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Information on home prices and the situation in housing and commercial real estate market in Poland in 2021 Q2

Approved by:

Olga Szczepańska, Director of the Financial Stability Department

Team of authors:

Hanna Augustyniak

Krystyna Gałaszewska NBP Regional Branch in Gdańsk

Jacek Łaszek

Krzysztof Olszewski

Łukasz Mikołajczyk NBP Regional Branch in Opole

Anna Stołeczka NBP Regional Branch in Rzeszów

Robert Tyszkiewicz NBP Regional Branch in Łódź

Joanna Waszczuk

Marzena Zaczek

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The analysis of the situation in the real estate market in Poland in 2021 Q2¹ leads to the following remarks:

- In 2021 Q2, activity in the housing real estate market remained high.** The number of housing construction contracts sold in the largest primary markets increased slightly compared to 2021 Q1, while annual sales almost returned to the levels recorded in 2017-2019. In 2021 Q2, once again, a record number of dwellings were completed and put on the market in Poland, which was the result of developers' activity in the previous years. Housing construction costs rose again (costs of materials and especially labour). Land prices continued to grow, which was driven by high demand from developers launching new investment projects. Both the primary and in the secondary market recorded an increase in the average transaction prices per square metre of dwellings in year-on-year terms.
- In 2021 Q2, home price increases in quarter-to-quarter terms were recorded in the majority of the cities analysed (see Table 1); growth rates of prices also rose. Transaction prices in the primary market (PMT) increased** due to higher level of sales of better located and more expensive dwellings, especially in Kraków, Gdańsk and Gdynia. Rising prices of housing in primary markets (mainly in the developer's standard, i.e. to be finished by buyers on their own and purchased with delayed delivery) amid high demand boost buyers' interest in cheaper secondary market housing, where dwellings are usually ready for occupancy. **The secondary market also observed an increase in asking prices (secondary market, offers - SMO) and transaction prices (secondary market, transactions - SMT) in all groups of cities. Hedonic index-adjusted prices rose in all groups of cities**, which means that similar dwellings were sold at higher prices than in the previous quarter.

Table 1 Quarter-on-quarter price growth of a square metre of housing in the analysed cities in 2021 Q2

	PMO	PMT	SMO	SMT
Gdańsk	-3.5%	4.7%	2.8%	-2.9%
Gdynia	2.2%	4.7%	4.3%	5.5%
Kraków	4.2%	6.2%	3.4%	8.8%
Łódź	8.1%	2.7%	1.8%	6.7%
Poznań	3.3%	-0.4%	2.4%	-0.5%
Wrocław	3.6%	1.8%	3.1%	5.6%
Warsaw	3.6%	0.1%	2.1%	1.2%
6 cities	3.5%	3.4%	2.9%	4.3%
10 cities	3.8%	3.7%	2.1%	3.6%

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 RCiWN (smaller number of more expensive dwellings). The revision will take place in the next quarter, after missing data are available.

¹ The analysis carried out in this issue of the *Information* is based on data available as at the end of 2021 Q2. Data collected in the NBP database during the listings include offers available as at 1 June 2021 and transactions concluded in the period from March to May 2021. Due to delays in access to some data, some charts include information until 2021 Q1 inclusive. Data series with average prices per square metre of housing, commercial rents and transaction prices per square metre of retail space reflect the pool of data available at the cut-off data. Historical data are subject to revision. In listings (BaRN data base) concerning 2021 Q2, approx. 114.8 thousand records were collected, including approx. 34.4% records concerning transactions and 65.6% records concerning offers. Altogether approx. 4.2 million records were collected in the base, including 24.7% of records concerning transactions and 75.3% of records concerning offers.

- **The growth rate of the average transaction rental rates per square metre of housing** (excluding service charges and utility fees) **remained at the previous quarter's level in all groups of cities** (see: Figure 15). Despite a considerable decline in rental income, we did not see great numbers of dwellings offered for sale². Investors continued to look for safe investment in real estate rather than expect attractive rates of return. Despite rising popularity of rental, large cities continue to see a high supply of housing offers on long-term rental markets, including those purchased as an investment. This may put a downward pressure on rent rates in the future.
- **Quarterly sales of residential construction contracts in the six largest primary markets in Poland**³ (see: Figure 56) **increased slightly compared to the previous quarter reaching approx. 19.5 thousand. At the same time, approx. 15.8 thousand contracts for housing construction, i.e. approx. 14.1% more q/q, were concluded.** The supply of unsold home construction contracts put on the market decreased from the previous quarter by approx. 11.0 thousand and amounted to approx. 37.8 thousand at the end of the period. The number of contracts with dwellings commonly referred to as "completed and ready to move-in dwellings" in the sale offer in six cities decreased in comparison with the previous quarter to 0.9 thousand while the home selling time in the primary market in the six largest markets decreased to 2.2 quarters from 3.1 quarters recorded in the previous quarter (see: Figure 62). These figures indicate some tightening of supply against demand.
- **The index of the estimated availability of housing in large cities** (based on average wages in the enterprise sector) **increased slightly in the analysed quarter**, yet, it was still higher than the record low registered in 2007 Q3 (see: Figure 16). The estimated maximum affordable housing loan⁴ has also decreased slightly for the average household, as did the estimated affordability of loan-financed housing⁵. Rising home prices were the main factor contributing to the ongoing decreases in affordability indicators.
- **The level of rent rates in the long-term rental in 7 largest cities (Warsaw and in the 6 cities) showed a lower level of the housing profitability indicator** (cf. Figure 23). Still, housing investment (excluding transaction costs) was competitive compared with interest rates on bank deposits or yields on 10-year Treasury bonds.
- **In 2021 Q2, the value of new residential mortgage loan disbursements in Poland was higher than in the corresponding period of 2020.** The value of new contracts for residential mortgage loans for

² On the basis of the results of the NBP survey "The analysis of the level of demand and supply in the secondary residential market including the housing rental market", April 2021.

³ Based on JLL (former REAS) data.

⁴ The maximum housing 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.

⁵ Affordability of loan-financed housing – a measure specifying how many square metres of housing may be purchased with a residential mortgage loan obtained with the average monthly wage in the enterprise sector in a particular market (Statistics Poland), in view of bank's lending requirements and loan parameters (interest rate, amortisation period, minimum subsistence level understood as the minimum income after repayment 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 particular markets provide important information.

households^{6,7} (excluding renegotiated contracts) according to NBP data⁸, amounted to PLN 22.2 billion in 2021 Q2, i.e. it was by approx. PLN 4.9 billion (27.9%) higher than in the previous quarter and by approx. PLN 9.2 billion (71.0%) higher than in 2020 Q2. The results of the NBP survey on the situation in the credit market in 2021 Q2⁹ indicated that banks relaxed their criteria for granting residential mortgage loans, on account of the economic outlook and competitive pressure and lowered the requirement concerning the borrower's own contribution compared to the previous quarter. At the same time, banks increased the margin for higher-risk loans. Banks had divergent opinions as regards the direction of changes in residential mortgage lending criteria and the level of demand in 2021 Q3.

- **The estimated rate of return on equity (ROE) on development projects for housing developers increased slightly compared to the previous quarter and amounted to approx. 23%.** This was the result of higher transaction prices, which exceeded the increase in home producers' costs. According to the Coface report¹⁰, the number of insolvencies in the construction industry rose from 51 in the first half of 2020 to 109 in the first half of 2021, while in the real estate sector, it increased from 9 to 48, respectively (see: Figure 36).
- **In 2021 Q2, a record high number of dwellings were completed in Poland¹¹, 52.1 thousand, i.e. 9.6% more in year-on-year terms** (see: Figure 52), mainly housing units for sale and rental (57%) and dwellings for buyers' own needs (40%). **The number of new home construction starts¹² was also historically high,**

⁶ According to the BIK data, in 2021 Q2, banks and credit unions granted approximately 70.8 thousand residential mortgage loans to individual clients in the amount of approx. PLN 22.7 billion (in 2020 Q2, 48.3 thousand in the amount of PLN 14.1 billion, respectively). The negative y/y growth in sales of residential mortgage loans recorded in 2021 Q2 concerned almost all groups of loans in terms of their number, whereas all loan groups increased in terms of value. In the range structure of residential mortgage loans in terms of their value, the share of loans above PLN 350,000 increased again, from 48.7% in 2020 Q2 to 56.4% in 2021 Q2.

⁷ According to the AMRON report, in 2021 Q2, the number of granted residential mortgage loans amounted to 67.0 thousand (compared to 57.2 thousand in the previous quarter), the value of newly granted residential mortgage loans amounted to PLN 22.1 billion (compared to 17.9 thousand in the previous quarter), and the average amount of a residential mortgage loan granted was approx. PLN 330.1 thousand (compared to 313.4 thousand in the previous quarter). In the structure of new loans, the share of loans with LtV 50-80% increased from approx. 45.2% to 50.8%, while the share of loans with LtV up to 30%, 30-50% and above 80% decreased (to approx. 13.3%, 6.5% and 29.8%, respectively). Compared to the previous quarter, there was an increase in the share of residential mortgage loans with a maturity of up to 15 years (6.8%) and 15 to 35 years (25.4%), while the share of loans with other maturities decreased. As at the end of 2021 Q2, the number of active loan agreements (during repayment) amounted to approx. 2.51 million (compared to 2.49 million in 2021 Q1), while their value at the end of the period under discussion amounted to PLN 486.1 billion (compared to 480.1 in the previous quarter).

⁸ Data concerning the interest rate and the value of new residential mortgage loans based on the NBP data available in the "4 OPN2PLN" tab on the NBP site: https://www.nbp.pl/home.aspx?f=/statystyka/pieniezna_i_bankowa/oprocentowanie.html. According to the NBP data, at the end of June 2021, the value of residential mortgage loans granted by banks to households stood at PLN 486.9 bn, i.e. PLN 6.2 billion higher than in the previous quarter and PLN 24.0 billion higher than the end of June 2020 figure (a 5.2% y/y increase, while in 2020 Q2 it increased by 8.5%).

⁹ "Situation in the credit market - results of the senior loan officer opinion survey, 2021 Q3" NBP, July 2021 https://www.nbp.pl/home.aspx?f=/aktualnosci/wiadomosci_2019/kredytowy2019_3.html https://www.nbp.pl/systemfinansowy/rynek_kredytowy_2021_3.pdf.

¹⁰ According to Coface experts (COFACE Report – insolvency of enterprises in Poland in 2021 H1), the number of insolvencies of small construction companies increased significantly in the first half of 2021. The construction sector continued to develop rapidly, but it also faced major challenges such as rising prices of construction materials and growing labour costs.

¹¹ According to the Statistics Poland data, in 2021 Q2, approx. 52.1 thousand homes were completed and made ready for occupancy, i.e. approx. 4.6 thousand more compared to 2020 Q2, however, approx. 1.2 thousand less than in the previous quarter. A total of 230.3 thousand dwellings were completed and made ready for occupancy over the last 4 quarters, i.e. approx. 20.4 thousand more than in the corresponding period of 2020 (a rise of 9.7% y/y).

¹² According to the Statistics Poland data, in 2021 Q2, the construction of approx. 80.9 thousand homes was started, i.e. approx. 33.5 thousand more compared to 2020 Q2, and approx. 17.2 thousand more than in the previous quarter. Altogether, the last four

i.e. 70.6% higher than that recorded in 2020 Q2 (see: Figure 52). Also in this case, dwellings for sale and rental (59%) and dwellings for buyers' own needs (40%) prevailed. It should be added that the share of newly launched development projects increased in Warsaw (7% compared to 4% in 2020 Q2) and in the six large cities (14% compared to 12% in 2020 Q2), while the number of new construction projects in the rest of Poland decreased from 79% compared to 84% in 2020 Q2.

