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# **Information on home prices and the situation in the residential commercial real estate market in Poland in 2022 Q1**

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## The analysis of the situation in the real estate market in Poland in 2022 Q1<sup>1</sup> leads to the following conclusions:

- The number of home construction contracts sold in the largest primary markets in 2022 Q1 was the lowest in the last six quarters. Such a level of home sales was a result of both reduced demand caused by the increased uncertainty related to Russia's military aggression against Ukraine, and lower supply of dwellings by real estate developers. **The shift in demand to cheaper housing in smaller towns being part of large city agglomerations continued. There was also a decline in demand for residential mortgage loans** due to interest rate hikes and tightening of banks' lending policy. **At the same time, in 2022 Q1 a total of 54.7 thousand dwellings were completed and made ready for occupancy in Poland, which was a record high level for this period since 2005.** However, it was the effect of developers' activity in the previous years. **The costs of housing construction, i.e. materials, labour, rental of equipment and construction sites increased significantly.** The average transaction price per square meter of housing both in the primary and secondary market increased. The same trend was observed in transaction rental rates.
- In 2022 Q1 further increases in home prices were recorded in most of the analysed cities, and price growth was also on the rise (see Table 1). In the primary market, offer prices (PMO) and transaction prices (PMT) increased, especially in Gdynia, Warsaw and Wrocław. Price increases resulted, among other things, from the changing structure of dwellings sold (a larger number of transactions involving dwellings in better locations than those on city outskirts). **An increase in offer (SMO) and transaction prices (SMT) was also observed in the secondary market in all groups of cities.** Transaction prices in the secondary market increased especially in Wrocław, Poznań and Kraków. The demand for older and smaller dwellings increased. **Home prices adjusted with the hedonic index grew in all groups of cities,** which means that similar dwellings were sold at a higher price than in the previous quarter.

Table 1 Price growth per square metre of housing in the analysed cities in 2022 Q1

	y/y				y/y			
	PMO	PMT	SMO	SMT	PMO	PMT	SMO	SMT
Gdańsk	1,5%	2,5%	4,9%	-0,9%	12,8%	14,7%	14,1%	9,9%
Gdynia	3,7%	7,8%	6,5%	2,6%	9,8%	25,3%	20,0%	15,3%
Kraków	1,9%	1,9%	3,8%	2,2%	13,5%	18,0%	19,7%	19,5%
Łódź	0,3%	2,5%	5,3%	0,9%	18,8%	18,7%	18,9%	14,4%
Poznań	6,9%	2,3%	5,0%	2,7%	23,1%	10,4%	18,4%	5,2%
Wrocław	1,6%	5,5%	8,0%	2,8%	14,2%	19,1%	15,6%	14,2%
<b>Warszawa</b>	<b>5,9%</b>	<b>6,8%</b>	<b>0,5%</b>	<b>1,5%</b>	<b>14,1%</b>	<b>16,4%</b>	<b>9,4%</b>	<b>5,1%</b>
<b>6 cities</b>	<b>2,2%</b>	<b>3,2%</b>	<b>4,6%</b>	<b>1,5%</b>	<b>15,5%</b>	<b>17,2%</b>	<b>18,4%</b>	<b>12,6%</b>
<b>10 cities</b>	<b>3,3%</b>	<b>3,5%</b>	<b>4,7%</b>	<b>5,1%</b>	<b>18,8%</b>	<b>19,0%</b>	<b>15,9%</b>	<b>16,6%</b>

Source: NBP

Note to Table 1: the growth rates resulting from the average transaction price are underestimated due to the limited number of transactions with the Register of real estate prices and values (RCiWN - Rejestr Cen i Wartości Nieruchomości) (smaller number of more expensive dwellings). The revision will take place in the subsequent quarters when data are supplemented.

<sup>1</sup> The analysis carried out in this issue of the *Information* is based on data available as at the end of 2022 Q1. Data collected in the NBP database during the listings include offers valid as at 1 March 2022 and transactions concluded in the period from 01 December 2021 to 28 February 2022. Due to delays in access to some data, some charts include information until 2021 Q4. 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 the cut-off-date. Historic data are subject to revision. In the housing price survey (BaRN basis) concerning 2022 Q1, approx. 115.4 thousand records were collected, including approx. 29.7% records concerning transactions and 70.3% records concerning offers. Altogether, approx. 4.5 million records were collected in the base, including 25.2% records concerning transactions and 74.8% records concerning offers.

- **The level of average transaction rental rates per square metre of housing** (excluding service charges and utility fees) **increased in quarter-on-quarter terms both in Warsaw and in the six and ten cities** (see: Figure 15). Despite a significant decline in rental transactions in 2020 and a slight improvement in this market in the first half of 2021, which continued to result in low rental income, no large-scale resales were recorded<sup>2</sup>. For three quarters, the number of rental dwellings remaining on offer had been systematically decreasing. Investors continued to invest in real estate considering it as safe capital investment, rather than expecting attractive rates of return. In recent years, investment funds, including foreign funds have shown growing interest in purchasing rental housing<sup>3</sup>. So far, the Rental Housing Fund managed by Bank Gospodarstwa Krajowego (BGK) used to play a dominant role in this market.
- **The increase in the level of rental rates in the case of long-term rentals (average in the seven large cities) resulted in a slightly higher level of home rental profitability** (see Figure 25)<sup>4</sup>. Housing investment (excluding transaction costs) continued to be competitive with interest rates on bank deposits. Profitability of purchased rental housing compared to the yield on 10-year Treasury bonds decreased due rising interest rates on Treasury securities.
- **The estimated housing affordability** (based on average monthly wages in the enterprise sector) **in the seven large cities increased slightly in quarter-on-quarter terms** as a result of a faster growth in wages than in home prices (see Figure 16). The estimated maximum affordable residential mortgage loan<sup>5</sup> decreased slightly, so did the estimated affordability of loan-financed home purchase<sup>6</sup>. Both rising home prices and interest rate hikes were a factor behind the decline of both indicators mentioned above.
- **Quarterly sales of home construction contracts in the six largest primary markets in Poland<sup>7</sup> (see Figure 57) were lower by approx. 21.7% compared to the previous quarter and at the end of March 2022 amounted to approx. 10.4 thousand dwellings. At the same time, approx. 13.5 thousand home construction contracts were put on sale, i.e. less by approx. 8.1% q/q. The supply of unsold home construction contracts in the seven largest markets increased by approx. 2.9 thousand compared to the previous quarter and amounted to approx. 40.3 thousand at the end of the period.** The increased availability of offers resulted from lower sales and the introduction of new offers. At the same time, the offer was smaller than a year ago, as it did not include some development projects in progress at an early stage of construction. The increase in construction costs urged developers to put on offer dwellings at a more advance stage of construction, with the similar engagement of funds, or to completely withdraw

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<sup>2</sup> Based on the NBP survey: „Secondary residential real estate market, including rental market in Poland”, May 2022.

<sup>3</sup> The most active group of investors comprises specialised German and Scandinavian funds, private equity funds from the USA and the United Kingdom and other investment institutions from the Central and Eastern Europe region.

<sup>4</sup> For more information on the rental market, see: “Analysis of profitability of investment in housing in selected cities in Poland in 2022 r. Q1”.

<sup>5</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 wage understood as the minimum income after the repayment of loan instalments). The estimate does not take into consideration changes in banks’ lending policy, including lending terms and criteria.

<sup>6</sup> Affordability of loan-financed housing is a measure specifying how many square metres of housing may be purchased with a residential mortgage loan obtained considering 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 PM and 60% in the SM) in a particular market (BaRN). The pace of changes of the index and differences between markets are an important source of information.

<sup>7</sup> According to the JLL data (former REAS)

from the project. The number of contracts with dwellings commonly referred to as "ready to move in" in the sale offer in the six markets decreased by approx. 0.5 thousand compared to the previous quarter and amounted to approx. 2.8 thousand. The selling time of home construction contracts in the primary market in the six largest markets increased slightly to the level of 2.7 quarters (see Figure 64).

- **In 2022 Q1, the value of disbursements of new residential mortgage loans in Poland was higher than loan disbursements in the corresponding period of 2021.** In 2022 Q1 the value of new contracts for residential mortgage loans in PLN extended to households<sup>8</sup> (excluding renegotiated contracts)<sup>9</sup> according to the NBP data<sup>10</sup>, amounted to PLN 17.6 billion, i.e. it was lower by approx. PLN 5.5 billion (-23.8%) compared to the previous quarter and higher by approx. PLN 0.2 billion (1.1%) compared to 2021 Q1. Results of the NBP survey on the situation in the credit market in 2022 Q2<sup>11</sup> indicate that the majority of banks tightened their lending criteria again, justifying their decisions with deteriorating economic outlook and interest rate hikes. The surveyed banks forecast a further tightening of residential mortgage loan granting criteria and expect a large drop in demand for these loans in 2022 Q2.
- **The estimated return on equity (ROE) of housing developers on development projects amounted to approx. 21%, i.e. slightly decreased compared to the previous quarter.** This was the result of growing transaction prices, which compensated for the growing costs of home producers. According to the Coface report<sup>12</sup> the estimated number of insolvencies in the construction sector increased to 66 in 2022 Q1 from 53 recorded in 2021 Q1, and in real estate sector it decreased from 25 to 12 (see Figure 36). However, the authors of the report indicate that in view of numerous legislative changes in 2021, it is difficult to predict the number of insolvencies in the construction sector. Stock market indices of construction companies and real estate developers remained unchanged (see Figure 36).

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<sup>8</sup> According to the AMRON report, in 2022 Q1, the number of granted residential mortgage loans amounted to 47.8 thousand (compared to 63.9 thousand in the previous quarter and 57.2 thousand in 2021 Q1), the value of newly granted mortgage loans amounted to PLN 16.9 billion (compared to 22.5 billion in the previous quarter and 17.9 billion in 2021 Q1). The average amount of a residential mortgage loan granted was approx. PLN 351.3 thousand (compared to 350.5 thousand in the previous quarter). Loans ranging from PLN 200 to PLN 300 thousand continued to predominate (24.3% compared to 24.1% in the previous quarter). On the other hand, an increase was noted in the share of loans exceeding PLN 1 billion whereas the share of loans in other value ranges decreased. In total new loans, loans with LtV up to 30%, ranging from 30 to 50% and ranging from 50 to 80% decreased, reaching 14.0%, 8.2% and 51.3% respectively, whereas loans with LtV above 80% fell to 26.5%. Compared to the previous quarter, there was a slight increase in the share of residential mortgage loans with a maturity ranging from 25 years to 35 years (68.6%), and above 35 years (1.1%) whereas there was a fall in the share of loans with maturity up to 15 years (5.7%) and from 15 to 25 years (24.6%). As at the end of 2022 Q1, the number of active loan agreements (pending repayment) amounted to approx. 2.53 million (compared to 2.55 million in 2021 Q4), while their value at the end of the period under discussion amounted to PLN 511.7 billion (compared to 511.3 in the previous quarter).

<sup>9</sup> According to the BIK data, in 2022 Q1, banks and credit unions granted approximately 48.8 thousand residential mortgage loans to private individuals for the total amount of approx. PLN 16.9 billion (in 2021 Q1, 61.4 thousand in the amount of PLN 18.8 billion, respectively). In the period 2021 Q1 to 2022 Q1, approximately 261.2 thousand residential mortgage loans were taken (a 19.3 % increase y/y) for the amount of PLN 87.4 billion (a 34.7% growth y/y). The negative y/y growth in sales of residential mortgage loans recorded in 2022 Q1 concerned almost a group of loans up to PLN 350 thousand, whereas increase was noted in the case of higher value loans only (by 63% in terms of their value and 56% in terms of their number).

<sup>10</sup> Data concerning the interest rate and the value of new residential mortgage loans based on the NBP data available in the "4 OPN2PLN" tab published on the NBP site: <https://www.nbp.pl/homen.aspx?f=en/statystyka/oproc/oproc.html> . According to NBP data, at the end of March 2022 the value of residential mortgage loans stood at PLN 512.5 bn, i.e. PLN 0.6 bn higher than in the previous quarter and PLN 31.7 bn higher than the end of March 2021 figure (a 6.6% y/y increase, against 4.3% in 2021 Q1).

<sup>11</sup> Situation in the credit market - results of the senior loan officer opinion survey, 2022 Q2" NBP, [https://www.nbp.pl/systemfinansowy/rynek\\_kredytowy\\_2022\\_2.pdf](https://www.nbp.pl/systemfinansowy/rynek_kredytowy_2022_2.pdf) .

<sup>12</sup> According to Coface experts (Coface Report - Insolvency of companies in Poland in 2022 Q1), the construction industry is facing challenges related to the pressure on the valorization mechanism (rising costs), aggravated in the case of public contracts.

- **In 2022 Q1, a record number, as for the first quarters of the year, exceeding 54.7 thousand dwellings were completed and made ready for occupancy in Poland i.e. 3.2% more than in 2021 Q1<sup>13</sup>** (see Figure 52). The majority of dwellings completed were dwellings for sale and rent (53.6%) and private construction (44.2%), while the number of completed private construction dwellings increased in year-on-year terms and the number of developer dwellings decreased. The share of completed dwellings in the seventeen largest cities in Poland in the total number of dwellings completed decreased (from approx. 33% in 2021 Q1 to approx. 27% in 2022 Q1), and increased in the rest of Poland. **The number of approx. 53.3 thousand dwellings whose construction was launched<sup>14</sup> was 16.3% lower than in 2021 Q1** (see Figure 53). Dwellings for sale and rent (59.4%) and private construction (38.2%) had a dominant position. It should be added that the number of home construction starts increased in the rest of Poland (71.1% compared to 65.1% in 2021 Q1) and in Warsaw (7.7% compared to over 4.3% in the previous year). These figures refer to city administrative boundaries so residences in a city agglomeration are included in the so-called rest of Poland.
- **High estimated rates of return on housing development projects and the persisting investment and consumption demand boosted the number of subsequent construction permit applications<sup>15</sup>**. Permits were granted mainly for the construction of dwellings for sale and rent (approx. 67% of the total number of permits) and private construction (over 31% of the total number of permits). The number of permits granted for the construction of cooperative housing and social and municipal rental housing was close zero in the discussed period. The share of home construction permits increased slightly in Warsaw (to 6% from 3% in 2021 Q1) and in the rest of Poland (to 71% compared to 69%). The number of granted home construction permits decreased in 6 and 10 cities. The high number of building permits was also largely a result of making up for their shortage, resulting from the COVID-19 pandemic induced restrictions, delayed approvals of permit applications submitted before the end of 2020, including before the change in regulations on energy efficiency requirements for buildings<sup>16</sup>, as well as persistently high demand.
- **In 2022 Q1 all the major office real estate markets saw a slight rise in imbalances driven by oversupply of office space compared to demand**. The supply of new office space and space under construction continued to be high, yet lower compared to the previous quarter. According to the information provided by consulting companies, at the end of the analysed period the total supply of office space in the largest office markets stood at approx. 12.3 million sq.m., and office space under construction at approx. 1 million office space. The vacancy rate in the nine largest markets stood at 13.8% (compared to 13.4% in 2021 Q4),

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<sup>13</sup> According to the Statistics Poland data, in 2022 Q1 over 54.7 thousand homes were completed and made ready for occupancy, i.e. approx. 1.7 thousand more compared to 2021 Q1 and approx. 15.7 thousand less than in the previous quarter. The record number exceeding 236.4 thousand dwellings were completed and made ready for occupancy over the last 4 quarters, i.e. approx. 11.0 thousand more than in the corresponding period of 2021 (a rise of 4.9% y/y).

<sup>14</sup> According to the Statistics Poland data, in 2022 Q1 the construction of approx. 53.3 thousand homes was started, which is approx. 10.4 thousand less compared to 2021 Q1 and approx. 7.8 thousand less than in the previous quarter. Altogether, the last 4 quarters saw the launch of construction of approx. 267.0 thousand dwellings, i.e. approx. 32.1 thousand more than in the corresponding period of 2021 (a rise of 13.6% y/y).

<sup>15</sup> According to the Statistics Poland data, in 2022 Q1, approx. 77.8 thousand permits for housing construction were issued, e.g. less by approx. 6.9 thousand compared to 2021 Q1 and less by approx. 7.4 thousand compared to the previous quarter. In total, approx. 333.7 thousand permits were issued, i.e. approx. 32.0 thousand more than in the corresponding period of 2021 (increase by 10.6% y/y).

<sup>16</sup> According to the ordinance of the Minister of Infrastructure of 12 April 2002 on the technical conditions to be met by buildings and their location (paragraph 329), as of 01 January 2021, a new energy standard has been in place and the value of primary energy (the so-called EP standard) has decreased.

and in Warsaw itself it amounted to 12.2%<sup>17</sup>, i.e. decreased by 0.5 pp. compared to the previous quarter. The vacancy rate of office space depends on the age and, above all, on the location of the office building<sup>18</sup>. The construction of additional space does not mean an automatic increase in vacancies, but it will generate significant competition for tenants, especially as regards older buildings in poorer location. As a consequence, we will see this office space being removed from the market or demolished and new attractive real estate, including housing real estate, being built in its place.

- **The retail sector in Q1 2022 is slowly making up for the losses suffered during the COVID-19 pandemic. E-commerce continued to grow strongly.** At the end of 2022 Q1 the stock of modern retail space amounted to over 12.4 million sq. m., which translated into a saturation of 317 sq. m. per 1,000 inhabitants. On the other hand, there was approx. 244,000 sq.m. of modern retail space under construction<sup>19</sup>. This means that investors consider the retail market in the largest cities as saturated. A significant part of the new retail space is built in the form of retail parks in smaller cities, up to 100 thousand residents<sup>20</sup>. According to the information provided by consulting companies, customers are returning to traditional form of shopping, and e-commerce had started to stabilize<sup>21</sup>. To a large extent, this is related to the return to traditional, stationary form of work and the easing of restrictions. Projects to transform retail space into multi-functional projects are still under way.
- **The market of modern warehouse space in Poland continued to develop dynamically, and the demand and supply also remained high.** The modern warehouse space market continued to benefit from further development of e-commerce. Developers are responding to the rapidly growing demand; as a result the supply is growing. Warehouses located in urban areas, including in close locations, continue to develop very quickly to shorten products delivery time. At the end of 2022 Q1, the total stock of the warehouse space market increased to 25 million sq. m., and over 4.8 million sq. m. of modern warehouse space was under construction. The vacancy rate across the country continued to decline to 3.1% compared to 3.7% in 2021 Q4.
- **The estimated value of commercial real estate purchased for investment purposes, i.e. for rent, at the end of 2022 Q1 amounted to approx. EUR 1.6 billion.** Approximately 43% of the value of transactions concerned warehouse space, 46.4% office space, while only 10.5% of transactions concerned retail space.
- **The exposure of the financial sector to commercial real estate (loans to housing developers, loans for office, retail, warehouse real estate and other loans) comes in two main forms. The first is real estate purchased with a loan.** The loan is secured on this particular property, but alternative forms of security are also possible. At the end of 2022 Q1, the value of those loans granted by banks in Poland amounted to PLN 60 billion<sup>22</sup>, including 56% of loans denominated in EUR. The value of corporate debt resulting from residential real estate at the end of 2022 Q1 increased slightly to PLN 4.1 billion. The value of loans for office real estate fell to PLN 14.3 billion against PLN 14.4 billion in 2021 Q4. The value of loans granted for retail real estate stood at PLN 15.8 billion while for warehouse and industrial real estate increased to

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<sup>17</sup> See: Colliers International Report:Market Insights, 2022 Q1, Poland

<sup>18</sup> See: Knight Frank, Report: Poland, Commercial Market, 1st half of 2018.

<sup>19</sup> See: Colliers International Report: Market Insights, 2022 Q1, Poland

<sup>20</sup> See: CBRE Report, Real Estate Market Outlook 2022, Poland.

<sup>21</sup> See: CBRE Report, Real Estate Market Outlook 2022, Poland.

<sup>22</sup> FINREP data.



PLN 10 billion against PLN 9.2 billion 2021 Q4. On the other hand, the value of loans granted for other real estate stood at PLN 15.9 billion.

- **The second form of banks' exposure are loans secured on real estate taken by enterprises for various purposes.** The value of corporate loans secured by mortgage on commercial real estate at the end of 2022 Q1 amounted to PLN 135 billion<sup>23</sup>. 37% of these loans were denominated in EUR.
- **The quality of loans granted to enterprises for real estate did not change significantly in relation to the previous quarter.** The ratio of non-performing loans granted for office real estate stood at 6.4%; in the case of loans for retail space, it decreased to 14.2% compared to 14.5% in 2022 Q1. The non-performing loan ratio in the case of warehouse and industrial space fell to 5.1% compared to 6.3% in 2021 Q4, in the case of other real estate it decreased to 8.1% from 8.5%. The non-performing loan ratio among loans granted for developer residential real estate decreased to 13.7% against 14.7 % in 2021 Q4. The relatively high value of this ratio is mainly due to banks holding in their loan portfolio non-performing loans from previous years<sup>24</sup>.
- **In the market of small office real estate, the median of asking prices in the majority of the largest cities saw a slight increase.** Also in the case of small retail premises, in the majority of large cities there was a slight increase in the median of asking prices. On the other hand, Łódź and Kielce saw a slight decline against the 2021 Q4 figures.

The figures below describe the key developments in the housing market in Poland's major cities in 2022 Q1. The charts and figures present:

- 1) home prices (Figures 1– 15),
- 2) affordability of loan-financed housing, loan affordability, profitability of housing investment (Figures 16– 25),
- 3) mortgage loan disbursements and interest rates (Figures 26-35)
- 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 36– 51),
- 5) housing construction and the residential market in selected cities in Poland (Figures 52– 65),
- 6) rents and transaction prices of commercial real estate and the estimated rates of return (Figures 66-76),
- 7) analysis of demand and supply in the secondary housing market, including the home rental market based on the NBP surveys (Figures 77-79)
- 8) analysis of profitability of investment in rental housing in selected cities in Poland in 2022 Q1 (Figures 100-110)
- 9) analysis of the situation of real estate developers, construction companies engaged in the construction of buildings and related entities based on the NBP surveys (Figures 111-204).

The analysis of housing prices (asking, 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). On the other hand, as part of the survey of the commercial real estate market, the Commercial Real

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<sup>23</sup> The fall in debt by PLN 4.6 billion in comparison with Q3 was mainly due to the repayment of loans denominated in PLN

<sup>24</sup> See Financial Stability Report, NBP, December 2018.



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

In addition, the analyses relied on the data from PONT Info Nieruchomości, AMRON and SARFIN Polish Banks' Association and Comparables.pl. The analyses and reports of JLL (former REAS), 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<sup>25</sup>.

#### List of abbreviations:

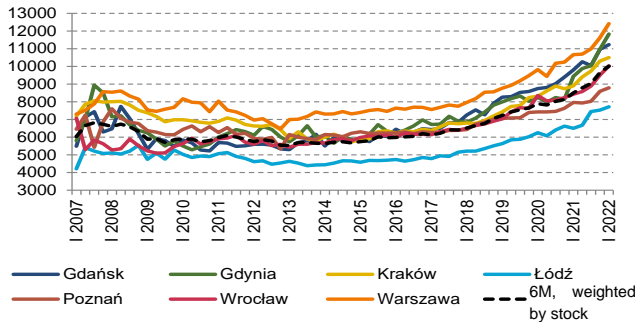
<b>5M</b>	5 biggest cities: Gdańsk, Kraków, Łódź, Poznań, Wrocław
<b>6M</b>	6 biggest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław
<b>7M</b>	7 biggest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław
<b>10M</b>	10 biggest cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra
<b>BaNK</b>	Commercial Real Estate Market Database
<b>BaRN</b>	Real Estate Market Database
<b>BIK</b>	Biuro Informacji Kredytowej
<b>CPI</b>	Consumer Price Index
<b>DFD</b>	Large real estate development company
<b>GD</b>	Households
<b>GUS</b>	Statistics Poland
<b>EURIBOR</b>	Euro Interbank Offer Rate
<b>KNF</b>	Polish Financial Supervision Authority
<b>LIBOR</b>	Interbank Offered Rate
<b>LTV</b>	The relation of loan value to home value, i.e. Loan-to-Value
<b>MDM</b>	Government-subsidised 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>PM</b>	Primary housing market
<b>SM</b>	Secondary housing market
<b>ROE</b>	Return on Equity
<b>WIBOR</b>	Warsaw Interbank Offered Rate
<b>WIG20</b>	Index including top 20 companies listed on the Warsaw Stock Exchange with the highest value of publicly traded shares
<b>ZBP</b>	Polish Bank Association
<b>ZKPK</b>	Accumulated index of changes in banks' credit policy criteria

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<sup>25</sup> Data and studies were used, among others, Sekocenbud, Spectis, PAB, OLX Group.

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

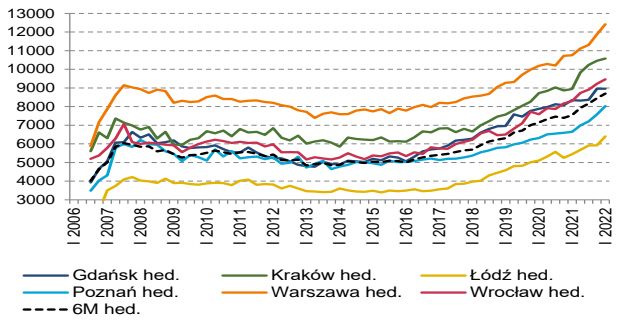
**Figure 1 Transaction prices per square metre of housing in Warsaw and in 6M- PM, in PLN**



Note: the home price database of NBP (BaRN) has existed since 2006 Q3; description of the database is available on the bank's website [https://www.nbp.pl/home.aspx?f=/publikacje/rynek\\_nieruchomosci/ankieta.html](https://www.nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/ankieta.html). \*The price adjusted by the hedonic index is the average price of the base period multiplied by the hedonic index (reflects pure price change, ignores differences in housing quality).

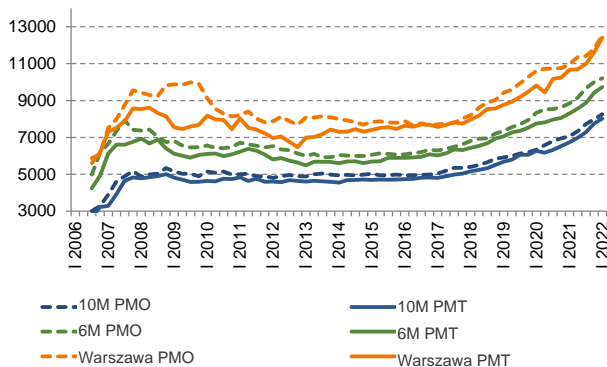
Source: NBP

**Figure 2 Transaction prices per square metre of housing adjusted by the hedonic index (hed.)\* in Warsaw and in 6M - SM, in PLN**



Source: NBP

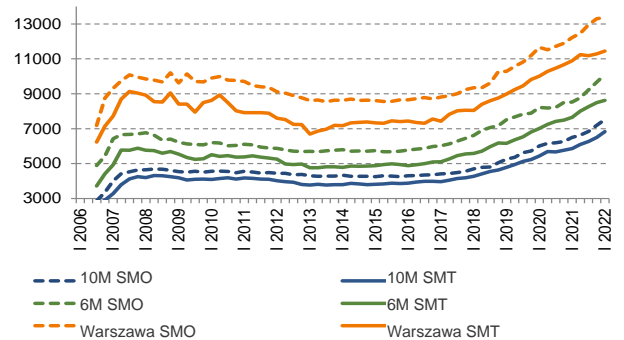
**Figure 3 Weighted average price per square metre of housing, offers (O) and transactions (T) - PM**



Note to Figures 3-10 and 14-15: prices and rents weighted in 6M and 10M with the share of housing stock, the average price for Warsaw.

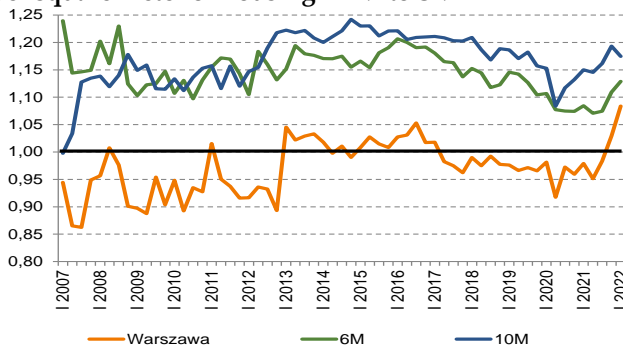
Source: NBP

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



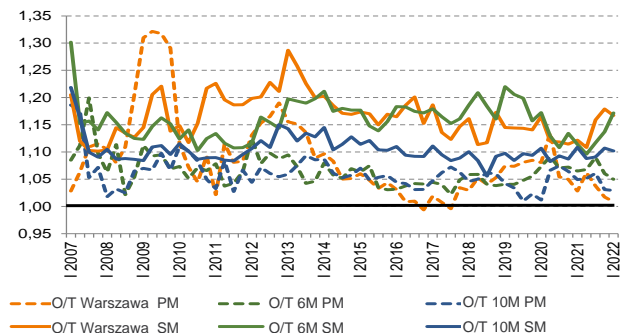
Source: NBP

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



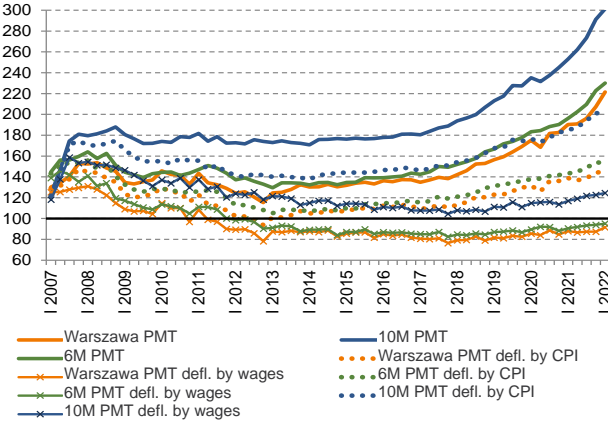
Source: NBP

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



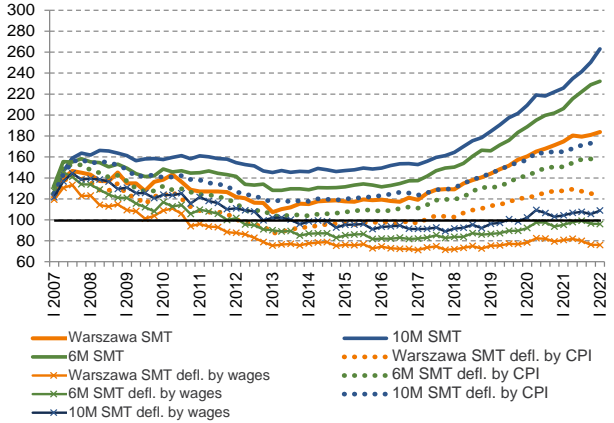
Source: NBP

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



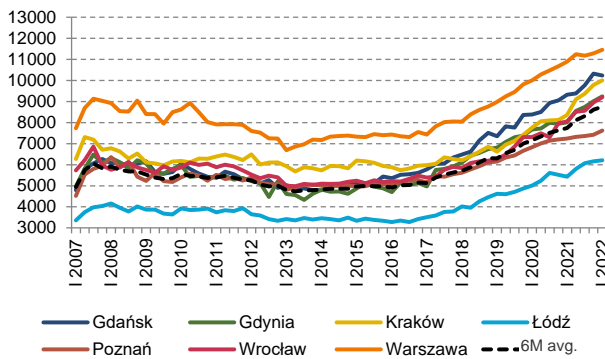
Source: NBP, ZBP (AMRON), Statistics Poland

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



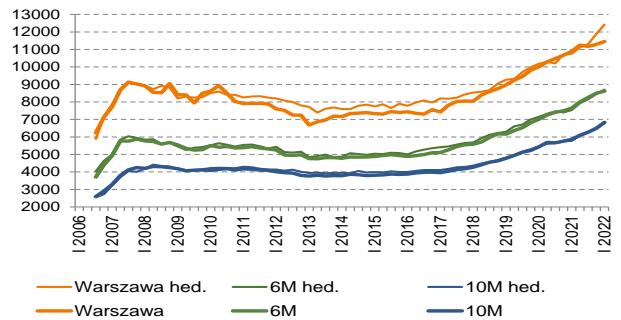
Source: NBP, ZBP (AMRON), Statistics Poland

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



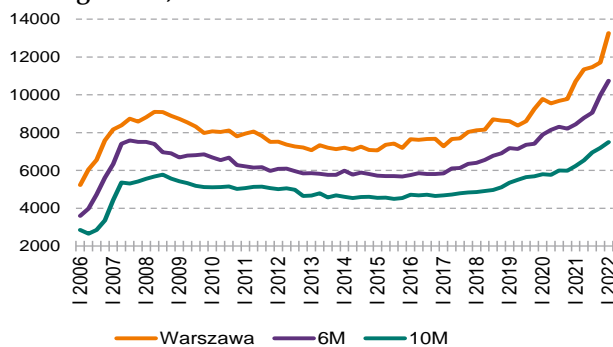
Source: NBP

**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**

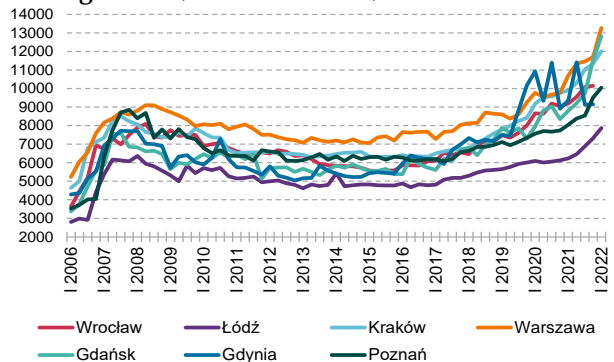


Source: NBP

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



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

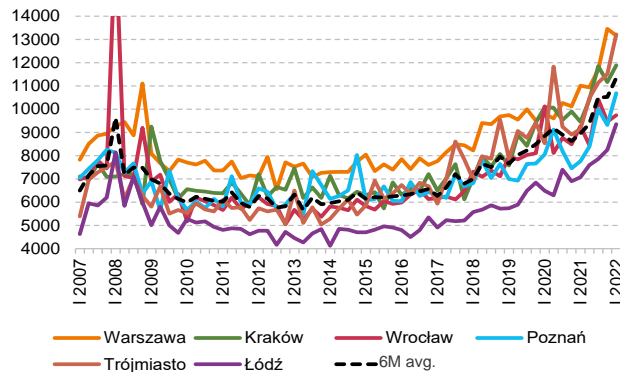


Note to Figures 11-12: prices are collected from all available sources.

Source: PONT Info Nieruchomości

Source: PONT Info Nieruchomości

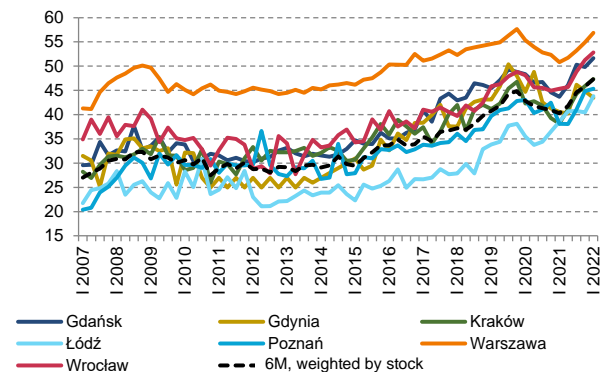
**Figure 13 Average offer prices per square metre of housing, new home construction contracts – PM, selected markets**



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

Source: JLL/d.REAS

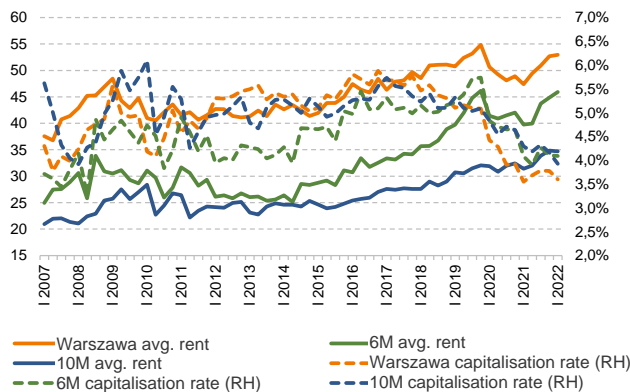
**Figure 14 Average rent rates (offers and transactions) per square metre of housing - SM, selected cities**



Note: in 2020 the change of sample was observed.

