49 persons) had a smaller turnover in the second half of 2019 when compared with the same period of 2018, per available financial data. They had remarkably lower revenues and costs, while enjoying an improvement in the net financial result, which translated into the improvement of return-on-sale (9%), return-on-equity (11%) and return-on-assets (7%) ratios. The average value of all cost components constituting operating expenses dropped.

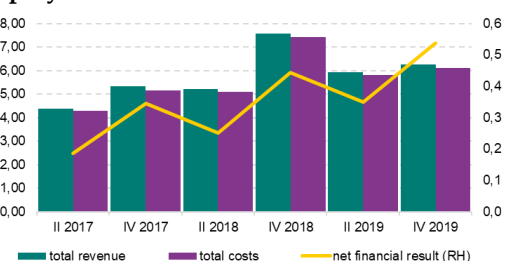
The higher share of liabilities to service providers (25%) as well as that of receivables from construction material purchasers (27%) than in the case of large producers may indicate more acute payment problems in this group, as corroborated by longer time of receivable collection (60 days). It can be assumed that this group of companies is financing the activity of other entities in the sector. The lower value of average investment outlays indicate a more subdued investment activity of small producers. The debt-to-equity and asset coverage ratios remains stable and safe.

**Figure 138 Economic indicators of construction material producers employing from 9 to 49 employees**



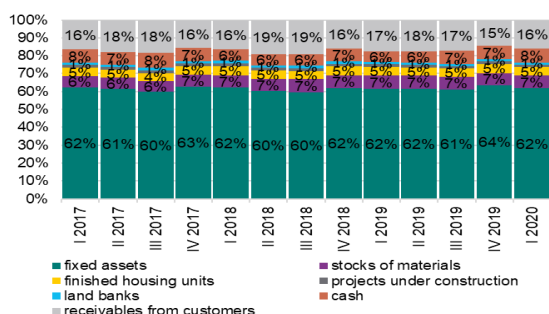
Source: NBP based on Statistics Poland (F01)

**Figure 139 Economic indicators of construction material producers employing more than 49 employees**



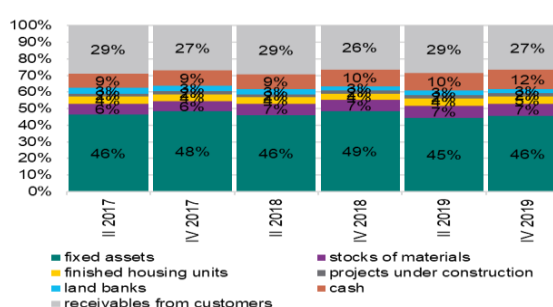
Source: NBP based on Statistics Poland (F01)

**Figure 140 Structure of assets of construction material producers employing more than 49 employees**



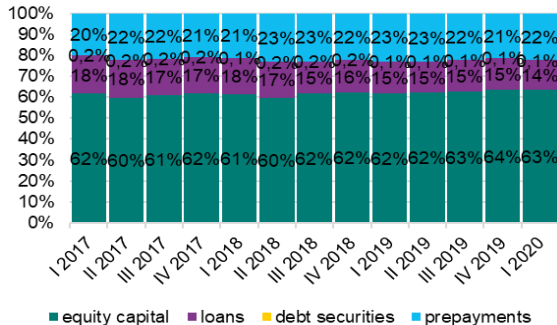
Source: NBP based on Statistics Poland (F01)

**Figure 141 Structure of assets of construction material producers employing from 9 to 49 employees**



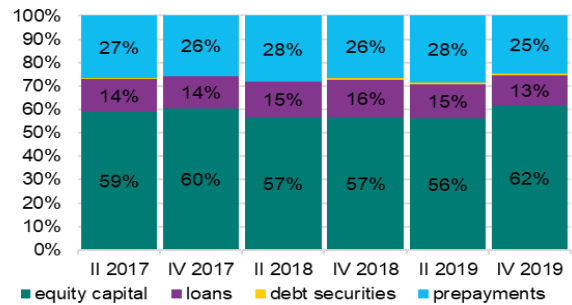
Source: NBP based on Statistics Poland (F01)