- **The estimated high rates of return on housing development projects and continuing investment and consumer demand contributed to a significant growth in the number of applications for new home building permits¹³.** Permits were granted mainly for the construction of housing for sale and rental (60% of the total number of permits) and homes for buyers' own needs (36% of the total number of permits). Despite the increase in the number of building permits granted for the construction of cooperative and other dwellings, their share was still insignificant (approx. 1%). The share of building permits in the rest of Poland increased to approx. 70% (from 66% in 2020 Q2), rising slightly in Warsaw from 8% to 9% and decreasing from 26% to 21% in six cities. The high number of issued building permits was largely the result of the catching up process to meet home shortages driven by COVID-19 constraints, delayed processing of permit applications submitted before the end of 2020 and anticipated change in regulations concerning energy efficiency requirements for buildings¹⁴.
- **The commercial real estate market has been severely affected by the Covid-19 pandemic. The resulting limited trade and business activity have affected rents and sale transactions and will be noticeable in a longer perspective.** On 27 April 2021, the Council of Ministers adopted a draft amendment to the so-called "Covid Act", whose provisions provide for the 80 % reduction of rent in shopping centres with an area exceeding 2,000 sq. m. during the period of the ban on activity of shopping centres. On the other hand, in the period of three months after the trade ban is lifted, the reduction will amount to 50%. Some tenants, especially high-profile tenants, use the situation to re-negotiate further rent reductions. Recently, the development of small retail parks with the daily shopping profile has been noticeable. They include well-located facilities with a good mix of tenants. Developers build them mainly in small towns. In accordance with the market information, there are approximately 700 small retail facilities in Poland whose stock is estimated at 2 million sq. m. of space. Remote working and e-commerce continues have been on the rise, contributing to the strong development of the warehouse market.
- **In 2021 Q2, in the office real estate market imbalances resulting from oversupply of space for rent as compared to demand increased.** The supply of new space and space under construction remained high amid lower tenant activity in the market. According to the data released by consulting companies, at the end of the period under discussion, the total stock of office space in the nine largest office markets¹⁵ stood at approx. 12 million square metres with approx. 1.2 million square metres under construction. The total

quarters saw the launch of construction of approx. 268.4 thousand dwellings, i.e. approx. 46.6 thousand more than in the corresponding period of 2020 (a rise of 21.0% y/y).

¹³ According to the Statistics Poland data, in 2021 Q2, approx. 87.1 thousand home building permits were issued in Poland, i.e. approx. 23.9 thousand more than in 2020 Q2 and approx. 2.8 thousand more than in the previous quarter. In the last four quarters a total of approx. 325.1 thousand permits were issued, i.e. 63.8 thousand more than in the corresponding period last year (a 24.4% y/y increase).

¹⁴ In accordance with Regulation of the Minister of Infrastructure of 12 April 2002 concerning technical conditions to be met by buildings and their location (Paragraph 320), as of 1 January 2021, a new energy standard applies and the value of primary energy (the so-called EP ratio) is decreased.

¹⁵ The nine office space markets include: Warsaw, Kraków, Wrocław, Tri-City, Katowice, Łódź, Poznań, Szczecin, Lublin.

vacancy rate in these markets rose to 12.9% compared to 12.1%¹⁶ at the end of 2021 Q1, while in Warsaw it amounted to 12.5%¹⁷ compared to 11.4% in 2021 Q1. The office space vacancy rate depends on the age¹⁸ and mainly on the location of the office building.¹⁹ Construction of almost 10% of additional office space does not mean an automatic increase in vacancy rates, however, it will generate significant competition for tenants, especially as regards older buildings or those in poorer locations. Consequently, in addition to an increase in vacancy rates, we will see the withdrawal of this space from the market or its transformation into modern and marketable residential space.

- **In 2021 Q2, the retail real estate sector continued to be affected by the COVID-19 pandemic which was combined with the market changes that had begun earlier, namely the development of e-commerce.** The stock of modern retail space at the end of 2021 Q2 amounted to over 12.2 million sq. m., which translates into a saturation of 318 sq. m. per 1000 inhabitants.²⁰ On the other hand, there were approximately 380,000 sq. m.²¹ of modern retail space under construction. It can be concluded that in view of such a low growth in new retail space, investors consider the market to be saturated. This is also confirmed by the emergence of projects transforming the existing retail space into retail and entertainment centres. The problem of this sector is, therefore, to retain the existing customers, and to a lesser extent, to compete with new projects.
- **The market for modern warehouse space in Poland was in the expansion phase for another quarter while the supply and demand also remained high.** Contrary to the retail real estate market, the market of modern warehouse space benefits from the changes in consumers' habits already observed earlier and accelerated by the pandemic. Warehouses located in urban areas continued to develop very rapidly in order to reduce the time necessary to deliver products to the customer. As at the end of 2021 Q2, the total stock of the warehouse space market increased to 21.85 million sq. m., with over 3.35 million sq. m. of modern warehouse space under construction. The vacancy rate across the country recorded a further decline to the level of 5.6%²² compared to 6.5% in 2021 Q1.
- **In 2021 Q2, the estimated value of commercial real estate purchased for investment purposes²³, i.e. for rental, amounted to nearly EUR 2.1 billion.** Approximately 37.3% of the transaction value concerned warehouse space, 32% office space and only 8.3% 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 related to the loan financing of a particular property.** Usually, in this case, the loan is secured on this particular property, but alternative forms of security are also possible. At the end of 2021 Q2, the value of those loans

¹⁶ See: Colliers International Report: Market Insights, 2021 Interim Report, Poland.

¹⁷ See: Colliers International Report: Market Insights, 2021 Interim Report, Poland.

¹⁸ Cushman & Wakefield, Marketing as one of the key factors supporting the modernisation process of older office buildings, 2018.

¹⁹ See: Knight Frank, Report: Poland, Commercial Market, 1st half of 2018.

²⁰ It is estimated that this value is 15% lower than the average for the entire European Union.

²¹ See: Colliers International Report: Market Insights, 2021 Interim Report, Poland.

²² See: Colliers International Report: Market Insights, 2021 Interim Report, Poland.

²³ On the basis of Comparables. pl data. The above investments concern the sale of the entire operating company which rents the building and derives income from it. Such transactions take place between: 1/ the real estate developer who has commercialised the property and sells it to the investor, or 2 / two investors.

granted by banks in Poland²⁴ amounted to PLN 62.1 billion²⁵, (a PLN 2.5 billion decline compared to Q1), including 56% of loans denominated in EUR. The value of corporate debt resulting from residential real estate at the end of 2021 Q2 stood at PLN 4.2 billion. The value of loans granted for office real estate fell to PLN 16.0 billion against PLN 17.0 billion in 2021 Q1. The value of loans granted for retail real estate decreased to PLN 16.5 billion as against PLN 18.0 billion in 2021 Q1. The value of loans granted for warehouse and industrial real estate rose to PLN 10.1 billion. On the other hand, the value of loans granted for other real estate stood at PLN 15.3 billion.

- **The second form of banks' exposure are loans taken by enterprises for various purposes, secured on real estate.** The value of corporate loans secured by mortgage on commercial real estate at the end of 2021 Q2 amounted to PLN 134 billion²⁶, i.e. it decreased by PLN 4 billion compared to the previous quarter. Of these loans, 38% 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 extended for retail space, i.e. increased to the level of 15.4% compared to 14.1% in 2021 Q1. This ratio in the case of warehouse and industrial space fell to 6.7% compared to 7.6% in 2021 Q1, while in the case of other real estate it decreased to 8.0% from 8.5%. The share of non-performing loans in total loans granted for housing developer real estate decreased to 15.5% compared to 18.0% in 2020 Q1. The relatively high non-performing loans ratio is mainly due to banks holding in their loan portfolio non-performing loans from previous years²⁷.
- **In the market of small office real estate, the median of the asking prices all over Poland and in the majority of the largest cities saw a slight increase.** Only Poznań and Wrocław posted minor decreases. 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. Wrocław, on the other hand, posted a slight decrease compared to 2021 Q1.

²⁴ The value of loans intended for commercial real estate construction extended by foreign banks as at the end of 2020 is estimated by experts to have stood at PLN 97 bn. The value of the stock of commercial real estate in Poland (office, retail and warehouse) as at the end of 2020 has been estimated at PLN 314 billion. This estimate has been calculated by multiplying the volume of the stock in square metres (published by consulting companies) by the hedonic valuation of relevant properties estimated by NBP. In line with international experience, it can be assumed that LTV in the total stock is 50%, thus the total value of loans for real estate is estimated at PLN 157 bn. By deducting loans granted by banks operating in Poland, (PLN 60.4 billion), we obtain the estimated amount of loans granted by banks operating abroad (PLN 97 billion). These loans comprise loans granted by the financial sector and the non-financial sector (which in turn usually incurs debt in the financial sector).

In line with S Recommendation, since June 2013, the maximum LTV for commercial real estate in Poland has been 75% or 80% if the part of the exposure exceeding 75% LTV is adequately hedged, or if the borrower has submitted additional collateral in the form of a blockade of funds in a bank account or in the form of a pledge on debt securities of the State Treasury or of NBP, denominated in PLN.

²⁵ FINREP data.

²⁶ The fall in debt by PLN 4.6 billion in comparison with Q3 was mainly due to the repayment of loans denominated in PLN.

²⁷ See: Financial Stability Report, NBP, December 2018.

The figures below describe the key developments in the housing market in Poland's major cities in 2021 Q2. The charts and figures present:

- 1) home prices (Figures 1–15),
- 2) affordability of loan-financed housing, loan affordability, profitability of housing investment (Figures 16–24),
- 3) mortgage loan disbursements and interest rates (Figures 25–34),
- 4) operating profitability of housing and real estate development projects, costs of construction and assembly output and economic situation of real estate developers in Poland (Figures 35–50),
- 5) housing construction and the residential market in selected cities in Poland (Figures 51–64),
- 6) rents and transaction prices of commercial real estate and estimated rate of return (Figures 65–75),
- 7) analysis of rental income from residential properties in selected cities (Figures 76–87),
- 8) housing rental market in the period of the pandemic (Figures 88–94),
- 9) in-depth analysis of financial standing of real estate developers (Figures 95-126), companies involved in the construction of buildings (Figures 127-146), companies selling construction materials (Figures 147-167), companies manufacturing construction materials (Figures 168-185).

The analysis of housing prices per sq.m. (asking, transaction and hedonic prices) in the primary and secondary markets as well as housing rents relies on the data acquired 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 Estate Market Database (BaNK) data on rent, offer 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 authors also used analyses and reports of JLL (former REAS), the Polish Financial Supervision Authority and the aggregate credit data from the Credit Information Bureau. For the structural market analysis, the authors used data published by Statistics Poland and many studies containing sector²⁸.

²⁸ Data and studies were used, among others, Sekocenbud, Spectis, PAB, OLX Group.