Source: NBP, OLX Group

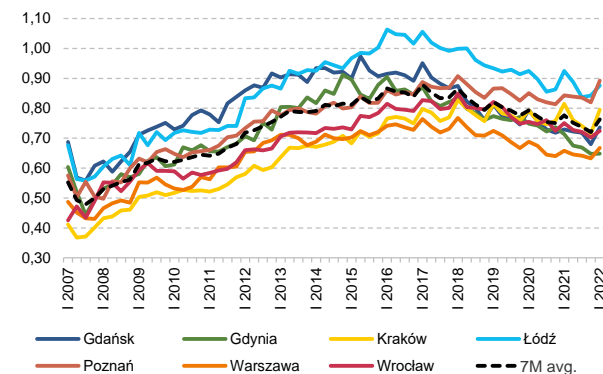
**Figure 15 Average rent rates (transactions) per square metre of housing in SM (LH scale) and the estimated profitability of housing rental (RH scale) in selected cities**



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

Source: NBP, OLX Group

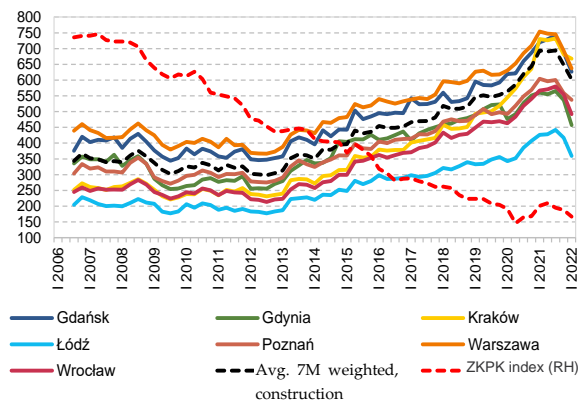
**Figure 16 Estimated affordability of housing in 7M based on average wages in the enterprise sector (sq. m.)**



**Housing affordability** – a measure of potential affordability 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 meters of housing that can be purchased for an average wage in the enterprise sector in a particular city (Statistics Poland) and at an average transaction price in a particular market (40% in PM and 60% in SM according to the NBP database).  
Source: NBP, Statistics Poland

## 2. Affordability of loan-financed housing, loan affordability, profitability of investment in housing

**Figure 17** Estimated affordability of residential mortgage loan and accumulated index of banks' mortgage lending policy (ZPKK, RH scale)



Source: NBP, Statistics Poland

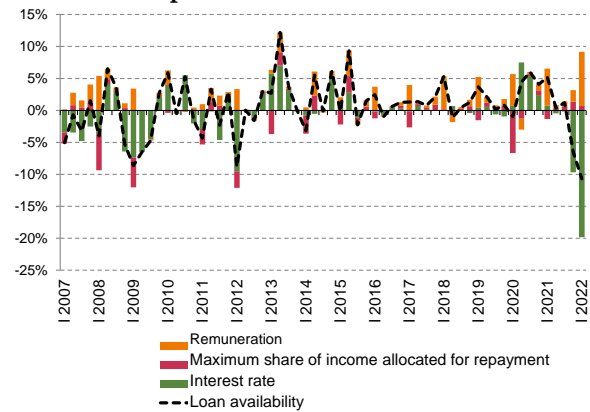
**Affordable residential mortgage loan** – a measure specifying the potential maximum residential mortgage loan; expressed in PLN thousand in a given market taking into account banks' lending requirements and loan parameters (interest rate, amortisation period, minimum subsistence wage as the minimum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

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

**ZPKK Index** – accumulated index of changes in banks' lending policy criteria; positive values mean easing, and negative values tightening of lending policy as compared to the initial period i.e. 2003 Q4. Positive values of ZPKK mean easing and negative values - tightening of the banks' lending policy in relation to the initial period, i.e. 2003 Q4. ZPKK data have been updated. Computing methods of the index are described in the *Financial Stability Report, December 2012*, NBP.

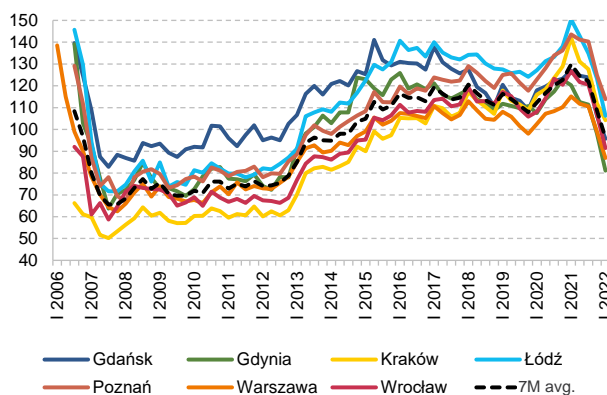
The interest on residential mortgage loan weighted with the share of PLN loan and FX loan.

**Figure 18** Quarterly changes in the estimated available average residential mortgage loan in 7M and the force and directions of the impact of individual components



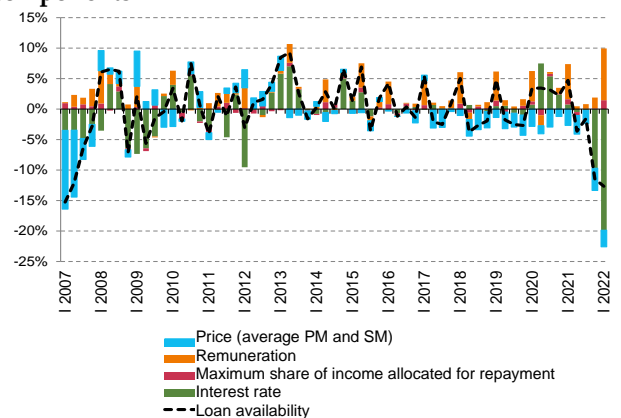
Source: NBP, Statistics Poland

**Figure 19** Estimated affordability of loan-financed housing (7M)



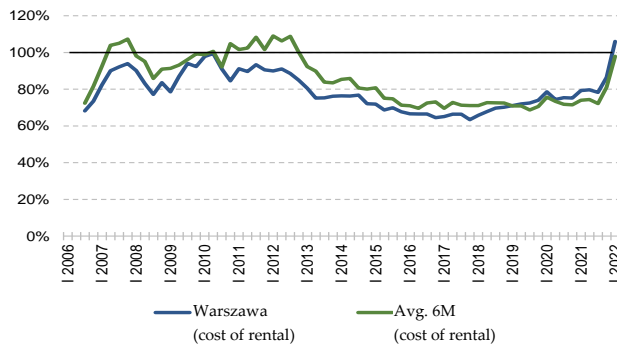
Source: NBP, Statistics Poland

**Figure 20** Quarterly changes in the estimated affordability of loan-financed housing in 7M and the force and directions of the impact of particular components



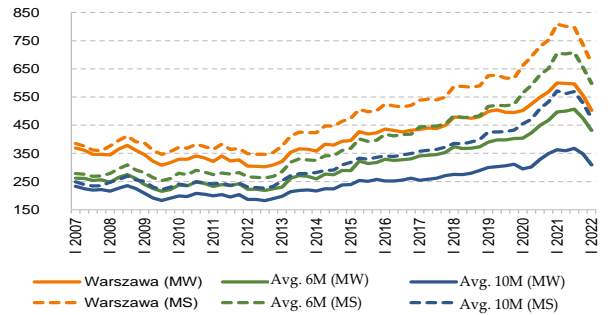
Source: NBP, Statistics Poland

**Figure 21 Estimated cost of servicing a residential mortgage loan compared to the cost of home rental**



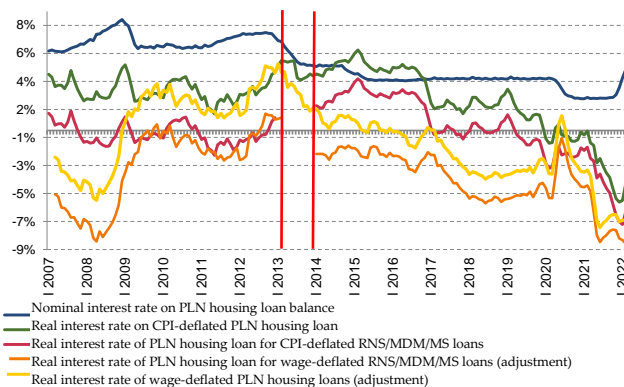
Note: the estimate refers to the average 50 sq.m dwelling; average transaction price per sq.m. of dwelling in PM and SM; residential mortgage loan with a floating interest rate, LTV=80%; rental rate average of offers and transactions Source: NBP, Statistics Poland

**Figure 22 Estimated affordable residential mortgage loan for an average gross wage in the enterprise sector in selected cities**



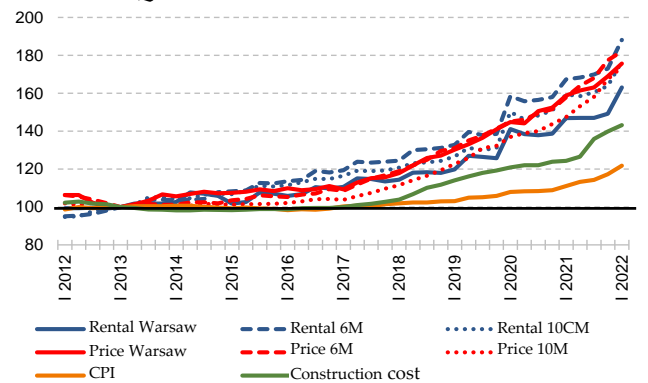
Note: values estimated with the criterion of minimum subsistence level (MS) or average monthly wage in the enterprise sector (MW) Source: NBP, Statistics Poland, BGK

**Figure 23 Residential mortgage loan burden for consumer; deflated with CPI or wage growth in the enterprise sector**



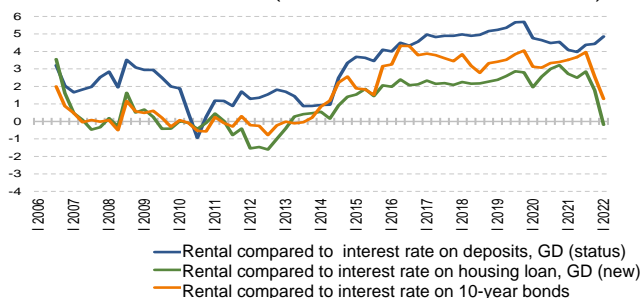
Note: values below 0 denote negative real interest rate for the borrower; red lines separate the period of the absence of the government subsidised housing scheme, i.e. the RNS scheme (operating in the years 2007- 2012), the MDM scheme (operating in years 2014- 2018) and the Housing for the Start (MS)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

**Figure 24 Changes in the level of transaction priced (Price) and household income (Wages), home construction costs and CPI, average in Warsaw, 6M and 10M (2013 Q1=100)**



Note: Transaction price of sq. m. of housing 50% SM and 50% PM (including costs of finishing. The price in the primary market was increased by the cost of finishing (in 2021 Q4 + +1050 PLN/sqm in Warsaw, +950 in 6 cities and + 850 in the remaining 7 cities)). Cost of construction of half a 1121-302 building (details in footnote 32). Source: NBP, Statistics Poland

**Figure 25 Profitability of home rental (average in Warsaw and 6M) as compared with alternative household investments (differences in interest rates)**

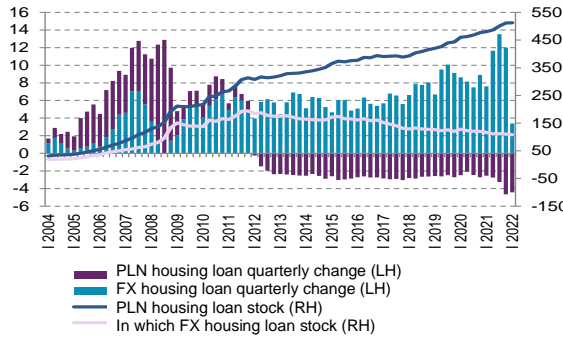


Note to Figure 25: values exceeding 0 denote higher profitability of purchasing rental housing than other housing investments. This analysis does not take into account high transaction costs in the residential market and the potentially long time of disinvestment. Source: NBP, Statistics Poland



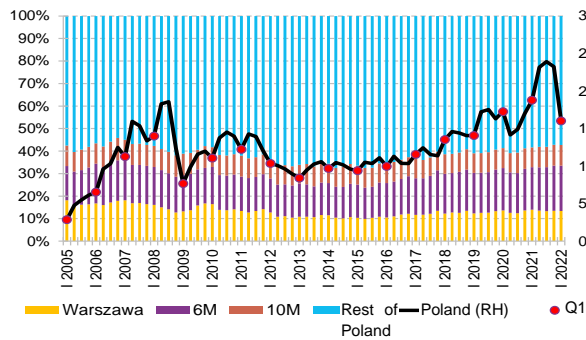
### 3. Disbursement of residential mortgage loans, interest rates

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



Source: NBP

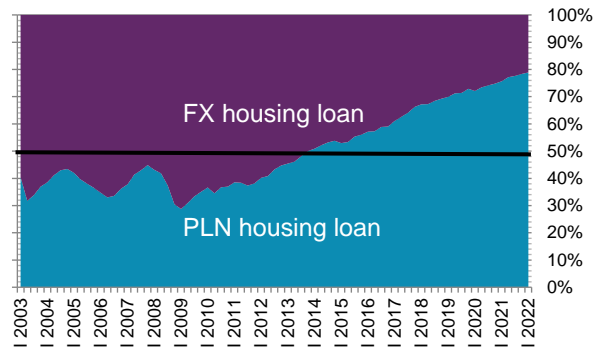
**Figure 28 Geographical structure of the value of new PLN-denominated residential mortgage loan contracts in Poland's selected cities (LH scale) and the value of contracts in Poland (RH scale), quarterly data**



Note to Figures 28 and 29: the data inform about the concluded residential mortgage loan contracts rather than about the actual disbursement of loans. Only first quarters are marked by red points in Figure 28.

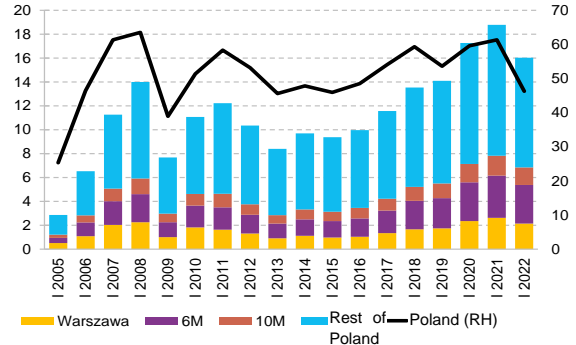
Source: BIK

**Figure 27 Currency structure of housing loan receivables from households (%)**



Source: NBP

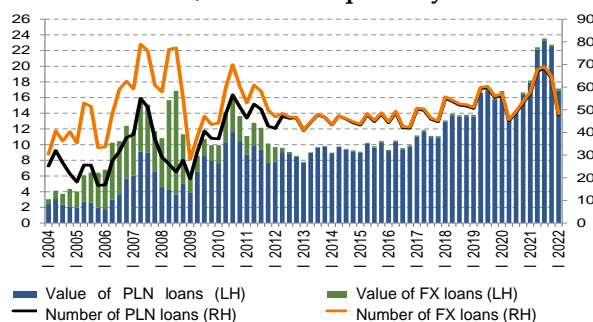
**Figure 29 Value in PLN bn (LH scale) and number (RH scale) of new PLN-denominated residential mortgage loan contracts in Poland's selected cities in the first quarters of 2005-2022**



Source: BIK

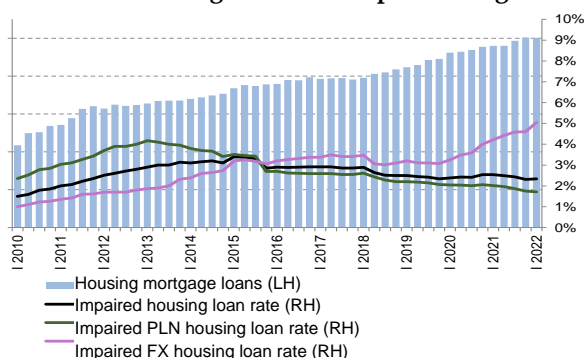


**Figure 30 New residential mortgage loan contracts: value and number, cumulated quarterly values**



Source: ZBP (AMRON)

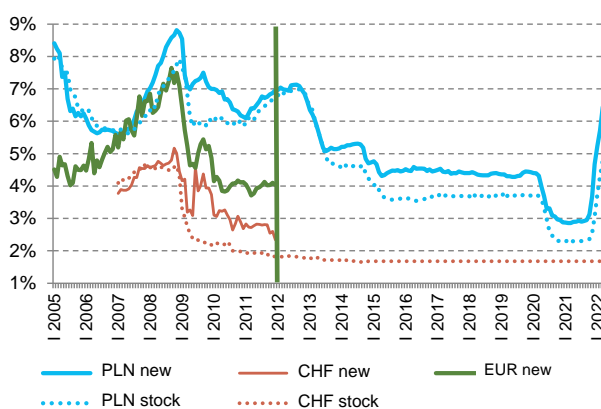
**Figure 31 Loans to households for housing real estate and loans recognised as non-performing loans**



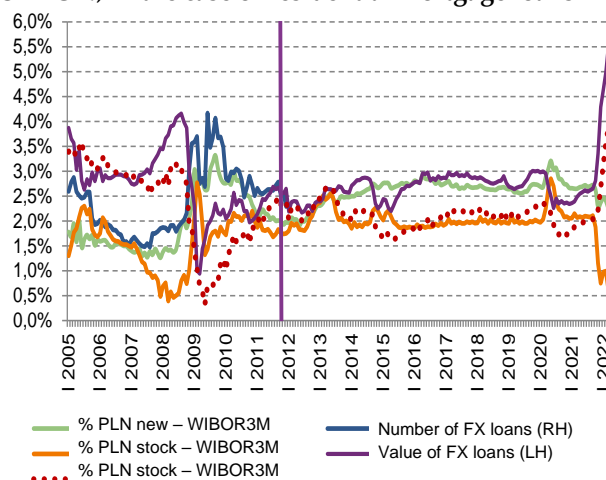
Note: receivables (loans) with determined loss of value – receivables from portfolio B, in relation to which objective evidence of impaired value were observed and a decrease in the expected value of future cash flows (in banks using the IFRS) or which were recognized as non-performing receivables in 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 32 Interest rates on residential mortgage loans to households in Poland**



**Figure 33 Bank margins (for WIBOR 3M, LIBOR, SARON) in the case of residential mortgage loans**



Note to Figure 32 and 33: the violet vertical line separates the period with no FX loans, which practically ceased to be granted in 2012. Note to Figure 33: the bank margin is the difference between residential mortgage loan rate (NBP data) and the WIBOR3M rate or the LIBORCHF3M/SARON3M rate (since 2022).

Source: NBP

Source: NBP

**Table 2 Estimated gross residential mortgage loan disbursements to households in Poland and the estimated value of cash and loan-financed\*/ purchases of developer housing in 7 cities (7M; in PLN million)**

Date	Disbursement of residential mortgage loans in Poland	Estimated value of housing transactions in PM and 7M	Loan demand including client's down payments in PM in 7M	Client's down payments in PM in 7M	Cash demand for housing (without down payment) in the PM in 7M	Estimated share of homes purchased with cash in PM in 7M**/
2012 Q1	5385	3135	1228	307	1907	71%
2012 Q2	7325	3079	1670	418	1409	59%
2012 Q3	7661	2773	1747	437	1026	53%
2012 Q4	7441	3164	1697	424	1467	60%
2017 Q1	10945	6851	2495	624	4356	73%
2017 Q2	12139	6480	2768	692	3712	68%
2017 Q3	11794	6676	2689	672	3987	70%
2017 Q4	10652	7152	2429	607	4724	75%
2018 Q1	11914	7015	2716	679	4299	71%
2018 Q2	12807	6072	2920	730	3152	64%
2018 Q3	13024	5697	2969	742	2727	61%
2018 Q4	12584	6759	2869	717	3890	68%
2019 Q1	11865	7156	2705	676	4450	72%
2019 Q2	14653	6713	3341	835	3372	63%
2019 Q3	14554	7282	3318	830	3964	66%
2019 Q4	12770	8147	2912	728	5235	73%
2020 Q1	14871	9059	3391	848	5669	72%
2020 Q2	13009	3260	2966	742	294	32%***/
2020 Q3	13859	6565	3160	790	3405	64%
2020 Q4	16185	6834	3690	923	3144	60%
2021 Q1	17392	9875	3965	991	5909	70%
2021 Q2	22244	10072	5072	1268	5000	62%
2021 Q3	23607	8009	5382	1346	2626	50%
2021 Q4	23074	8509	5261	1315	3249	54%
2022 Q1	17591	6171	4011	1003	2160	51%

Note to Table 2: the estimates are based on the following assumptions: The estimated value of loan disbursements is based on the data collected from banks.

\*/ Loan-financed home purchases comprise purchases made with a loan and the minimum share of cash (a down payment of 25% was assumed; in big cities, a more prudent 20% down payment than the requirement of the amended S Recommendation was assumed), cash-financed home purchases are a difference between the value of transaction and loan funds

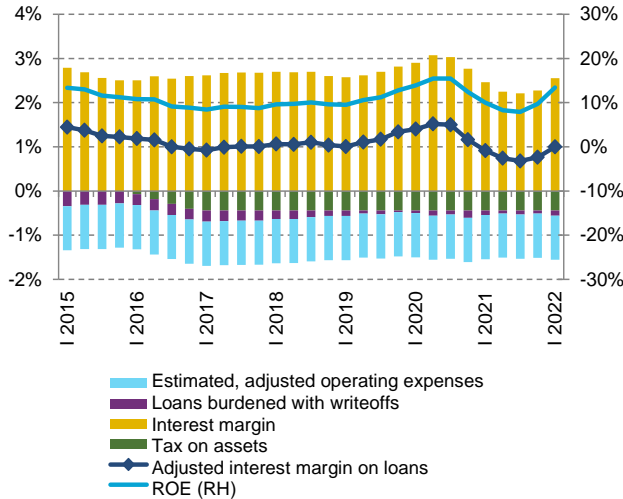
In order to calculate the estimated value of primary market transactions in 7M (Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław), the average home price 7M (NBP) was multiplied by the average home size in square metres (Statistics Poland data) and the number of housing units sold (JLL/former REAS). On the basis of the 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 was calculated as the difference between transactions in 7M and disbursements of loans requiring buyer's own contribution (down-payment). Data concerning prices for all the periods have been updated.

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

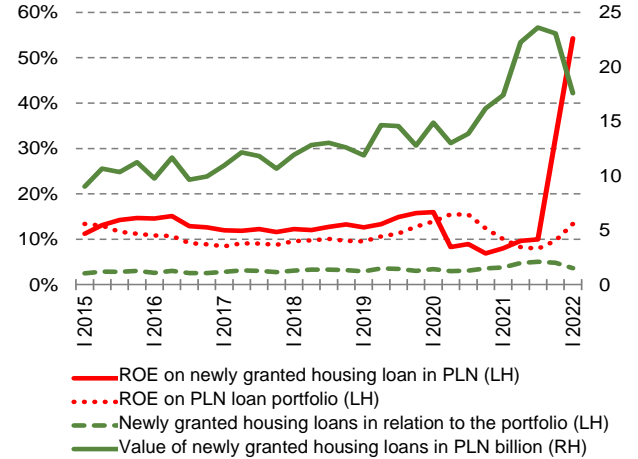
\*\*\*/ The decline in estimated share of home purchases with down payment on the PM in 7M, recorded in 2020 Q2 is related to very low sale of dwellings in this period associated with the pandemic mobility restrictions.

Source: NBP, JLL (former REAS), ZBP, Statistics Poland

**Figure 34 Estimated ROE on residential mortgage loans 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 35 Estimated ROE on residential mortgage loans denominated in PLN for banks in Poland, taking into account interest income and non-interest profit and operating expenses and bank tax**



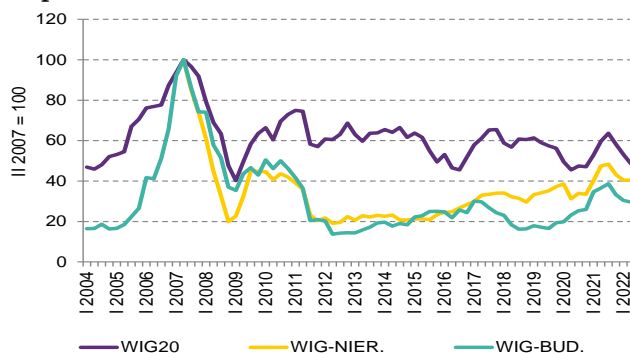
Note to Figures 34 and 35: for calculation, interest income, non-interest income and operating expenses were taken into account. The estimated ROE (return on equity) is calculated as the adjusted interest margin in relation to equity. The adjusted interest margin is the interest margin less write-offs, less the estimated operating expenses (adjusted for 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 loan portfolio and at 1.5% of the value of new loans. Data concerning equity calculated on the basis of KNF publications. Interest margin calculated as the difference between lending rates and deposit rates. A one-off significant increase in ROE (estimated profitability) of newly granted PLN-denominated residential mortgage loans (ROE) for banks in Poland is the result of a combination of two phenomena: 1/ A significant increase in interest rates on new lending in 2022 Q1; 2/ A slight hitherto increase in the cost of funding for banks, measured by the interest rate on deposits.

Source: NBP, KNF

Source: NBP, KNF

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

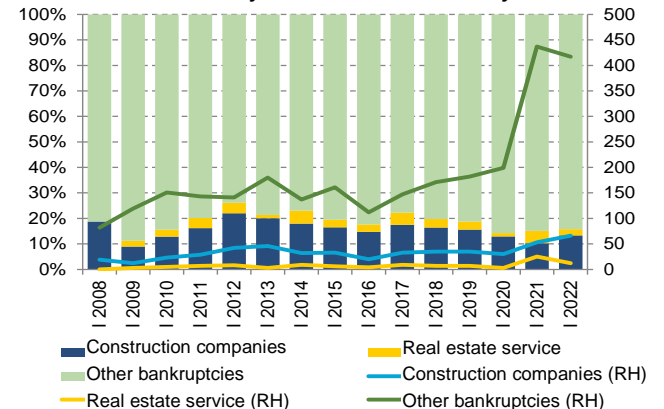
**Figure 36 Rescaled exchange indices: WIG20 and for real estate developers (WIG-NIER) and construction companies (WIG-BUD) (2007 Q2=100)**



Note: standardised data, 2007 Q2 = 100 (developers' WIG has been listed since 2007 Q2); 2022 Q1, status as at 26 May 2022.

Source: Warsaw Stock Exchange

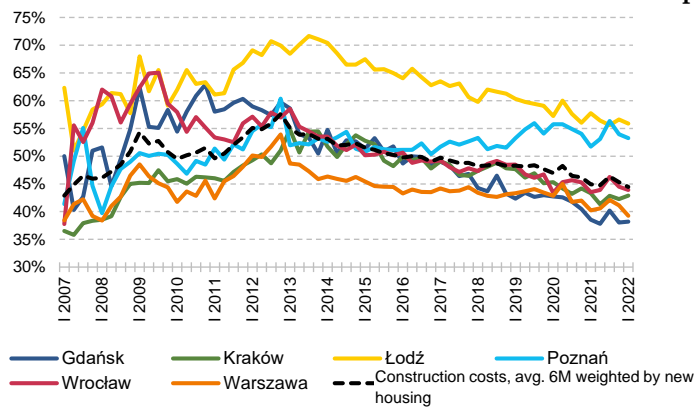
**Figure 37 Structure (LH scale) and number (RH scale) of bankruptcies of enterprises, including in the construction industry (as at the end of the year)**



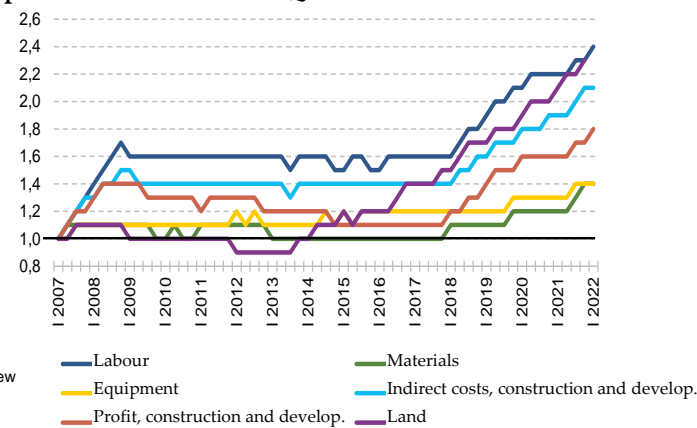
Note: breakdown according to the first entry into the KRS.

Source: Coface Poland

**Figure 38 Estimated share of direct construction costs per square metre of the residential building's usable floor area (type 1122-302<sup>26</sup>) in net transaction price in PM 6M**



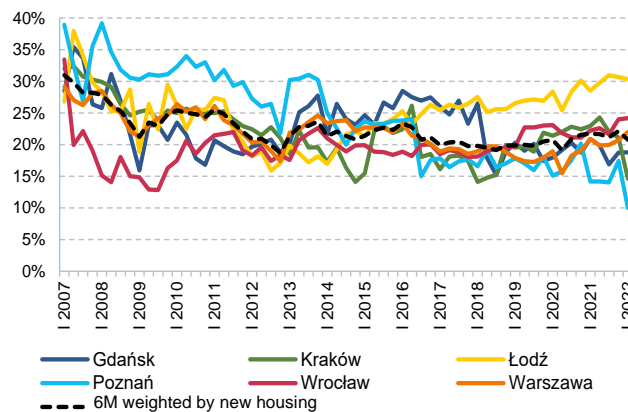
**Figure 39 Estimated share of various construction costs per square metre of the residential building's usable floor area (type 1122-302<sup>32</sup>) in net transaction price in PM of 6M (2007 Q1=1)**



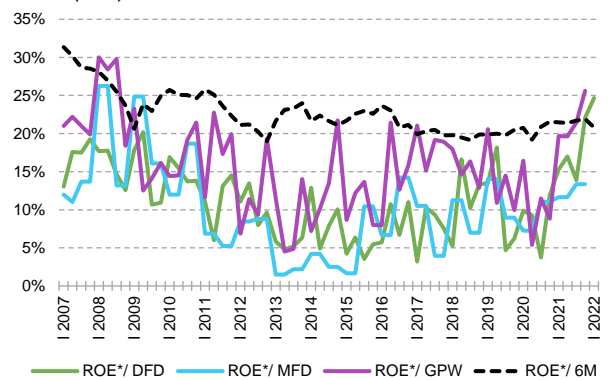
Note to Figures 38 and 39: Since 2014 NBP has used its own appraisal of land for residential multi-family construction  
 Source: NBP based on Sekocenbud

Source: NBP based on Sekocenbud

**Figure 40 Estimated rate of return on development projects (type 1122-302<sup>32/</sup>) in the largest cities**



**Figure 41 Estimated profitability indicators of development projects - ROE\* for real estate developers listed on the Stock Exchange, for large real estate developers (DFD)\*\*, small real estate developers (MFD)\*\*\* and investment projects in 6 cities (6M)**



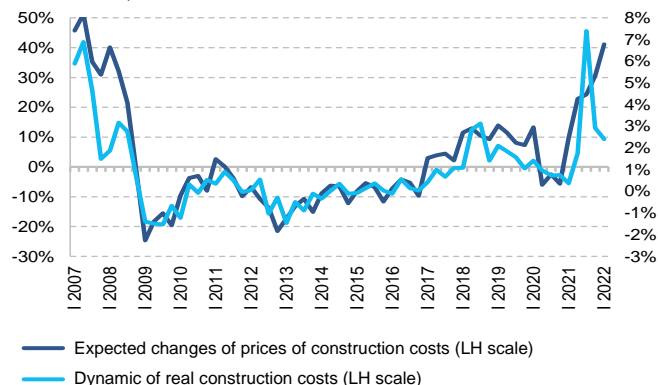
\* /ROE modified = net financial result/ (income from sale – net result from sale); \*\* / DFD – average large real estate development company (according to Statistics Poland employment =>50 employees), MFD – average small real estate development company (employment 949 employees).

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

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

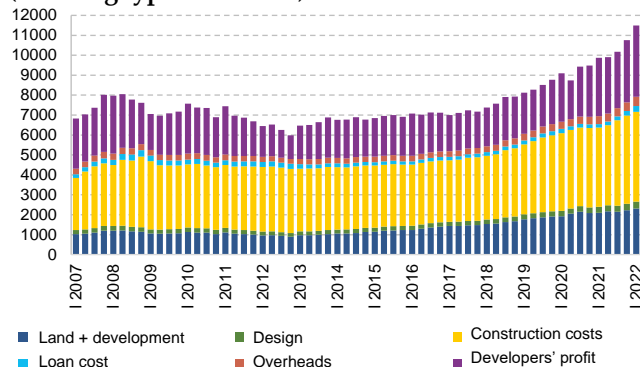
<sup>26</sup> Half of the building (type 1122-302) monitored by NBP since 2016 Q2 based on the Sekocenbud data. An average residential multi-family building, with an underground garage, constructed in the technology: foundation footings, construction walls and ceilings - monolithic reinforced concrete, curtain walling - 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 42 Predicted changes in prices of construction and assembly works (+3M) and growth in construction costs of usable floor area of a residential building (type 1122- 302<sup>32</sup>)**



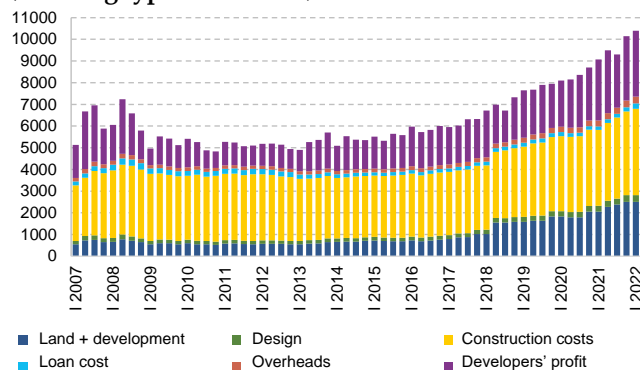
Source: NBP based on CSO data (business conditions survey), Sekocenbud

**Figure 44 Warsaw – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122-302<sup>32</sup>) for consumers**



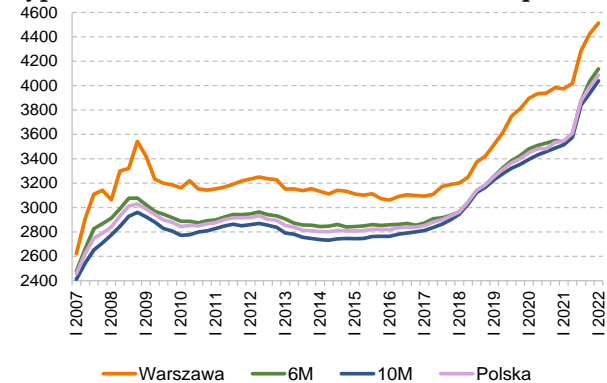
Source: NBP based on Sekocenbud, JLL (former REAS)

**Figure 46 Gdańsk – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302<sup>32</sup>) for consumers**



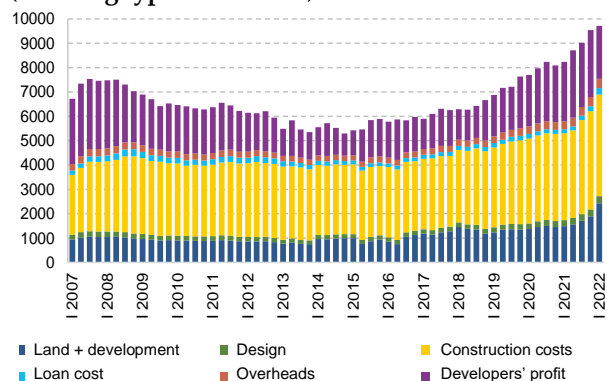
Source: NBP based on Sekocenbud, JLL (former REAS)

**Figure 43 Average cost of construction of square metre of the residential building's usable floor area (type 1122- 302<sup>32</sup>) in selected markets (PLN/sq.m.)**



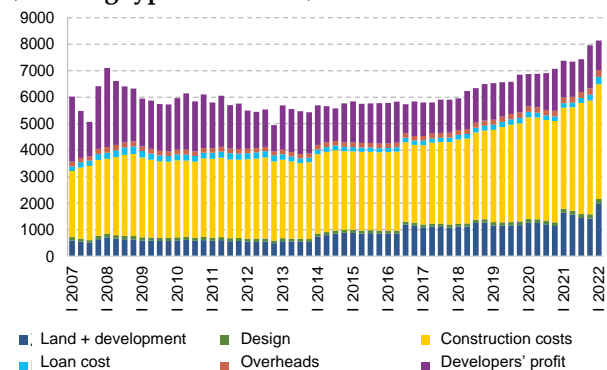
Source: NBP based on Sekocenbud

**Figure 45 Kraków – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302<sup>32</sup>) for consumers**



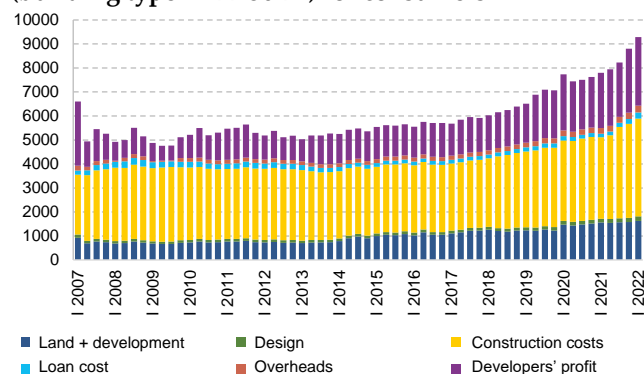
Source: NBP based on Sekocenbud, JLL (former REAS)

**Figure 47 Poznań – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302<sup>32</sup>) for consumers**



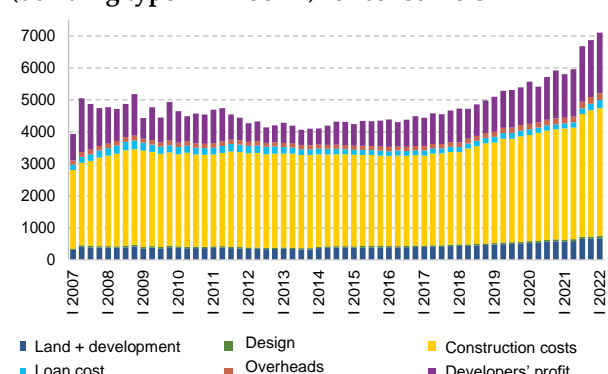
Source: NBP based on Sekocenbud, JLL (former REAS)

**Figure 48 Wrocław – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302<sup>32</sup>) for consumers**



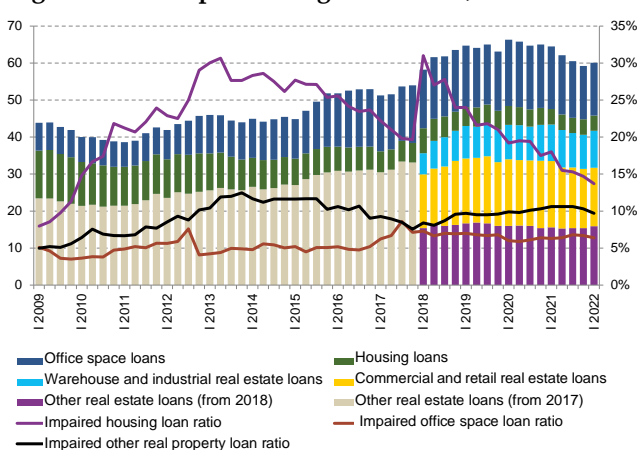
Source: NBP based on Sekocenbud, JLL (former REAS)

**Figure 49 Łódź – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302<sup>32</sup>) for consumers**



Source: NBP based on Sekocenbud, JLL (former REAS)

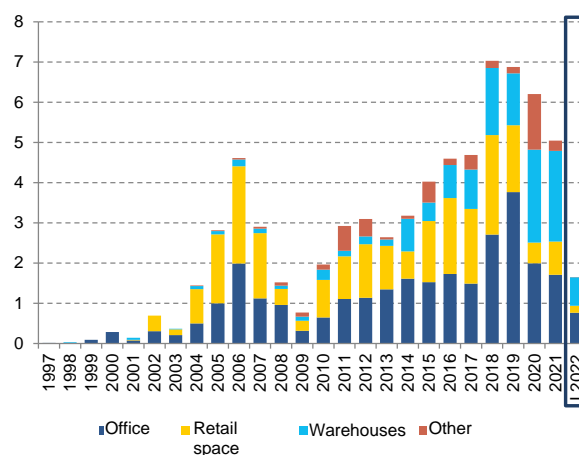
**Figure 50 Loans to corporations for real estate purchases (in PLN billion, LH scale) and the share of loans recognised as non-performing loans (in %, RH scale)**



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

Source: NBP

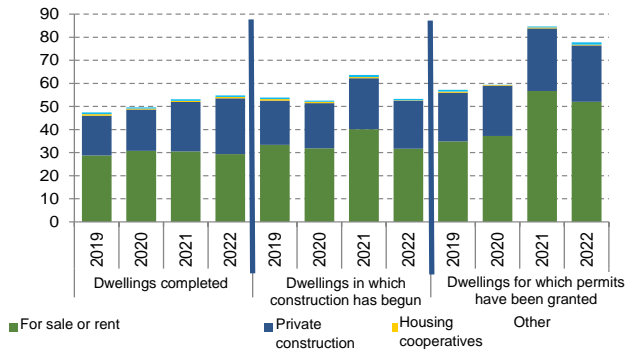
**Figure 51 Value of investment transactions in the commercial real estate market (EUR billion)**



Source: Comparables.pl

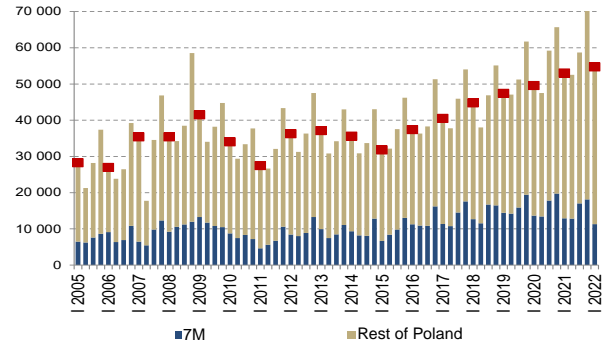
### 5. Residential construction and the housing market in Poland's selected cities

**Figure 52 Structure of residential construction investors in Poland in the first quarters of 2019-2022**



Source: Statistics Poland

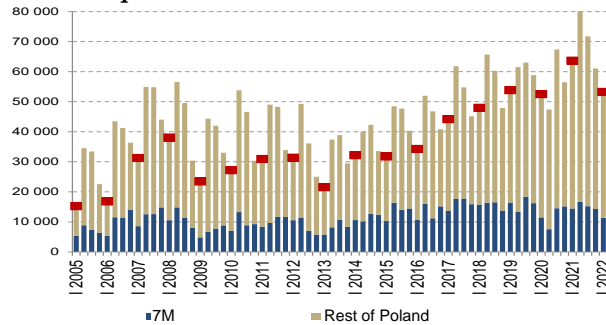
**Figure 53 Dwellings completed and made ready for occupancy in Poland, in quarter-on-quarter terms**



Note: only first quarters have been marked in red.