**Figure 142 Structure of liabilities of construction material producers employing more than 49 employees**



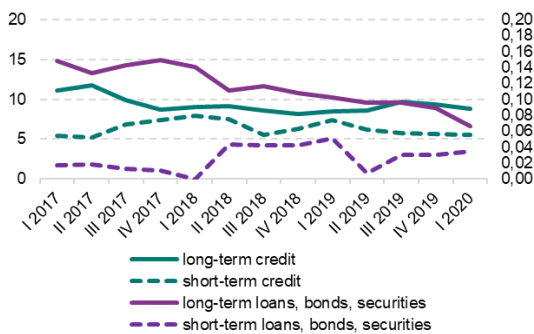
Source: NBP based on Statistics Poland (F01)

**Figure 143 Structure of liabilities of construction material producers employing from 9 to 49 employees**



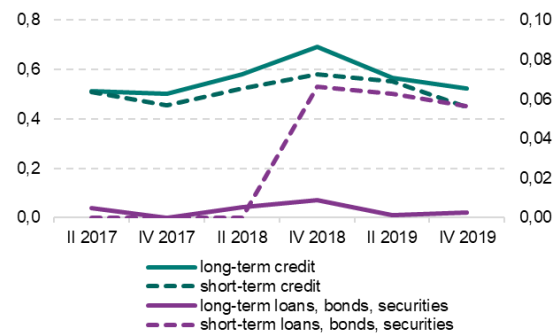
Source: NBP based on Statistics Poland (F01)

**Figure 144 Sources of financing of construction material producers employing more than 49 employees**



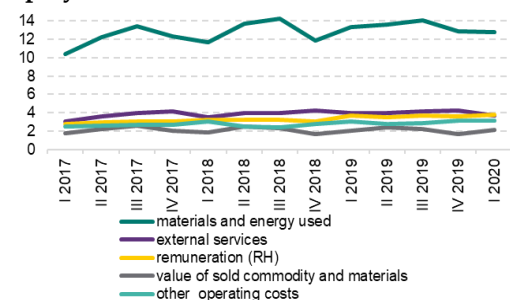
Source: NBP based on Statistics Poland (F01)

**Figure 145 Sources of financing of construction material producers employing from 9 to 49 employees**



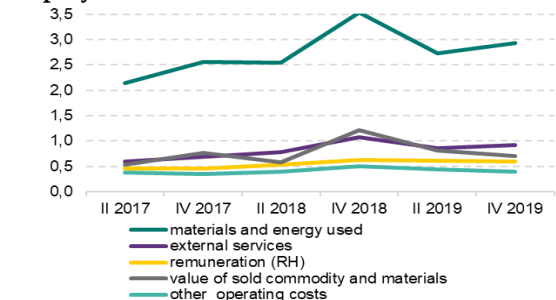
Source: NBP based on Statistics Poland (F01)

**Figure 146 Operating expenses of construction material producers employing more than 49 employees**



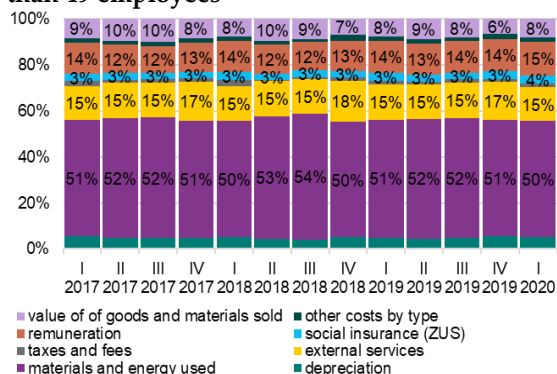
Source: NBP based on Statistics Poland (F01)