List of abbreviations:

5M	5 biggest cities: Gdańsk, Kraków, Łódź, Poznań, Wrocław
6M	6 biggest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław
7M	7 biggest cities: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warszawa, Wrocław
10M	10 biggest cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin, Zielona Góra
BaNK	Commercial Real Estate Market Database
BaRN	Real Estate Market Database
BIK	Biuro Informacji Kredytowej (Credit Information Bureau)
CPI	Consumer Price Index
DFD	Large real estate development company
EURIBOR	Euro Interbank Offer Rate
KNF	Polish Financial Supervision Authority
LIBOR	Interbank Offered Rate
LTV	The relation of loan value to home value, i.e. Loan-to-Value
MDM	Government-subsidised housing scheme Mieszkanie dla Młodych (Housing for the Young)
NBP	Narodowy Bank Polski
PONT	PONT Info Nieruchomości
RNS	Government-subsidized housing scheme Rodzina na Swoim (Family on their Own)
PM	Primary housing market
SM	Secondary housing market
ROE	Return on Equity
WIBOR	Warsaw Interbank Offered Rate
WIG20	Index including top 20 companies listed on the Warsaw Stock Exchange with the highest value of publicly traded shares
ZBP	Polish Bank Association
ZKPK	Accumulated index of changes in banks' credit policy criteria

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

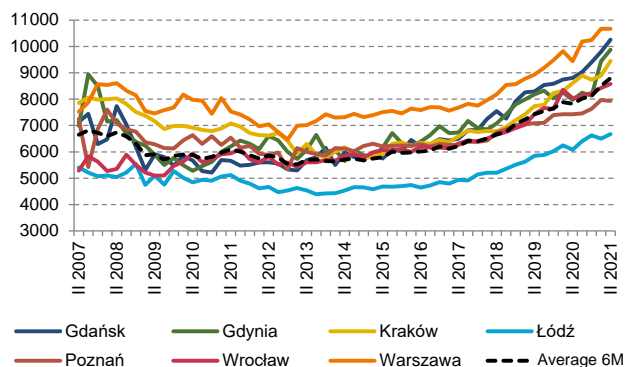
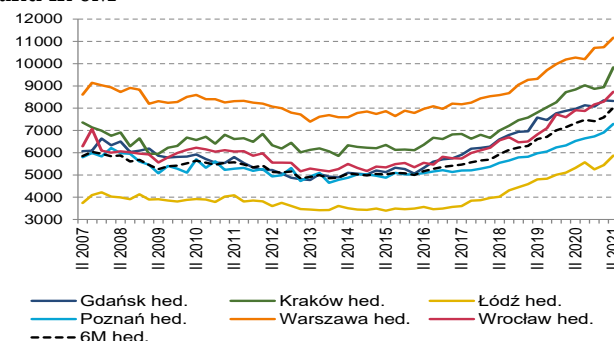


Figure 2 Transaction prices per square metre of housing adjusted by the hedonic index in Warsaw and in 6M



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.

Source: NBP

Source: NBP

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

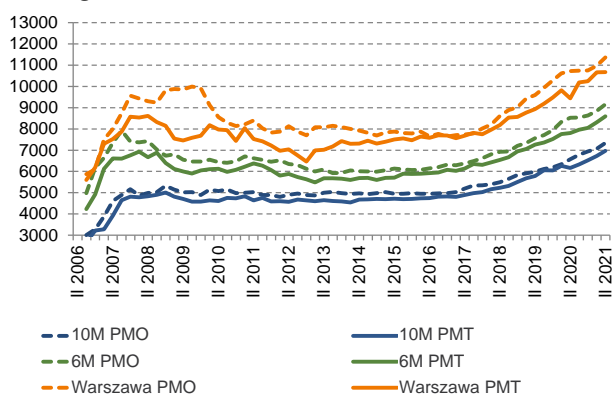
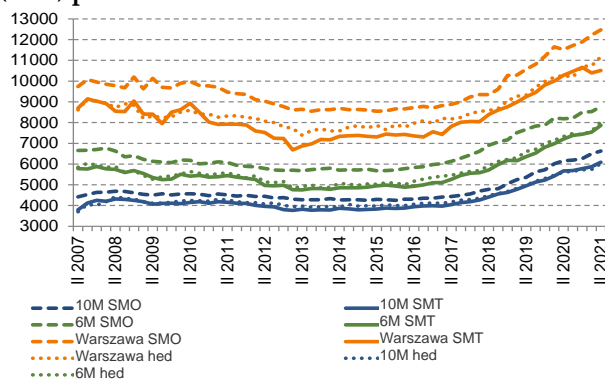


Figure 4 Weighted average price per square metre of housing, offers (O) and transactions (T) and hedonic (hed.) prices - SM



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.

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

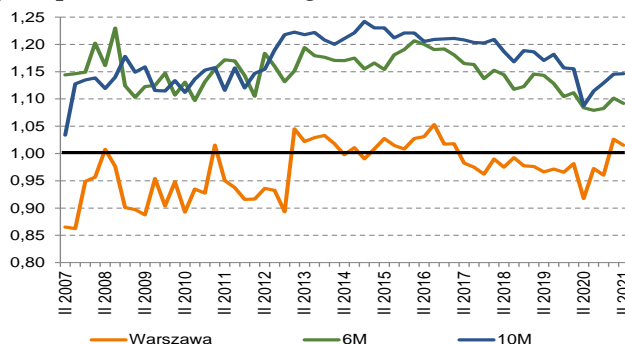
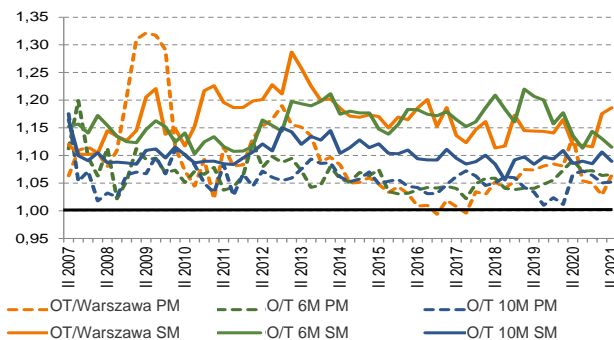


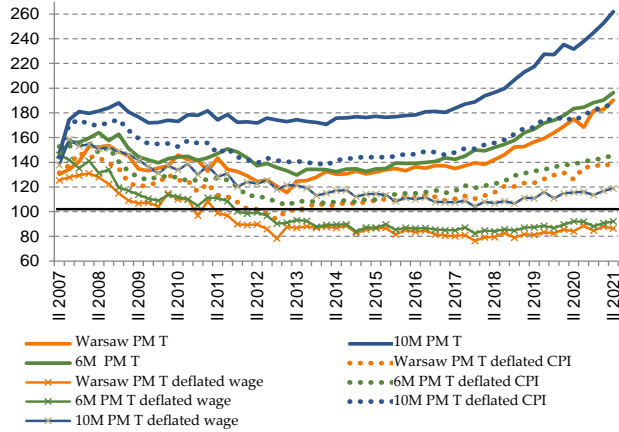
Figure 6 Ratio of the average weighted offer price (O) to transaction price (T) per square meter of housing – PM and SM



Source: NBP

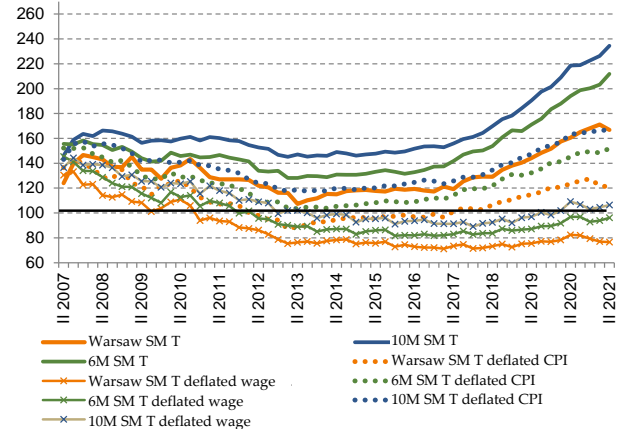
Source: NBP

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



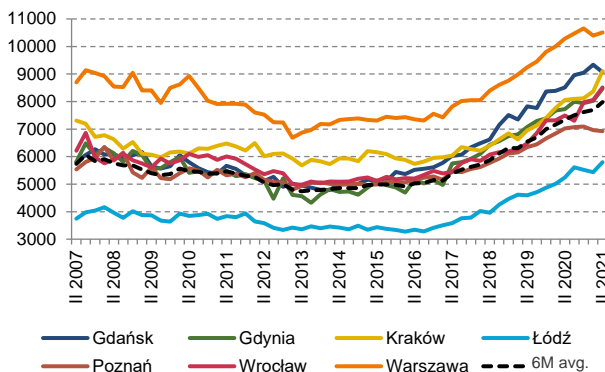
Source: NBP, ZBP (AMRON), Statistics Poland

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



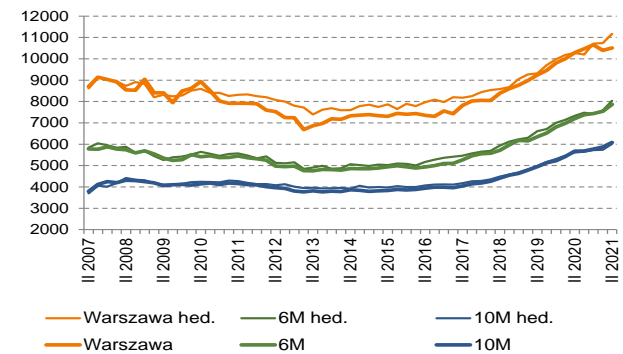
Source: NBP, ZBP (AMRON), Statistics Poland

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

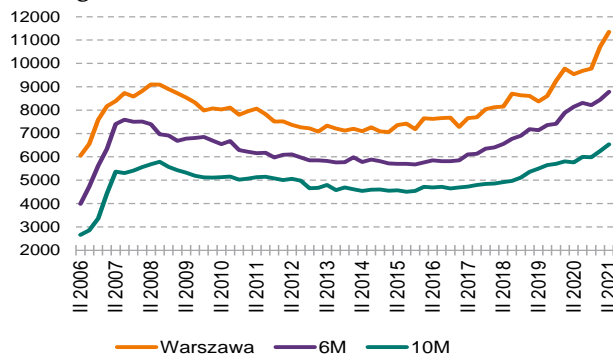
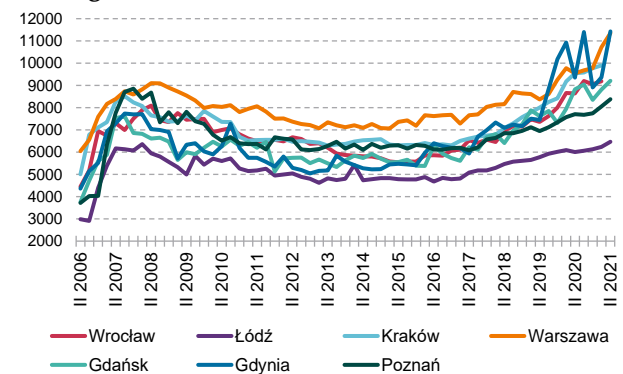


Figure 12 Average asking prices per square metre of housing in PM (Warsaw and 6M)

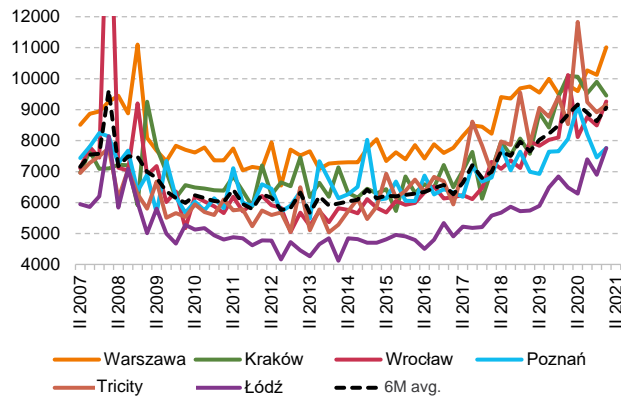


Note to Figures 11-12: prices are collected from all available sources.