Source: Statistics Poland

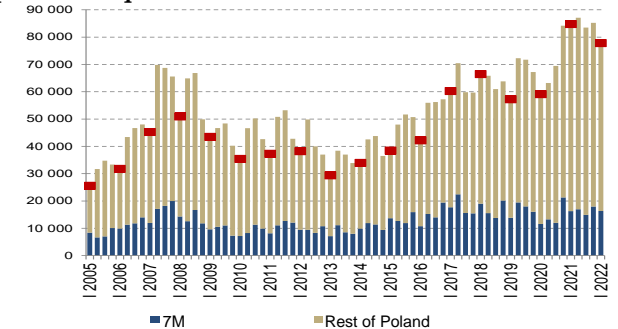
**Figure 54 Dwellings under construction in Poland, in quarter-on-quarter terms**



Note: only first quarters have been marked in red.

Source: Statistics Poland

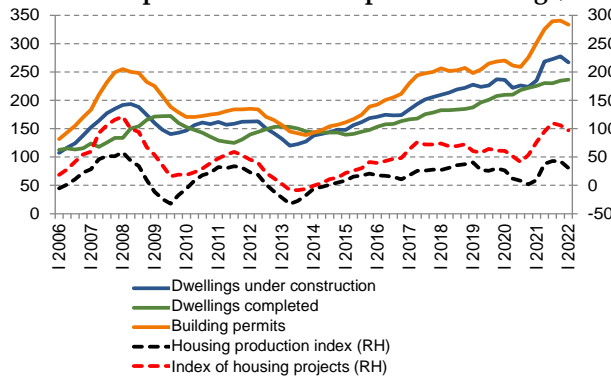
**Figure 55 Issued home building permits in Poland, in quarter-on-quarter terms**



Note: only first quarters have been marked in red.

Source: Statistics Poland

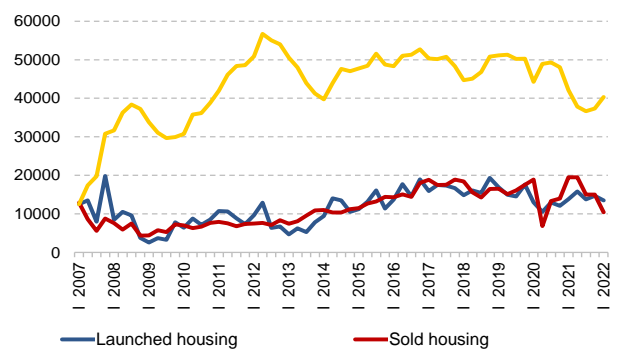
**Figure 56 Housing construction in Poland (in thousand dwellings), home construction in progress (dwellings under construction minus completed dwellings) and investment projects in progress (home construction permits minus completed dwellings)**



Note: rolling averages for four subsequent quarters.

Source: NBP based on PABB and Statistics Poland

**Figure 57 Number of home construction contracts put on the market, both sold and offered for sale in Poland's 6 largest markets.\*/**

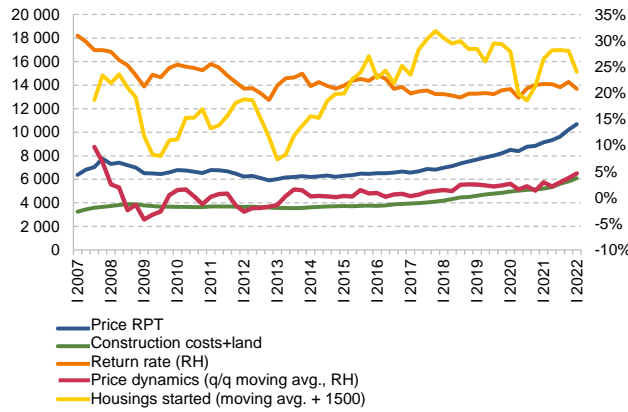


\*/Warsaw, Kraków, Tricity, Wrocław, Poznań, Łódź.

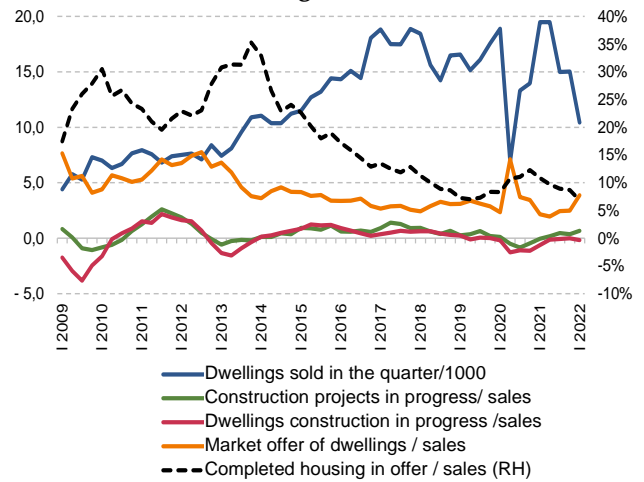
Source: JLL/d.REAS



**Figure 58 Housing supply and the estimated rate of return on housing development projects in PM in 7M**

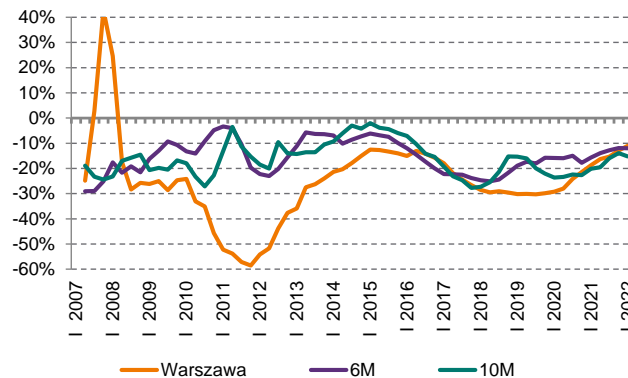


**Figure 59 Housing projects, dwellings under construction and dwellings offered for sale in 7M**

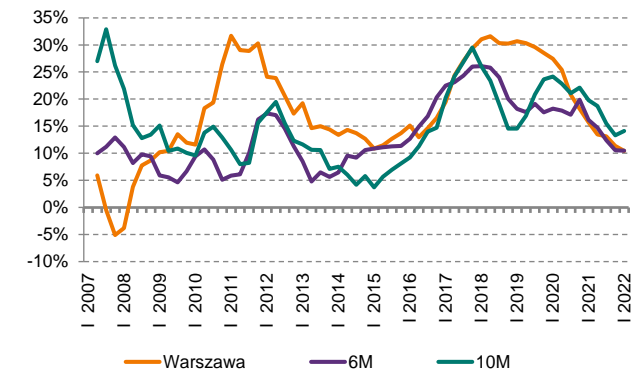


Note to Figure 59: Housing projects under construction = building permits for dwellings minus completed dwellings; Dwellings under construction = dwellings started minus dwellings completed. Cumulative values of the last 4 quarters, divided by sales in a given period.  
 Source: NBP, Statistics Poland, JLL (former REAS), Sekocenbud Source: NBP based on Statistics Poland, JLL (former REAS)

**Figure 60 Measure of adjustment of dwellings on offer to demand in terms of area ≤ 50 sq. m., PM in selected cities in Poland**

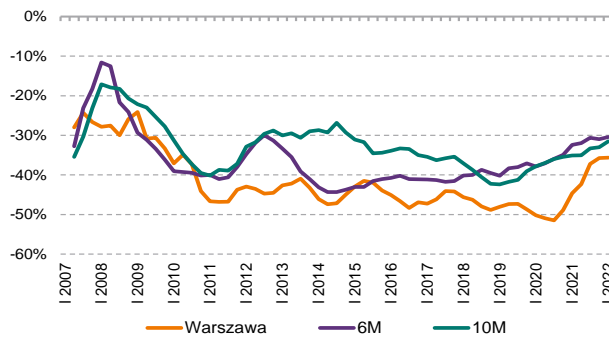


**Figure 61 Measure of adjustment of dwellings on offer to demand in terms of area > 50 sq. m., PM in selected cities in Poland**



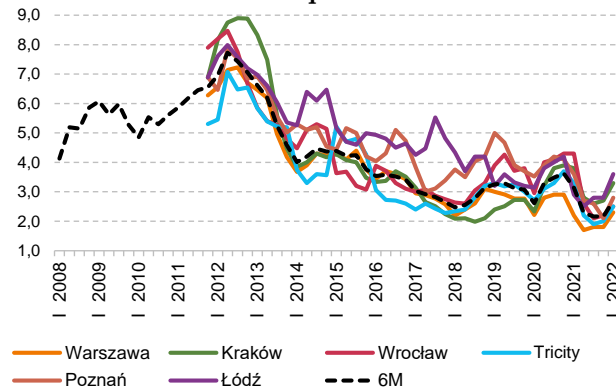
Note: Figure 60 presents, in percentage terms, a short-term mismatch in the primary market between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the dwelling's size, according to the data from the BaRN database. The mismatch is calculated as the share of dwellings with a usable floor area of up to 50 square meters offered for sale to the number of transactions involving dwellings with a total area of up to 50 square meters (the average figure for the last four quarters). The positive result (above the black line) indicates a surplus of dwellings of this particular size, whereas the negative result indicates a their shortage.. Figure 61 is parallel for the space above 50 sq.m. Figures 62-63 are parallel, but they concern the secondary market only.  
 Source: NBP Source: NBP

**Figure 62 Measure of adjustment of dwellings on offer to demand in terms of area  $\leq 50$  sq. m., SM in selected cities of Poland**



Source: NBP

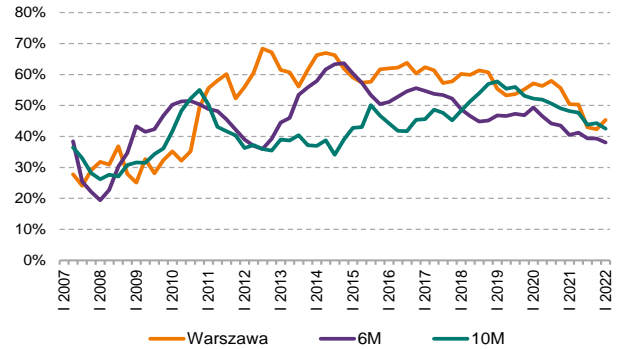
**Figure 64 Selling time of dwellings on offer in PM in selected cities (number of quarters)**



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

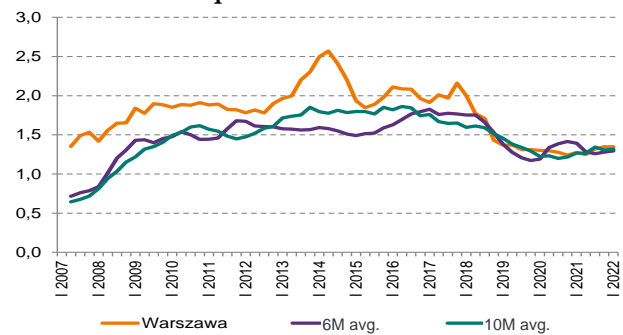
Source: NBP based on JLL (former REAS)

**Figure 63 Measure of adjustment of dwellings on offer to demand in terms of area  $> 50$  sq. m., SM in selected cities of Poland**



Source: NBP

**Figure 65 Selling time of dwellings in SM in selected cities (number of quarters)**

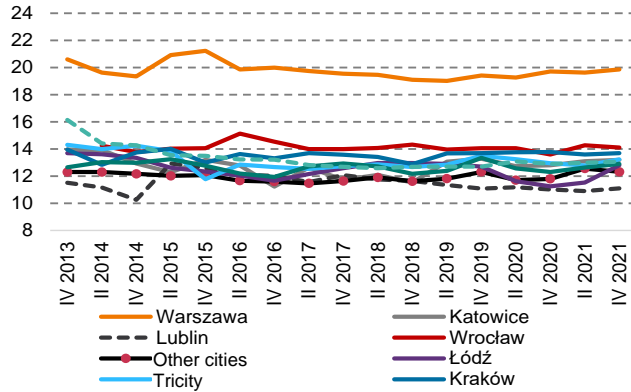


Note: real selling time, average of the last four quarters; data are not comparable with Figure 64. Selling time of housing in the secondary real estate market take into account only transactions concluded with a sales deal. The data are underestimated since they do not contain offers put on the market but not sold yet.

Source: NBP

## 6. Offer prices of commercial real estate and the estimated rate of return on investment

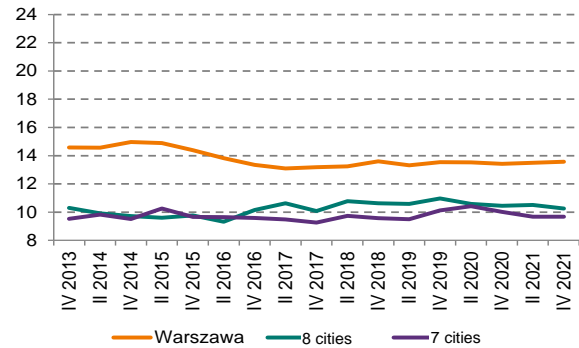
**Figure 66 Transaction rents for A class office space (average prices in EUR/sq.m./month)**



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

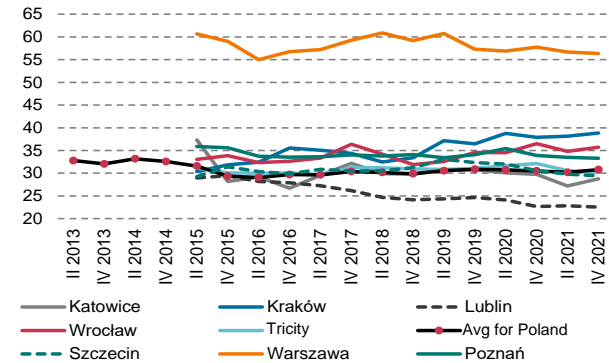
Source: NBP

**Figure 67 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

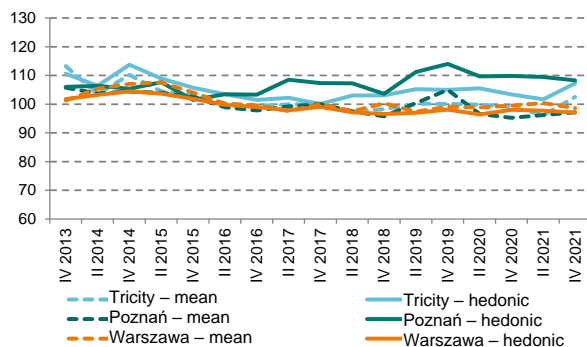
**Figure 68 Transaction rents for retail space in shopping centres (shopping malls) with an area of 100-500 sq.m (EUR/sq.m./month)**



Source: NBP

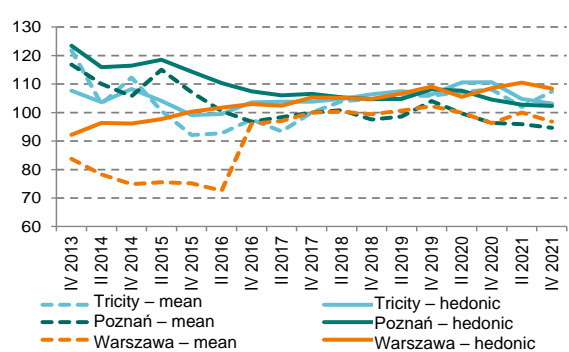
Note to Figure 68: as of the beginning of 2015 Q4, the number of records in the data base, including respondents, has increased significantly, changing the analysed sample.

**Figure 69 Rents for offices, average and hedonic (2017 Q4 = 100)**



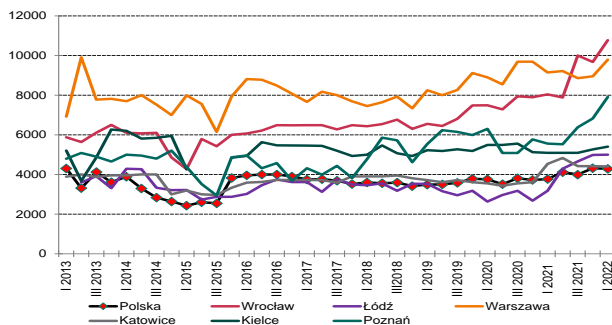
Source: NBP

**Figure 70 Rents for shopping centres, average and hedonic (2017 Q4 = 100)**



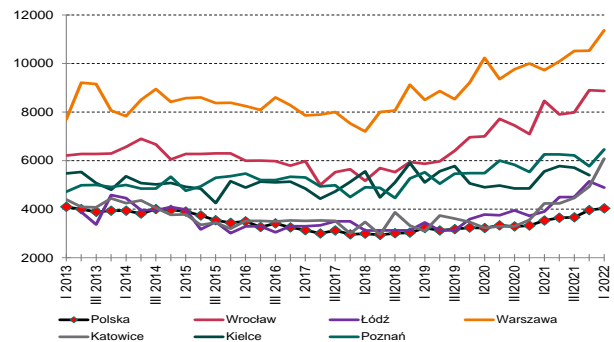
Source: NBP

**Figure 71 Median of offer selling price of small office premises in SM (PLN/sq.m.)**



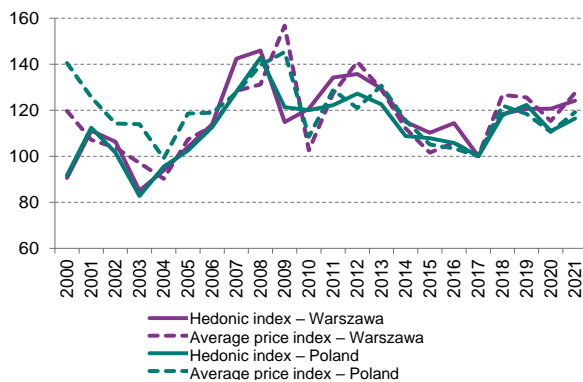
Source: PONT, NBP report

**Figure 72 Median of offer selling price of small retail premises in SM (PLN/sq.m.)**



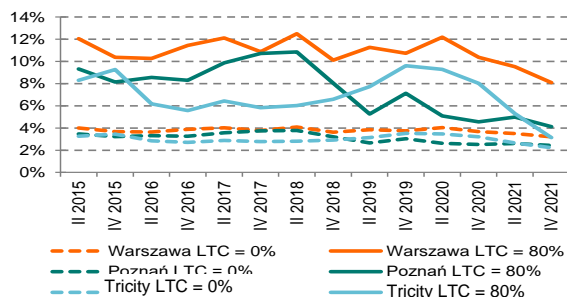
Source: PONT, NBP report

**Figure 73 Growth of average and hedonic prices of office real estate in Warsaw and the whole of Poland (2017=100) and the index of implied price for Warsaw**



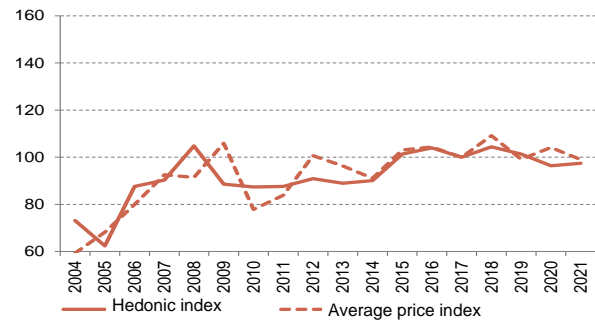
Note: The analysis comprises transaction prices and bank appraisals of commercial properties. The implied price was calculated by discounting the hedonic rent for Warsaw with a discount rate of 6%. Source: NBP, Comparables.pl, AMRON

**Figure 75 Estimated rate of return on equity (ROE) from investment in the building and putting to commercial use of A class office building**



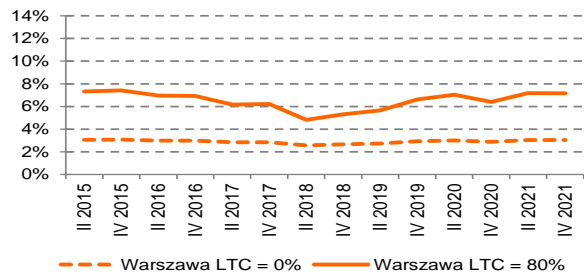
Note: A description of the ROE calculation method can be found under Tables 3 to 5. Differences in ROE between cities result from different levels of construction costs and different levels of effective rents, i.e. rents adjusted by the vacancy rate in a given market. Source: NBP, Sockenbud, NBP report

**Figure 74 Growth of average and hedonic prices of retail real estate in the whole of Poland (2017=100)**



Note: The analysis comprises transaction prices and bank appraisals of commercial properties. Source: NBP, Comparables.pl, AMRON

**Figure 76 Estimated rate of return on equity (ROE) from investment in B class office space from the existing stock in Warsaw**



Note: A description of the ROE calculation method can be found under Table 6. Source: NBP, Comparables.pl, AMRON, NBP report

**Table 3 Estimated rate of return on equity from investment in the building and commercial exploitation of A class office building in Warsaw**

Date	Average rent per sq.m of space in EUR - A class	Cost of constructed usable area of offices including land, per sq.m in EUR	ROE at LTC = 0%	ROE at LTC = 50%	ROE at LTC = 80%	Average market rates of 10-year Treasury bonds
2015 Q4	21.23	2774	3.7%	5.3%	10.4%	2.8%
2016 Q4	19.96	2714	3.9%	5.8%	11.5%	3.3%
2017 Q4	19.53	2846	3.8%	5.5%	10.9%	3.4%
2018 Q4	18.95	2949	3.6%	5.2%	10.1%	3.1%
2019 Q4	19.34	3123	3.7%	5.5%	10.7%	2.0%
2020 Q2	19.15	3028	4.0%	6.1%	12.2%	1.4%
2020 Q4	19.71	3052	3.7%	5.3%	10.4%	1.3%
2021 Q2	19.63	3065	3.5%	5.0%	9.5%	1.5%
2021 Q4	19.86	3252	3.2%	4.4%	8.1%	2.4%

Assumptions: The costs of construction of the office building (Sekocenbud data) were increased by 15% of the developer's costs related to organisation of the investment and commercialisation of the building, as well as the cost of land estimated by experts (based on public information). Loan in euro for 25 years, equal instalments, payable four times a year. Building depreciation of 2.5%, commonly used for commercial real estate. On the income side, the effective rent has been taken into account, i.e. the average rent adjusted by the vacancy rate in a given market. The calculated capitalisation rate includes the depreciation cost of the building. CIT is included. ROE means net profit/equity contributed.

Source: NBP (rents and calculations), MF (rates of return on 10-year bonds), estimation of construction costs based on Sekocenbud data, BCO Bulletin of prices of construction facilities, part I - non-residential buildings, facility 1220-102

**Table 4 Estimated rate of return on equity from investment in the building and commercial exploitation of A class office building in Poznań**

Date	Average rent per sq.m of space in EUR - A class	Cost of constructed usable area of offices including land, per sq.m in EUR	ROE at LTC = 0%	ROE at LTC = 50%	ROE at LTC = 80%	Average market rates of 10-year Treasury bonds
2015 Q4	12.8	1645	3.2%	4.5%	8.1%	2.8%
2016 Q4	11.9	1593	3.3%	4.5%	8.3%	3.3%
2017 Q4	12.9	1731	3.7%	5.5%	10.7%	3.4%
2018 Q4	12.2	1825	3.2%	4.4%	8.0%	3.1%
2019 Q4	13.3	1984	3.0%	4.1%	7.1%	2.0%
2020 Q2	12.6	1977	2.6%	3.2%	5.1%	1.4%
2020 Q4	12.3	1989	2.5%	3.0%	4.6%	1.3%
2021 Q2	12.7	2012	2.6%	3.2%	5.0%	1.5%
2021 Q4	12.7	2168	2.4%	2.8%	4.1%	2.4%

Assumptions: cf. Table 3

Source: NBP (rents and calculations), MF (rates of return on 10-year bonds), estimation of construction costs based on Sekocenbud data, BCO Bulletin of prices of construction facilities, part I - non-residential buildings, facility 1220-102

**Table 5 Estimated rate of return on equity from investment in the building and commercial exploitation of A class office building in the Tri-city**

Assumptions: Construction costs of an office building (Sekocenbud data) were increased by 15% of the developer's costs related to organisation of the investment and commercial exploitation of the building, as well as the cost of land estimated by experts (based on public information).

Date	Average rent per sq.m. of space in EUR - A class	Construction costs of a usable floor area of offices including land, per sq.m. in EUR	ROE at LTC = 0%	ROE at LTC = 50%	ROE at LTC = 80%	Average market yields on 10-year Treasury bonds
2015 Q4	12.7	1728	3.5%	4.9%	9.2%	2.8%
2016 Q4	12.1	1696	2.7%	3.4%	5.6%	3.3%
2017 Q4	12.1	1778	2.8%	3.6%	5.9%	3.4%
2018 Q4	12.7	1829	2.9%	3.8%	6.6%	3.1%
2019 Q4	13.5	1972	3.5%	5.1%	9.6%	2.0%
2020 Q2	13.2	2013	3.5%	4.9%	9.3%	1.4%
2020 Q4	13.0	2040	3.2%	4.4%	8.0%	1.3%
2021 Q2	12.8	2106	2.7%	3.3%	5.3%	1.5%
2021 Q4	13.2	2214	2.2%	2.5%	3.1%	2.4%

Assumptions: cf. Table 3

Source: NBP (rents and calculations), MF (rates of return on 10-year bonds), estimation of construction costs based on Sekocenbud data, BCO Bulletin of prices of construction facilities, part I - buildings, facilities 1220-102

**Table 6 Estimated rate of return on equity from investment in the purchase of B class office building from the existing stock in Warsaw**

Date	Average rent per sq.m. of space in EUR	Smoothed price per sq.m. of space in EUR	Calculated capitalisation rate (yield)	ROE at LTC = 0%	ROE at LTC = 50%	ROE at LTC = 80%	Average market yields on 10-year Treasury bonds
2016 Q2	13.8	2162	7.7%	3.0%	4.0%	7.0%	3.0%
2016 Q4	13.3	2080	7.7%	3.0%	4.0%	6.9%	3.3%
2017 Q2	13.1	2104	7.5%	2.8%	3.7%	6.2%	3.3%
2017 Q4	13.2	2117	7.5%	2.8%	3.7%	6.2%	3.4%
2018 Q2	13.2	2268	7.0%	2.6%	3.1%	4.8%	3.2%
2018 Q4	13.6	2284	7.1%	2.7%	3.3%	5.3%	3.1%
2019 Q2	13.3	2194	7.3%	2.7%	3.5%	5.7%	2.7%
2019 Q4	13.5	2144	7.6%	2.9%	3.8%	6.6%	2.0%
2020 Q2	13.5	2102	7.7%	3.0%	4.0%	7.0%	1.4%
2020 Q4	13.4	2143	7.5%	2.9%	3.8%	6.4%	1.3%
2021 Q2	13.5	2085	7.8%	3.0%	4.1%	7.2%	1.5%
2021 Q4	13.6	2104	7.8%	3.0%	4.1%	7.2%	2.4%

Assumptions: The analysis takes into account contractual rents for B class office space, and transaction prices and appraisals of B class office real estate. As there are relatively few transaction prices and appraisals of class B office real estate in a given six-month period, a moving average were applied, calculated on the basis of the price in a given six-month period and the previous and the next half-year period, with equal weights.

The authors assumed loans in EUR taken for 25 years, payable in equal instalments, four times a year. Standard building depreciation of 2.5% for commercial real estate. It was assumed that the cost of land in the cost of investment is 20%. The calculated capitalisation rate includes depreciation cost of the building. CIT is included. ROE means net profit/equity engaged.