**Figure 147 Operating expenses of construction material producers employing from 9 to 49 employees**



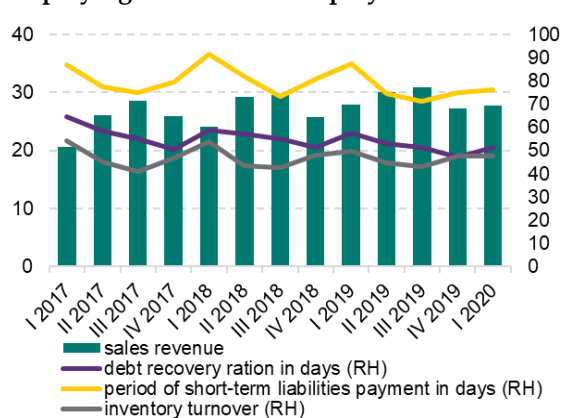
Source: NBP based on Statistics Poland (F01)

**Figure 148 Structure of operating expenses of construction material producers employing more than 49 employees**



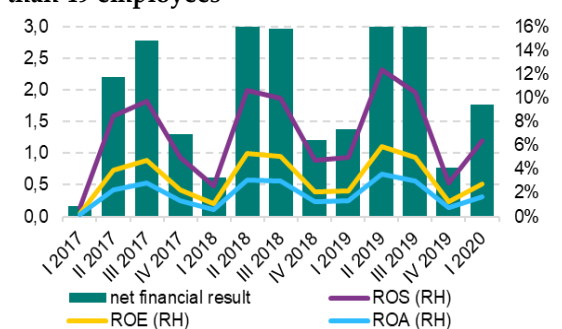
Source: NBP based on Statistics Poland (F01)

**Figure 150 Turnover of inventory, receivables and liabilities of construction material producers employing more than 49 employees**



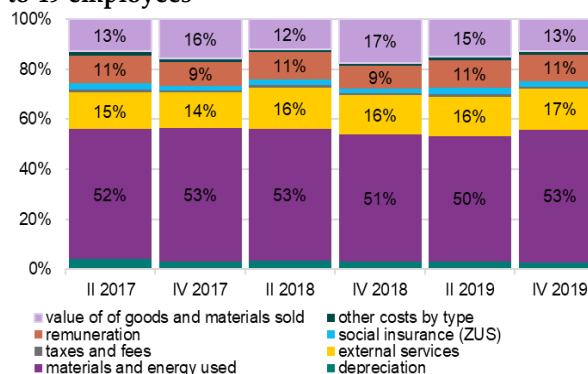
Source: NBP based on Statistics Poland (F01)

**Figure 152 Profitability of operations of construction material producers employing more than 49 employees**



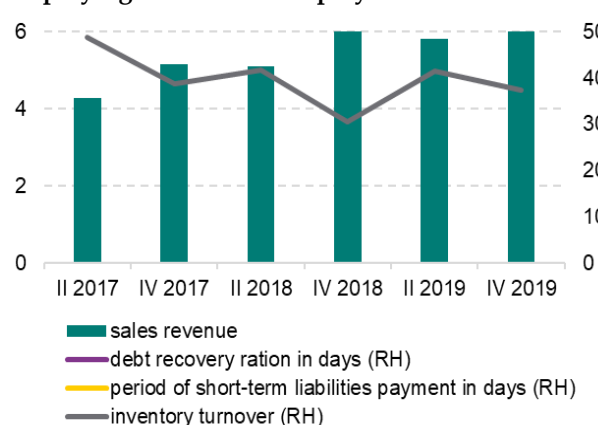
Source: NBP based on Statistics Poland (F01)