Source: PONT Info Nieruchomości

Source: PONT Info Nieruchomości

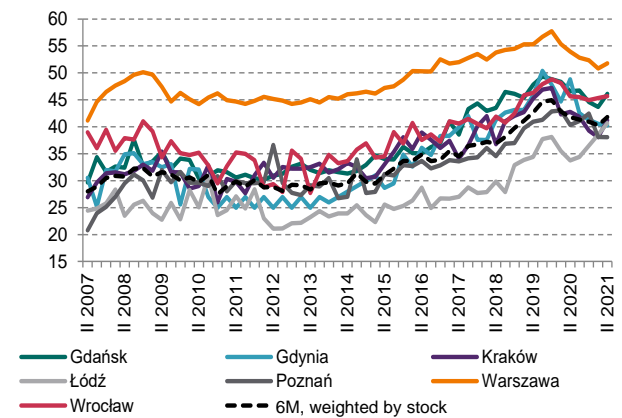
Figure 13 Average asking prices per square metre of housing, new home construction contracts – PM, selected markets



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

Source: JLL/d.REAS

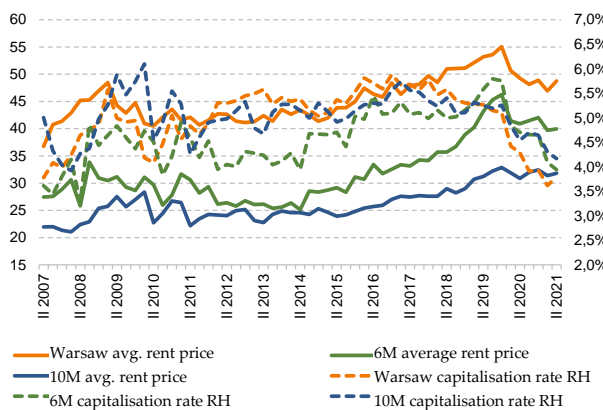
Figure 14 Average rent rates (offers and transactions) per square metre of housing - SM, selected cities



Note: in 2020 the change of sample was observed.

Source: NBP, OLX Group

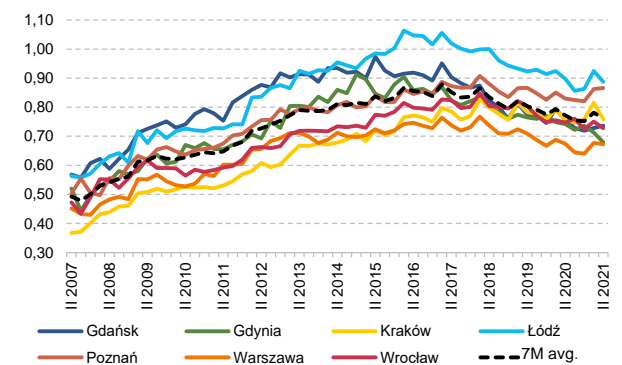
Figure 15 Average rent rates (transactions) per square metre of housing in SM (LH scale) and the estimated profitability of housing rental (right-hand scale) in selected cities



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% amortisation; the analysis does not take into account the high transaction costs in the housing market and the potentially long period of disinvestment.

Source: NBP, OLX Group

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

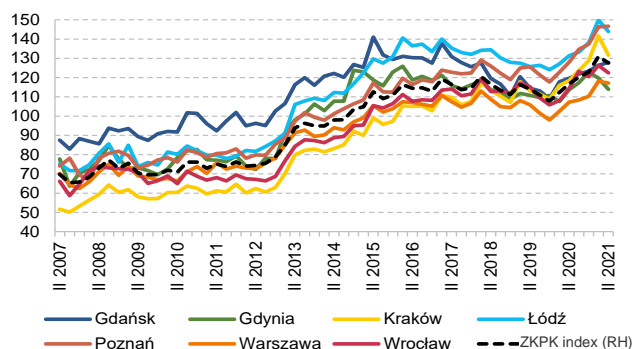


Housing availability – a measure of potential availability to purchase housing at the transaction price for an average wage in the enterprise sector in a particular city. It expresses the number of square meters of housing that can be purchased for an average wage in the enterprise sector in a particular 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

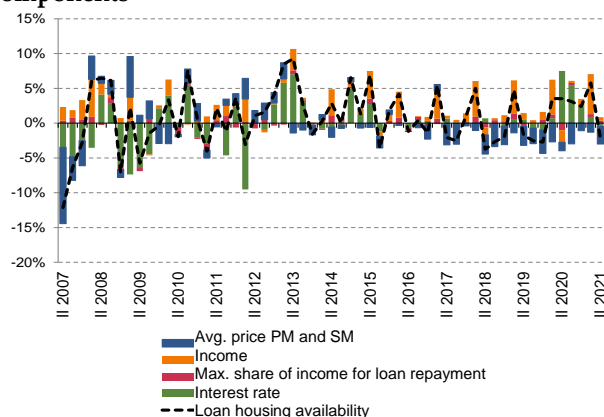
2. Affordability of loan-financed housing, loan affordability, profitability of investment in housing

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



Source: NBP, Statistics Poland

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



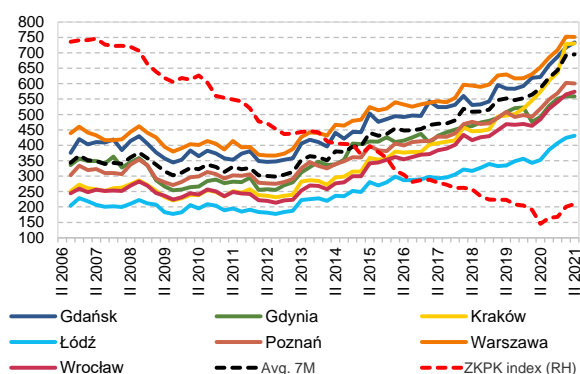
Source: NBP, Statistics Poland

Available 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 the PM and 60% in the 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. Computing methods of the index are described in the *Financial Stability Report, December 2012, NBP*.

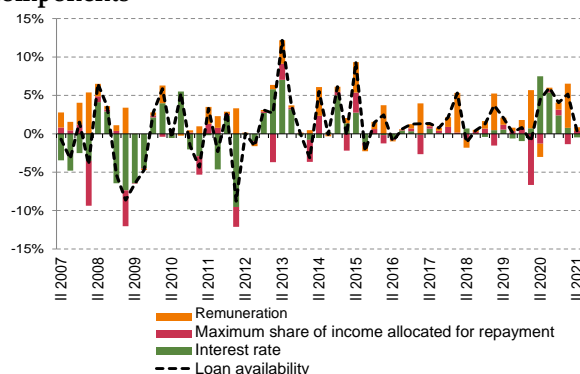
Figure 19 Estimated affordability of residential mortgage loan and accumulated index of banks' mortgage lending policy (ZPKK, right-hand scale)



Note: 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.

Source: NBP, Statistics Poland

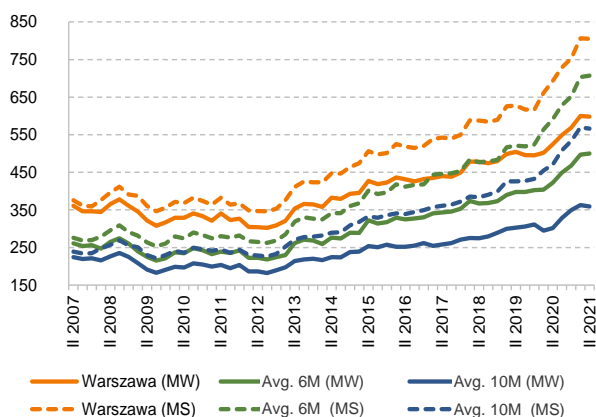
Figure 20 Quarterly changes in the estimated affordability of loan-financed housing in 7M and the force and directions of the impact of individual components



Note: the interest on mortgage loan weighted with the share of PLN-denominated and FX loan.

Source: NBP, Statistics Poland

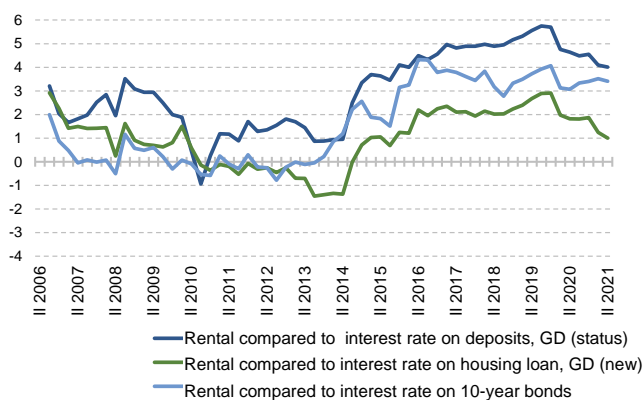
Figure 21 Estimated affordable mortgage loan for average gross wage in the enterprise sector in selected cities



Note: values estimated with the criterion of minimum subsistence wage left (MS) or average monthly wage in the enterprise sector (MW)

Source: NBP, Statistics Poland, BGK

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

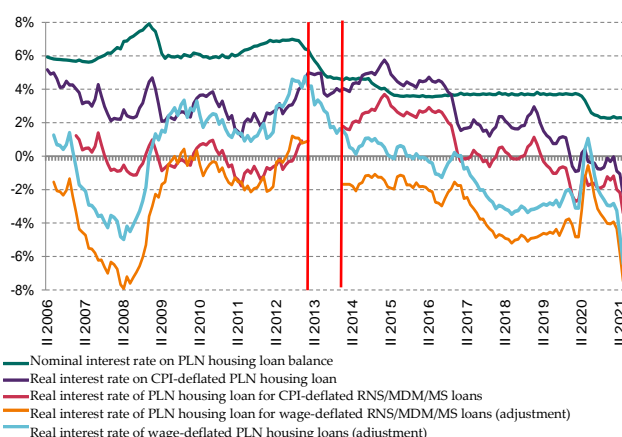


Note to Figure 23: values exceeding 0 denote higher profitability of purchasing property for rental to third persons than other households' investment. This analysis does not take into account high transaction costs in the residential market and the potentially long time of disinvestment.

Note to Figure 24: Transaction price of sq. m. of a dwelling 50% SM and 50% PM (including costs of finishing; details in the description of Table 7). Cost of construction of half a 1121-302 building (details in footnote 31).