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

Table 7 Average prices per square metre of housing in the primary market in Gdańsk

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 068	9 794	9 714	10 257	10 310	10 043	11 185	10 958	11 356	11 231
growth (q-o-q)	103,9	104,2	96,5	104,7	106,1	97,9	108,5	109,1	101,5	102,5
growth (y-o-y)	101,7	112,0	99,3	116,5	107,2	111,3	115,4	116,6	112,8	114,7
dwelling price range	4 048	1 602	4 194	2 199	4 079	1 635	4 161	1 612	5 215	1 225
<=8 000 PLN/sq.m	892	460	1 173	555	783	382	397	240	491	209
(8 001; 10 000] PLN/sq.m	1 562	478	1 721	650	1 659	634	1 717	608	1 998	406
(10 001; 12 000] PLN/sq.m	740	357	447	338	545	221	640	248	803	182
(12 001; 14 000] PLN/sq.m	480	213	512	453	599	249	697	201	967	148
>14 001 PLN/sq.m	374	94	341	203	493	149	710	315	956	280
dwelling space range	4 048	1 602	4 194	2 199	4 079	1 635	4 161	1 612	5 215	1 225
<= 40 sq.m	475	334	799	526	807	328	759	327	924	326
(40,1; 60] sq.m	1862	730	1820	1008	1730	755	1808	757	2295	559
(60,1; 80] sq.m	1222	373	1180	461	1138	421	1185	357	1452	254
> 80,1 sq.m	489	165	395	204	404	131	409	171	544	86
average price of 1 sq.m. of dwelling	10 068	9 794	9 714	10 257	10 310	10 043	11 185	10 958	11 356	11 231
<=4 000 sq.m	11168	10133	10424	11164	10622	10356	11376	11117	12059	11048
(40,1; 60] sq.m	9944	9856	9446	9905	10183	9710	11090	10920	11157	11036
(60,1; 80] sq.m	9555	9159	9372	9625	9953	10166	10864	10591	10946	11049
> 80,1 sq.m	10754	10264	10533	11083	11230	10786	12182	11591	12098	13732
average offer price deviation	2,8%	x	-5,3%	x	2,7%	x	2,1%	x	1,1%	x
<= 40 sq.m	10,2%	x	-6,6%	x	2,6%	x	2,3%	x	9,1%	x
(40,1; 60] sq.m	0,9%	x	-4,6%	x	4,9%	x	1,6%	x	1,1%	x
(60,1; 80] sq.m	4,3%	x	-2,6%	x	-2,1%	x	2,6%	x	-0,9%	x
> 80,1 sq.m	4,8%	x	-5,0%	x	4,1%	x	5,1%	x	-11,9%	x

Source: NBP

Table 8 Average prices per square metre of housing in the secondary market in Gdańsk

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 529	9 319	10 819	9 382	11 156	9 779	11 449	10 326	12 012	10 239
growth (q-o-q)	100,1	102,9	102,8	100,7	103,1	104,2	102,6	105,6	104,9	99,1
growth (y-o-y)	99,6	111,1	104,7	110,3	108,7	109,4	108,8	114,1	114,1	109,9
dwelling price range	574	1 092	2 223	1 406	1 776	1 479	1 538	1 148	1 672	378
<=8 000 PLN/sq.m	92	349	274	412	209	324	112	186	80	59
(8 001; 10 000] PLN/sq.m	217	403	828	552	575	612	467	442	402	143
(10 001; 12 000] PLN/sq.m	126	190	460	262	420	305	450	267	504	102
(12 001; 14 000] PLN/sq.m	60	89	309	98	231	134	234	133	300	47
>14 001 PLN/sq.m	79	61	352	82	341	104	275	120	386	27
dwelling space range	574	1 092	2 223	1 406	1 776	1 479	1 538	1 148	1 672	378
<= 40 sq.m	88	253	375	352	284	380	198	261	269	93
(40,1; 60] sq.m	214	527	931	629	696	661	623	550	702	175
(60,1; 80] sq.m	181	239	619	332	521	345	483	250	456	83
> 80,1 sq.m	91	73	298	93	275	93	234	87	245	27
average price of 1 sq.m. of dwelling	10 529	9 319	10 819	9 382	11 156	9 779	11 449	10 326	12 012	10 239
<=4 000 sq.m	11865	9899	12001	10188	12535	10574	12806	11195	13722	11634
(40,1; 60] sq.m	10797	9280	10840	9341	11060	9732	11502	10265	12128	10151
(60,1; 80] sq.m	9828	8843	10357	8864	10850	9223	11155	9888	11199	9261
> 80,1 sq.m	10001	9156	10226	8448	10557	8922	10769	9369	11319	9001
average offer price deviation	13,0%	x	15,3%	x	14,1%	x	10,9%	x	17,3%	x
<= 40 sq.m	19,9%	x	17,8%	x	18,5%	x	14,4%	x	17,9%	x
(40,1; 60] sq.m	16,3%	x	16,0%	x	13,6%	x	12,0%	x	19,5%	x
(60,1; 80] sq.m	11,1%	x	16,8%	x	17,6%	x	12,8%	x	20,9%	x
> 80,1 sq.m	9,2%	x	21,0%	x	18,3%	x	14,9%	x	25,8%	x

Source: NBP



**Table 9 Average prices per square metre of housing in the primary market in Kraków**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 742	8 861	10 145	9 375	10 621	9 720	10 857	10 293	11 059	10 494
growth (q-o-q)	101,3	101,3	104,1	105,8	104,7	103,7	102,2	105,9	101,9	102,0
growth (y-o-y)	105,8	106,7	104,0	108,9	112,2	109,0	112,9	117,7	113,5	118,4
dwelling price range	6 667	1 736	6 456	2 760	5 889	2 005	6 958	1 735	6 502	1 546
<=8 000 PLN/sq.m	1 288	553	701	659	336	373	246	156	169	86
( 8 001; 10 000] PLN/sq.m	2 816	807	2 793	1 278	2 148	935	2 351	716	1 870	622
( 10 001; 12 000] PLN/sq.m	1 581	284	1 858	500	2 064	391	2 827	527	2 895	552
(12 001; 14 000] PLN/sq.m	814	80	846	266	1 028	221	1 063	259	1 057	208
>14 001 PLN/sq.m	168	12	258	57	313	85	471	77	511	78
dwelling space range	6 667	1 736	6 456	2 760	5 889	2 005	6 958	1 735	6 502	1 546
<= 40 sq.m	1489	394	1482	652	1369	461	1575	467	1327	436
(40,1; 60] sq.m	2874	790	2765	1247	2530	893	3080	731	2994	622
(60,1; 80] sq.m	1766	464	1726	670	1585	477	1828	385	1702	373
> 80,1 sq.m	538	88	483	191	405	174	475	152	479	115
average price of 1 sq.m. of dwelling	9 742	8 861	10 145	9 375	10 621	9 720	10 857	10 293	11 059	10 494
<=4 000 sq.m	10880	9551	10821	10252	11399	10409	11771	10849	12006	11099
(40,1; 60] sq.m	9621	8747	10146	9225	10626	9727	10781	10288	10968	10466
(60,1; 80] sq.m	9032	8361	9581	8794	10019	9022	10198	9788	10495	9812
> 80,1 sq.m	9578	9425	10078	9391	10308	9776	10855	9888	11002	10560
average offer price deviation	10,0%	x	8,2%	x	9,3%	x	5,5%	x	5,4%	x
<= 40 sq.m	13,9%	x	5,6%	x	9,5%	x	8,5%	x	8,2%	x
(40,1; 60] sq.m	10,0%	x	10,0%	x	9,2%	x	4,8%	x	4,8%	x
(60,1; 80] sq.m	8,0%	x	8,9%	x	11,1%	x	4,2%	x	7,0%	x
> 80,1 sq.m	1,6%	x	7,3%	x	5,4%	x	9,8%	x	4,2%	x

Source: NBP

**Table 10 Average prices per square metre of housing in the secondary market in Kraków**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 899	8 366	10 231	9 103	10 614	9 372	11 416	9 785	11 845	10 001
growth (q-o-q)	100,8	103,1	103,4	108,8	103,7	103,0	107,5	104,4	103,8	102,2
growth (y-o-y)	104,0	107,7	105,8	112,9	111,2	115,7	116,3	120,5	119,7	119,5
dwelling price range	728	302	697	505	865	510	1 210	609	1 535	703
<=8 000 PLN/sq.m	131	125	82	152	81	128	77	116	48	111
( 8 001; 10 000] PLN/sq.m	324	137	304	213	332	233	340	253	366	296
( 10 001; 12 000] PLN/sq.m	172	34	190	105	250	95	369	157	498	184
(12 001; 14 000] PLN/sq.m	58	6	75	25	127	37	230	58	355	74
>14 001 PLN/sq.m	43	0	46	10	75	17	194	25	268	38
dwelling space range	728	302	697	505	865	510	1 210	609	1 535	703
<= 40 sq.m	186	126	159	208	217	193	290	223	410	251
(40,1; 60] sq.m	331	132	332	198	380	227	479	296	628	314
(60,1; 80] sq.m	149	40	155	79	192	67	285	80	327	102
> 80,1 sq.m	62	4	51	20	76	23	156	10	170	36
average price of 1 sq.m. of dwelling	9 899	8 366	10 231	9 103	10 614	9 372	11 416	9 785	11 845	10 001
<=4 000 sq.m	10606	8789	11182	9464	11554	9792	12427	10300	12686	10560
(40,1; 60] sq.m	9753	8210	9965	8756	10200	9147	11206	9435	11374	9596
(60,1; 80] sq.m	9274	7546	9678	8810	10346	9119	10971	9568	11507	9767
> 80,1 sq.m	10062	8405	10681	9940	10679	8809	10993	10363	12211	10301
average offer price deviation	18,3%	x	12,4%	x	13,3%	x	16,7%	x	18,4%	x
<= 40 sq.m	20,7%	x	18,2%	x	18,0%	x	20,6%	x	20,1%	x
(40,1; 60] sq.m	18,8%	x	13,8%	x	11,5%	x	18,8%	x	18,5%	x
(60,1; 80] sq.m	22,9%	x	9,8%	x	13,5%	x	14,7%	x	17,8%	x
> 80,1 sq.m	19,7%	x	7,5%	x	21,2%	x	6,1%	x	18,5%	x

Source: NBP

**Table 11 Average prices per square metre housing in the primary market in Łódź**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	6 854	6 500	7 409	6 676	8 006	7 451	8 117	7 528	8 145	7 718
growth (q-o-q)	101,4	98,1	108,1	102,7	108,1	111,6	101,4	101,0	100,3	102,5
growth (y-o-y)	103,7	104,0	113,8	109,8	118,9	116,3	120,1	113,6	118,8	118,7
dwellings price range	1 463	501	1 642	624	1 693	458	1 847	471	2 215	403
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	212	126	74	126	57	22	43	24	53	8
(6 001; 8 000] PLN/sq.m	1 111	364	1 147	473	754	283	683	317	933	248
(8 001; 10 000] PLN/sq.m	133	11	415	25	840	148	1 066	126	1 131	142
> 10 000 PLN/sq.m	7	0	6	0	42	5	55	4	98	5
dwellings space range	1 463	501	1 642	624	1 693	458	1 847	471	2 215	403
<= 40 sq.m	280	91	374	106	503	152	537	139	620	111
(40,1; 60] sq.m	724	267	742	323	623	204	702	181	915	173
(60,1; 80] sq.m	345	112	410	143	475	70	500	124	546	107
> 80,1 sq.m	114	31	116	52	92	32	108	27	134	12
average price of 1 sq.m. of dwelling	6 854	6 500	7 409	6 676	8 006	7 451	8 117	7 528	8 145	7 718
<=4 000 sq.m	7554	7223	8022	7035	8873	8023	8977	8195	8989	8411
(40,1; 60] sq.m	6835	6464	7350	6764	7757	7293	7892	7474	8000	7549
(60,1; 80] sq.m	6394	6027	7039	6339	7519	6866	7630	6863	7538	7302
> 80,1 sq.m	6648	6399	7110	6322	7457	7016	7561	7499	7705	7450
average offer price deviation	5,4%	x	11,0%	x	7,4%	x	7,8%	x	5,5%	x
<= 40 sq.m	4,6%	x	14,0%	x	10,6%	x	9,5%	x	6,9%	x
(40,1; 60] sq.m	5,7%	x	8,7%	x	6,4%	x	5,6%	x	6,0%	x
(60,1; 80] sq.m	6,1%	x	11,0%	x	9,5%	x	11,2%	x	3,2%	x
> 80,1 sq.m	3,9%	x	12,5%	x	6,3%	x	0,8%	x	3,4%	x

Source: NBP

**Table 12 Average prices per square metre of housing in the secondary market in Łódź**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	5 905	5 433	6 012	5 800	6 683	6 075	6 667	6 158	7 018	6 214
growth (q-o-q)	103,2	98,4	101,8	106,7	111,2	104,7	99,8	101,4	105,3	100,9
growth (y-o-y)	108,1	108,4	110,7	110,6	122,3	108,2	116,5	111,5	118,9	114,4
dwellings price range	740	75	318	81	1 226	90	751	93	868	157
<= 4 000 PLN/sq.m	43	7	19	5	14	2	15	2	11	10
(4 001; 6 000] PLN/sq.m	400	49	150	44	417	43	239	43	183	67
(6 001; 8 000] PLN/sq.m	254	17	129	29	590	44	381	41	492	62
(8 001; 10 000] PLN/sq.m	40	2	18	3	172	1	104	7	158	17
> 10 000 PLN/sq.m	3	0	2	0	33	0	12	0	24	1
dwellings space range	740	75	318	81	1 226	90	751	93	868	157
<= 40 sq.m	148	22	51	27	324	30	190	33	215	56
(40,1; 60] sq.m	292	36	130	32	523	45	284	36	352	74
(60,1; 80] sq.m	167	9	78	18	217	9	153	16	172	16
> 80,1 sq.m	133	8	59	4	162	6	124	8	129	11
average price of 1 sq.m. of dwelling	5 905	5 433	6 012	5 800	6 683	6 075	6 667	6 158	7 018	6 214
<=4 000 sq.m	6 478	6 097	6 697	6 215	7 089	6 593	7 079	6 433	7 307	6 480
(40,1; 60] sq.m	5 903	5 357	6 110	5 903	6 625	5 971	6 748	6 002	7 019	6 298
(60,1; 80] sq.m	5 718	5 143	5 755	5 233	6 530	5 304	6 482	6 107	7 030	5 703
> 80,1 sq.m	5 504	4 278	5 543	4 730	6 264	5 416	6 074	5 833	6 519	5 041
average offer price deviation	8,7%	x	3,7%	x	10,0%	x	8,3%	x	12,9%	x
<= 40 sq.m	6,2%	x	7,7%	x	7,5%	x	10,1%	x	12,8%	x
(40,1; 60] sq.m	10,2%	x	3,5%	x	10,9%	x	12,4%	x	11,4%	x
(60,1; 80] sq.m	11,2%	x	10,0%	x	23,1%	x	6,2%	x	23,3%	x
> 80,1 sq.m	28,7%	x	17,2%	x	15,7%	x	4,1%	x	29,3%	x

Source: NBP

**Table 13 Average prices per square metre of housing in the primary market in Poznań**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 990	7 961	8 257	7 927	8 780	8 025	9 201	8 592	9 836	8 791
growth (q-o-q)	100,1	104,2	103,3	99,6	106,3	101,2	104,8	107,1	106,9	102,3
growth (y-o-y)	105,9	107,2	106,3	106,7	110,8	107,6	115,3	112,5	123,1	110,4
dwelling price range	6 223	1 572	5 330	2 307	5 328	1 493	4 751	1 743	5 115	1 180
<=7 000 PLN/sq.m	1 262	396	799	493	558	285	257	253	108	105
( 7 001; 9 000] PLN/sq.m	4 063	927	3 407	1 463	3 181	964	2 570	964	1 930	682
( 9 001; 11 000] PLN/sq.m	726	208	939	328	1 148	199	1 406	399	2 038	311
(11 001; 13 000] PLN/sq.m	64	15	80	14	163	15	281	63	609	41
>13 001 PLN/sq.m	108	26	105	9	278	30	237	64	430	41
dwelling space range	6 223	1 572	5 330	2 307	5 330	1 493	4 751	1 743	5 115	1 180
<= 40 sq.m	1 188	365	995	674	1 039	334	915	441	1 029	263
(40,1; 60] sq.m	2 509	719	2 243	970	2 253	635	2 164	722	2 302	483
(60,1; 80] sq.m	1 987	364	1 615	515	1 579	394	1 301	438	1 362	333
> 80,1 sq.m	539	124	477	148	459	130	371	142	422	101
average price of 1 sq.m. of dwelling	7 990	7 961	8 257	7 927	8 780	8 025	9 201	8 592	9 836	8 791
<=4 000 sq.m	8 559	8 672	9 081	8 384	9 430	8 536	9 850	9 455	10 562	9 537
(40,1; 60] sq.m	8 064	7 846	8 313	7 932	8 786	8 096	9 138	8 547	9 780	8 816
(60,1; 80] sq.m	7 531	7 570	7 686	7 354	8 148	7 560	8 638	7 848	9 302	8 108
> 80,1 sq.m	8 078	7 676	8 202	7 814	9 460	7 777	9 943	8 443	10 094	8 984
average offer price deviation	0,4%	x	4,2%	x	9,4%	x	7,1%	x	11,9%	x
<= 40 sq.m	-1,3%	x	8,3%	x	10,5%	x	4,2%	x	10,7%	x
(40,1; 60] sq.m	2,8%	x	4,8%	x	8,5%	x	6,9%	x	10,9%	x
(60,1; 80] sq.m	-0,5%	x	4,5%	x	7,8%	x	10,1%	x	14,7%	x
> 80,1 sq.m	5,2%	x	5,0%	x	21,6%	x	17,8%	x	12,4%	x

Source: NBP

**Table 14 Average prices of per square metre housing in the secondary market in Poznań**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 943	7 243	8 137	7 317	8 322	7 365	8 952	7 422	9 402	7 622
growth (q-o-q)	101,7	100,6	102,4	101,0	102,3	100,6	107,6	100,8	105,0	102,7
growth (y-o-y)	101,7	106,1	104,0	104,3	106,0	103,2	114,6	103,1	118,4	105,2
dwelling price range	923	884	865	794	935	748	885	601	984	417
<=7 000 PLN/sq.m	292	424	237	352	213	309	122	258	83	140
( 7 001; 9 000] PLN/sq.m	439	351	412	342	452	356	407	274	406	221
( 9 001; 11 000] PLN/sq.m	136	86	168	84	207	66	243	55	331	49
(11 001; 13 000] PLN/sq.m	45	16	36	12	46	15	76	7	105	6
>13 001 PLN/sq.m	11	7	12	4	17	2	37	7	59	1
dwelling space range	923	884	865	794	935	748	885	601	984	417
<= 40 sq.m	196	273	186	262	173	231	176	179	225	127
(40,1; 60] sq.m	373	382	385	359	420	347	383	277	437	184
(60,1; 80] sq.m	265	149	221	130	262	139	229	122	245	95
> 80,1 sq.m	89	80	73	43	80	31	97	23	77	11
average price of 1 sq.m. of dwelling	7 943	7 243	8 137	7 317	8 322	7 365	8 952	7 422	9 402	7 622
<=4 000 sq.m	8 901	7 930	9 063	7 936	9 363	8 087	9 901	8 198	10 035	8 505
(40,1; 60] sq.m	8 014	7 194	8 224	7 220	8 369	7 353	8 885	7 280	9 318	7 507
(60,1; 80] sq.m	7 369	6 680	7 316	6 619	7 716	6 491	8 347	6 571	8 915	6 692
> 80,1 sq.m	7 242	6 182	7 803	6 465	7 806	6 035	8 920	7 601	9 579	7 403
average offer price deviation	9,7%	x	11,2%	x	13,0%	x	20,6%	x	23,3%	x
<= 40 sq.m	12,2%	x	14,2%	x	15,8%	x	20,8%	x	18,0%	x
(40,1; 60] sq.m	11,4%	x	13,9%	x	13,8%	x	22,0%	x	24,1%	x
(60,1; 80] sq.m	10,3%	x	10,5%	x	18,9%	x	27,0%	x	33,2%	x
> 80,1 sq.m	17,1%	x	20,7%	x	29,3%	x	17,4%	x	29,4%	x

Source: NBP

**Table 15 Average prices per square metre of housing in the primary market in Warsaw**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 969	10 666	11 361	10 695	11 406	10 992	11 820	11 618	12 518	12 412
growth (q-o-q)	102,0	104,2	103,6	100,3	100,4	102,8	103,6	105,7	105,9	106,8
growth (y-o-y)	103,4	108,6	106,0	113,3	106,2	107,9	109,9	113,5	114,1	116,4
dwelling price range	9 780	4 951	8 426	4 659	9 042	3 757	8 140	3 885	9 727	2 938
<=9 500 PLN/sq.m	3 219	1 777	2 368	1 608	2 478	1 082	1 633	823	1 498	414
( 9 501; 11 500] PLN/sq.m	3 302	1 843	2 575	1 648	2 793	1 357	3 011	1 398	2 870	933
( 11 501; 13 500] PLN/sq.m	1 947	665	2 016	917	2 217	891	1 702	866	2 402	754
(13 501; 15 500] PLN/sq.m	676	350	767	314	826	269	809	479	1 502	352
>15 501 PLN/sq.m	636	316	700	172	728	158	985	319	1 455	485
dwelling space range	9 780	4 951	8 426	4 659	9 042	3 757	8 140	3 885	9 727	2 938
<= 40 sq.m	1 524	1 154	1 359	850	1 771	894	1 714	962	2 115	831
(40,1; 60] sq.m	4 087	2 062	3 548	2 082	3 803	1 518	3 328	1 595	4 158	1 225
(60,1; 80] sq.m	2 864	1 286	2 397	1 224	2 465	965	2 197	902	2 478	597
> 80,1 sq.m	1 305	449	1 122	503	1 003	380	901	426	976	285
average price of 1 sq.m. of dwelling	10 969	10 666	11 361	10 695	11 406	10 992	11 820	11 618	12 518	12 412
<=4 000 sq.m	12 267	11 432	12 819	11 290	12 548	11 405	13 232	12 225	13 814	12 782
(40,1; 60] sq.m	10 845	10 623	11 213	10 763	11 241	11 007	11 556	11 494	12 340	12 407
(60,1; 80] sq.m	10 269	9 928	10 608	10 012	10 664	10 505	10 960	11 079	11 482	11 859
> 80,1 sq.m	11 380	11 010	11 669	11 069	11 834	11 196	12 204	11 859	13 100	12 516
average offer price deviation	2,8%	x	6,2%	x	3,8%	x	1,7%	x	0,9%	x
<= 40 sq.m	7,3%	x	13,5%	x	10,0%	x	8,2%	x	8,1%	x
(40,1; 60] sq.m	2,1%	x	4,2%	x	2,1%	x	0,5%	x	-0,5%	x
(60,1; 80] sq.m	3,4%	x	6,0%	x	1,5%	x	-1,1%	x	-3,2%	x
> 80,1 sq.m	3,4%	x	5,4%	x	5,7%	x	2,9%	x	4,7%	x

Source: NBP

**Table 16 Average prices per square metre of housing in the secondary market in Warsaw**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	12 221	10 896	12 463	11 243	12 953	11 176	13 305	11 286	13 366	11 451
growth (q-o-q)	102,8	102,1	102,0	103,2	103,9	99,4	102,7	101,0	100,5	101,5
growth (y-o-y)	104,9	108,9	108,2	109,3	110,6	106,7	111,9	105,8	109,4	105,1
dwelling price range	2 163	3 440	2 351	4 614	2 406	1 996	1 989	1 476	1 975	1 269
<=9 500 PLN/sq.m	423	1 147	381	1 275	281	531	203	337	172	253
(9 501; 11 500] PLN/sq.m	619	1 086	657	1 467	632	704	465	559	450	465
(11 501; 13 500] PLN/sq.m	520	723	587	1 080	626	444	508	353	530	333
(13 501; 15 500] PLN/sq.m	283	315	360	508	404	196	367	150	377	142
>15 501 PLN/sq.m	318	169	366	284	463	121	446	77	446	76
dwelling space range	2 163	3 440	2 351	4 614	2 406	1 996	1 989	1 476	1 975	1 269
<= 40 sq.m	352	972	429	1 344	480	598	358	496	346	440
(40,1; 60] sq.m	785	1 509	884	2 021	871	881	804	652	832	562
(60,1; 80] sq.m	532	590	548	802	574	327	487	209	456	200
> 80,1 sq.m	494	369	490	447	481	190	340	119	341	67
average price of 1 sq.m. of dwelling	12 221	10 896	12 463	11 243	12 953	11 176	13 305	11 286	13 366	11 451
<=4 000 sq.m	13 722	11 316	13 954	11 672	14 433	11 815	14 824	12 148	14 798	12 307
(40,1; 60] sq.m	11 861	10 525	12 001	10 890	12 483	10 781	12 865	10 726	12 920	10 950
(60,1; 80] sq.m	11 376	10 560	11 691	11 023	12 160	10 654	12 586	10 604	12 588	10 816
> 80,1 sq.m	12 634	11 841	12 854	11 941	13 273	11 898	13 776	11 955	14 039	11 934
average offer price deviation	12,2%	x	10,8%	x	15,9%	x	17,9%	x	16,7%	x
<= 40 sq.m	21,3%	x	19,5%	x	22,2%	x	22,0%	x	20,2%	x
(40,1; 60] sq.m	12,7%	x	10,2%	x	15,8%	x	19,9%	x	18,0%	x
(60,1; 80] sq.m	7,7%	x	6,1%	x	14,1%	x	18,7%	x	16,4%	x
> 80,1 sq.m	6,7%	x	7,6%	x	11,6%	x	15,2%	x	17,6%	x

Source: NBP

**Table 17 Average prices per square metre of housing in the primary market in Wrocław**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 062	8 423	9 387	8 578	9 965	8 891	10 189	9 507	10 352	10 029
growth (q-o-q)	105,0	102,3	103,6	101,8	106,2	103,7	102,2	106,9	101,6	105,5
growth (y-o-y)	106,8	100,8	108,5	106,7	114,9	109,6	118,1	115,5	114,2	119,1
dwelling price range	5 936	1 690	4 827	2 030	4 441	1 618	4 514	1 556	4 605	1 034
<=7 000 PLN/sq.m	930	373	501	400	240	159	154	72	106	11
( 7 001; 9 000] PLN/sq.m	2 388	780	1 925	892	1 571	834	1 493	663	1 317	327
( 9 001; 11 000] PLN/sq.m	1 651	384	1 450	563	1 337	413	1 361	517	1 611	384
(11 001; 13 000] PLN/sq.m	668	119	634	142	826	158	960	226	900	251
>13 001 PLN/sq.m	299	34	317	33	467	54	546	78	671	61
dwelling space range	5 936	1 690	4 827	2 030	4 441	1 618	4 514	1 556	4 605	1 034
<= 40 sq.m	1155	362	959	397	797	356	883	369	896	219
(40,1; 60] sq.m	2777	837	2244	982	2035	767	2102	707	2088	478
(60,1; 80] sq.m	1540	380	1241	511	1242	371	1177	359	1227	259
> 80,1 sq.m	464	111	383	140	367	124	352	121	394	78
average price of 1 sq.m. of dwelling	9 062	8 423	9 387	8 578	9 965	8 891	10 189	9 507	10 352	10 029
<=4 000 sq.m	10138	9748	10207	9587	11185	9398	11362	10171	12011	10758
(40,1; 60] sq.m	8926	8188	9340	8515	9840	8841	10033	9380	10076	10142
(60,1; 80] sq.m	8385	7651	8794	7819	9322	8328	9578	8980	9745	9280
> 80,1 sq.m	9446	8518	9536	8926	10182	9426	10215	9785	9930	9780
average offer price deviation	7,6%	x	9,4%	x	12,1%	x	7,2%	x	3,2%	x
<= 40 sq.m	4,0%	x	6,5%	x	19,0%	x	11,7%	x	11,7%	x
(40,1; 60] sq.m	9,0%	x	9,7%	x	11,3%	x	7,0%	x	-0,7%	x
(60,1; 80] sq.m	9,6%	x	12,5%	x	11,9%	x	6,7%	x	5,0%	x
> 80,1 sq.m	10,9%	x	6,8%	x	8,0%	x	4,4%	x	1,5%	x

Source: NBP

**Table 18 Average prices per square metre of housing in the secondary market in Wrocław**

specification	I Q 2021		II Q 2021		III Q 2021		IV Q 2021		I Q 2022	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	8 715	8 057	8 982	8 510	9 160	8 563	9 327	8 953	10 075	9 202
growth (q-o-q)	101,4	101,0	103,1	105,6	102,0	100,6	101,8	104,6	108,0	102,8
growth (y-o-y)	106,8	110,1	111,9	113,5	110,3	117,3	108,5	112,3	115,6	114,2
dwelling price range	2 038	421	2 623	796	2 071	827	2 007	1 085	1 741	1 004
<=7 000 PLN/sq.m	307	106	326	165	199	160	155	142	72	129
( 7 001; 9 000] PLN/sq.m	989	209	1 192	362	911	381	835	489	543	383
( 9 001; 11 000] PLN/sq.m	519	85	748	195	653	187	694	309	664	331
(11 001; 13 000] PLN/sq.m	157	12	246	55	218	78	217	110	279	106
>13 001 PLN/sq.m	66	9	111	19	90	21	106	35	183	55
dwelling space range	2 038	421	2 623	796	2 071	827	2 007	1 085	1 741	1 004
<= 40 sq.m	308	94	367	201	264	218	252	270	222	231
(40,1; 60] sq.m	856	217	1075	395	852	386	793	540	699	500
(60,1; 80] sq.m	578	82	797	142	621	163	631	217	548	200
> 80,1 sq.m	296	28	384	58	334	60	331	58	272	73
average price of 1 sq.m. of dwelling	8 715	8 057	8 982	8 510	9 160	8 563	9 327	8 953	10 075	9 202
<=4 000 sq.m	10 141	9 241	10 660	9 314	10 622	9 672	10 673	9 829	11 456	10 183
(40,1; 60] sq.m	8 747	7 746	9 022	8 307	9 357	8 432	9 407	8 827	10 261	8 998
(60,1; 80] sq.m	8 244	7 742	8 448	7 852	8 684	7 826	9 043	8 361	9 539	8 811
> 80,1 sq.m	8 062	7 420	8 373	8 714	8 386	7 380	8 651	8 266	9 549	8 571
average offer price deviation	8,2%	x	5,5%	x	7,0%	x	4,2%	x	9,5%	x
<= 40 sq.m	9,7%	x	14,4%	x	9,8%	x	8,6%	x	12,5%	x
(40,1; 60] sq.m	12,9%	x	8,6%	x	11,0%	x	6,6%	x	14,0%	x
(60,1; 80] sq.m	6,5%	x	7,6%	x	11,0%	x	8,1%	x	8,3%	x
> 80,1 sq.m	8,6%	x	-3,9%	x	13,6%	x	4,7%	x	11,4%	x

Source: NBP

## **7. Analysis of the level of demand and supply in the secondary housing market, taking into account the housing rental market based on the NBP surveys<sup>27</sup>**

Surveys are an important tool to monitor the situation in the real estate market. In March 2022, a survey of the level of demand and supply of housing in the secondary market and the rental market was conducted in 16 voivodship capitals. The survey analysed the scale of changes in demand throughout 2021 and in 2022 Q1, the structure of home buyers, the purpose of purchase and rental and the sources of funding home purchases in the secondary market. The analysis took into account the impact on the sector of situations that were previously difficult to predict such as the persistent pandemic, Russia's military aggression against Ukraine, influx of Ukrainian refugees, soaring prices and tighter lending conditions).

### **Sales of dwellings in the secondary market**

The end of 2021 Q3 marked the end of the period in which the housing market was mainly affected by factors related to the COVID-19 pandemic and in which demand for home purchases was high, supported by low interest rates as well as the end of poor economic conditions in the rental market. Since 2021 Q4, the housing market had begun to be significantly affected by rising inflation, interest rate hikes and factors related to Russia's military aggression against Ukraine. These changes translate into changes in the secondary housing and rental market. Real estate agents saw a significant decrease in the number of sales transactions in the period from January to mid-March 2022, including both purchases of housing for buyers' own housing needs and for investment purposes. So far, no home price adjustments were observed. The time taken to sell dwellings extended. On the other hand, the conditions in the rental market improved. The experience of the pandemic has taught market players in the secondary housing market to adapt quickly to new market needs. In the new environment, the rental market and greater housing price differentiation in the secondary market than in the more expensive and more homogeneous primary market may prove to be an opportunity for both people who have lost their purchasing capacity and real estate agents.

However, it should be emphasised that both developers and secondary market players entered the new environment in a good economic condition. According to the survey data collected in March 2022, there was a 10 p.p. increase in the number of real estate agents assessing their economic situation as good (66% in March 2022 against 56% in February 2021), and fewer agents than a year ago assessed their economic situation as poor (29% in March 2022 against 33% in February 2021) or bad (5% in March 2022 against 11% in February 2021). More companies based in Warsaw than in other local markets indicated an improvement in their current situation over the past year, indicating a faster recovery from the pandemic-induced slowdown in the country's largest market. The result of the survey shows that the economic situation is improving faster for real estate

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<sup>27</sup> In March 2022, Narodowy Bank Polski carried out the "Survey on the demand and supply in the secondary residential market including the rental market" in the form of a questionnaire. A total of 272 entrepreneurs participated in the national survey, of which approximately 25% were large and medium-sized real estate agents. Predominant activity of 72% of the companies was home purchase and sale, with the remaining 28% companies mainly involved in rental management, lease brokerage or combination of real estate activities with other activities. In the structure analysed, local entrepreneurs accounted for 96% and nationwide companies - for 4%. The data from the survey collected in March 2022 were supplemented by conclusions from the analysis of data collected on a quarterly basis by NBP and information from interviews conducted in March, April and early May 2022 among smaller and larger real estate agents and residential real estate rental managers. Information from the rental market was supplemented by the analysis of the listing data provided by the OLX Group.

administrators and lessors (29% of them assessed their situation as very good) than for real estate agents involved in home sales and rental, including 10% and 6% respectively assessing their situation as very good.

A significant group of companies, adapting to the changes triggered by the pandemic, made permanent changes to their operations, mainly by introducing new methods of customer service, expanding or changing their range of services. Some respondents made staff redundancies as their revenues decreased and their condition weakened.

Despite a significant decline in rental in 2020 and a slight recovery in this market in the first half of 2021, resulting in low rental income, no larger scale of resale of this type of dwellings was recorded. Investment in residential real estate provided a safe alternative to protect cash from loss of value. According to the survey respondents, the number of home sales transactions in the secondary market increased by 16% on average in 2021 compared to 2020. 2021 Q4 saw a slowdown in demand (a 2% q/q increase) as a result of rising interest rates and credit rating requirements to be met by potential home buyers. The decline in sales in 2022 Q1, as estimated by real estate agents (by 9% q/q) was mainly a result of weaker demand for the first housing for buyers' own housing needs as a result of the deepening decline in purchasing capacity and creditworthiness. Rising inflation supported the investment demand.

### **Home sales**

At the beginning of March 2022, opinions of real estate agents differed as regards predictions for sales levels throughout 2022. In the face of high uncertainty caused by Russia's military aggression against Ukraine and a decline in creditworthiness, real estate agents expected a 6% decrease in the number of sales transactions throughout 2022, with an expected increase of 3% in the supply of offers and 4% in housing prices. The NBP analyses show a slump in affordability of loan-financed housing in the second half of 2021, which intensified in all major local markets in 2021 Q4, both in the primary and secondary markets. It was a result of the increased differentiation between wage levels and the accelerated growth in home prices. The slowdown in lending observed at the end of 2021 and in the period from January to April 2022 may prevent the imbalance between supply and demand in both the primary and secondary markets from increasing.

According to the real estate agents surveyed, the number of persons in search of housing in the secondary market decreased significantly in March and April 2022 (by approx. 40% on average). The selling time of dwellings increased to approx. 120 days from an average of 90 days a year ago. The percentage of those declaring to be purchase housing for investment purposes fell to 32% from 41% in 2021 Q4.

According to real estate agents, smaller dwellings up to 50 sq. m. were most commonly purchased for rent (79% of transactions in 2021), while dwellings with a larger floor area - from 30 sq.m. to 70 sq.m. were mostly purchased for home buyers' own housing needs (68% of transactions). In the structure of housing purchased for rent, the share of the smallest dwellings - up to 30 sq.m - increased, which was more evident in the six cities and to a slightly lesser extent, in Warsaw. In the group of 10 cities, interest in purchasing larger dwellings for rent - over 50 sq.m. slightly increased.

According to real estate agents, the structure of dwellings purchased with the intention to be used as home buyers' or their family member's residence remained similar in terms of the usable floor area, with a slight upward trend in demand for very small dwellings - up to 30 sq.m, which may result from a faster increase in housing prices than in the purchasing capacity of households.



According to real estate agents, the age of the building in which a dwelling is located had minor influence on home buyers' choice, however, this is slightly more relevant for buyers of housing for their own needs than for investment purposes. The systematic increase in the share of the youngest dwellings in the transaction structure results both from the supply of housing units from newer construction (resale in order to achieve the planned profit or to improve living conditions) and buyers' search for ready-to-move dwellings built to a better standard. Newer dwellings do not bear the risk that home buyers will have to wait until construction is completed, provide higher standard of finishing than older housing and are usually ready for occupancy, which, if purchased for rent, provides the opportunity to generate income quickly. Over the past three years, the excess of demand over supply in the primary market and the desire to invest cash in real estate resulted in a partial shift of demand from the primary market to the "new" secondary market. Rising construction costs indicated by respondents and market information on home construction contracts with home buyers being broken at the initial stage of construction as a result of underestimated development costs also urged home buyers to look for dwellings ready for occupancy in both the primary and secondary markets.

The significant share of older housing stock in the structure of concluded transactions confirms the importance of location of the real estate. This is particularly evident in the territorially largest Warsaw market, where more than 35% of transactions involved dwellings built before 1970. In Warsaw, for the past five years, much lower demand was observed than in the previous years for dwellings built in the period from 1971 to 2000, mainly with the use of prefabricated technology.

Among home sellers, persons reselling housing to improve their living conditions represented the highest percentage (40% in 2021 compared to 41% in 2020 and 46% in 2019). The percentage of persons reselling housing as part of the previously planned investment, i.e. resale of rental dwelling in a favourable period of time (17% in 2021 vs. 17% in 2020 and 16% in 2019) and persons selling dwelling in order to change their place of residence (14%) remained at a similar level. There was a 5 p.p. decrease in the share of persons reselling housing as a result of a decline in rental profitability or loss of tenants (9% in 2021 vs. 14% in 2020), confirming a recovery in the rental market, including mainly in late 2021 and in 2022 Q1.

In 2021, in relation to 2020, the share of first home buyers in the secondary market increased by 3 p.p. (29% of transactions in 2021 against 26% in 2020 and 27% in 2019) and their share in the primary market decreased by 3 p.p. (31% of transactions in 2021 against 34% in 2020 and 37% in 2019). The broader price range in the secondary market, including the greater affordability of lower-priced dwellings supported a partial shift in demand from the primary market.

According to the opinion of the survey respondents, interest rate hikes intended to curb rising inflation could result in a further weakening of the financial standing of households, including those repaying bank loans and the purchasing capacity of those intending to purchase a dwelling with the use of a bank loan, which could intensify the decline in home purchases for buyers' own housing needs.

According to the survey respondents, the share of persons buying housing in order to improve their living conditions also decreased slightly in 2021 in both markets. In the secondary market, their share was 25% in 2021 against 26% in 2020 and 27% in 2019. However, in the primary market, their share was 31% in 2021 against 35% in 2020 and 31% in 2019.

The structure of other buyers in the secondary market in terms of the purpose of home purchase, including mainly investment purpose, remained at a similar level for another consecutive year.

The structure of home buyers in the secondary market remained stable. In both 2021 and 2020, domestic private individuals definitely prevailed (82%). The percentage of buyers from Eastern European countries increased by 2 p.p. (9% in 2021 against 7% in 2020). The number of sales transactions concluded with private individuals from other countries dropped slightly (3% in 2021 versus 4% in 2020). In the secondary sales market, for another consecutive year, approx. 4% of transactions were concluded with companies and approx. 1% with both domestic and foreign investment funds.

Considering the place of residence, the majority of buyers lived in the same locality as the dwelling purchased (70% of buyers in 2021, 68% in 2020 and 66% in 2019).

Both real estate agents surveyed in March 2022 and developers surveyed in December 2021 mentioned problems in obtaining bank financing by potential home buyers as one of major factors limiting housing demand in 2022.

The NBP analyses show a reduction in the affordability of housing in the second half of 2021, both in the primary and secondary markets, as a result of increasing gap between wage growth and accelerating growth in home prices.

In the secondary market, considering the purpose for which dwellings were purchased in 2021, a similar structure of sources of financing was recorded as in 2020. However, it should be emphasised that more than half of cash home buyers purchasing housing for their own needs (53%) raised funds from the sale of another real estate. At the same time, this means that, for the most part, persons improving their housing conditions financed the purchase of dwellings with their own funds.

As regards purchase of rental housing, the predominant source of financing were own funds (81%) with the share slightly lower in the previous two years (79% in 2020 and 77% in 2019). A small percentage of dwellings (11% of transactions in 2021) which, according to real estate agents were purchased with the intention of reselling at a favourable time, were in 88% financed exclusively with buyers' own funds or with an overwhelming majority of own funds.

In 2022 Q1, according to real estate agents, the number of sales transactions in the secondary market decreased by 9% compared to the sales level in the previous quarter, with average home prices continuing to increase by 3%. The NBP data for 2022 Q1 confirmed a several per cent increase in home prices in the secondary market compared to the previous quarter, including the average offer price of 5 per cent in the six-city group and 5 per cent in the ten-city group, and an average transaction price of 5 per cent in the ten-city group and 1 per cent in the six-city group and 1 per cent in Warsaw. The average asking price in the secondary market in Warsaw remained at a similar level. The survey respondents, considering the market conditions prevailing at the beginning of March 2022, forecast a 6% decrease in home sales for the whole of 2022 compared to 2021 and a slight increase in home prices (4% on average), which may indicate a downturn in the home sales market.

According to the NBP data, the increase in both asking and transaction prices in the secondary market in 2021 was largely generated by the newest dwellings, i.e. those put up for resale or resold within five years of construction, which confirms the strong interest in purchasing relatively new housing. Further increases in home prices may be supported by rising inflation and continued demand for cash-financed housing as a form of protection of funds against loss of value.

In 2021, the recovery of the housing market and the rental market increased the imbalance of demand over supply, as it was the case in 2019. According to the NBP data, the number of offers of homes for sale in the secondary market at the end of 2021 compared to their number at the end of 2020 was significantly lower in

Warsaw (by 24%), which was mainly due to the withdrawal of some offers from the market at the end of 2021. A lower decline in the number of offers than in the Warsaw market was observed in the group of the ten cities (by 10%). The situation was different in the six larger local markets.. The number of offers available at the end of 2021 compared to their number at the end of 2020 in the secondary market was 47% higher, which was also observed in year-on-year terms in all four quarters of 2021. In view of a significant increase in prices and high demand, sellers were more likely than in the other markets to complete their planned investment and resell their dwellings they had previously purchased for investment purposes.