**Figure 149 Structure of operating expenses of construction material producers employing from 9 to 49 employees**



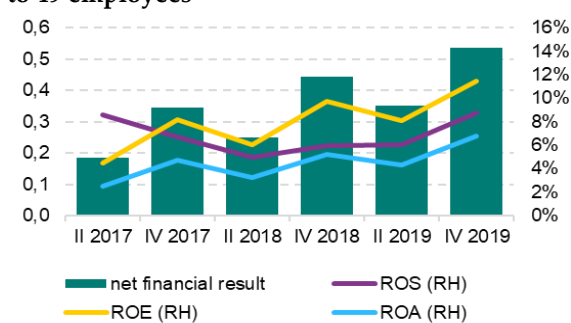
Source: NBP based on Statistics Poland (F01)

**Figure 151 Turnover of inventory, receivables and liabilities of construction material producers employing from 9 to 49 employees**



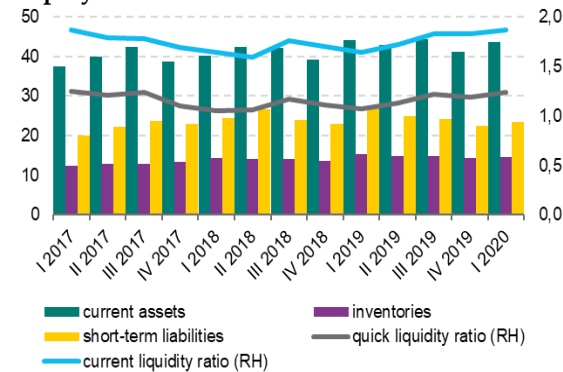
Source: NBP based on Statistics Poland (F01)

**Figure 153 Profitability of operations of construction material producers employing from 9 to 49 employees**



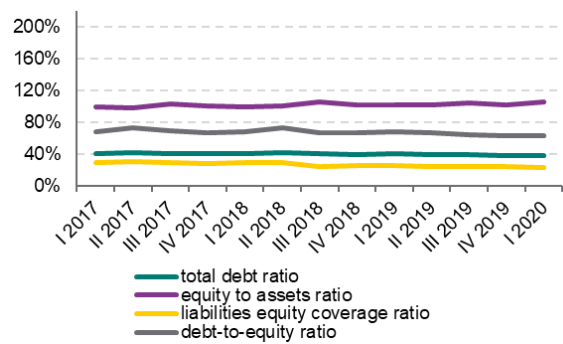
Source: NBP based on Statistics Poland (F01)

**Figure 154 Liquidity ratios of construction material producers employing more than 49 employees**



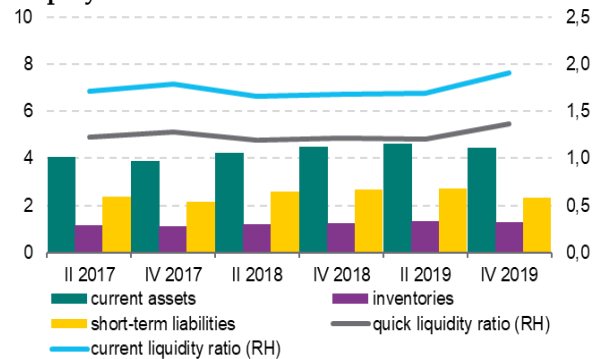
Source: NBP based on Statistics Poland (F01)

**Figure 156 Debt ratios and debt-service coverage ratios of construction material producers employing over 49 employees**



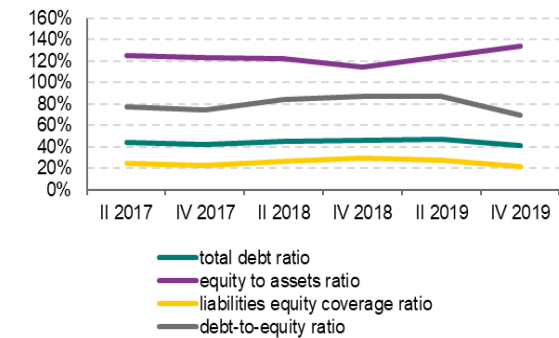
Source: NBP based on Statistics Poland (F01)

**Figure 155 Liquidity ratios of construction material producers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

**Figure 157 Debt ratios and debt-service coverage ratios of construction material producers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

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