Source: NBP, Statistics Poland

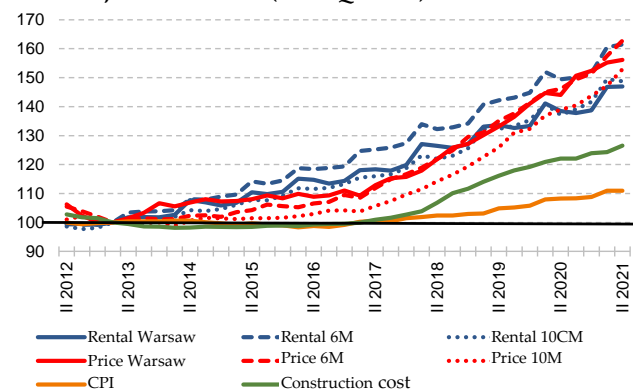
Figure 22 Residential mortgage loan burden for consumer deflated with CPI or wage growth in the enterprise sector



Note: values below 0 denote negative real interest rate for the borrower; red lines separate the 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

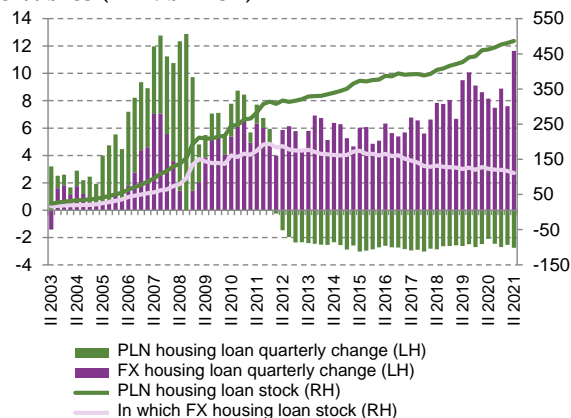
Figure 24 Growth rate of changes in the level of transaction priced (Price) and household income (Result), home construction costs and CPI, average in Warsaw, 6M and 10M (2013 Q1=100)



Source: NBP, Statistics Poland

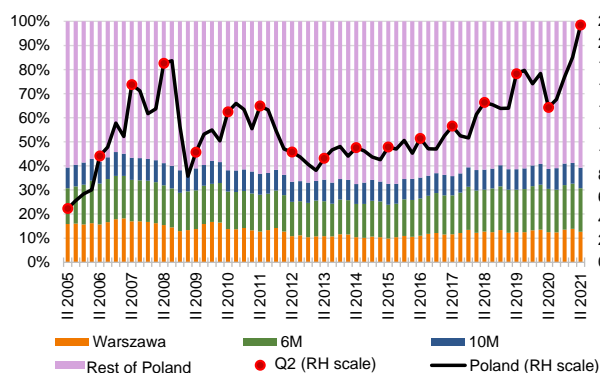
3. Disbursement of residential mortgage loans, interest rates

Figure 25 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

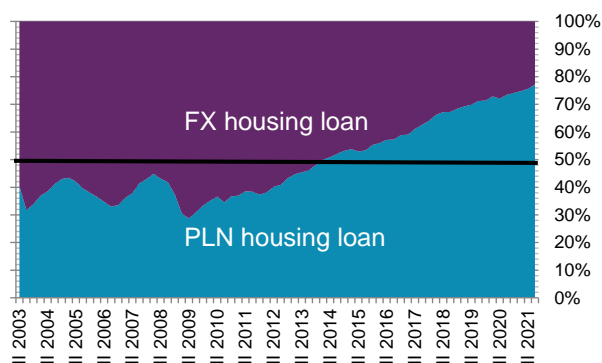
Figure 27 Geographical structure of the value of new residential mortgage loan contracts in Poland's selected cities, quarterly data



Note to Figures 27 and 28: the data inform about signed residential mortgage loan contracts rather than about the actual disbursement of loans. Only second quarters are marked by red points in Figure 27.

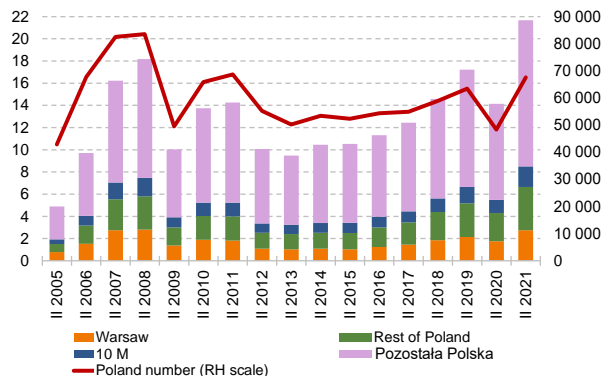
Source: BIK

Figure 26 Currency structure of housing loan receivables from households (%)



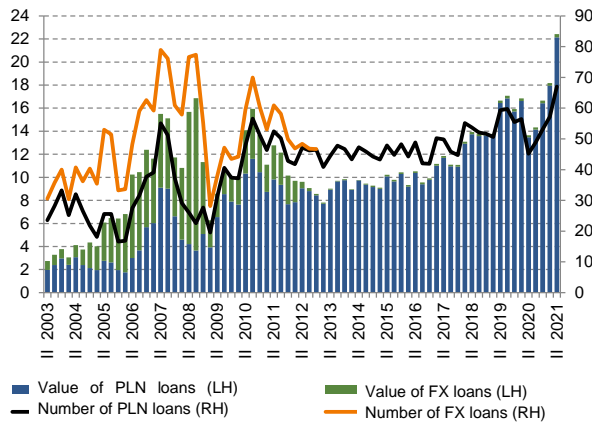
Source: NBP

Figure 28 Value in PLN bn (left-hand scale) and number (right-hand scale) of new residential mortgage loan contracts in Poland's selected cities in the second quarters of 2005-2021



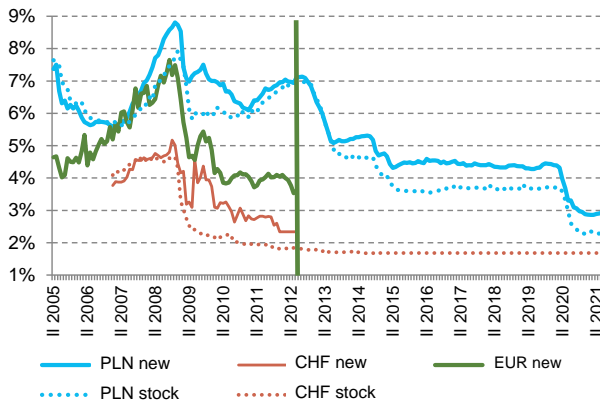
Source: BIK

Figure 29 New residential mortgage loan contracts: value and number, cumulated quarterly values



Source: ZBP (AMRON)

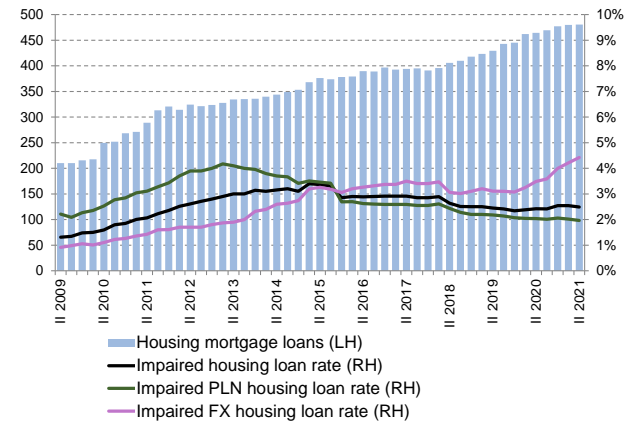
Figure 31 Interest rates on residential mortgage loans for households in Poland



Note to Figure 31 and 32: the violet vertical line separates a period with no FX loans which have not been practically granted since 2012. Note to Figure 31: bank margin is the difference between the housing loan rate (NBP data) and the WIBOR3M rate or the LIBORCHF3M rate.

Source: NBP

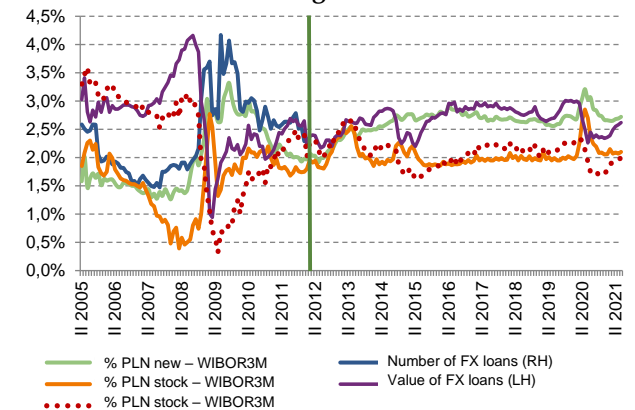
Figure 30 Loans to households for housing real estate and indicator of loans recognised as non-performing loans



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

Source: NBP

Figure 32 Bank margins (for WIBOR, LIBOR, EURIBOR 3M) for housing loans



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 the PM in 7M	Loan demand including client's down payments in PM in 7M	Client's down payment in PM in 7M	Cash demand for housing (no down payments) in PM in 7M	Estimated share of cash home purchases 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	9882	3965	991	5917	70%
2021 Q2	22244	10085	5072	1268	5014	62%

Note to Table 1: 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 loan -financed purchases with the minimum share of cash (a down payment of 25% was assumed; in big cities, down payment of 20% more prudently than the requirement of the amended S Recommendation), whereas home cash purchases make a difference between the value of transactions and credit funds.

In order to calculate the estimated value of PM transactions in 7M (Gdańsk, Gdynia, Kraków, Łódź, Poznań, Warsaw, Wrocław), the average home price (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 in PM in 7M, recorded in 2020 Q2 is related to very low sale of dwellings in this period associated with the pandemic-driven mobility restrictions.

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

Figure 33 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

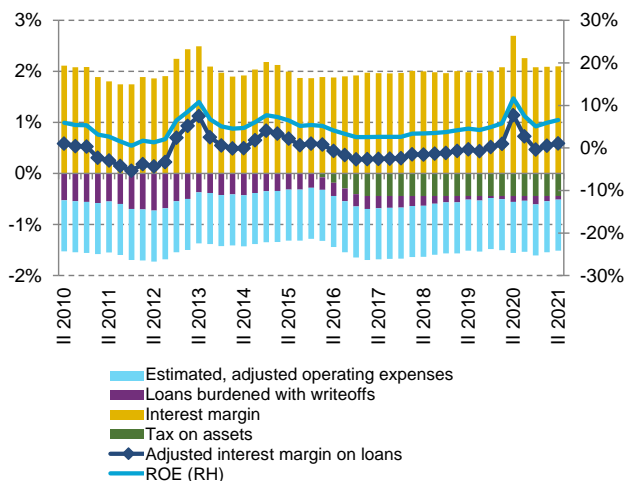
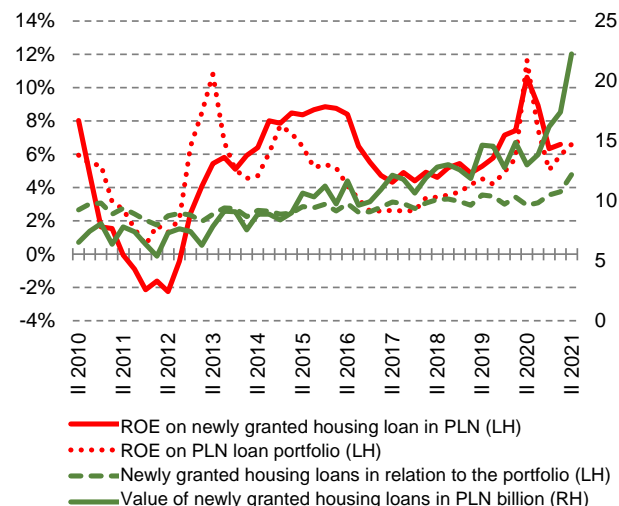


Figure 34 Estimated ROE on residential mortgage loans denominated in PLN for banks in Poland, taking into account interest income and non-interest profit and operating expenses and bank tax



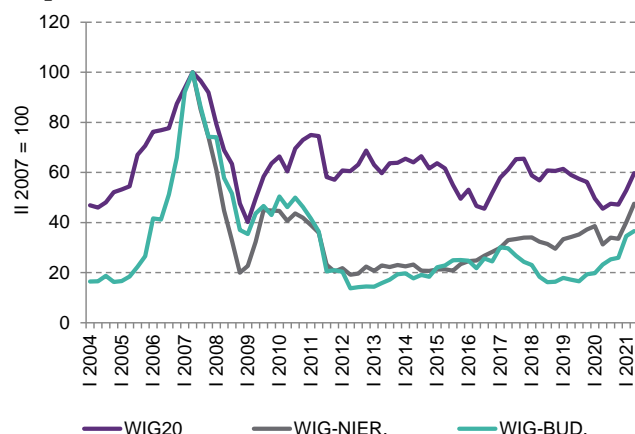
Note to Figures 33 and 34: for calculation, interest income, non-interest income and operating costs were taken into account. The estimated ROE (return on equity) is calculated as the adjusted interest margin in relation to equity. The adjusted interest margin is the interest margin less write-offs, less the estimated operating expenses (adjusted for the non-interest result on residential mortgage loans), less bank tax. Operating expenses less non-interest income were estimated at 1% of the value of the loan portfolio (outstanding loans) and at 1.5% of the value of new loans. Data concerning equity calculated on the basis of KNF publications. Interest margin based on NBP data.