The analysis of the supply of dwellings built in the period of four years before the date of resale is the source of two types of information. It shows which share of the secondary market offer are practically new, good quality dwellings. Prices of these dwellings are a good indication of the prices of developer dwellings. These dwellings can also be regarded to some extent as purchased for speculative purposes and as an indicator of purchases of this type and the scale of decisions to resell housing in order to generate profit on the planned investment. The increasing share of such dwellings can also be treated as an indicator of declining profitability of rental where some lessors decide on disinvestment due to falling rental income.

In the second half of 2021, profitability of purchasing housing for rental changed. On the one hand, profitability of such investment declined, on the other hand, the first signs of recovery to the pre-pandemic situation appeared. Significant determinants affecting this type of investment include changes in rental rates, housing prices (or, in fact, correlation between these changes) and the level of housing loan costs. On the basis of the above simplified analysis, it can be assessed that the structure of changes in rental rates and estimated home prices resulted in inhibiting the downward trend in the capitalisation rate. In some cities, the capitalisation rate increased slightly compared to the end of the first half of 2021. This may result from the fact that the growth rates of rental rates and home purchase prices became equal at the end of 2021.

### **Housing rental market**

From March 2020 to 2021 Q1, the rental market was definitely favourable for tenants, with a strong downward trend in the number of rental transactions and an upward trend in the number of rental offers. During this period, some owners withdrew their properties from the rental market, since the income generated did not always cover the costs incurred.

Throughout 2021 in relation to 2020, the majority of real estate agents recorded an increase in the number of housing rental transactions both in Warsaw and in other voivodship capitals at an average level of 6%, which was due to the easing of epidemiological constraints and a more favourable situation in the labour market, however, it did not indicate a significant improvement in the rental market.

At the end of 2021 and in 2022 Q1, the situation in the rental market recovered significantly as a result of increased interest in home rental by several social groups which boosted rental rates. The group of tenants that, according to the real estate agents, significantly boosted demand for home rental were people who did not have or lost their creditworthiness to take out a loan to buy housing due to a faster increase in housing prices than wages and, and those postponed their purchase plans and decided to rent housing, as a result of tightened bank lending policy. The rental market has significantly been boosted by the inflow of refugees from Ukraine. Migrants' increased interest in rental is likely to raise rental rates and demand for purchase of rental housing. As a result of the lifting of mobility restrictions which were introduced after the spread of the pandemic, students returned to traditional, stationary form of study. The partial withdrawal from the remote working model also boosted interest in long-term home rental. In March and April 2022, according to interviewed real

estate agents, the offer of rental housing was significantly smaller than the number of people willing to rent a dwelling.

According to the data provided to NBP on a quarterly basis by real estate agents, the highest rental market activity in 2021 was recorded in Warsaw and in the group of six cities. After the stagnation observed until the end of 2021 Q1, the number of rental transactions had been on a steady rise since 2021 Q2, compared to the previous quarters and was higher than in any quarter of 2020. In line with growing demand, the number of rental dwellings on offer declined. In 2021 Q4, compared to 2020 Q4, the number of rental transactions in Warsaw increased by 67% along with a 59% decrease in the availability of rental offers; in the six cities it increased by 82% with a 36% decline in the number of offers. Other markets of the ten major cities also recovered, yet their recovery was delayed and less spectacular. In these markets, an improvement in demand was seen in the last quarter of 2021 when, compared to the previous quarter, the number of rental transactions increased by a mere 4% with a 18% decrease in the availability of offers.

All the local markets of the voivodship capitals are dominated by rental of two-room dwellings, which accounted for 53% of total rental transactions in Warsaw, for 50% in the six cities and for around 45% in the ten cities.

According to the surveyed real estate agents considering individual residential properties in the structure of long-term rental transactions concluded in 2021, dwellings accounted for 72%, rooms for 15% and houses for 13%.

In terms of long-term rental, the surveyed real estate agents pointed to a slight increase in demand in 2021, mainly from domestic working private individuals or families, followed by students and private individuals from other countries, which was observed in the six cities and in Warsaw rather than in the group of ten cities. In the structure of total long-term home rental in Poland in 2021, other domestic private individuals represented 52% of tenants, domestic and international students for 27%, other foreign private individuals for 12% and other tenants for 9%.

Among persons renting rooms on a long-term basis, prevailed domestic and foreign students (47% of transactions), followed by other domestic private individuals (28%) and other foreign private individuals (16%) and other private individuals (9%).

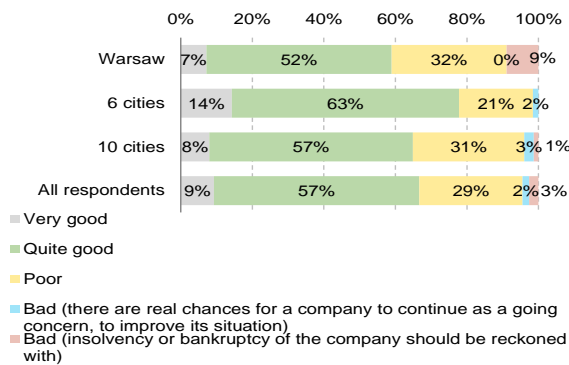
House rentals in 2021 were mainly popular among domestic private individuals (59% of transactions) and to a much lesser extent - among private individuals from other countries (20%). House rental was more popular in other voivodship capitals than in Warsaw.

On the other hand, as regards short-term housing rental in 2021 compared to 2020, rental by domestic private individuals also followed an upward trend which was mostly indicated by respondents from the six cities. In Warsaw, a slight recovery in short-term rentals was a consequence of the arrival of private individuals from other countries.

After a sharp increase in the offers of relatively new dwellings for rental in the second half of 2020 (built after 2015), individual quarters of 2021 saw their gradual and significant decline; as a result, the number of offers at the end of 2021 was smaller than at the end of any of the quarters analysed in the period from the beginning of 2017 till the end of 2021. As the rental market recovered, the demand for newer dwellings with better standard of construction and finishing increased. According to the surveyed real estate agents, at the end of February 2022, the share of offers for dwellings built after 2015 accounted, on average, for approx. 32% of the total number of rental offers.

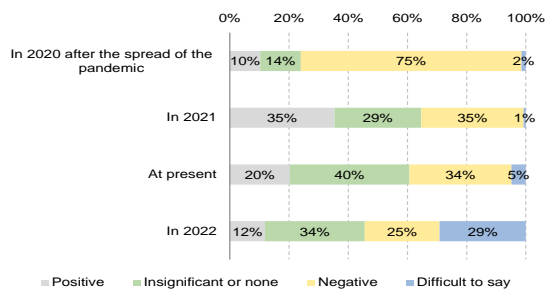
The vast majority of real estate agents who took part in the survey at the end of February and in the first days of March 2022, expected both the number of home rental transactions, the number of rental offers and rent rates to increase slightly above 10% in 2022. The projected level of improvement in the rental market was mainly affected by the decline in the capacity to purchase dwellings intended to be home buyers' place of residence.

**Figure 77 Economic situation of the surveyed real estate agents in March 2022 (%)**



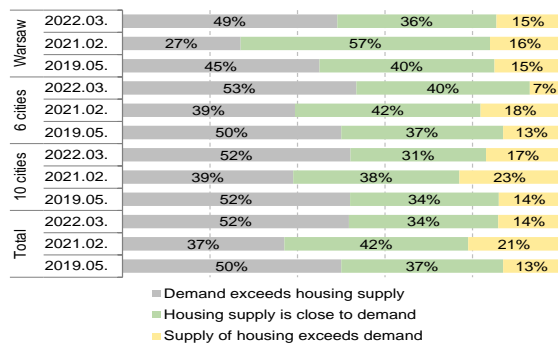
Source: NBP survey

**Figure 79 Respondents' assessment of the impact of the COVID-19 pandemic on their economic situation in 2020-2022 (%)**



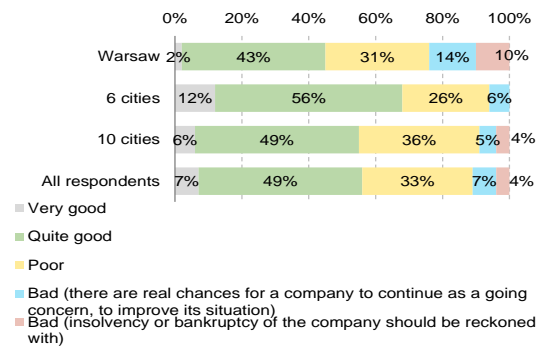
Source: NBP survey

**Figure 81 Structure of respondents' answers about supply and demand match in the secondary market of home sales (%)**



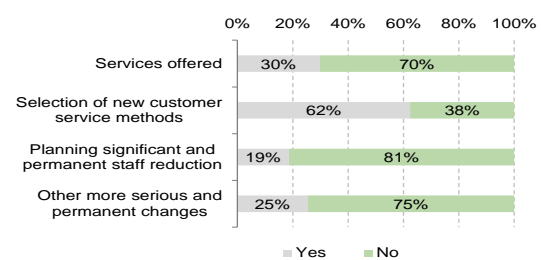
Source: NBP survey

**Figure 78 Economic situation of the surveyed real estate agents in February 2021 (%)**



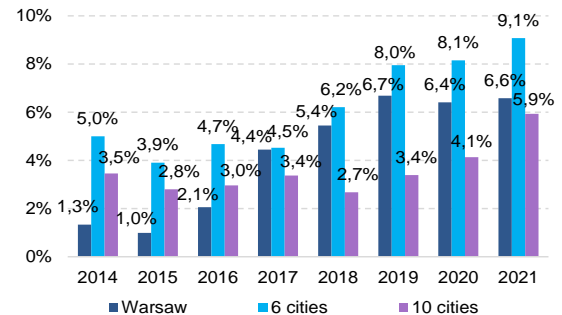
Source: NBP survey

**Figure 80 Respondents' answers to the question of whether the pandemic prompted them to make significant and permanent changes to their business in terms of: (%)**



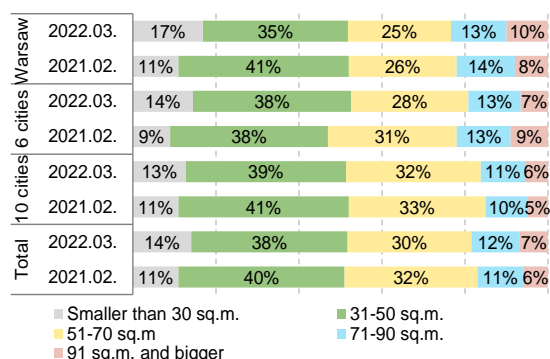
Source: NBP survey

**Figure 82 Share of new dwellings in sales transactions in the secondary market - dwellings built within 5 years from the resale date (%)**



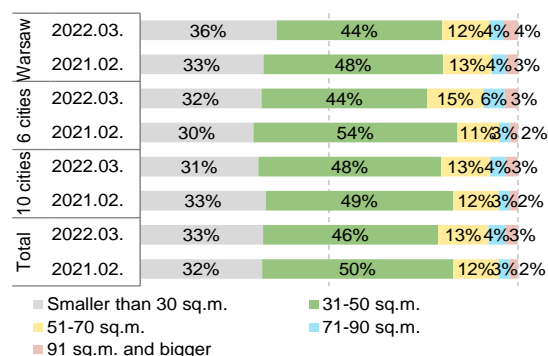
Source: NBP

**Figure 83 Information provided by real estate agents on the average size of dwellings purchased for own residential use (%)**



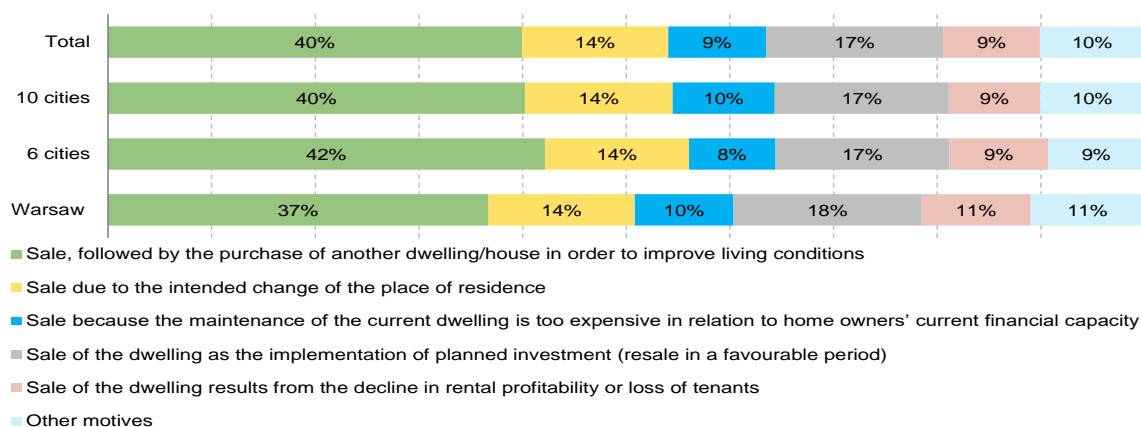
Source: NBP survey

**Figure 84 Information provided by real estate agents on the average area of dwellings purchased for rent (%)**



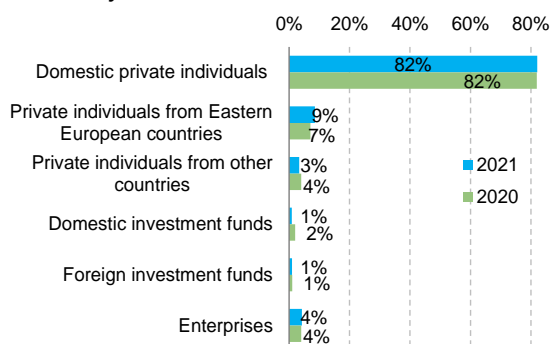
Source: NBP survey

**Figure 85 Motivates of people selling dwellings in the secondary market in 2021 (%)**



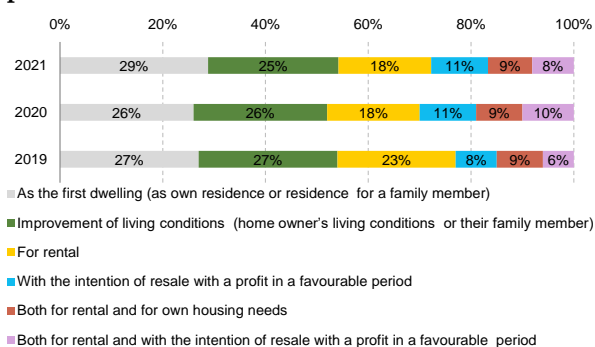
Source: NBP survey

**Figure 86 Structure of home buyers in the secondary market (%)**



Source: NBP survey

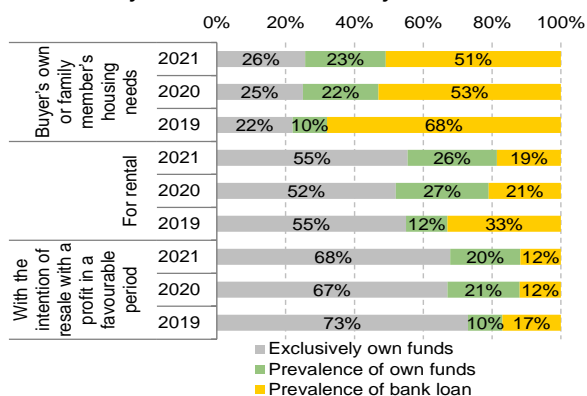
**Figure 87 Overall structure of home buyers in the secondary market according to the purpose of home purchase (%)**



Source: NBP survey

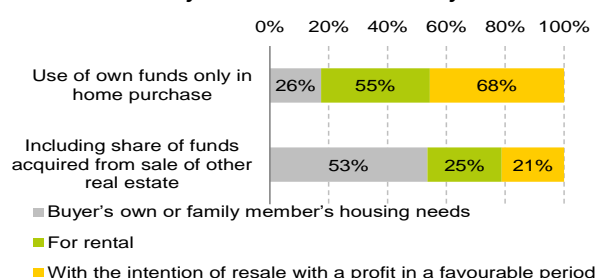


**Figure 88 Structure of developers' responses to the question about the share of different sources of financing for home purchase depending on the purpose for which home was purchased at the end of February 2022 in the secondary market (%)**



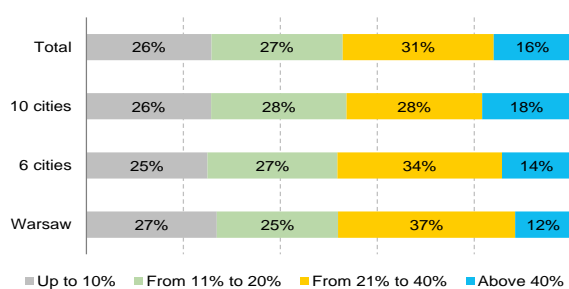
Source: NBP survey

**Figure 90 Structure of real estate agents' responses to the question about the share of funds obtained from the sale of another real estate to purchase a dwelling financed solely with own funds, depending on the purpose of the purchase at the end of February 2022 in the secondary market (%)**



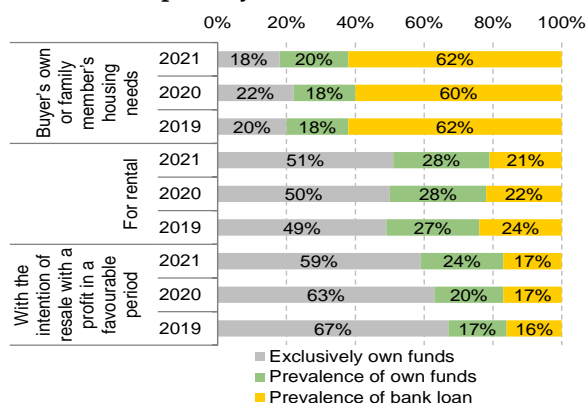
Source: NBP survey

**Figure 92 Survey respondents' estimate of the share of dwellings built after 2015 (at the beginning of March 2022) in the structure of sale offers (%)**



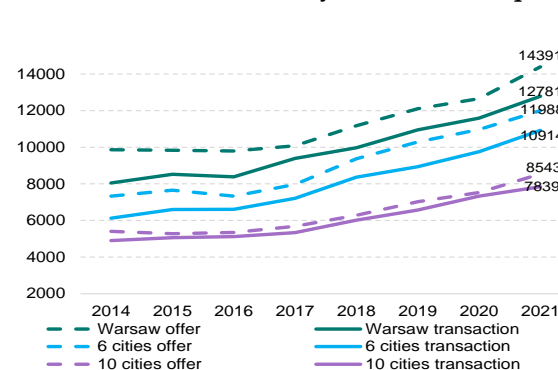
Source: NBP survey

**Figure 89 Structure of developers' responses to the question about the share of different sources of financing for home purchase depending on the purpose for which home was purchased at the end of 2021 in the primary market (%)**



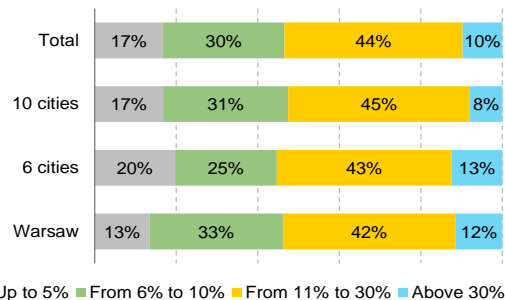
Source: NBP survey

**Figure 91 Average offer and transaction prices of new housing in the secondary market, i.e. built up to 5 years after it was offered for sale or after it was sold in the secondary market (PLN/sq.m)**



Source: NBP

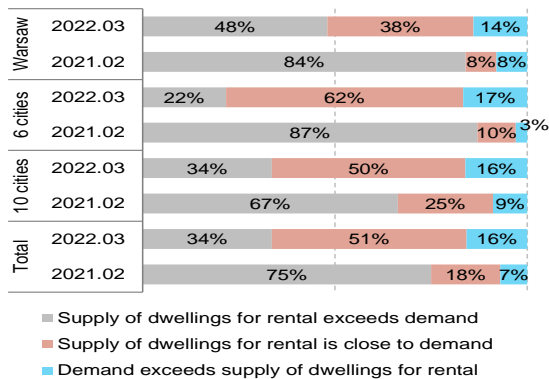
**Figure 93 Survey respondents' estimate of the share of sale offers of dwellings previously purchased for rent (at the beginning of March 2022) in the structure of sale offers (in %)**



Source: NBP survey

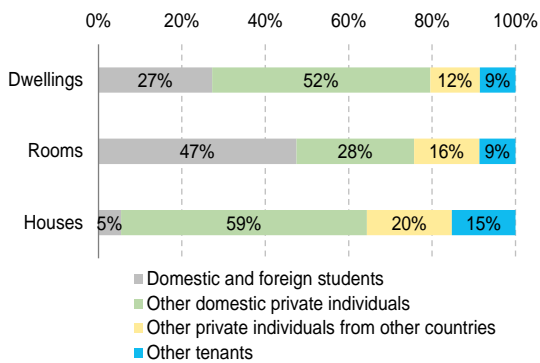


**Figure 94 NBP survey respondents' assessment of the current condition of the rental market (%)**



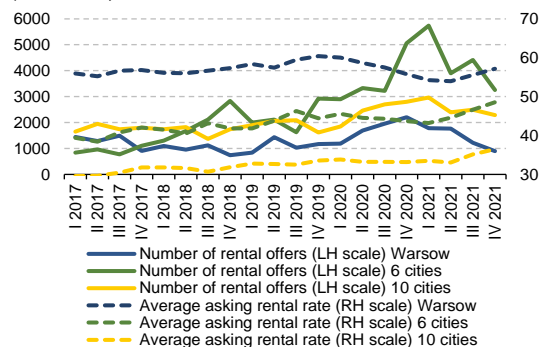
Source: NBP survey

**Figure 96 Long-term rental of dwellings, rooms and houses in 2021 (%)**



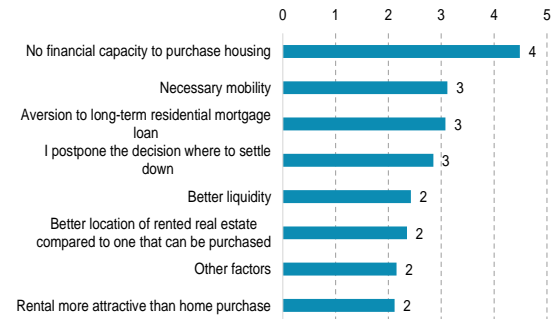
Source: NBP survey

**Figure 98 Number of rental offers and average asking rental rates of dwellings offered in Warsaw, in the group of six and ten cities (number)**



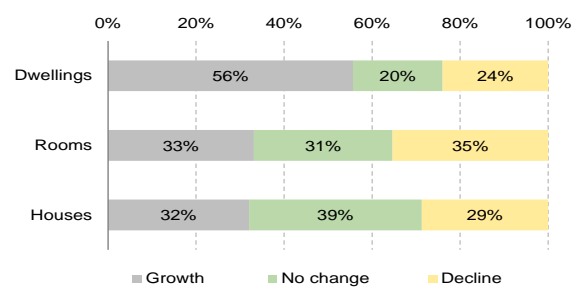
Source: NBP survey

**Figure 95 Importance of potential factors affecting the decision on long-term housing rental in March 2022 (1 - factor of low importance, 5 - factor of decisive importance)**



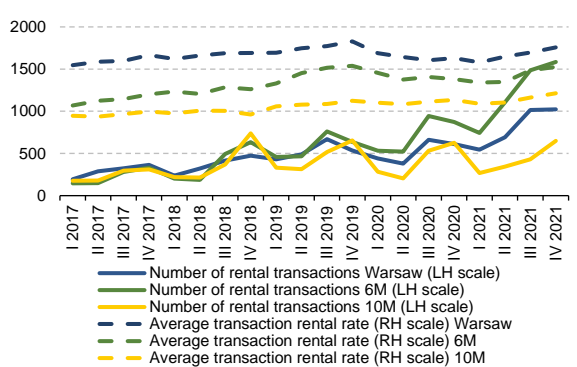
Source: NBP survey

**Figure 97 Real estate agents' information about the change in the number of rental transactions of individual types of real estate in 2021 compared to 2020 (%)**



Source: NBP survey

**Figure 99 Number of rental transactions and average transaction rent in Warsaw, 6 cities, 10 cities**



Source: NBP

## 8. Analysis of profitability of investment in housing in selected cities in Poland in 2022 Q1<sup>28</sup>

In 2022 Q1, the estimated transaction prices of housing increased by 16.0% (PLN 10,281/sq.m.) on average in the group of six cities, by 17.6% (PLN 7,992/sq.m.) in the group of other analysed cities and by 11.0% (PLN 12,457/sq.m.) in Warsaw. On the other hand, these prices increased by 2.4%, 3.8% and 4.0%, respectively, compared to the previous quarter. These figures suggest that in 2022 Q1 growth rate in the medium- to long term decelerated slightly. Similar changes were observed in the quarter under analysis in terms of average rent rates. Compared to 2021 Q1, rent rates increased by 14.4% (PLN 47.6/sq.m.) on average in the group of six cities, by 10.5% (PLN 37.1/sq.m.) in the group of other analysed cities and by 11.9% (PLN 56.9/sq.m.) in Warsaw. On the other hand, compared to the last quarter an increase of a mere 1.6% (six cities), 3.0% (other cities) and 3.6% (Warsaw) was observed. It can be seen that these increases have not led to the recovery of the trend line that was broken during the COVID-19 pandemic. This makes the growth rate of estimated housing prices to rise faster than that of rent rates. This relationship proved to have a major impact on the level of capitalisation of investment in rental housing.

In the period under review, a slight downturn was again observed in the capitalisation rate which expresses the relationship of the annual rental income to the price of dwelling per square metre. In the group of six cities, it fell by 1.5% (-0.1 p.p.) to the level of 5.6% compared to the corresponding quarter of the previous year, in the group of other cities by 6.0% (-0.4 p.p.) to 5.6% while Warsaw saw a slight increase of 0.9% (0.05 p.p.) to 5.5%. The declines in the capitalisation rates compared to the previous quarter are even less significant. They amounted to -0.4% and -0.6%, respectively. A decrease of 0.4% was also recorded in Warsaw. The capitalisation rate on investment in rental housing directly affects the period of return on such investment. In 2022 Q1, the shortest period of return was recorded in Łódź (14.5 years), Wrocław (15.9 years) and Szczecin (16.6 years), while the longest period was observed in Gdynia (21.2 years) Rzeszów (19.7 years) and Białystok (19.0 years). This period shortened the most, as compared to the last quarter, in Olsztyn, Łódź, Kraków and Bydgoszcz, and compared to the corresponding quarter of the previous year in Bydgoszcz, Olsztyn, Kraków and Gdańsk.

Profitability of investment in rental housing was evaluated using the ROE ratio. In 2022 Q1, its average level for investment financed entirely with investor's own cash (LTV 0%) in the group of the six largest cities amounted to 3.2%, in the group of the remaining cities and in Warsaw to 3.1%. It means relatively small

<sup>28</sup> The authors present a simplified analysis of investment in rental housing by a private individual. Such rental is taxed on a flat-rate basis. Profitability of this type of investment was analysed in the group of the six cities (Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław) and in the group of other cities (Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin). Three voivodship capitals (Opole, Kielce and Zielona Góra) were omitted due to the small sample size of recorded housing rental transactions. The Warsaw property market is analysed separately due to its specific characteristics. Profitability of investing in housing for rental was determined by calculating the capitalisation rate and the ROE (return on equity). The capitalisation rate is calculated as the relation of the annual rental income to the price of one square metre of housing. On the other hand, the ROE was calculated as net profit relative to own capital (equity) engaged. In this case, different possible levels of leverage were adopted: a fully cash-funded investment (with LTV of 0%) and a loan-financed investment with LTV of 50% as well as a highly leveraged investment with LTV of 80%. In order to calculate the financial profit, we took into account rental income and deducted a flat-rate tax of 8.5%, repayment of interest on the loan as well as depreciation of the building in the amount of 1.5% of its value (we assumed two general overhauls in the period of 100 years). The tax is paid on all rental income, before cost deduction. The transaction price per sq.m. of an average dwelling was determined by summing up 50% of the average transaction price in the primary and secondary markets. The price in the primary market was increased by the cost of finishing (in 2021 Q4 +1050 PLN/sq.m in Warsaw, +950 PLN/sq.m. in 6 cities (Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław) and + 850 PLN/sq.m. in a group of 10 cities (Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin and Zielona Góra), three of which were omitted from the analysis, as mentioned above. A PLN-denominated loan granted for 25 years, with equal instalments, payable four times a year was adopted. The occupancy rate of 95% was assumed. Since 2022, investment profitability analyses have been carried out on a quarterly basis.

decreases of 1.8 % and 8.4 %, respectively, compared to the corresponding quarter of the previous year. Warsaw, on the other hand, recorded a slight increase of 1.6%. Compared to the period before the COVID-19 pandemic (2019 Q4), in the current quarter the ROE declined by 28.5% (-1.3 pp), 23.2% (-0.9 pp) and 28.6% (-1.2 p.p.), respectively. These figures point to the continuing downturn in the level of return on investments in housing purchased by investors with their own funds.

As at the end of 2022 Q1, the ROE ratios for investment leveraged at a level of LTV=50% amounted to 0.6% in the group of six cities, 0.4% in the group of the remaining cities and to 0.4% in Warsaw. This group of housing investment recorded a quite considerable decline in the ROE. In relation to 2021 Q1, this ratio fell by 84.0% (PLN -3.0/sq.m.) on average in the group of six cities, by 90.7% (PLN -3.5/sq.m.) in the group of other analysed cities and by 89.06% (PLN -2.8/sq.m.) in Warsaw. Equally considerable declines were recorded compared to last quarter. The ROE ratio decreased, respectively, by 77.7% (-2.0 pp), 84.9% (-2.0 pp) and 85.2% (-2.0 pp). For the first time since 2013, the ROE for leveraged investment at a level of LTV=50% fell below zero in several Polish cities. This occurred in Gdynia (-1.0%), Rzeszów (-0.05%) and Białystok (-0.2%).

The return on investment in dwellings purchased with a loan at a level of LTV=80% fell sharply. In this case, the ROE in 2022 Q1, reached only -7.2% in the group of six cities and -7.8% in the group of the remaining cities and in Warsaw. This represents a decrease of 12.0 p.p., 13.1 p.p. and 11.5 p.p., respectively, compared to the corresponding quarter of the previous year. On the other hand, in comparison to the last quarter, the ROE fell by 8.0 p.p. in two analysed groups of cities and in Warsaw. None of the cities analysed recorded a positive ROE over this period. The strongest declines were observed in Białystok (-15.8 p.p.), Katowice (-15.0 p.p.) and Rzeszów (- 4.7 p.p.) and the weakest - though not at all low - in Bydgoszcz (-9.9 p.p.), Olsztyn (-10.1 p.p.) and Kraków (-10.5 p.p.).

Based on the above simplified analysis, it can be concluded that there were no significant changes in the relation of rental rates to the estimated housing prices in 2022 Q1. As a result, the capitalisation rate remained at level recorded in the previous quarter. However, it seems that the key issue in this period is the relationship between the growth rate of these two values. It was observed that the growth of rental rate increases (especially in the context of their marked decline during the COVID-19 pandemic) was weaker than the growth rate of the estimated housing prices. These correlations had a fairly significant impact on declines in the capitalisation rates over the period under review. However, a more important conclusion can be drawn from the results of the analysis of profitability of investment in rental housing. Relatively strong declines in return on investment, particularly on investment leveraged at 50% and 80%, could have been the result of changes in lending conditions. The previous two quarters had seen marked increases in residential mortgage loan costs. In addition, it should be emphasised that in 2022 Q1, for the first time since 2013, the average capitalisation rate was lower than the interest rate on residential mortgage loans. Furthermore, the average interest rate on 10-year bonds was getting close to the level of the estimated capitalisation at a rapid pace. Adding to this the marked increase in the average interest rate on new deposits in 2022 Q1, it can be expected that in the following quarters the demand for housing purchased for investment purposes - at least where the purchase is made with bank's relatively high exposure in the form of residential mortgage loans - may fall. At the same time, it should be emphasised that the construction sector is characterised by a relatively long lead time for construction projects (estimated at three years) and changes in financial terms are observed in the short term. However, this does not change the fact that the changes observed, accompanied by emerging uncertainty of both private individuals, construction companies and real estate developers, will result in more prudent decisions to launch investment projects in rental housing.

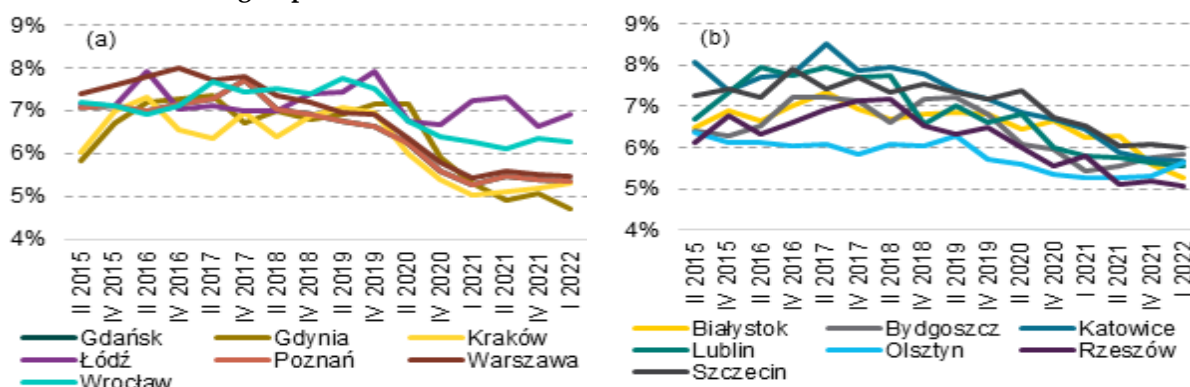
**Table 19 Estimated capitalisation rate (return expected by a real estate buyer, expressed as a percentage of the purchase price of the real estate paid fully with cash) in selected cities (in %)**

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Wrocław	Warszawa	6 cities	Other
II 2015	6.5%	6.4%	7.1%	5.8%	8.1%	6.0%	6.7%	7.1%	6.4%	7.1%	6.1%	7.3%	7.2%	7.4%	6.7%	6.8%
IV 2015	6.9%	6.3%	7.1%	6.7%	7.4%	7.0%	7.3%	7.1%	6.1%	7.1%	6.8%	7.4%	7.1%	7.6%	7.0%	6.9%
II 2016	6.7%	6.5%	7.0%	7.2%	7.7%	7.3%	8.0%	7.9%	6.1%	7.0%	6.3%	7.2%	6.9%	7.8%	7.2%	6.9%
IV 2016	7.0%	7.2%	7.2%	7.3%	7.8%	6.6%	7.7%	7.0%	6.1%	7.2%	6.6%	7.9%	7.1%	8.0%	7.1%	7.2%
II 2017	7.3%	7.2%	7.3%	7.4%	8.5%	6.4%	8.0%	7.1%	6.1%	7.3%	6.9%	7.4%	7.7%	7.7%	7.2%	7.4%
IV 2017	6.9%	7.1%	7.7%	6.7%	7.9%	7.0%	7.7%	7.0%	5.8%	7.7%	7.1%	7.7%	7.4%	7.8%	7.3%	7.2%
II 2018	6.7%	6.6%	7.1%	7.0%	7.9%	6.4%	7.7%	7.0%	6.1%	7.1%	7.2%	7.4%	7.5%	7.3%	7.0%	7.1%
IV 2018	6.8%	7.2%	6.9%	6.8%	7.8%	6.9%	6.6%	7.4%	6.0%	6.9%	6.5%	7.6%	7.4%	7.2%	7.0%	6.9%
II 2019	6.8%	7.2%	6.7%	6.9%	7.4%	7.1%	7.0%	7.4%	6.3%	6.7%	6.3%	7.3%	7.8%	7.0%	7.1%	6.9%
IV 2019	6.8%	6.8%	6.7%	7.2%	7.2%	6.9%	6.6%	7.9%	5.7%	6.7%	6.5%	7.2%	7.5%	6.9%	7.1%	6.7%
II 2020	6.4%	6.1%	6.2%	7.2%	6.8%	6.0%	6.8%	6.8%	5.6%	6.2%	6.0%	7.4%	6.8%	6.3%	6.5%	6.4%
IV 2020	6.7%	5.9%	5.6%	5.9%	6.7%	5.4%	6.0%	6.7%	5.4%	5.6%	5.5%	6.7%	6.4%	5.8%	5.9%	6.1%
I 2021	6.2%	5.4%	5.3%	5.3%	6.5%	5.0%	5.8%	7.2%	5.3%	5.3%	5.8%	6.5%	6.3%	5.4%	5.7%	5.9%
II 2021	6.3%	5.5%	5.5%	4.9%	5.9%	5.1%	5.8%	7.3%	5.3%	5.5%	5.1%	6.0%	6.1%	5.6%	5.7%	5.7%
IV 2021	5.6%	5.7%	5.4%	5.1%	5.7%	5.2%	5.6%	6.6%	5.3%	5.4%	5.2%	6.1%	6.3%	5.5%	5.7%	5.6%
I 2022	5.3%	5.8%	5.3%	4.7%	5.7%	5.3%	5.5%	6.9%	5.6%	5.3%	5.1%	6.0%	6.3%	5.5%	5.6%	5.6%

Note: The group of six cities included Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław. The remaining cities included Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin.

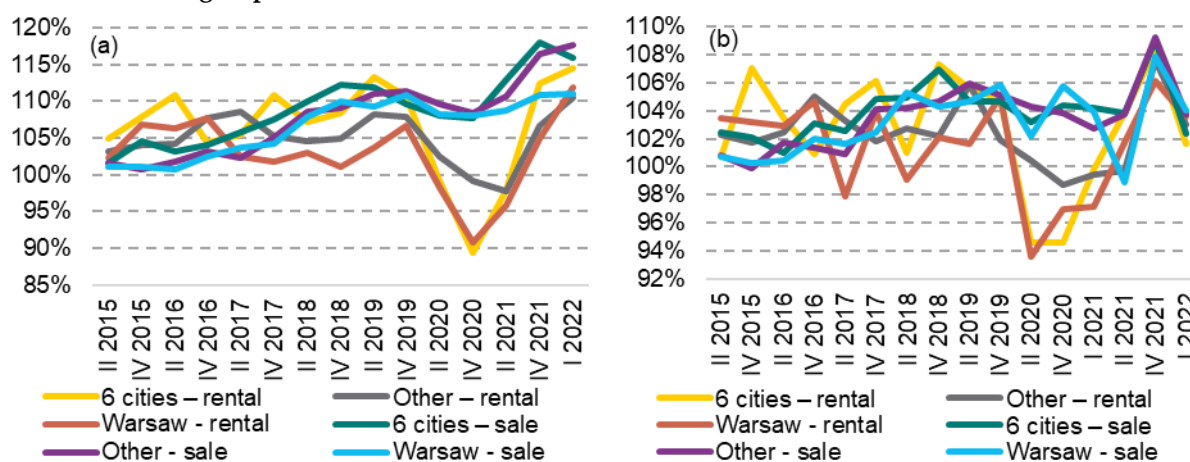
Source: NBP

**Figure 100 Estimated capitalisation rate (return expected by a real estate buyer, expressed as a percentage of the purchase price of the real estate paid fully with cash - in %) in the group of 6 large cities (section a) and in the group of other cities (section b)**



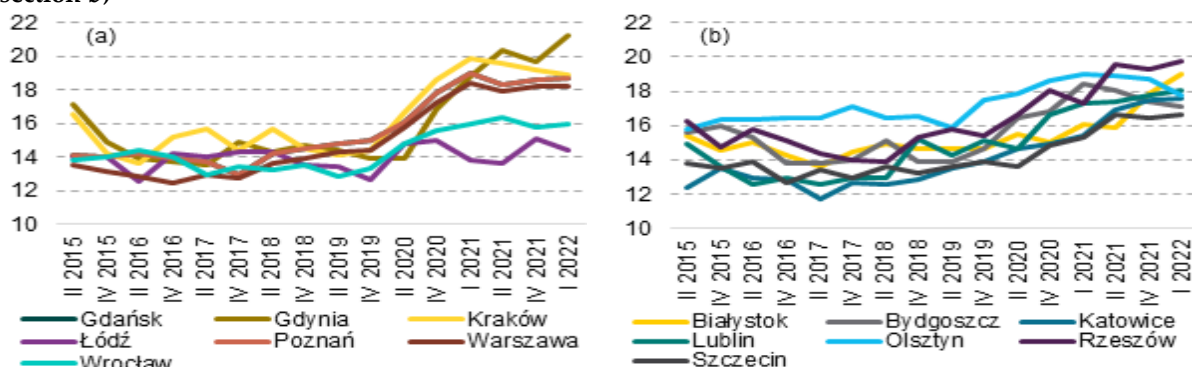
Source: NBP

**Figure 101 Index of y/y growth (section a) and q/q growth (section b) of estimated transaction prices and rental rates in the group of 6 cities, in Warsaw and in other cities in Poland**



Source: NBP

Figure 102 Estimated time of return on investment in 6 cities and in Warsaw (section a) and in other cities (section b)



Source: NBP

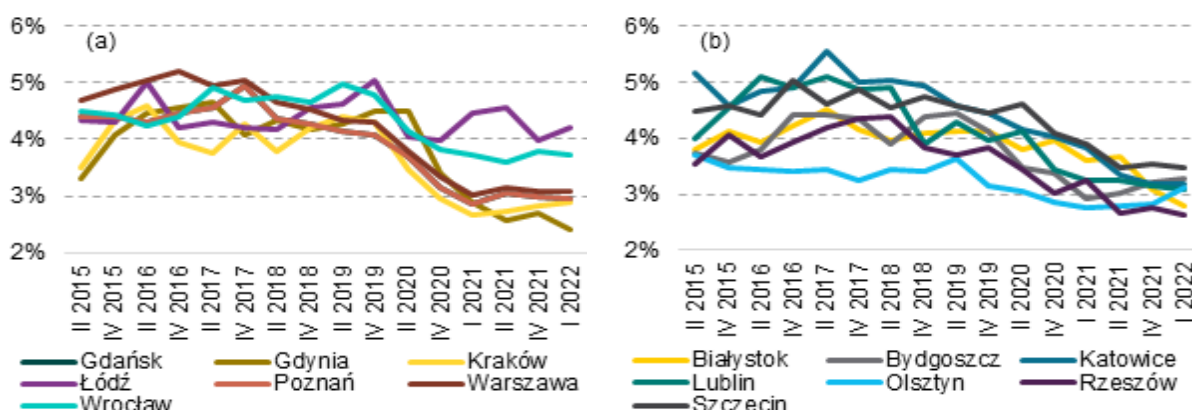
Table 20 Return on equity (ROE, in %) on home purchase fully financed with cash (LTV = 0%) in selected cities

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Wrocław	Warszawa	6 cities	Other
II 2015	3.8%	3.7%	4.4%	3.3%	5.2%	3.5%	4.0%	4.3%	3.7%	4.4%	3.5%	4.5%	4.5%	4.7%	4.1%	4.1%
IV 2015	4.1%	3.6%	4.4%	4.1%	4.6%	4.3%	4.6%	4.3%	3.5%	4.4%	4.1%	4.6%	4.4%	4.9%	4.3%	4.1%
II 2016	3.9%	3.8%	4.3%	4.5%	4.8%	4.6%	5.1%	5.0%	3.5%	4.3%	3.7%	4.4%	4.2%	5.0%	4.5%	4.2%
IV 2016	4.2%	4.4%	4.5%	4.6%	4.9%	3.9%	4.9%	4.2%	3.4%	4.5%	3.9%	5.0%	4.4%	5.2%	4.3%	4.4%
II 2017	4.5%	4.4%	4.6%	4.6%	5.5%	3.8%	5.1%	4.3%	3.4%	4.6%	4.2%	4.6%	4.9%	5.0%	4.5%	4.5%
IV 2017	4.2%	4.4%	5.0%	4.1%	5.0%	4.3%	4.9%	4.2%	3.2%	5.0%	4.4%	4.9%	4.7%	5.1%	4.5%	4.4%
II 2018	4.0%	3.9%	4.4%	4.3%	5.0%	3.8%	4.9%	4.2%	3.4%	4.4%	4.4%	4.6%	4.8%	4.7%	4.3%	4.3%
IV 2018	4.1%	4.4%	4.3%	4.2%	4.9%	4.2%	3.9%	4.6%	3.4%	4.3%	3.8%	4.7%	4.7%	4.5%	4.4%	4.2%
II 2019	4.1%	4.4%	4.1%	4.3%	4.6%	4.4%	4.3%	4.6%	3.6%	4.1%	3.7%	4.6%	5.0%	4.3%	4.4%	4.2%
IV 2019	4.1%	4.1%	4.1%	4.5%	4.4%	4.3%	3.9%	5.0%	3.2%	4.1%	3.8%	4.5%	4.8%	4.3%	4.5%	4.0%
II 2020	3.8%	3.5%	3.7%	4.5%	4.1%	3.5%	4.1%	4.0%	3.0%	3.7%	3.4%	4.6%	4.1%	3.8%	3.9%	3.8%
IV 2020	4.0%	3.4%	3.2%	3.4%	4.0%	2.9%	3.4%	4.0%	2.9%	3.2%	3.0%	4.1%	3.8%	3.3%	3.4%	3.5%
I 2021	3.6%	2.9%	2.9%	2.9%	3.8%	2.7%	3.3%	4.5%	2.8%	2.9%	3.2%	3.9%	3.7%	3.0%	3.2%	3.4%
II 2021	3.7%	3.0%	3.0%	2.6%	3.3%	2.7%	3.2%	4.6%	2.8%	3.0%	2.7%	3.5%	3.6%	3.2%	3.2%	3.2%
IV 2021	3.1%	3.2%	3.0%	2.7%	3.2%	2.8%	3.1%	4.0%	2.8%	3.0%	2.7%	3.5%	3.8%	3.1%	3.2%	3.1%
I 2022	2.8%	3.3%	2.9%	2.4%	3.2%	2.9%	3.1%	4.2%	3.1%	2.9%	2.6%	3.5%	3.7%	3.1%	3.2%	3.1%

Note: The group of six cities included Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław. The remaining cities included Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin.

Source: NBP

Figure 103 Return on equity (ROE, in %) on home purchase fully financed with cash (LTV = 0%) in 6 cities and in Warsaw (section a) and in other cities (section b)



Source: NBP

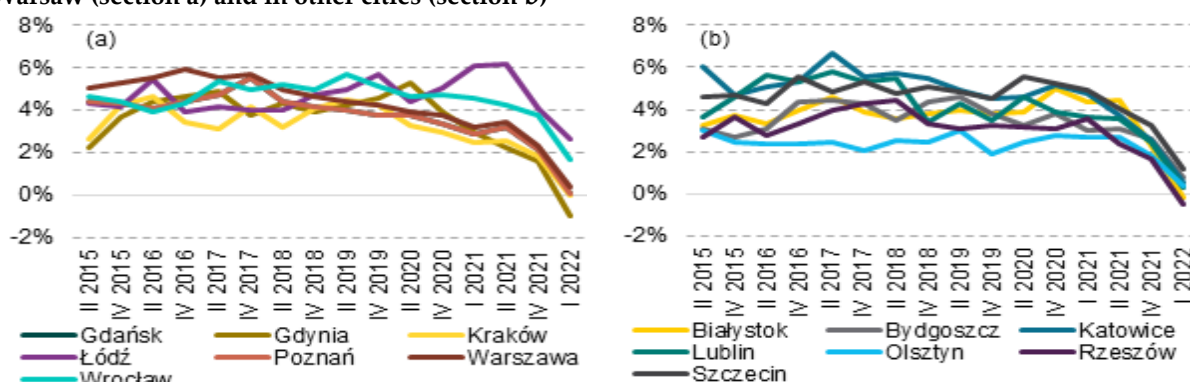


**Figure 21 Return on equity (ROE, in %) on a leveraged home purchase (LTV = 50%) in selected cities**

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Wrocław	Warszawa	6 cities	Other
II 2015	3.2%	3.1%	4.4%	2.2%	6.0%	2.6%	3.6%	4.3%	3.0%	4.4%	2.7%	4.6%	4.6%	5.0%	3.8%	3.8%
IV 2015	3.8%	2.7%	4.3%	3.7%	4.7%	4.2%	4.6%	4.2%	2.5%	4.3%	3.7%	4.7%	4.4%	5.3%	4.2%	3.8%
II 2016	3.3%	3.1%	4.1%	4.4%	5.1%	4.7%	5.6%	5.4%	2.4%	4.1%	2.8%	4.3%	3.9%	5.5%	4.4%	3.8%
IV 2016	4.0%	4.3%	4.4%	4.6%	5.3%	3.4%	5.3%	4.0%	2.4%	4.4%	3.4%	5.6%	4.3%	6.0%	4.2%	4.3%
II 2017	4.6%	4.4%	4.7%	4.9%	6.7%	3.1%	5.8%	4.2%	2.5%	4.7%	4.0%	4.8%	5.4%	5.5%	4.5%	4.7%
IV 2017	3.9%	4.3%	5.5%	3.7%	5.6%	4.2%	5.4%	4.0%	2.1%	5.5%	4.3%	5.3%	4.9%	5.7%	4.6%	4.4%
II 2018	3.6%	3.5%	4.4%	4.3%	5.7%	3.2%	5.4%	4.0%	2.5%	4.4%	4.5%	4.8%	5.2%	5.0%	4.3%	4.3%
IV 2018	3.8%	4.4%	4.1%	3.9%	5.5%	4.0%	3.4%	4.7%	2.4%	4.1%	3.3%	5.1%	4.9%	4.7%	4.3%	4.0%
II 2019	3.9%	4.6%	4.0%	4.3%	4.9%	4.5%	4.3%	4.9%	3.0%	4.0%	3.1%	4.8%	5.7%	4.4%	4.6%	4.1%
IV 2019	3.8%	3.8%	3.7%	4.6%	4.5%	4.2%	3.5%	5.7%	1.9%	3.7%	3.3%	4.5%	5.2%	4.2%	4.5%	3.6%
II 2020	3.9%	3.3%	3.7%	5.3%	4.6%	3.3%	4.6%	4.4%	2.4%	3.7%	3.2%	5.6%	4.6%	3.9%	4.2%	3.9%
IV 2020	5.0%	3.8%	3.4%	3.9%	5.1%	3.0%	3.9%	5.0%	2.8%	3.4%	3.1%	5.2%	4.7%	3.8%	3.9%	4.1%
I 2021	4.3%	3.0%	2.9%	2.9%	4.8%	2.4%	3.6%	6.1%	2.7%	2.9%	3.6%	5.0%	4.6%	3.2%	3.6%	3.9%
II 2021	4.4%	3.1%	3.2%	2.2%	3.8%	2.5%	3.6%	6.2%	2.7%	3.2%	2.4%	4.0%	4.3%	3.4%	3.6%	3.4%
IV 2021	2.3%	2.6%	2.1%	1.6%	2.5%	1.8%	2.5%	4.1%	1.9%	2.1%	1.7%	3.2%	3.7%	2.3%	2.6%	2.4%
I 2022	-0.2%	0.8%	0.1%	-1.0%	0.6%	0.0%	0.3%	2.6%	0.4%	0.1%	-0.5%	1.1%	1.7%	0.3%	0.6%	0.4%

Note: The group of six cities included Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław. The remaining cities included Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin.

Source: NBP

**Figure 104 Return on equity (ROE, in %) on a leveraged home purchase (LTV = 50%) in 6 cities and in Warsaw (section a) and in other cities (section b)**


Source: NBP

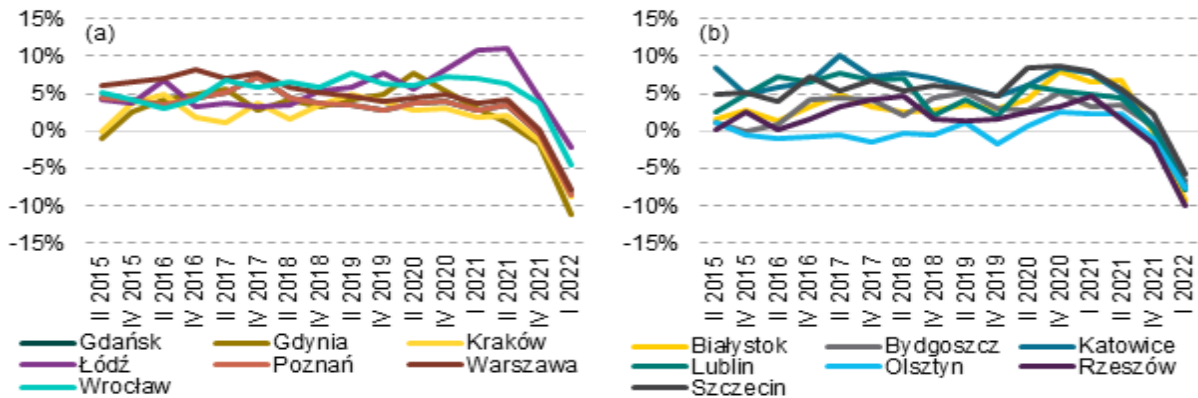
**Figure 22 Return on equity (ROE, in %) on a leveraged home purchase (LTV = 80%) in selected cities**

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Wrocław	Warszawa	6 cities	Other
II 2015	1.6%	1.2%	4.5%	-0.9%	8.5%	0.0%	2.6%	4.3%	1.0%	4.5%	0.2%	5.0%	5.1%	6.1%	2.9%	2.9%
IV 2015	2.7%	0.0%	4.1%	2.5%	5.0%	3.8%	4.9%	3.7%	-0.6%	4.1%	2.5%	5.0%	4.3%	6.5%	3.8%	2.8%
II 2016	1.4%	0.8%	3.4%	4.1%	5.9%	4.8%	7.2%	6.8%	-0.9%	3.4%	0.2%	3.9%	3.0%	7.0%	4.2%	2.7%
IV 2016	3.2%	4.2%	4.4%	4.9%	6.6%	1.8%	6.6%	3.2%	-0.8%	4.4%	1.7%	7.2%	4.1%	8.2%	3.8%	4.1%
II 2017	4.8%	4.4%	5.1%	5.5%	10.0%	1.1%	7.8%	3.8%	-0.5%	5.1%	3.3%	5.4%	6.8%	7.1%	4.6%	5.0%
IV 2017	3.2%	4.1%	7.2%	2.8%	7.4%	3.8%	6.8%	3.3%	-1.4%	7.2%	4.2%	6.8%	5.8%	7.6%	5.0%	4.4%
II 2018	2.4%	2.1%	4.5%	4.2%	7.8%	1.5%	7.1%	3.6%	-0.2%	4.5%	4.6%	5.4%	6.4%	5.9%	4.1%	4.2%
IV 2018	2.8%	4.4%	3.8%	3.3%	7.1%	3.5%	2.0%	5.3%	-0.5%	3.8%	1.6%	6.2%	5.8%	5.1%	4.2%	3.4%
II 2019	3.4%	5.1%	3.5%	4.2%	5.8%	4.9%	4.2%	5.9%	1.0%	3.5%	1.3%	5.7%	7.8%	4.6%	5.0%	3.8%
IV 2019	3.0%	3.0%	2.8%	4.9%	4.7%	3.9%	2.2%	7.7%	-1.8%	2.8%	1.6%	4.7%	6.3%	4.0%	4.7%	2.5%
II 2020	4.3%	2.7%	3.8%	7.8%	6.1%	2.8%	6.0%	5.6%	0.6%	3.8%	2.5%	8.4%	6.1%	4.4%	5.0%	4.4%
IV 2020	8.1%	5.1%	4.1%	5.3%	8.4%	3.0%	5.4%	8.2%	2.5%	4.1%	3.4%	8.7%	7.4%	5.0%	5.3%	5.9%
I 2021	6.6%	3.2%	2.9%	3.0%	7.7%	1.8%	4.8%	10.9%	2.4%	2.9%	4.7%	8.1%	7.1%	3.7%	4.8%	5.3%
II 2021	6.7%	3.5%	3.6%	1.2%	5.0%	2.0%	4.5%	11.2%	2.4%	3.6%	1.7%	5.7%	6.3%	4.2%	4.6%	4.2%
IV 2021	0.1%	0.7%	-0.4%	-1.7%	0.6%	-1.2%	0.4%	4.5%	-1.1%	-0.4%	-1.6%	2.4%	3.6%	0.1%	0.7%	0.2%
I 2022	-9.2%	-6.7%	-8.5%	-11.2%	-7.3%	-8.7%	-7.9%	-2.1%	-7.7%	-8.5%	-10.0%	-5.8%	-4.5%	-7.8%	-7.2%	-7.8%

Note: The group of six cities included Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław. The remaining cities included Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin.

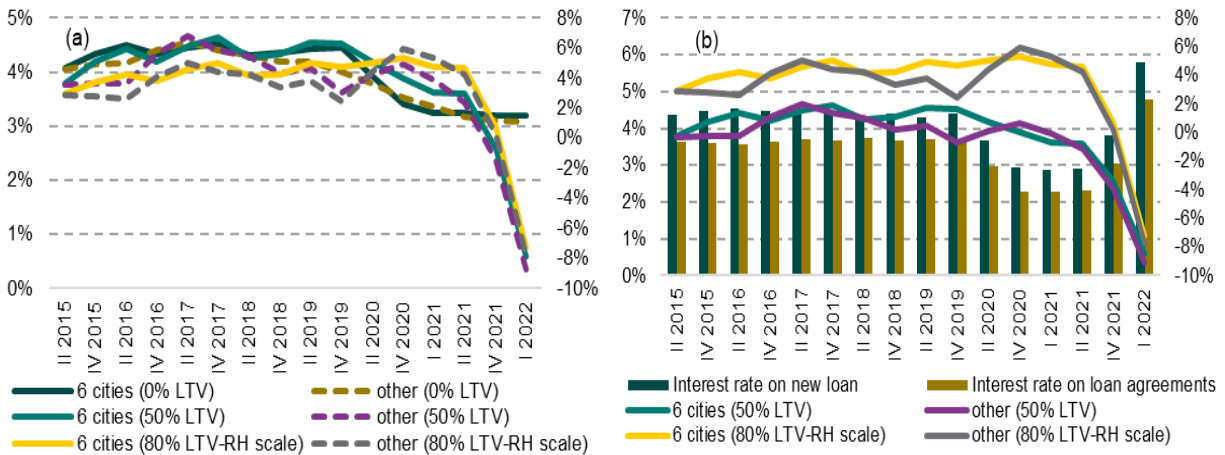
Source: NBP

Figure 105 Return on equity (ROE, in %) on a leveraged home purchase (LTV = 80%) in 6 cities and in Warsaw (section a) and in other cities (section b)



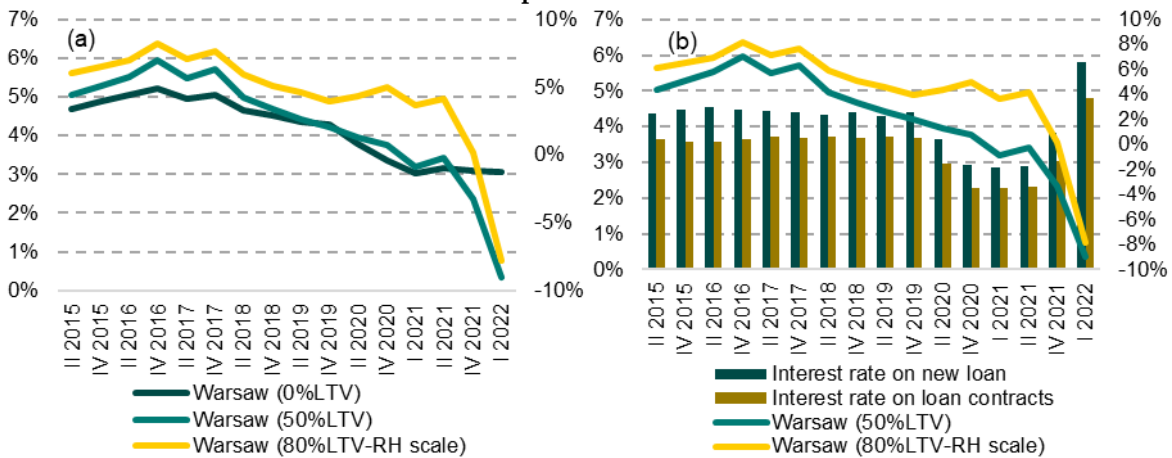
Source: NBP

Figure 106 Comparison of the return on equity (ROE, in %) on home purchase the group of 6 cities and the group of other cities at selected levels of the LTV ratio (section a) and in comparison to loan interest rate (section b)



Source: NBP

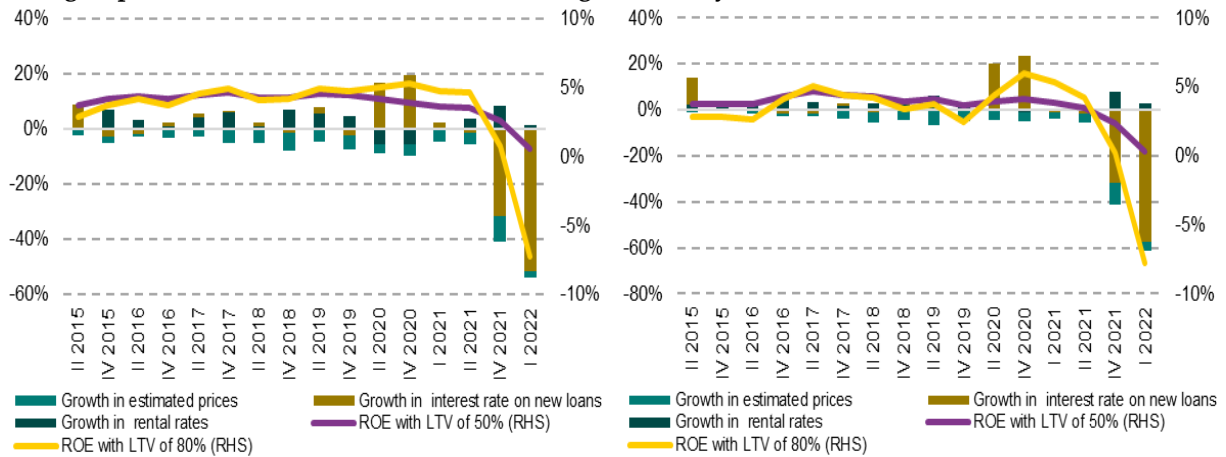
Figure 107 Comparison of the return on equity (ROE, in %) on home purchase for Warsaw at selected levels of the LTV ratio (section a) and in comparison to loan interest rate (section b)



Source: NBP

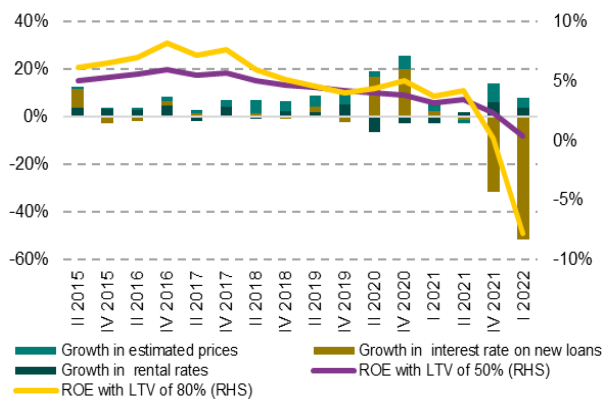


**Figure 108. Estimated ROE for LTV 50% and 80% and the impact of quarterly changes in interest rates on new residential mortgage loans , estimated home purchase prices ended with a sales deal and rental rates in the group of 6 cities (section a) and the remaining cities analysed (section b)**



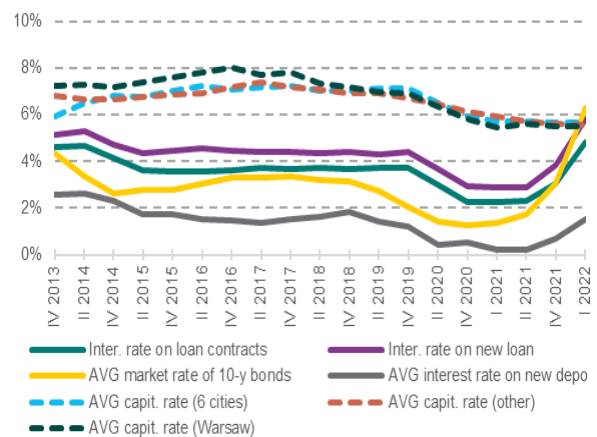
Source: NBP

**Figure 109. Estimated ROE for LTV 50% and 80% and the impact of quarterly changes in interest rates on new residential mortgage loans, estimated home prices ended with a sales deal and rental rates in Warsaw**



Source: NBP

**Figure 110. Comparison of interest rates on bonds, deposits and costs of residential mortgage loans against the average capitalisation of investment in rental housing**



Source: NBP, MF

## **9. In-depth analysis of financial standing of real estate developers, construction companies involved in the construction of buildings and related entities**

### **Analysis of financial standing of real estate developers<sup>29</sup>**

According to the financial data reported in the F01 reports and the NBP data available up to 2022 Q1, the real estate development industry entered the challenging period of supply constraints, weakened demand and the deteriorating economic environment in a robust financial standing. Since 2021 Q4, the real estate development sector had been affected by new and unfavourable factors for home sales, such as interest rate hikes, as a result of which the creditworthiness of a significant part of persons planning to purchase a dwelling decreased. On the supply side, construction costs were rising as a result of increasing problems with labour availability (some workers from Ukraine returned to their home country), growing prices of construction materials and a shortage of materials from regions affected by the war. The stronger position of large real estate developers compared to small entities is noteworthy.

According to the financial data reported in the F01 reports for 2022 Q1, the group of large real estate developers (employing more than 49 people) maintained their good overall economic situation between January and March 2022, which resulted from the accumulation of large own capital. So far, high demand for housing allowed real estate developers to pass rising costs through to home buyers, which resulted in a very good financial performance increasing equity (53% on average at the end of 2022 Q1 in the structure of liabilities compared to 40% at the end of 2021 Q1 and over 36% at the end of 2020 Q1). The overall debt ratio, the equity-to-assets ratio and the debt service coverage ratio and the debt-to-equity ratio improved. The profitability of sales increased (19.8% in 2022 Q1, compared to 18.1 in 2021 Q4 and 13.3 in 2021 Q1). The return on equity (4.8%) and return on assets (2.5%) ratios stood at a lower but satisfactory level. Good financial results and high sales revenues in 2022 Q1 resulted from the completion of dwellings for the construction of which contracts were concluded mainly over a year ago. The vast majority of dwellings under development in 2022 Q1 were dwellings for whose construction contracts had already been concluded, which generated a steady flow of customer down payments and represented a substantial source of funding for property investments under development. The high volume of down payment tranches and the expected demand from retail and institutional investors operating in the Private Rented Sector (PRS) should ensure a good financial performance of developers and execution of the launched projects in 2022. Investment demand may be adversely affected by rising interest rates on bank deposits and bonds.

In the first months of 2022, weaker sales figures were recorded along with further increases in home prices, high production levels and rising home construction costs. The decline in home sales is confirmed by the moderately lower number of contracts for housing construction concluded with developers listed on the

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<sup>29</sup> The calculations and conclusions in this issue of the Information are based on the data originating from F01 reports submitted to Statistics Poland, with the breakdown into two groups of companies: small companies - employing from 9 to 49 persons (data available until the first half of 2021 in semi-annual periods) and larger-sized companies - employing above 49 persons (data available until 2022 Q2 in quarterly periods), engaged in the execution of building construction projects (PKD 41.10). 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 2021 Q4.

Catalyst market for 2022 Q1 (a decline of 20.2% q/q and 28.6% y/y). The recorded decline is also the result of a large comparative base.<sup>30</sup>

When liquidity problems arise, developers can apply for a development loan. So far, among the external sources of financing, large real estate developers financed their activity mainly with down payments of home buyers (over 18% in the structure of liabilities in 2022 Q1). They were less willing to use bank funding, as a result of which loan debt decreased on average to just over 5% of liabilities over the last four quarters.

Considering the distribution across issuers of bond issues reaching their maturity date on the Catalyst market, the low amount of bonds they are obliged to redeem in 2022 acts in favour of larger developers.<sup>31</sup> The analysed 2022 Q1 was the second consecutive quarter in the past ten years with the highest value of developer bonds, accompanied by rising interest rate on bond coupons of real estate developers listed on the Catalyst market (average interest rate of 6.21 in 2022 Q1, compared to 5.11 in the previous quarter and 4.05 in the corresponding period of 2021).

The Statistics Poland data for 2022 Q1 confirmed a cautious attitude of developers in launching new development projects and the volatility of the housing market. The need to adjust the supply to the weakening demand prompted developers to start construction of fewer dwellings for sale or rent (a decrease of 17% compared to the previous quarter and 21% compared to the corresponding period of 2021).

Slowing demand, rising construction costs and supply bottlenecks in new project starts experienced in the second half of 2021 deterred, to some extent, developers from launching even larger number of development project during the sales slowdown observed in recent months.

For more than a year now, developers had been reporting low values of dwellings made ready for occupancy in delivered buildings (at levels similar to those recorded in each quarter of 2021 and 2020). Their share in the total structure of assets of larger real estate developers reached 4% at the end of March 2022, compared to approx. 3% at the end of March 2021 and more than 5% at the end of the corresponding period of 2020. Currently, developers are involved in the sale of dwellings under construction. Large number of home construction contracts represents the commitments towards home buyers which must be fulfilled despite the difficulties in project execution.

In 2022 Q1 and in 2021 Q4, large real estate developers used their free funds, among others, to increase their stock of land. Larger developers reported an increase in the average value and share of land in total assets (4% share at the end of March 2022 compared to approx. 1% share at the end of March 2021) and it was the highest average value in seven years. The concerns about a decline in proceeds from down payments accompanied by rising costs prompted developers to be prudent when investing in land purchases and starting new development projects.

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<sup>30</sup> "Situation of the largest residential developers on the Catalyst market after 2022 Q1", Dom Maklerski Navigator S.A., Warsaw, May 2022.

<sup>31</sup> "Situation of the largest residential developers on the Catalyst market after 2022 Q1", Dom Maklerski Navigator S.A., Warsaw, May 2022.

The developers' production capacity index, i.e. the number of permits issued for the construction of dwellings both for sale or rent decreased by several percent all over Poland (by 6% compared to 2021 Q4 and by 8% compared to 2021 Q1). The number of these permits issued between January and March 2022 (52,020), despite a slight decrease, was only 9% below the historically high level recorded in 2020 Q4 which, combined with the increase in the stock of land, indicated an improvement in developers' production capacity.

A 4% y/y decline in the number of dwellings completed and delivered, both for sale or rent reflected, among others, developers' cautious approach in launching new projects in 2020 after the spread of the COVID-19 pandemic and administrative delays as a result of introduction of tele- and remote working.

In the group of larger developers, another quarter saw a more favourable sales revenues to operating expenses ratio (0.78 in 2022 Q1 compared to 0.78 in 2021 Q4 and 0.83 in 2021 Q1). Along with the high level of projects under development, own costs resulting from materials and energy consumption continued to increase in the structure of operating expenses (27% in 2022 Q1 against 24% in the previous quarter and 18% in 2021 Q1), indicating a decline in subcontracting aimed to reduce third-party services expenses, including general contracting (54% share in 2022 Q1 against 57% in the previous quarter and 62% in 2021 Q1). In the face of rising construction costs and weakening demand, developers planning to launch new projects have to be realistic when estimating the cost of general contracting. Underestimated contracts can result in financial problems for developers and do not help to halt home price increases.

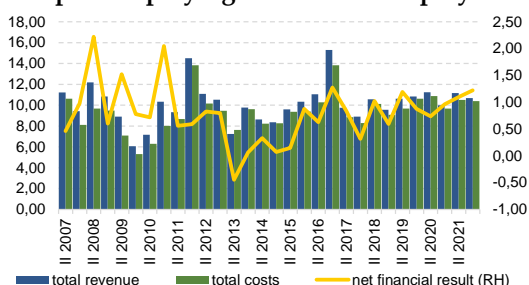
In 2022 Q1, larger real estate developers were more efficient in receivables collection compared to 2021 Q1 and the debt settlement period slightly decreased. As a result of the slowdown in sales, the inventory turnover period got longer. For the past three quarters, financial liquidity in the group of larger real estate developers was good.

Small companies (employing from 9 to 49 people), according to the financial data available up to the end of 2021, saw a slight improvement in their economic condition. A slight decline in equity together with the increase in loan debt undermined the asset coverage ratio and the debt service coverage ratio. The rise in liabilities increased the debt-to-equity ratio and slightly deteriorated liquidity, which still remained at a satisfactory level. In 2021, smaller developers reported a slight increase in revenues and costs, generating better financial results than in 2020, which slightly improved their return on sales ratio (ROS) (11.8 in the second half of 2021 compared to 10.4 in the first half of 2021 and 10.0 in the second half of 2020) and the operating expense ratio (OER). The level of development projects in progress in the second half of 2021, lower than in the first half of the year (during a period of good demand), confirmed problems faced by small companies on the supply side. Smaller real estate developers, despite their improved condition in 2021 relative to 2020, demonstrated a weaker economic situation, liquidity and operating expense ratio compared to larger companies.

Several WSE-listed developers, according to the financial data available up to December 2021, were in a very good financial condition and recorded a significant growth in the second half of the year in terms of revenues and costs, as well as a record high financial results, resulting in the most favourable operating ratio among the three groups of companies analysed (0.68). This confirms that rising costs were passed through onto home buyers. In the last quarter of 2021, the return on sales (20.4%), equity (7.5%) and assets (3.1%) ratios improved compared to their lower values in the previous three quarters (approx. 17%, approx. 4% and below 2%,

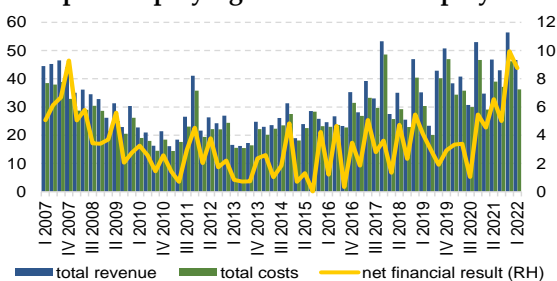
respectively). Liquidity remained at a low but stable level due to the high level of liabilities to suppliers in relation to current assets. The major item in the structure of liabilities were external sources of financing (in 2021 Q4: 23% buyers' down payments, 17% liabilities to other suppliers, 11% debt securities, over 8% bank loans). The past two years, along with the commencement of more residential development projects and bigger number of contracts for housing construction, saw a significant importance of down payments in project financing and a decline in bank borrowing. Despite good financial performance, equity did not increase in 2021 (41% in 2021 Q4, against approx. 42% in 2020 Q4 and 42% in 2019 Q4), which confirms that companies distributed dividends and invested in land for further development projects. Positive net cash flow and cash flow from operating activities as well as negative cash flow from investment and financing activities in a group of several WSE-listed developers, confirm that the substantial profits generated were allocated for investment and repayment of financial liabilities.