Source: NBP, KNF

Source: NBP, KNF

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

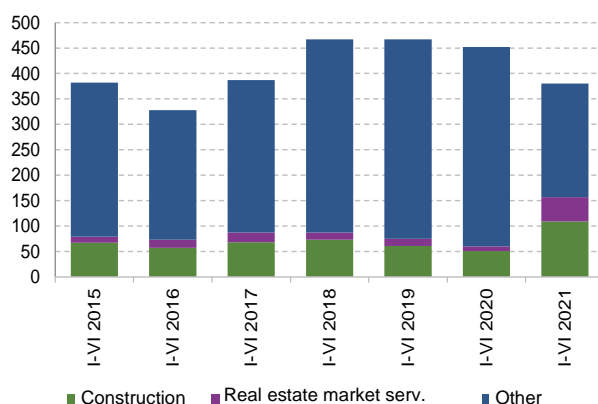
Figure 35 Rescaled exchange indices: WIG20 and for real estate developers (WIG-NIER) and construction companies (WIG-BUD) (2007 Q2=100)



Note: data standardised, 2007 Q2 = 100 (developers' WIG has been listed since 2007 Q2); 2021 Q2, status as at 7 September 2021.

Source: Warsaw Stock Exchange

Figure 36 Structure of bankruptcies of enterprises, including the construction industry (as at the end of the first quarter)



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

Source: Coface Poland

Figure 37 Estimated share of direct construction costs per square metre of the residential building's usable floor area (type 1122-302²⁹) in net transaction price in PM of 6M

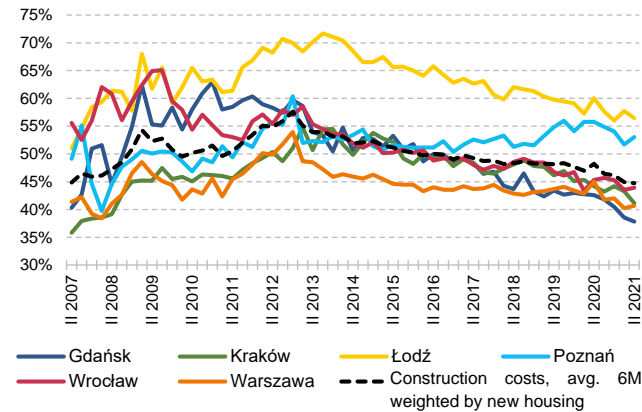
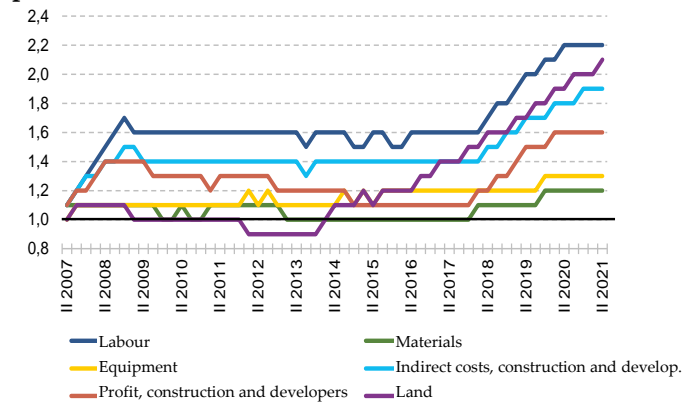


Figure 38 Estimated share of various construction costs per square metre of the residential building's usable floor area (type 1122-302²⁹) in net transaction price in PM of 6M (2007 Q1=1)



Note to Figures 37 and 38: Since 2014 NBP has used its own appraisal of land for residential multifamily construction.

Source: NBP based on Sekocenbud

Source: NBP based on Sekocenbud

Figure 39 Estimated rate of return on development projects (type 1122-302²⁹) in the largest cities

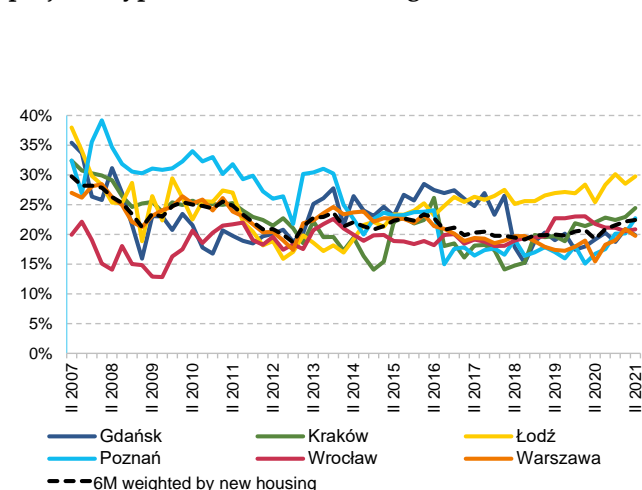
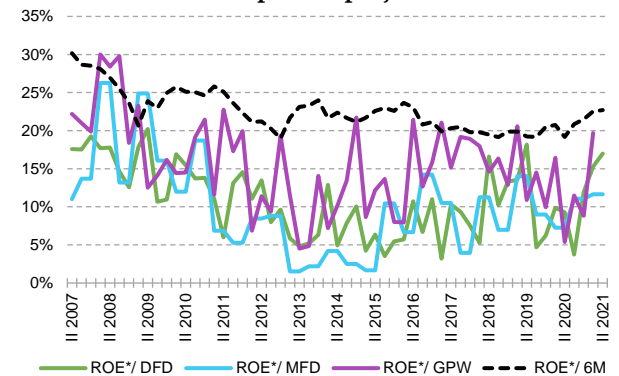


Figure 40 Estimated profitability indicators of development projects ROE* for real estate developers listed on the Stock Exchange, for large real estate developers (DFD), small real estate developers (MFD)*** and development projects in 6 cities (6M)**



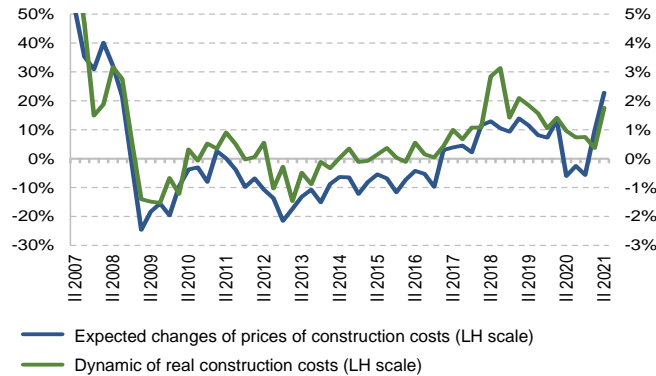
* /ROE modified = net financial result/ (income from sale – net result from sale); ** / DFD – average large real estate development company (according to Statistics Poland employment =>50 employees), MFD – average small real estate development company (employment 949 employees).

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

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

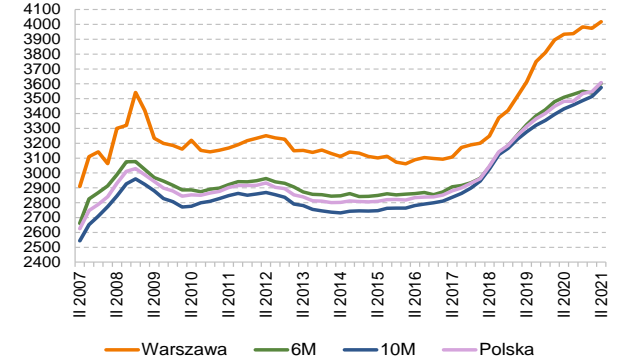
²⁹ Half of the building (type 1122-302) monitored by NBP since 2016 Q2 based on Sekocenbud data.. An average residential multifamily building, with an underground garage, constructed in the following technology: foundation footings, construction walls and ceilings - monolithic reinforced concrete, curtain 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 41 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- 302²⁹)



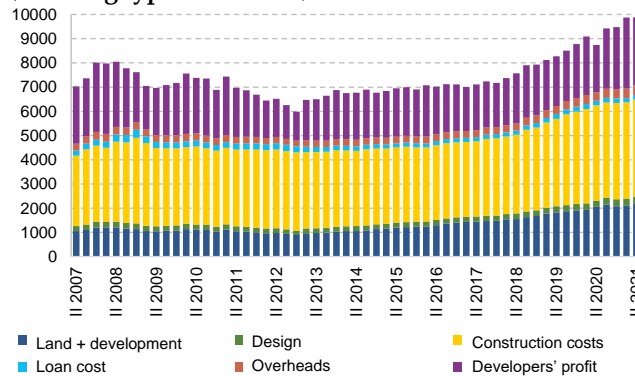
Source: NBP based on the Statistics Poland data (business conditions survey), Sekocenbud

Figure 42 Average cost of construction of square metre of the residential building's usable floor area (type 1122- 302²⁹) in selected markets (PLN/sq.m.)