**Figure 111 Economic indicators of real estate developers employing from 9 to 49 employees**



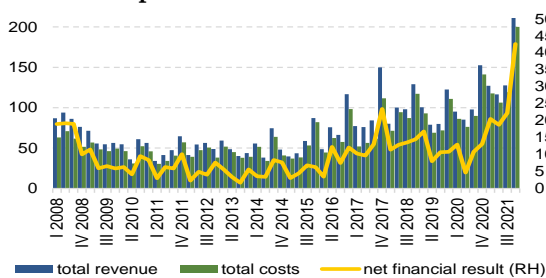
Source: NBP based on Statistics Poland (F01)

**Figure 112 Economic indicators of real estate developers employing more than 49 employees**



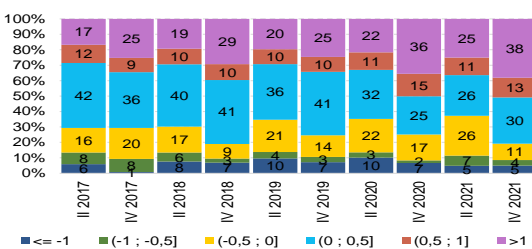
Source: NBP based on Statistics Poland (F01)

**Figure 113 Economic indicators of WSE-listed real estate developers**



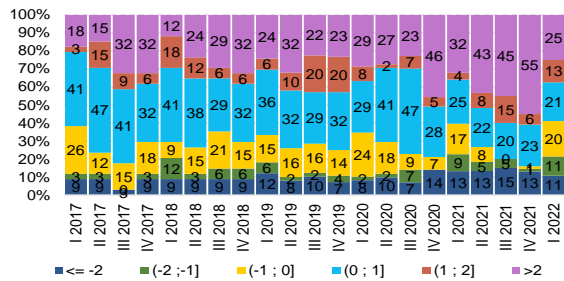
Source: NBP based on Quant Research sp. z o.o.

**Figure 114 Structure of real estate developers employing from 9 to 49 employees, depending on the net financial result (in %)**



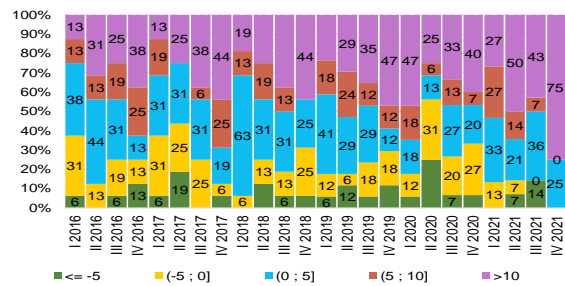
Source: NBP based on Statistics Poland (F01)

**Figure 115 Structure of real estate developers employing more than 49 employees, depending on the net financial result (in %)**



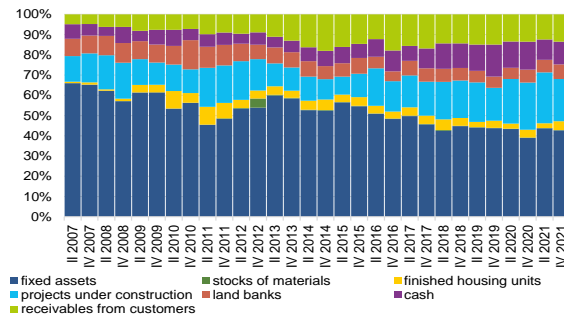
Source: NBP based on Statistics Poland (F01)

**Figure 116 Structure of WSE-listed real estate developers, depending on the net financial result (in %)**



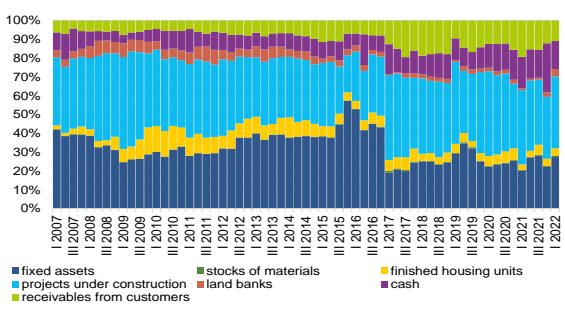
Source: NBP based on Quant Research sp. z o.o.

**Figure 117 Structure of assets of real estate developers employing from 9 to 49 employees**



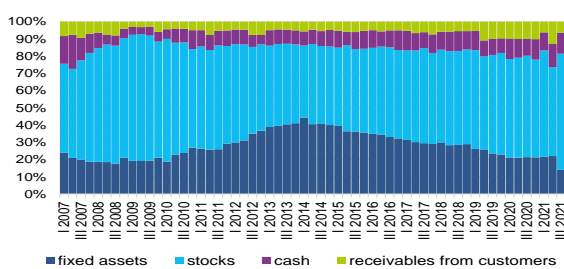
Source: NBP based on Statistics Poland (F01)

**Figure 118 Structure of assets of real estate developers employing more than 49 employees**



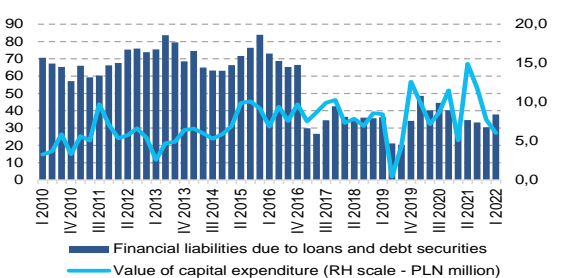
Source: NBP based on Statistics Poland (F01)

**Figure 119 Structure of assets of WSE-listed real estate developers**



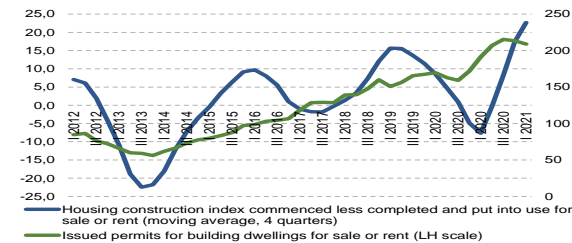
Source: NBP based on Quant Research sp. z o.o.

**Figure 120 Investment activity of real estate developers employing more than 49 employees**



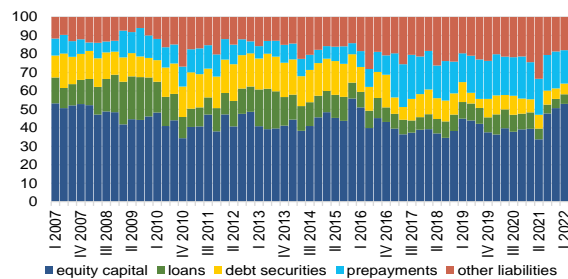
Source: NBP based on Statistics Poland (F01)

**Figure 121 Housing production index and building permits issued for the construction of dwellings for sale or rent**



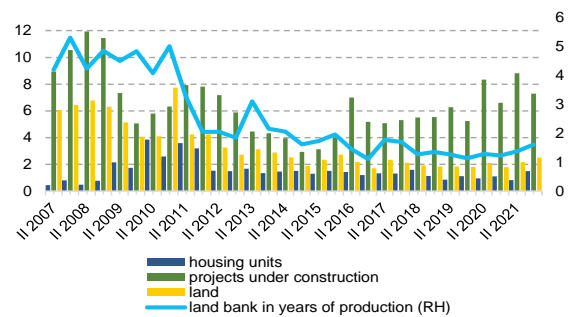
Source: NBP based on Statistics Poland

**Figure 123 Structure of liabilities of real estate developers employing more than 49 employees**



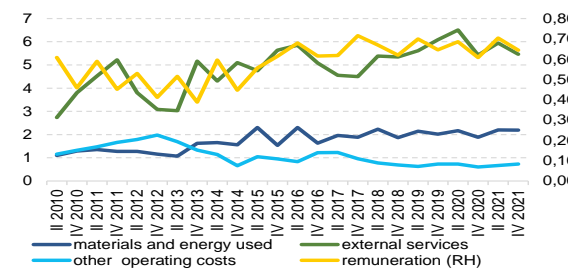
Source: NBP based on Statistics Poland (F01)

**Figure 125 Situation of real estate developers employing from 9 to 49 employees**



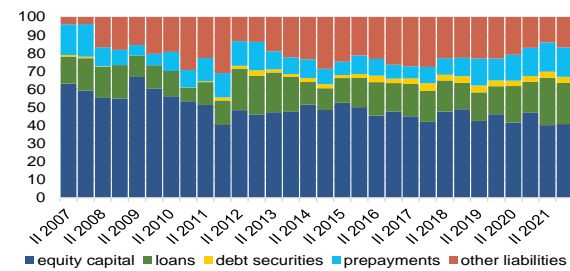
Source: NBP based on Statistics Poland (F01)

**Figure 127 Operating expenses of real estate developers employing from 9 to 49 employees**



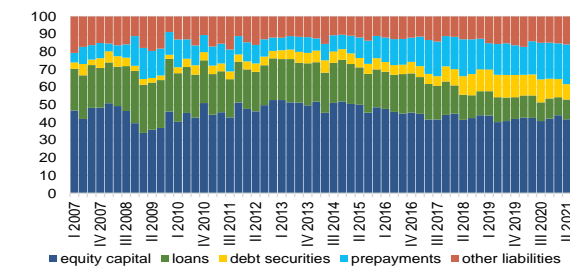
Source: NBP based on Statistics Poland (F01)

**Figure 122 Structure of liabilities of real estate developers employing from 9 to 49 employees**



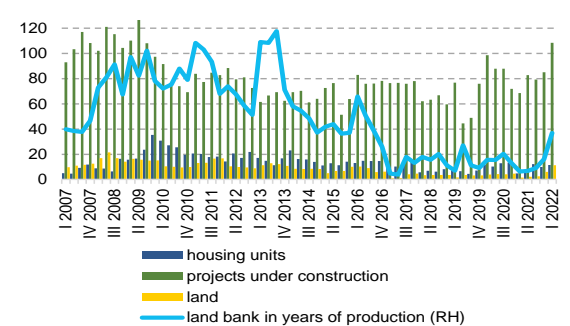
Source: NBP based on Statistics Poland (F01)

**Figure 124 Structure of liabilities of WSE-listed real estate developers**



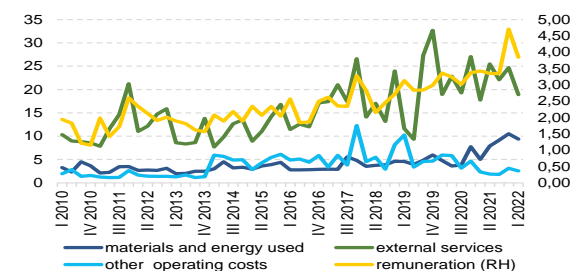
Source: NBP based on Quant Research sp. z o.o.

**Figure 126 Situation of real estate developers employing more than 49 employees**



Source: NBP based on Statistics Poland (F01)

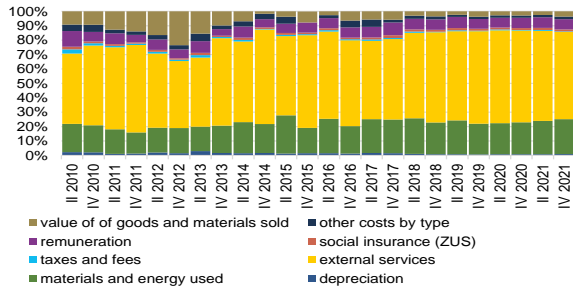
**Figure 128 Operating expenses of real estate developers employing more than 49 employees**



Source: NBP based on Statistics Poland (F01)

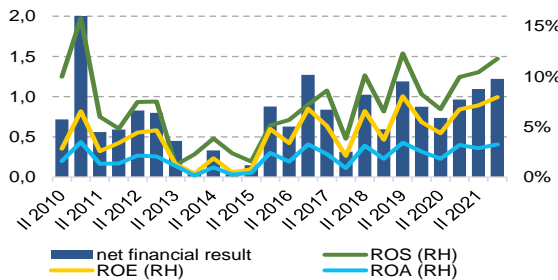


**Figure 129 Structure of operating expenses of real estate developers employing from 9 to 49 employees**



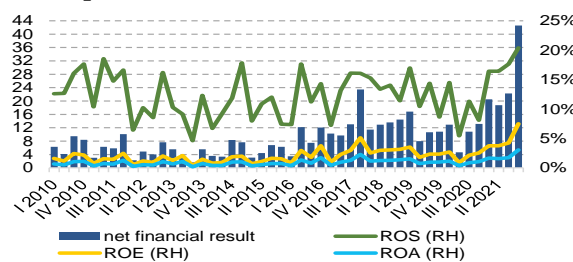
Source: NBP based on Statistics Poland (F01) and financial statements

**Figure 131 Profitability of real estate developers employing from 9 to 49 employees**



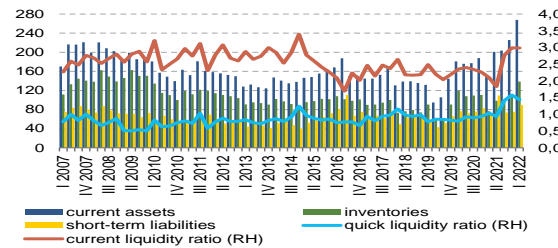
Source: NBP based on Statistics Poland (F01)

**Figure 133 Profitability of WSE-listed real estate developers**



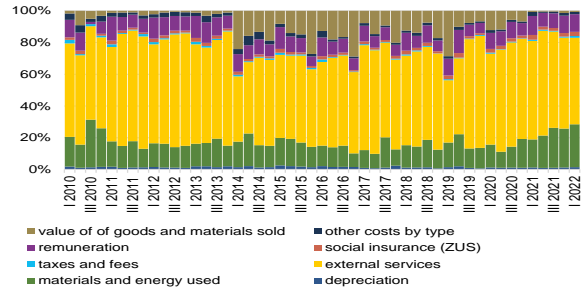
Source: NBP based on Quant Research sp. z o.o.

**Figure 135 Liquidity ratios of real estate developers employing more than 49 employees**



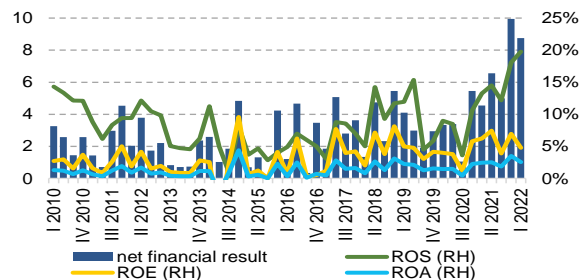
Source: NBP based on Statistics Poland (F01)

**Figure 130 Structure of operating expenses of real estate developers employing more than 49 employees**



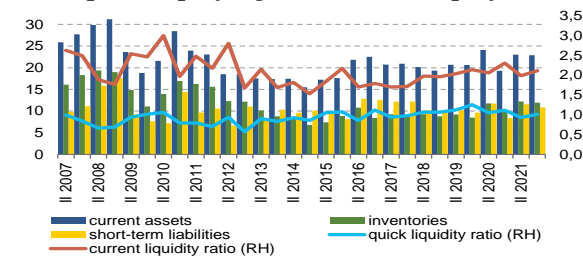
Source: NBP based on Statistics Poland (F01) and financial statements

**Figure 132 Profitability of real estate developers employing more than 49 persons**



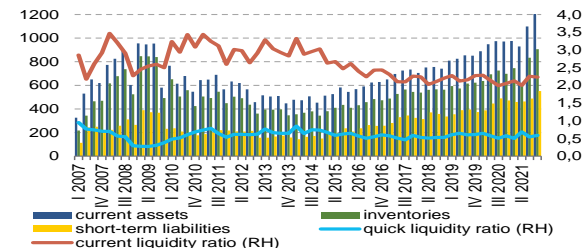
Source: NBP based on Statistics Poland (F01)

**Figure 134 Liquidity ratios of real estate developers employing from 9 to 49 employees**



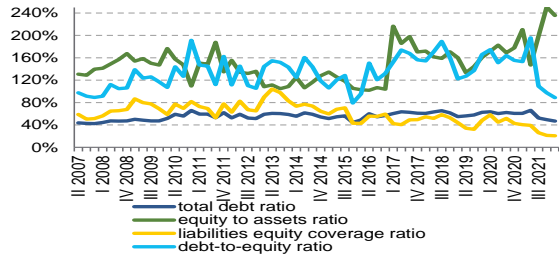
Source: NBP based on Statistics Poland (F01)

**Figure 136 Liquidity ratios of WSE-listed real estate developers**



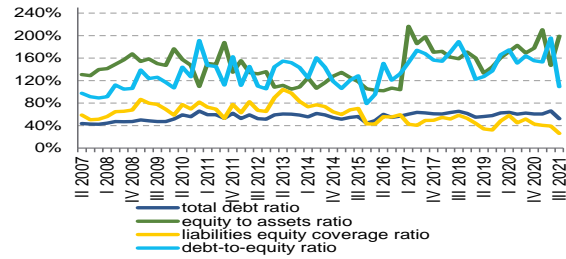
Source: NBP based on Quant Research sp. z o.o.

**Figure 137 Debt ratios and indicators of securing liabilities of developers employing from 9 to 49 employees**



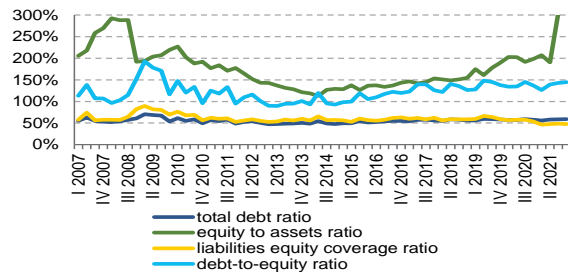
Source: NBP based on Statistics Poland (F01)

**Figure 138 Debt ratios and indicators of securing liabilities of developers employing over 49 employees**



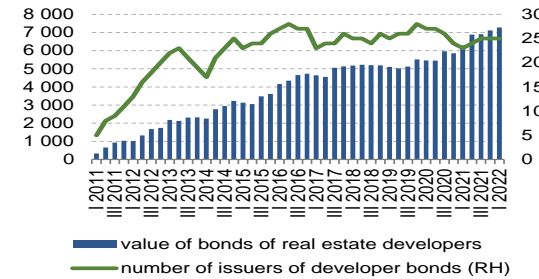
Source: NBP based on Statistics Poland (F01)

**Figure 139 Debt ratios and indicators of securing liabilities of WSE-listed real estate developers**



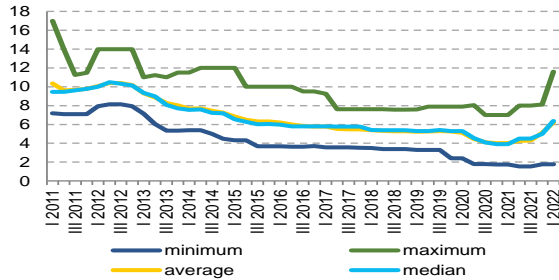
Source: NBP based on Quant Research sp. z o.o.

**Figure 140 Value of bonds of real estate developers and the number of issuers of developer bonds in the Catalyst market**



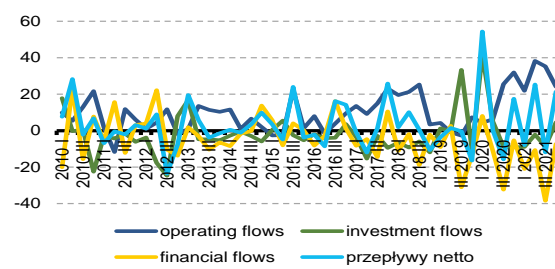
Source: NBP based on Catalyst data

**Figure 141 Interest on bond coupons of real estate developers listed on the Catalyst market**



Source: NBP based on Catalyst data

**Figure 142 Cash flows of WSE-listed real estate developers**



Source: NBP based on Quant Research sp. z o.o.

**Analysis of financial standing of companies involved in the construction of buildings<sup>32</sup>**

Companies involved in the construction of buildings, just like real estate developers, started the year 2022 in a very good economic standing. Changes in the situation in the country and the economic environment did not translate into an apparent deterioration of the economic condition of companies providing services in building

<sup>32</sup> The calculations and conclusions in this issue of the Information are based on the data resulting from F01 reports submitted to Statistics Poland, with the breakdown into two groups of companies : small companies - employing from 9 to 49 employees (data available until the first half of 2021 in semi-annual periods) and larger-sized companies employing more than 49 employees (data available until 2021 Q2 in quarterly periods) performing works related to the construction of residential and non-residential buildings (PKD 41.20).

construction industry in 2022 Q1. The Statistics Poland data demonstrated a high value of construction works related to the construction of buildings (PKD 41). A decrease was registered in housing production analysed on a monthly basis, including a significant decline in March 2022, partly due to the high base a year ago and a lower number of launched development projects.

Forecast changes in the assessment of components affecting the business climate in the construction industry do not indicate a sharp deterioration, but are no longer so optimistic - the general business climate indicator lost its growth potential at the end of 2022 Q1, while entrepreneurs are increasingly anticipating rises in their own prices.

In 2022 Q1, average revenues of bigger companies involved in the construction of buildings (employing more than 49 people) were 39% higher compared to 2021 Q1, which, with a 43% increase in overheads, generated a 4% lower net financial result in year-on-year terms, averaging PLN 1.9 million. The year-on-year decrease in the sales margin was mainly related to growing prices of materials used for operating activities, which is associated with growing prices of construction materials. For the third consecutive quarter, a significantly higher (less favourable) ratio of energy and material consumed to sales revenues compared to the 2017-2020 average was recorded. The increase in own costs resulting from materials and energy consumption became typical of the environment of significant energy price increases and changed the structure of operating expenses (26% in 2022 Q1, compared to 21% in 2021 Q1). The result was a deterioration in the expense ratio to 0.95 in 2022 Q1, compared to 0.93 in 2021 Q1 and a decrease in the sales margin to 5.3 in 2022 Q1 compared to 7.8 in 2021 Q1. Other cost components changed insignificantly in the period under review compared to 2021 Q1.

The significant increase in revenues increased the value of assets, including both fixed assets (by 22% y/y) and current assets (by 26%) - apart from cash, whose volume remained at a similar level. There was a slight improvement in the efficiency of operations of bigger companies involved in the construction of buildings (for the past three quarters shorter receivables collection and liabilities payment periods had been observed than in the first three quarters of 2021).

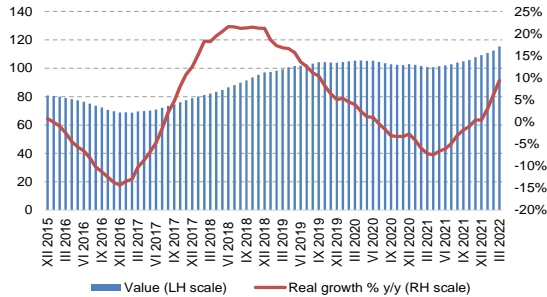
The structure of liabilities remained similar. Equity remained the main source of financing (45% in the structure of liabilities in the 2022 Q1 compared to 44% in 2021 Q1). The generated net financial result, which was lower than a year ago, slightly undermined the return on equity (4.1% in 2022 Q1 compared to 5.2% in 2021 Q1) and the debt service coverage ratio. A slight improvement in the total debt and debt-to-equity ratios was recorded.

The very high value of orders in progress made it necessary to finance business activities with borrowed capital, which accounted for more than 55% of liabilities, of which liabilities to suppliers prevailed (43%). Bank loan debt constituted a small percentage of liabilities (9.9%) and had been slightly lower for four consecutive quarters than in previous years. Although the structure of sources of external financing did not change significantly, the value of liabilities to contractors and subcontractors increased by 18% during the year and loan debt increased by 16%.

According to the data shown in the F01 reports in 2021, in the second half of the year, smaller companies involved in the construction of buildings (employing from 9 to 49 people) reached the highest level of revenues and costs in the period under review since 2017, with the growth rate of total revenues (5% y/y increase) slightly lower than that of total costs (6% increase), resulting in a decline in the net financial result and a slight

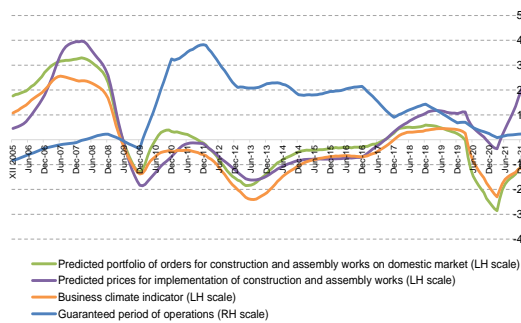
deterioration in the operating expense ratio (0.97 in the second half of 2021 against 0.96 in the second half of 2020). The weaker financial result reduced shareholders' equity (58% in the liability structure in the second half of 2022 vs. 61% in the second half of 2021) and weakened the profitability ratios (9.9% ROS, 8.6% ROE and 4.3% ROA in the second half of 2021 vs. 11.5% ROS, 9.6% ROE and 5.2% ROA). In the second half of 2021, smaller companies involved in the construction of buildings, despite deteriorating economic situation, demonstrated a higher share of equity and better profitability. Their share of liabilities to subcontractors was lower by almost a half than in the group of larger entities. In both groups, despite a slight weakening, financial liquidity and the total debt ratio of enterprises and the debt service coverage ratio remained at a safe level for creditors.

**Figure 143 Construction and assembly production - construction works related to construction of buildings (PKD 41), 12-month moving total**



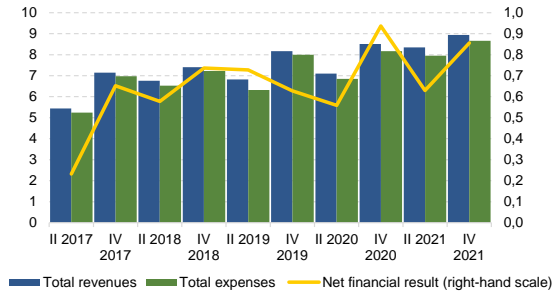
Source: NBP based on Statistics Poland

**Figure 144 Business conditions in construction industry**



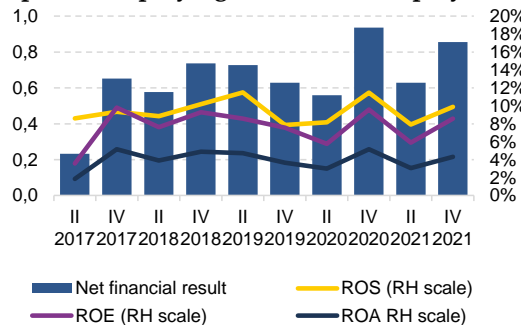
Source: NBP based on Statistics Poland

**Figure 146 Economic indicators of construction companies employing from 9 to 49 employees**

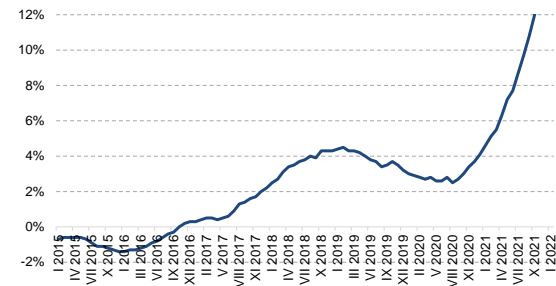


Source: NBP based on Statistics Poland

**Figure 148 Profitability of construction companies employing from 9 to 49 employees**

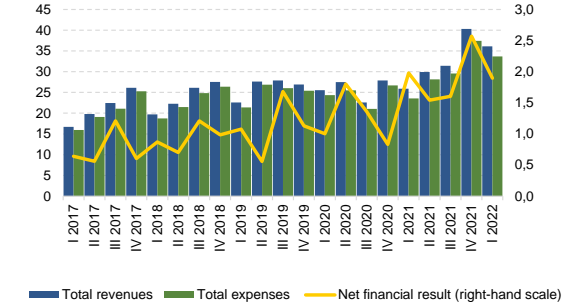


**Figure 145 Growth in prices of construction and assembly production (y/y)**



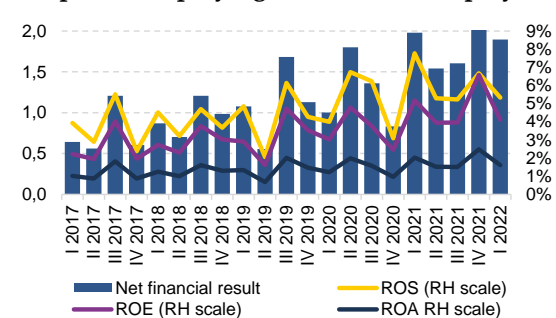
Source: NBP based on Statistics Poland

**Figure 147 Economic indicators of construction companies employing more than 49 employees**



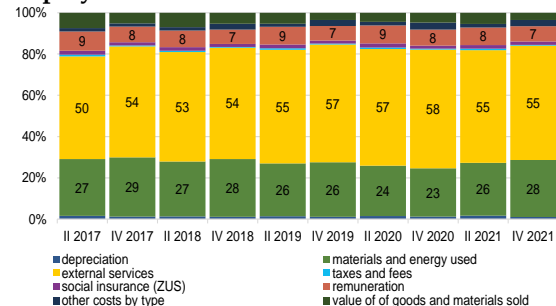
Source: NBP based on Statistics Poland

**Figure 149 Profitability of construction companies employing more than 49 employees**



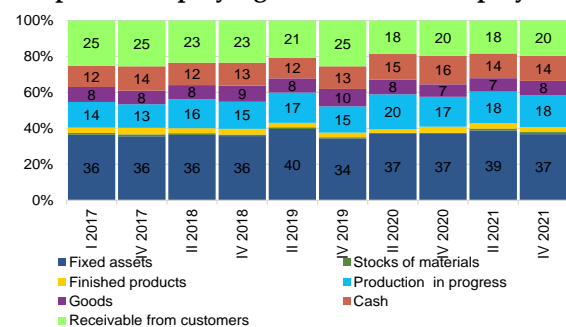
Source: NBP based on Statistics Poland

**Figure 150 Structure of operating expenses of construction companies employing from 9 to 49 employees**



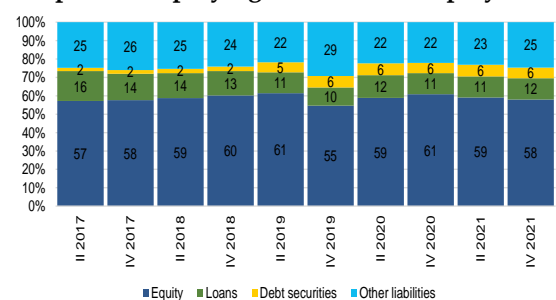
Source: NBP based on Statistics Poland

**Figure 152 Structure of assets of construction companies employing from 9 to 49 employees**



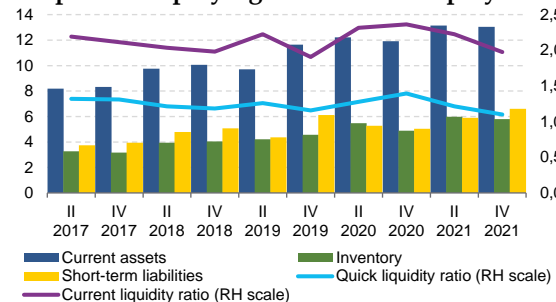
Source: NBP based on Statistics Poland

**Figure 154 Structure of liabilities of construction companies employing from 9 to 49 employees**



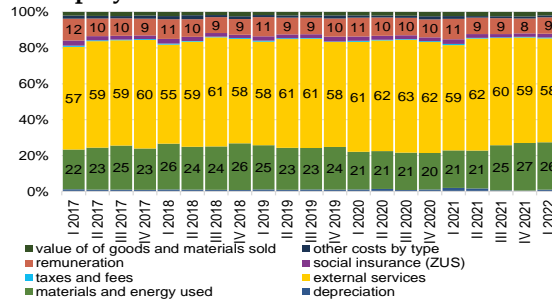
Source: NBP based on Statistics Poland

**Figure 156 Economic indicators of construction companies employing from 9 to 49 employees**



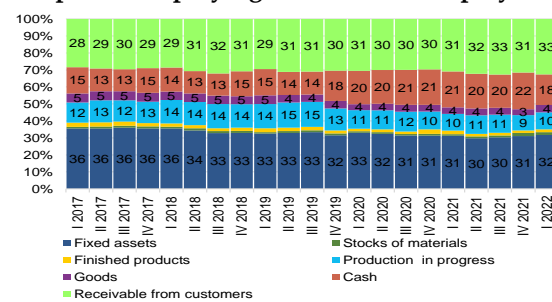
Source: NBP based on Statistics Poland

**Figure 151 Structure of operating expenses of construction companies employing more than 49 employees**



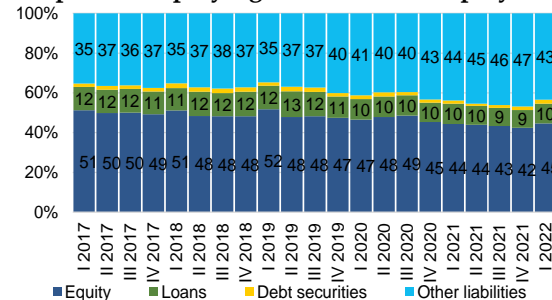
Source: NBP based on Statistics Poland

**Figure 153 Structure of assets of construction companies employing more than 49 employees**



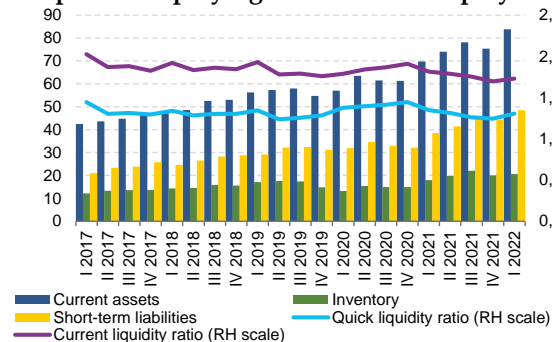
Source: NBP based on Statistics Poland

**Figure 155 Structure of liabilities of construction companies employing more than 49 employees**



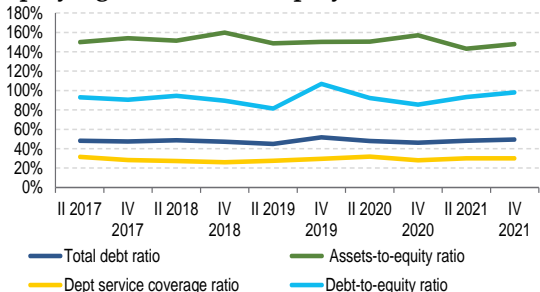
Source: NBP based on Statistics Poland

**Figure 157 Economic indicators of construction companies employing more than 49 employees**



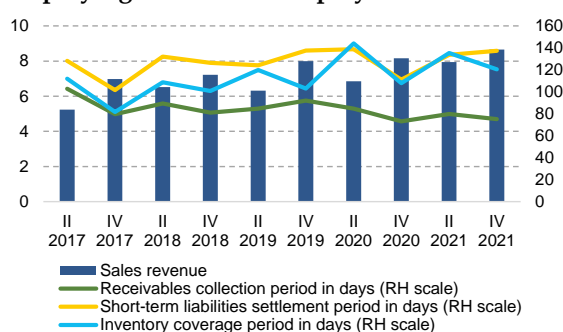
Source: NBP based on Statistics Poland

**Figure 158 Debt ratios and debt service coverage ratios of construction companies employing from 9 to 49 employees**



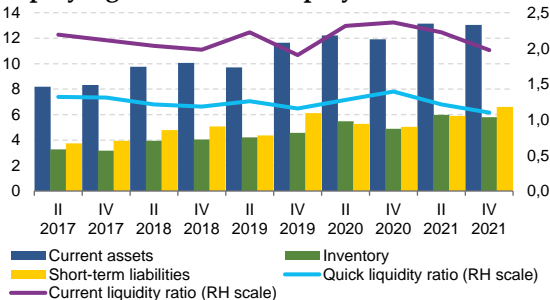
Source: NBP based on Statistics Poland

**Figure 160 Turnover of inventory, receivables and liabilities of construction companies employing from 9 to 49 employees**



Source: NBP based on Statistics Poland

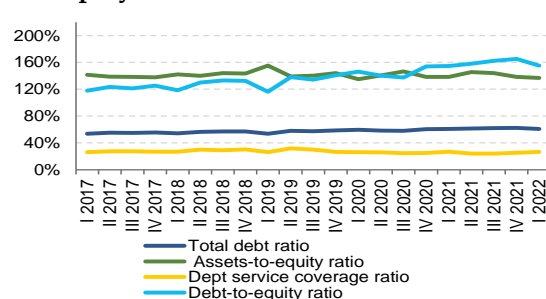
**Figure 162 Liquidity of construction companies employing from 9 to 49 employees**



Source: NBP based on Statistics Poland.

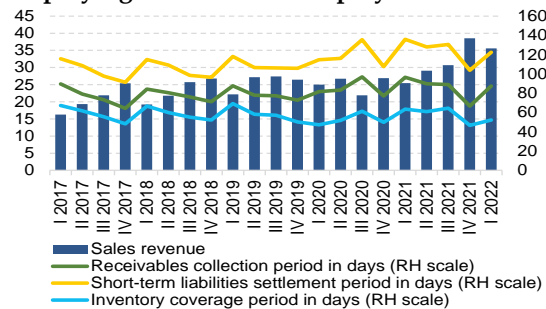
Source: NBP based on Statistics Poland

**Figure 159 Debt ratios and debt service coverage ratios of construction companies employing over 49 employees**



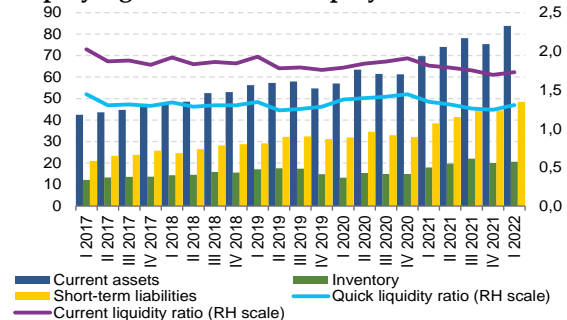
Source: NBP based on Statistics Poland

**Figure 161 Turnover of inventory, receivables and liabilities of construction companies employing more than 49 employees**



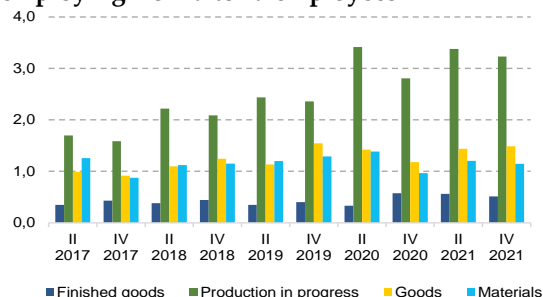
Source: NBP based on Statistics Poland

**Figure 163 Liquidity of construction companies employing more than 49 employees**

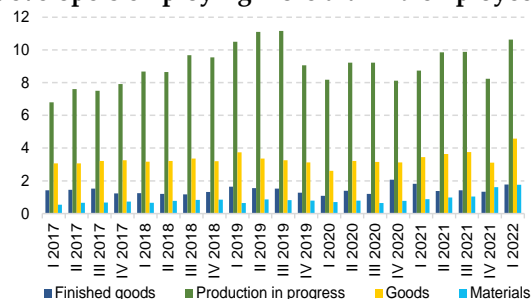


Source: NBP based on Statistics Poland.



**Figure 164 Situation of real estate developers employing from 9 to 49 employees**

Source: NBP based on Statistics Poland

**Figure 165 Situation of real estate developers employing more than 49 employees**

Source: NBP based on Statistics Poland

### Analysis of financial standing of companies dealing with sales of construction materials<sup>33</sup>

The continuing growth in costs of development projects execution, including rising prices of construction materials, became one of the major factors affecting profitability of projects and liquidity of companies. According to the data of the Polskie Składy Budowlane Group, prices of materials in the period from January to March 2022, compared to the corresponding period of 2021, increased on average by 29.0% in all the commodity groups surveyed, indicating an acceleration in their growth at the beginning of the current year (in the period from January to December 2021, growth reached 12.0%). In the same period a year ago, i.e. in the period from January to June 2021, compared to the corresponding period in 2020, the growth in prices of materials was lower and amounted to 3.7%. In the first months of 2021, 18 commodity groups posted price increases and 2 groups posted price decreases. In the period from January to March 2022, compared to the corresponding period last year, the growth in product prices affected all 20 groups and was as follows: thermal insulation (+64%) OSBs (+51%), drywall (+45%), roofs, gutters (+37%), walls, chimneys (+34%), home surroundings (+31%), waterproofing (+31%), garden and hobbies (+27%), installations, heating (+25%), finishing (+21%), tiles, bathrooms, kitchens (+21%), vehicles and automotive parts (+19%), lighting, electrical (+19%), joinery (+19%), tools (+19%), construction chemicals (+17%), household appliances (+16%), cement, lime (+16%), decorative materials (+16%) and paints, varnishes (+12%).

The analysis of the entries in the F01 reports sent to Statistics Poland indicates that wholesalers of building materials were in a good overall standing both in 2021 and in 2022 Q1, despite a slight weakening of the condition of larger companies in the first months of the year. In 2021, better condition of smaller wholesalers than the larger entities was noticeable.

As regards larger wholesalers (employing more than 49 employees), 2022 Q1 brought an increase in the averaged total revenue with a slightly lower increase in total costs, both compared to the previous quarter and in relation to the same period a year ago. The net financial result generated in the first three months of 2022 improved compared to 2021 Q4 by 4.5% and was among the highest recorded in the period since 2017. In the

<sup>33</sup> The calculations and conclusions in this edition of the Information were based on data resulting from F01 reports submitted to Statistics Poland, broken down into two groups of companies: companies employing from 9 to 49 persons (data available until the first half of 2021, in half-year intervals) and those with staff exceeding 49 persons (data available until 2021 Q2, in quarterly intervals), which are manufacturers of construction materials (PKD 4613) and deal with the wholesale of construction materials and sanitary equipment (PKD 4673). The accounting records were supplemented with information on the change in prices of building materials ("Change in prices of materials for construction, home and garden - PSB analysis" in March 2022 and in March 2021, Grupa PSB Handel S.A., April 2021 and April 2022).

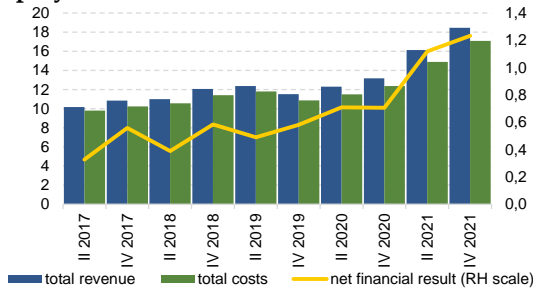
group of large wholesalers, a slight decrease in both values recorded in 2021 Q4 was followed by an increase in total revenues and costs in 2022 Q1.

Despite a very good economic performance, the signs of weakened condition of building materials wholesalers were recorded in the first months of 2022. In the group of larger wholesalers, the share of profitable companies decreased (80.0% in 2022 Q1 against 97.6% in 2021 Q4 and 70.3% in the same period a year ago). Liquidity deteriorated as a result of an increase, for the second consecutive quarter, in the stock of goods and in outstanding receivables and liabilities to suppliers. In the asset structure, the share of receivables and goods inventory increased to 34% and 27% respectively, at the end of March 2022, compared to 30% and 27% recorded at the end of December 2021 and 32% and 24% at the end of March 2021. The consecutive quarter of a higher share of goods inventory might have been due to rising price of construction materials and a decline in their sales as a result of a lower number of projects in residential construction. The share of liabilities to suppliers in total liabilities increased for the first time since 2017 to 40% at the end of March 2022, compared to 34% at the end of December 2021 and 37% at the end of March 2021, and might be indicative of increasing problems in timely settlement of liabilities.

At the end of March 2022, a decline in the share of equity was recorded (49% in the structure of liabilities compared to 54% in 2021 Q4 and 51% in 2021 Q1), which slightly weakened the debt-to-equity ratio. The total debt ratio, the assets-to-equity ratio and with the debt service coverage ratio stood at a good and favourable level. The recorded average profitability of larger wholesalers had remained stable for the past four quarters at a level slightly higher than in the previous periods (5.9% ROS, 6.7% ROE and 3.2% ROA in 2022 Q1 2022 against 4.2% ROS, 4.1% ROE and 2.0% ROA in 2021 Q1 and 2.5% ROS, 2.5% ROE and 1.2% ROA in 2020 Q1). Similarly, for the past four quarters the operating expense ratio was more favourable than in the previous quarters (0.93 in 2022 Q1, compared to 0.96 in 2021 Q1 and 0.97 in 2022 Q1), which was the result of a greater increase in sales revenue than in the costs of goods sold.

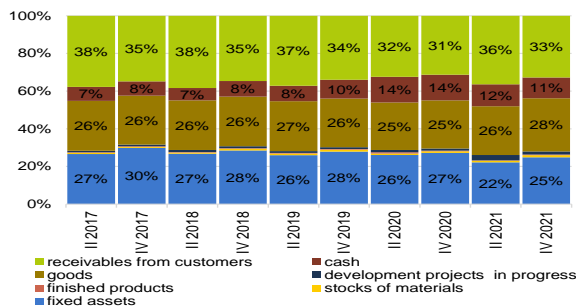
In the group of smaller building materials wholesalers (employing between 9 and 49 people) analysis of the data available up to the end of 2021 indicated a significant improvement in turnover in 2021, including the generation of revenues exceeding expenses which allowed this group to record one of the highest average net financial result. The inventory of goods also increased in the second half of 2022 in relation to the previous six-month period. The operating expense ratio stood at a more favourable level than in the group of larger wholesalers. This group of construction materials wholesalers also recorded a similar but slightly lower share of receivables and liabilities, as well as a slightly shorter period of their settlement and inventory turnover. In the second half of 2021, smaller wholesalers recorded better liquidity and profitability of sales (6.8%), equity (15.8%) and assets (8.7%). The high share of equity (57% in the structure of liabilities) and the decrease, in the second half of the year, of bank debt to 10% and of liabilities to suppliers of goods to 33% resulted in improved debt ratios and the debt service coverage ratio.

**Figure 166 Economic indicators of construction material suppliers employing from 9 to 49 employees**



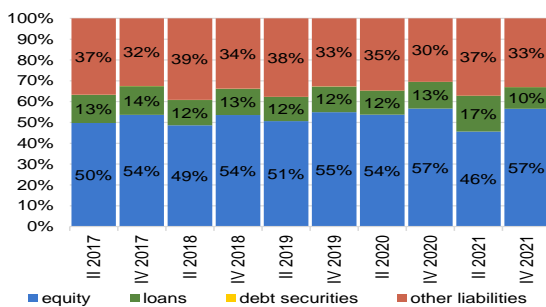
Source: NBP based on Statistics Poland (F01)

**Figure 168 Structure of assets of construction material suppliers employing from 9 to 49 employees**



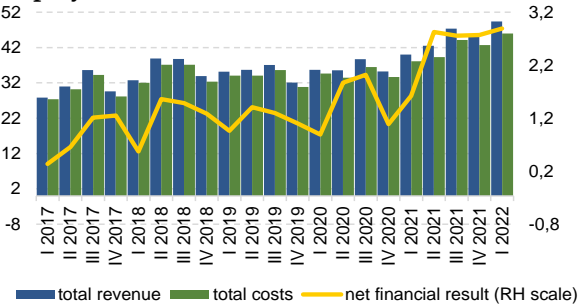
Source: NBP based on Statistics Poland (F01)

**Figure 170 Structure of liabilities of construction material suppliers employing from 9 to 49 employees**



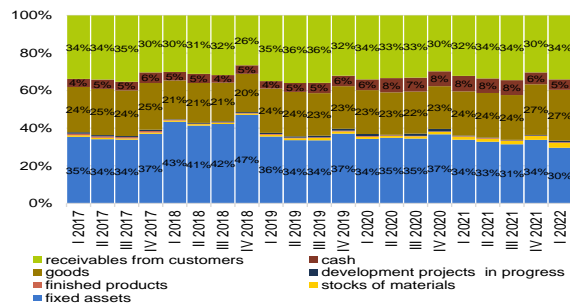
Source: NBP based on Statistics Poland (F01)

**Figure 167 Economic indicators of construction material suppliers employing more than 49 employees**



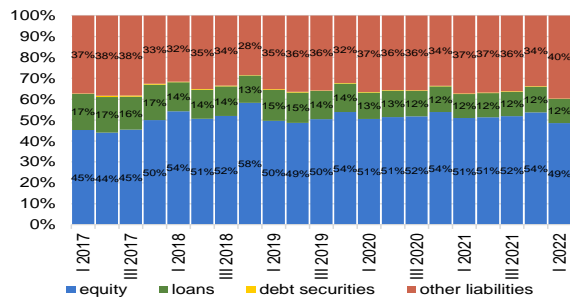
Source: NBP based on Statistics Poland (F01)

**Figure 169 Structure of assets of construction material suppliers employing more than 49 employees**



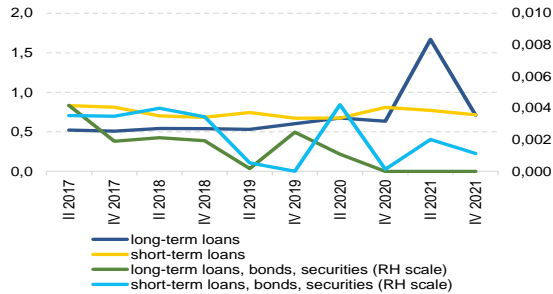
Source: NBP based on Statistics Poland (F01)

**Figure 171 Structure of liabilities of construction material suppliers employing more than 49 employees**



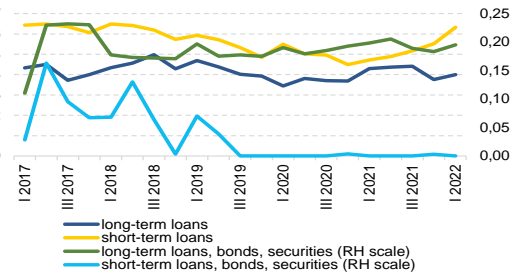
Source: NBP based on Statistics Poland (F01)

**Figure 172 Sources of financing of construction material suppliers employing from 9 to 49 employees**



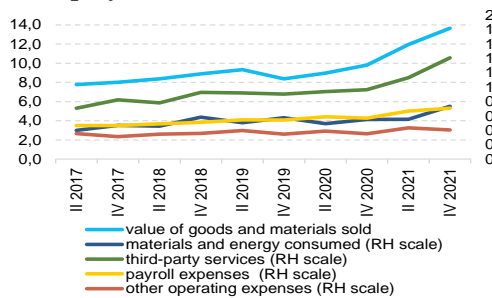
Source: NBP based on Statistics Poland (F01)

**Figure 173 Sources of financing of construction material suppliers employing more than 49 employees**



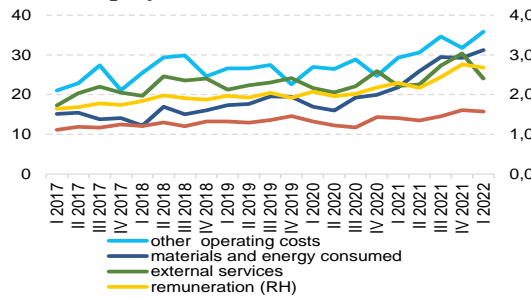
Source: NBP based on Statistics Poland (F01)

**Figure 174 Costs of operating activity of construction material suppliers employing from 9 to 49 employees**



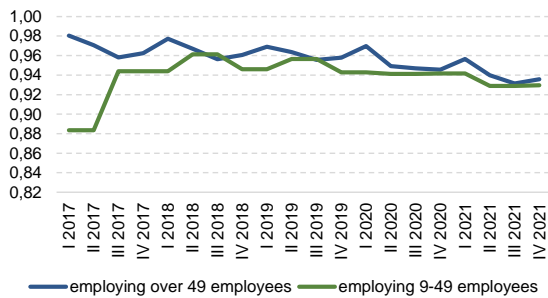
Source: NBP based on Statistics Poland (F01)

**Figure 175 Costs of operating activity of construction material suppliers employing more than 49 employees**



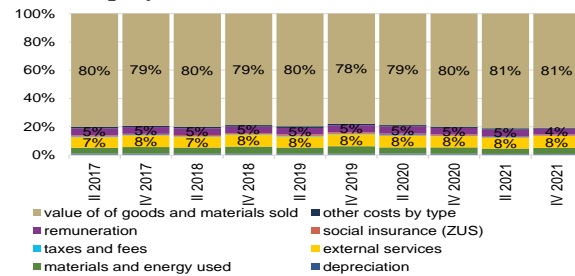
Source: NBP based on Statistics Poland (F01)

**Figure 176 Operating expenses according to groups of construction material suppliers**



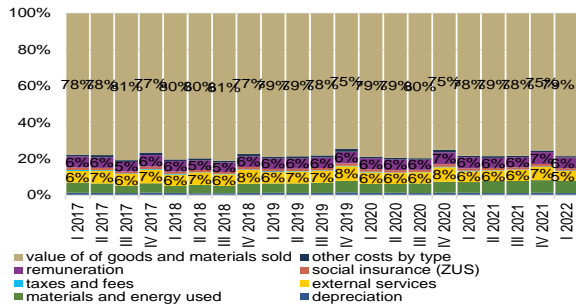
Source: NBP based on Statistics Poland (F01)

**Figure 177 Structure of operating expenses of construction material suppliers employing from 9 to 49 employees**



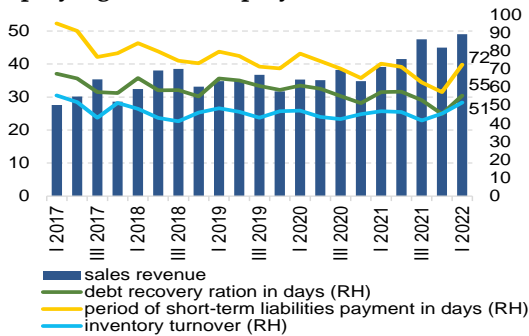
Source: NBP based on Statistics Poland (F01)

**Figure 178 Structure of operating expenses of construction material suppliers employing more than 49 employees**



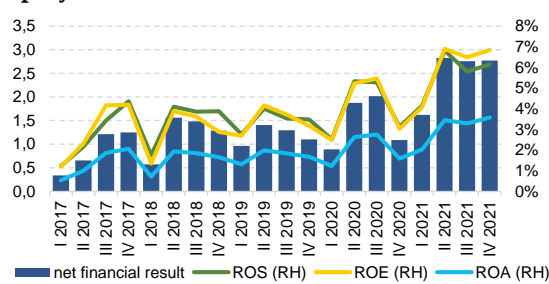
Source: NBP based on Statistics Poland (F01)

**Figure 180 Turnover of inventory, receivables and liabilities of construction material suppliers employing over 49 employees**



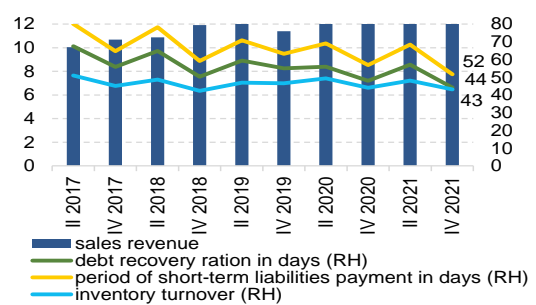
Source: NBP based on Statistics Poland (F01)

**Figure 182 Profitability of activities of construction material suppliers employing over 49 employees**



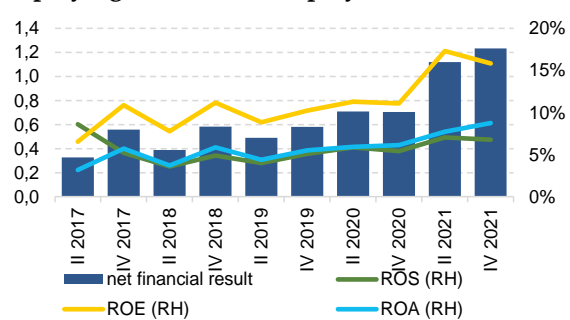
Source: NBP based on Statistics Poland (F01)

**Figure 179 Turnover of inventory, receivables and liabilities of construction material suppliers employing from 9 to 49 employees**



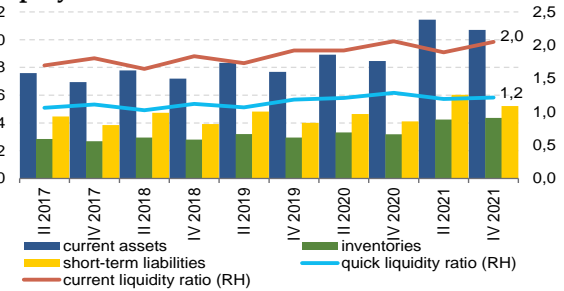
Source: NBP based on Statistics Poland (F01)

**Figure 181 Profitability of activities of construction material suppliers employing from 9 to 49 employees**



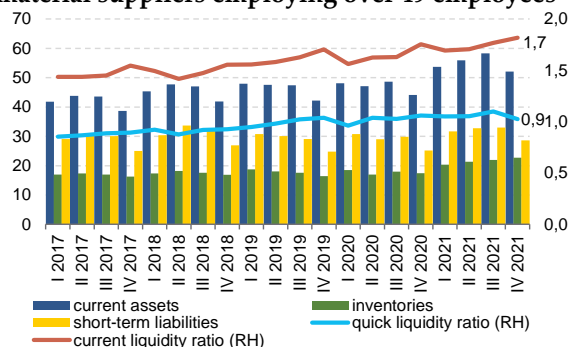
Source: NBP based on Statistics Poland (F01)

**Figure 183 Liquidity ratios of construction material suppliers employing from 9 to 49 employees**



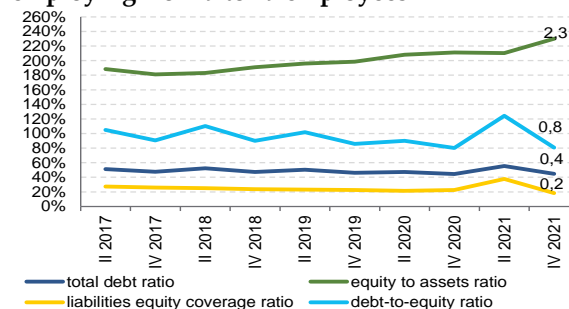
Source: NBP based on Statistics Poland (F01)

**Figure 184 Liquidity ratios of construction material suppliers employing over 49 employees**



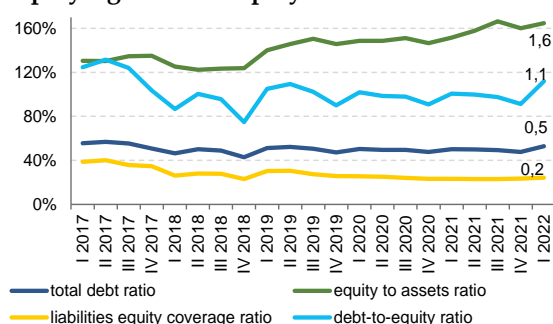
Source: NBP based on Statistics Poland (F01)

**Figure 185 Debt ratios and indicators of securing liabilities of construction material suppliers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

**Figure 186 Debt ratios and indicators of securing liabilities of construction material suppliers employing over 49 employees**



Source: NBP based on Statistics Poland (F01)

### Analysis of financial standing of companies manufacturing construction materials<sup>34</sup>

Increased demand for building materials was confirmed by improved basic economic indicators, mainly in the case of larger building materials producers.

According to the financial data reported by larger building material manufacturers (employing more than 49 people) in their F01 reports for 2022 Q1 compared to the corresponding quarter of 2021, total revenues increased by 32%, including a 33% increase was recorded in sales revenue. Likewise, the average total expenses increased by approx. 33%. Revenue generated and costs incurred in 2022 Q1 allowed larger producers to generate a 27% higher average net income than in the previous year. In 2022 Q1, the percentage of profitable larger construction materials producers amounted to 78%, exceeding the 2021 Q2 level (68%).

In 2022 Q1, compared to 2021 Q1, the return on sales (ROS) decreased slightly (to 7.2% from 6.9%) while a slight improvement was recorded in the return on equity (ROE) (to 3.6% from 3.1%) and the return on assets (ROA) (to 2.1% from 1.9%).

Smaller building materials manufacturers (employing between 9 and 49 people) generated a 16% increase in total revenues in the second half of 2021 compared to the corresponding six-month period of 2020. This group

<sup>34</sup> The calculations and conclusions in this edition of the Information were based on data resulting from F01 reports submitted to the Statistics Poland broken down into two groups of companies: those employing from 9 to 49 persons (data available until the first half of 2021, in half-year intervals) and those with staff exceeding 49 persons (data available until 2021 Q2, in quarterly intervals), being producers of constructions materials (PKD 1623, 2223, 2320, 2332, 2351, 2352, 2361, 2362, 2363, 2364)



also recorded an increase in the return on sales ratio (ROS) (8.9% against 7.0% in the second half of 2020) and a significant improvement in the net financial result: by 45% against the second half of 2020. Small producers performed better in terms of return on equity (ROE) (11.1%) and return on assets (ROA) (6.5%).

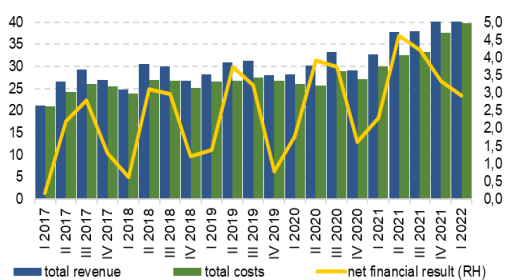
Both the group of larger and smaller building materials manufacturers had a high share of equity (approx. 62% of liabilities at the end of March 2022 in the case of larger companies and at the end of December 2021 in the case of smaller companies). Both groups also recorded a stable share of liabilities to suppliers of commodities and subcontractors (26% of liabilities of larger producers and 24% in the group of small companies) and a low and stable share of bank loan debt (12% and 14% , respectively). The total debt ratios which were stable and remained at a favourable level, indicated that the assets and activities of enterprises were financed to a greater extent with equity than with borrowed capital, which protected them against the loss of liquidity and the risk of bankruptcy in the event of an economic downturn.

Significant demand for construction materials and high competition among construction companies to purchase them translated into low amounts of outstanding receivables from customers in the group of large producers (18% of assets at the end of March 2022). As a result, their debt collection ratio (period of 47 days) was better than the liabilities settlement ratio (period of 75 days). Small producers recorded a higher outstanding balance of receivables from customers (23% of assets) and a longer debt collection period (56 days on average), accompanied by longer liabilities settlement period (68 days on average) at the end of the second half of 2021.

Financial liquidity in both groups of companies remained at a safe level, which allowed them to settle current liabilities.

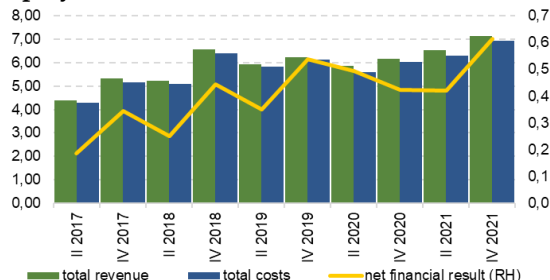
In the group of larger producers, in 2022 Q1, compared to the corresponding period of 2021, costs of materials and electricity consumed were the item whose share increased the most in the structure of operating expenses (a growth to 57%, by 7 p.p.). When analysing the change in costs, an increase was recorded in all components of operating expenses, most notably in materials and energy consumed (by 50%), costs of goods sold (by 19%) and payroll expenses (by 15%).

**Figure 180 Economic indicators of construction material producers employing more than 49 employees**



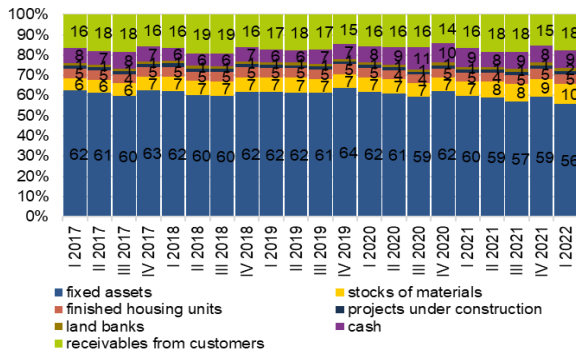
Source: NBP based on Statistics Poland (F01)

**Figure 181 Economic indicators of construction material producers employing from 9 to 49 employees**



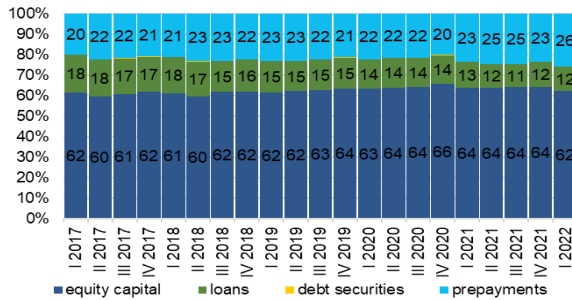
Source: NBP based on Statistics Poland (F01)

**Figure 182 Structure of assets of construction material producers employing more than 49 employees**



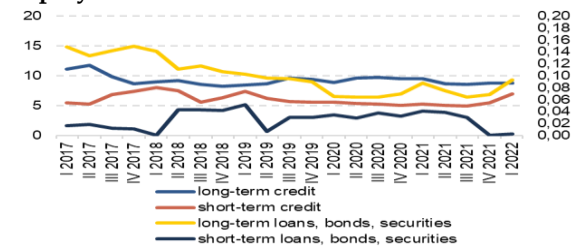
Source: NBP based on Statistics Poland (F01)

**Figure 184 Structure of liabilities of construction material producers employing over 49 employees**



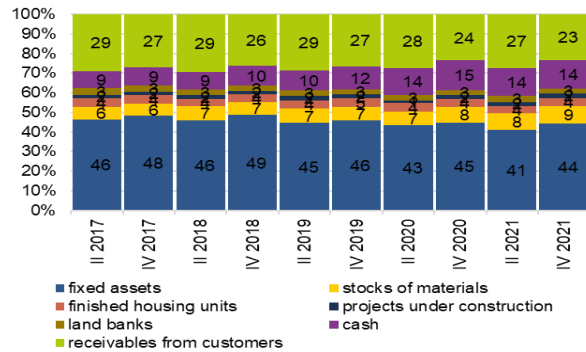
Source: NBP based on Statistics Poland (F01)

**Figure 186 Operating expenses of construction material producers employing more than 49 employees**



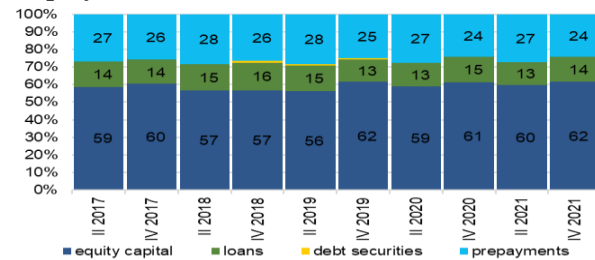
Source: NBP based on Statistics Poland (F01)

**Figure 183 Structure of assets of construction materials producers employing from 9 to 49 employees**



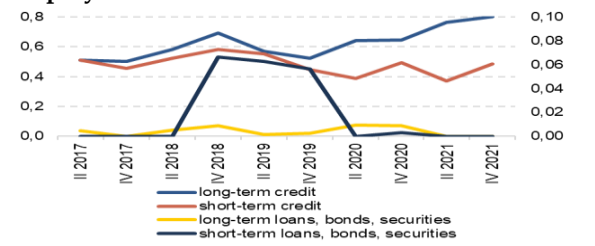
Source: NBP based on Statistics Poland (F01)

**Figure 185 Structure of liabilities of construction material producers employing from 9 to 49 employees**



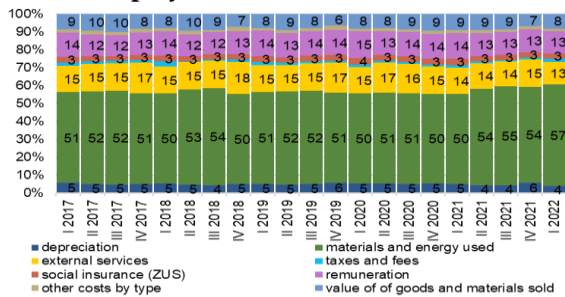
Source: NBP based on Statistics Poland (F01)

**Figure 187 Operating expenses of construction material producers employing from 9 to 49 employees**



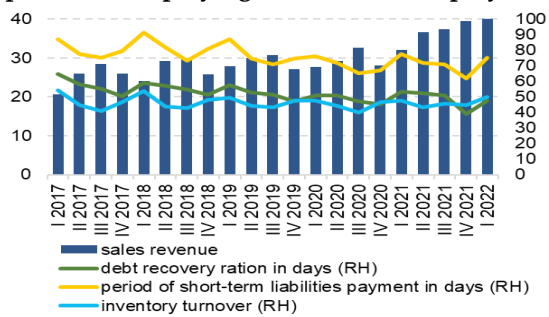
Source: NBP based on Statistics Poland (F01)

**Figure 188 Structure of operating expenses of construction material producers employing more than 49 employees**



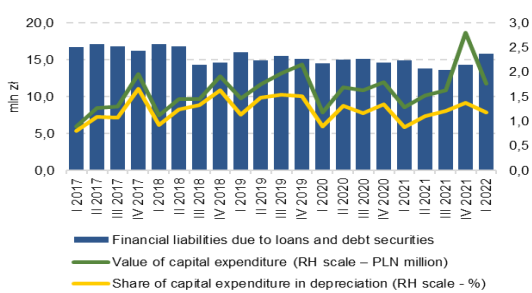
Source: NBP based on Statistics Poland (F01)

**Figure 190 Turnover of inventory, receivables and liabilities of construction material producers employing more than 49 employees**



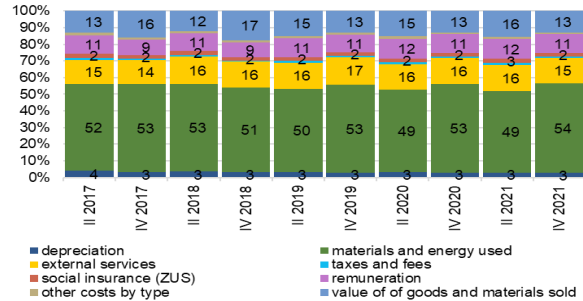
Source: NBP based on Statistics Poland (F01)

**Figure 192 Profitability of construction material producers employing more than 49 employees**



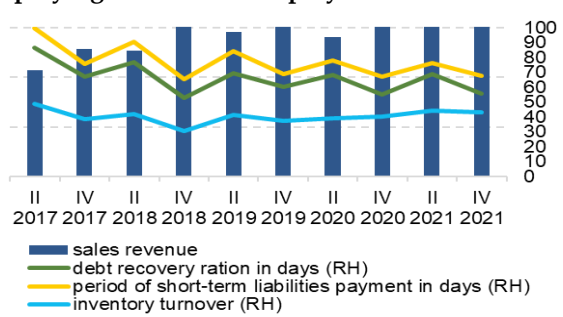
Source: NBP based on Statistics Poland (F01)

**Figure 189 Structure of operating expenses of construction material producers employing from 9 to 49 employees**



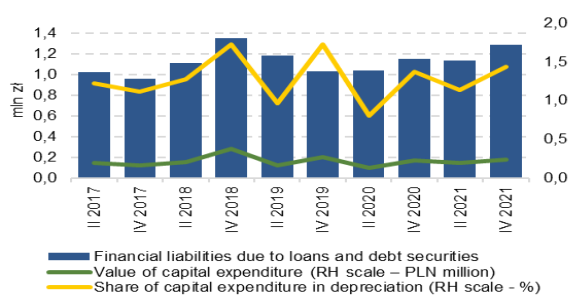
Source: NBP based on Statistics Poland (F01)

**Figure 191 Turnover of inventory, receivables and liabilities of construction material producers employing from 9 to 49 employees**



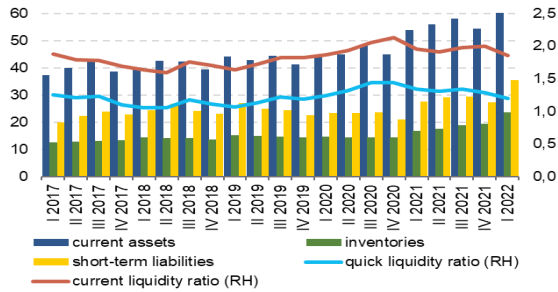
Source: NBP based on Statistics Poland (F01)

**Figure 193 Profitability of construction material producers employing from 9 to 49 employees**



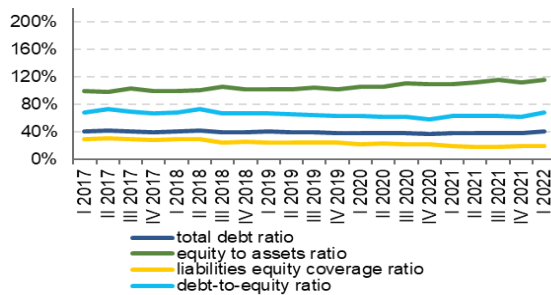
Source: NBP based on Statistics Poland (F01)

**Figure 194 Liquidity ratios of construction material producers employing more than 49 employees**



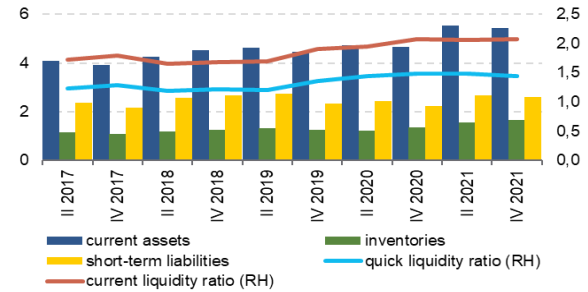
Source: NBP based on Statistics Poland (F01)

**Figure 196 Debt ratios and indicators of securing liabilities of construction material producers employing more than 49 employees**



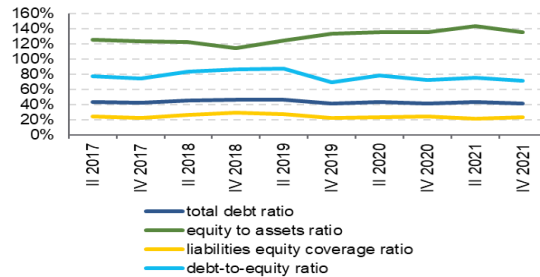
Source: NBP based on Statistics Poland (F01).

**Figure 195 Liquidity ratios of construction material producers employing from 9 to 49 employees**



Source: NBP based on Statistics Poland (F01)

**Figure 197 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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