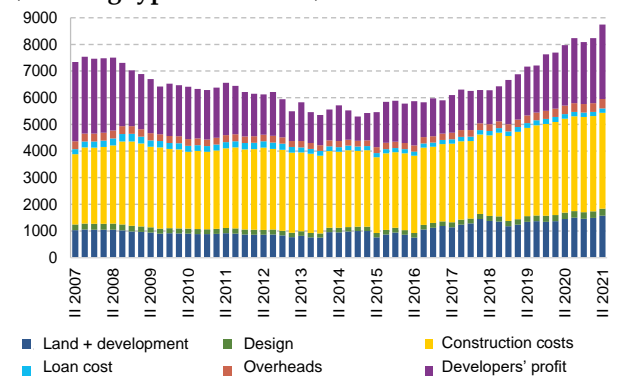
Source: NBP based on Sekocenbud

Figure 43 Warsaw – estimated structure of price per square metre of housing usable floor area in PM (building type 1122-302²⁹) for consumers



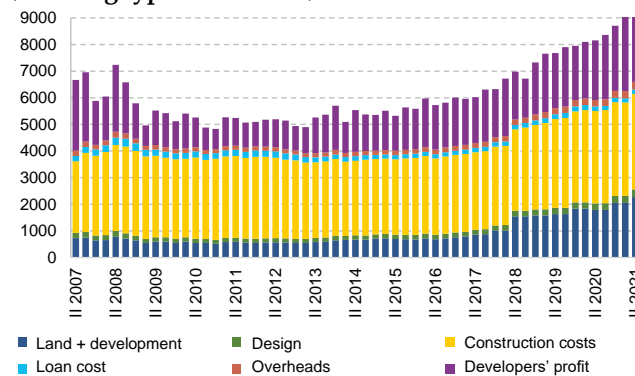
Source: NBP based on Sekocenbud, JLL (former REAS)

Figure 44 Kraków – estimated structure of price per square metre of housing usable floor area in PM (building type 1122- 302²⁹) for consumers



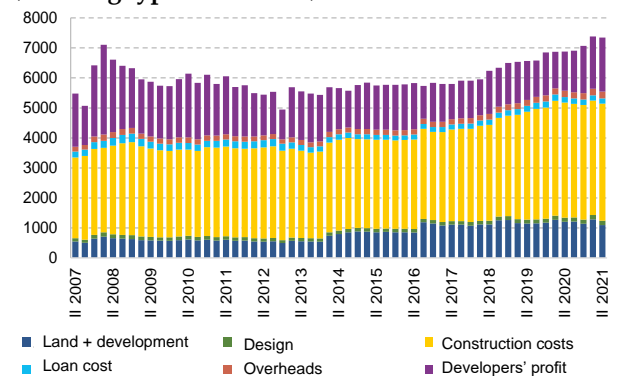
Source: NBP based on Sekocenbud, JLL (former REAS)

Figure 45 Gdańsk – estimated structure of price per square metre of housing usable floor area in PM (building type 1122- 302²⁹) for consumers



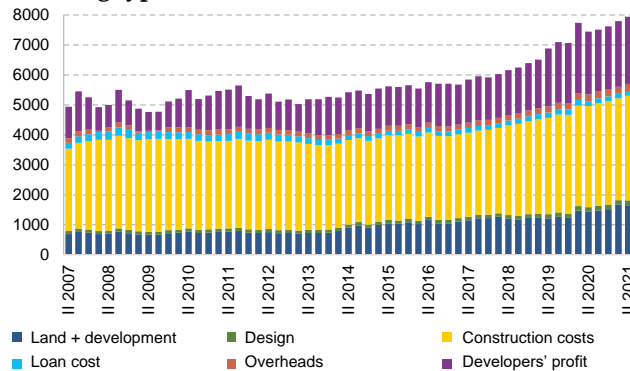
Source: NBP based on Sekocenbud, JLL (former REAS)

Figure 46 Poznań – estimated structure of price per square metre of housing usable floor area in PM (building type 1122- 302²⁹) for consumers



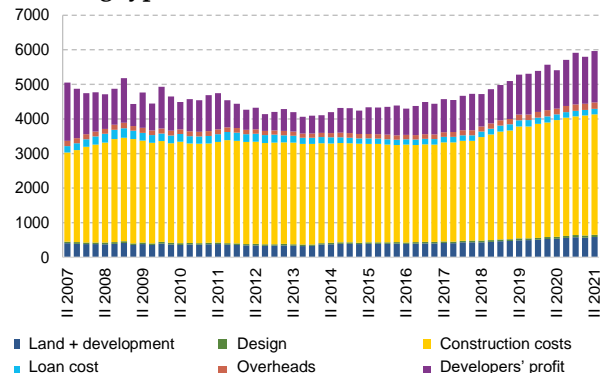
Source: NBP based on Sekocenbud, JLL (former REAS)

Figure 47 Wrocław – estimated structure of price per square metre of housing usable floor area in PM (building type 1122- 302^{29/}) for consumers



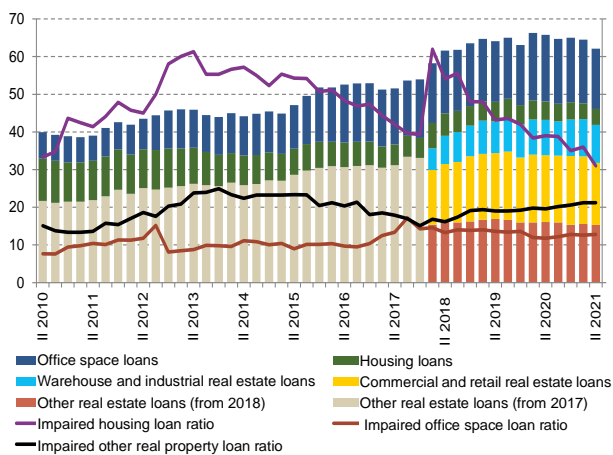
Source: NBP based on Sekocenbud, JLL (former REAS)

Figure 48 Łódź – estimated structure of net price per square metre of housing usable floor area in PM (building type 1122- 302^{29/}) for consumers



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

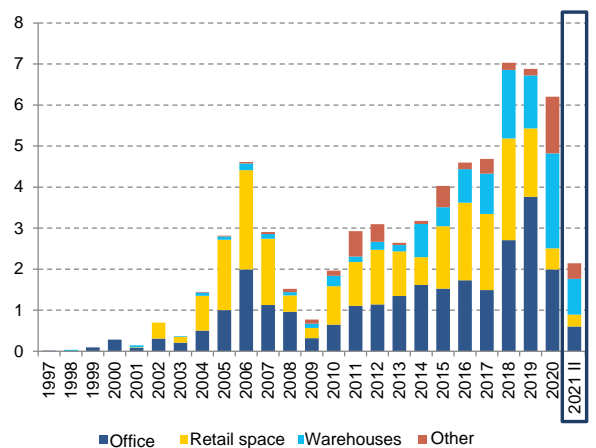
Figure 49 Loans to corporations for real estate purchases (in PLN bn, LH scale) and the share of loans recognised as non-performing loans (in %, RH scale)



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

Source: NBP

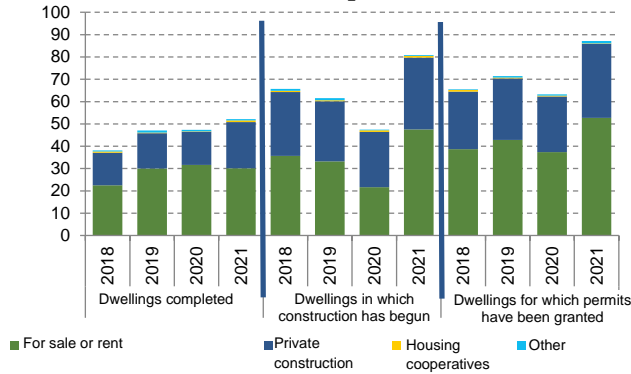
Figure 50 Value of investment transactions in the commercial real estate market (in EUR bn)



Source: Comparables.pl

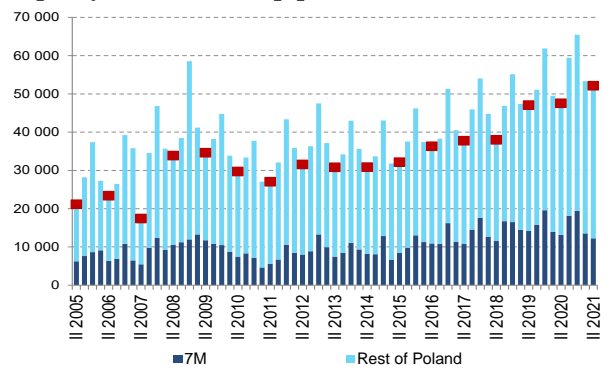
5. Residential construction and the housing market in Poland's selected cities

Figure 51 Structure of residential construction investors in Poland in second quarters of 2018-2021



Source: Statistics Poland

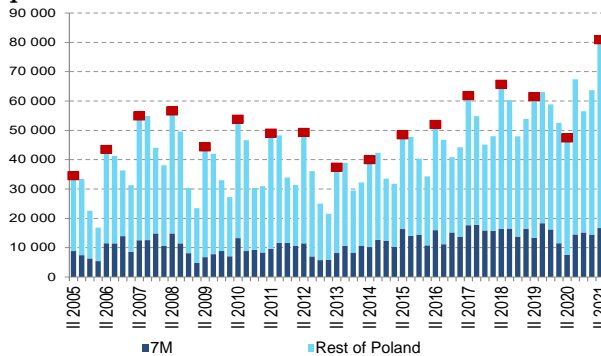
Figure 52 Dwellings completed and made ready for occupancy in Poland, in q/q terms



Note: only second quarters have been marked in red.

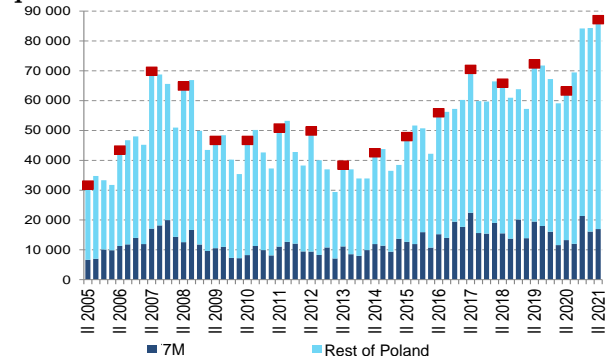
Source: Statistics Poland

Figure 53 Dwellings under construction in Poland, in q/q terms



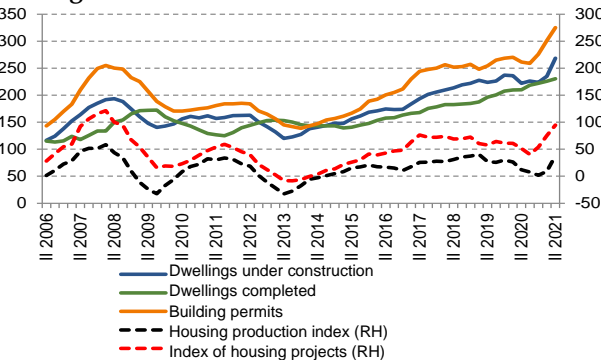
Note: only second quarters have been marked in red. Source: Statistics Poland

Figure 54 Issued home building permits in Poland, in q/q terms



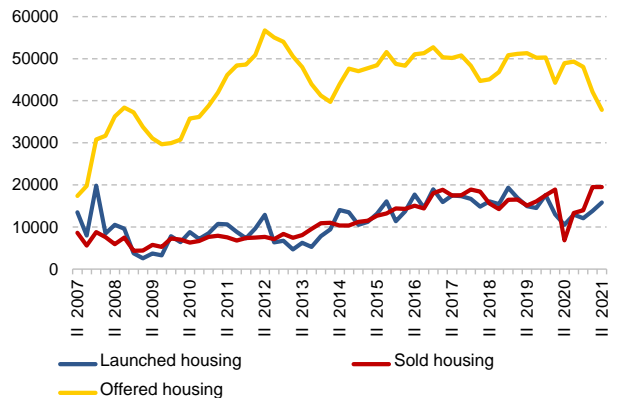
Note: only second quarters have been marked in red. Source: Statistics Poland

Figure 55 Housing construction in Poland (in thousands of 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 56 Number of contracts for the construction of dwellings put on the market, both sold and offered for sale in Poland's 6 largest markets.*/



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

Figure 57 Housing supply and the estimated rate of return on housing development projects in PM, average in 7M

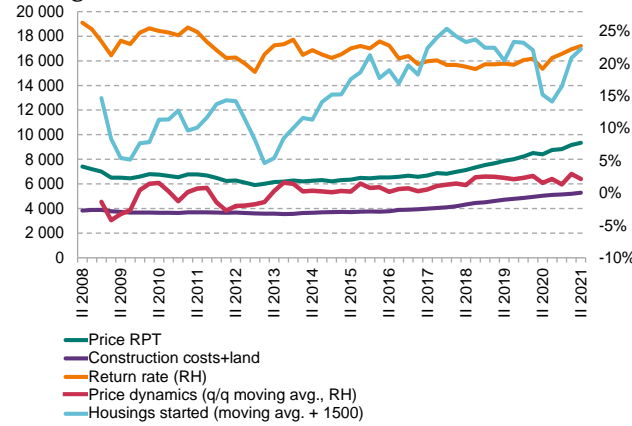
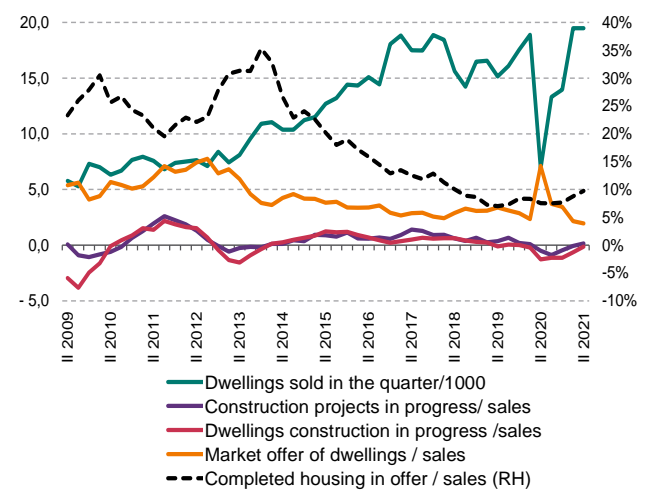


Figure 58 Housing projects, dwellings under construction and dwellings offered for sale in 7M



Note to Figure 58: Housing projects under construction = building permits for housing units minus completed housing units; housing units under construction = housing units whose construction has begun minus completed housing units; cumulative values of the last 4 quarters, divided by sales in the given period.

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

Source: NBP based on Statistics Poland

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

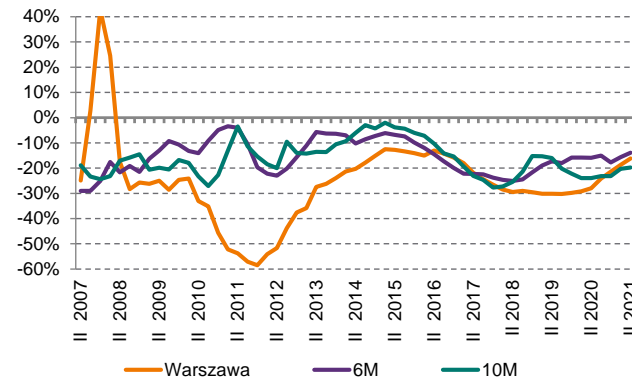
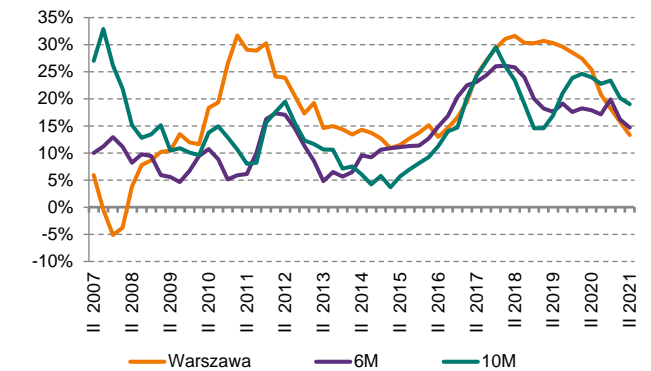


Figure 60 Measure of adjustment of housing units on offer to demand in terms of area > 50 sq. m., PM in selected cities in Poland

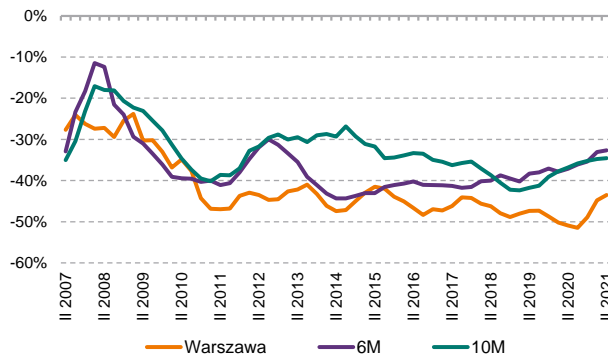


Note: Figure 59 presents, in percentage terms, a short-term mismatch in the primary market between supply (developers' housing offer) and the estimated demand (housing transactions) in terms of the dwelling's size, according to the data from the BaRN database. The mismatch is calculated as the ratio of the share of housing units with usable area of up to 50 square meters offered for sale to the number of transactions involving housing units with a total area of up to 50 square meters (the average figure for the last four quarters). The positive result (above the black line) indicates a surplus of housing of this particular size, whereas the negative result indicates its shortage. Figure 60 is parallel for the space above 50 sq.m. Figures 61-62 are parallel, but they concern the secondary market only.

Source: NBP

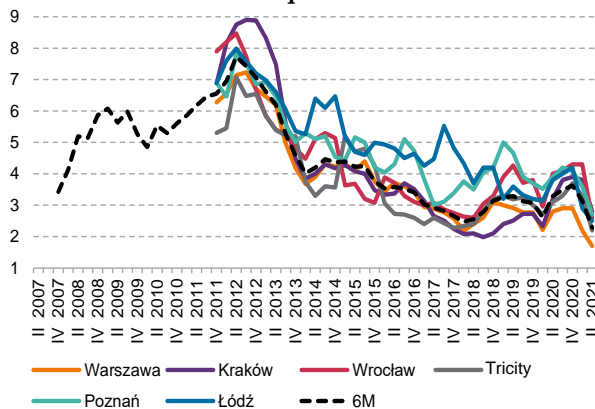
Source: NBP

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



Source: NBP

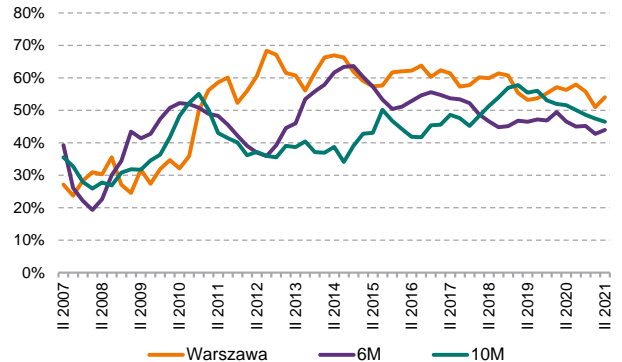
Figure 63 Selling time of dwellings on offer in PM in selected cities (number of quarters)



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

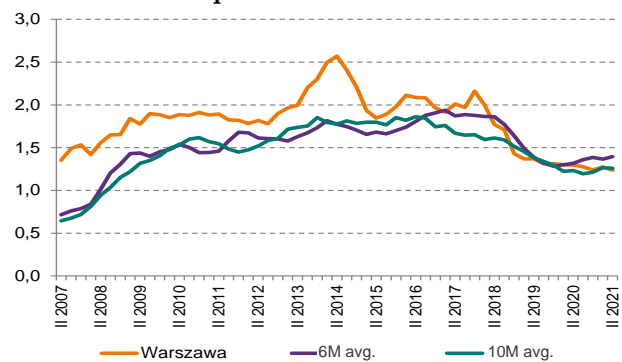
Source: NBP based on JLL (former REAS)

Figure 62 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 64 Selling time of dwellings in SM in selected cities (number of quarters)

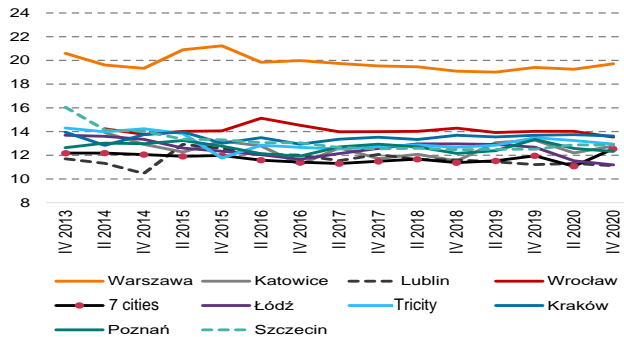


Note: real selling time, average of the last four quarters; data are not comparable with Figure 63. Selling time of housing in the secondary real estate market take into account only transactions concluded with sales. The data are underestimated since they do not contain offers entered but not sold yet.

Source: NBP

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

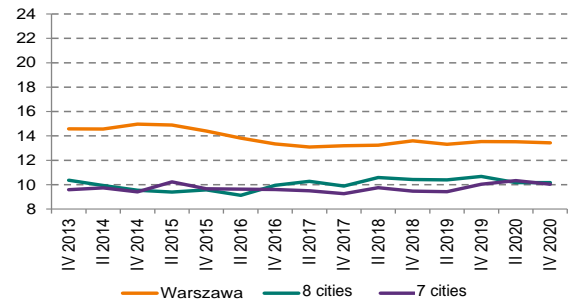
Figure 65 Transaction rents for A class office space (average prices in EUR/sq.m./month)



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

Source: NBP

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

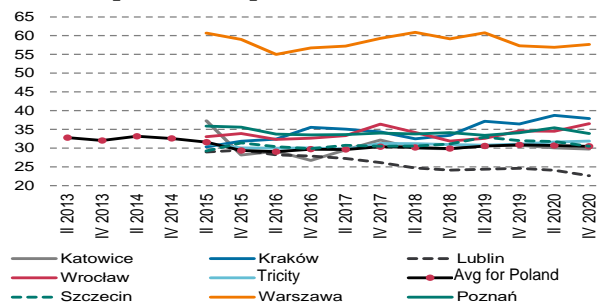


Note: 8 cities include: Katowice, Kraków, Lublin, Łódź, Poznań, Szczecin, Tri-City, Wrocław. 7 cities include: Białystok, Bydgoszcz, Kielce, Olsztyn, Opole, Rzeszów, Zielona Góra.

Source: NBP

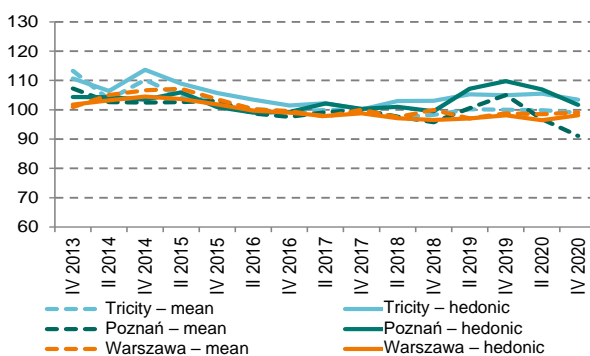
Note to Figure 67: as of the beginning of 2015 Q4, the number of records in the base, including respondents, has increased significantly, consequently changing the analysed sample.

Figure 67 Transaction rents for retail space in shopping centres (shopping malls) with an area of 100-500 sq. m (EUR/sq.m./month)



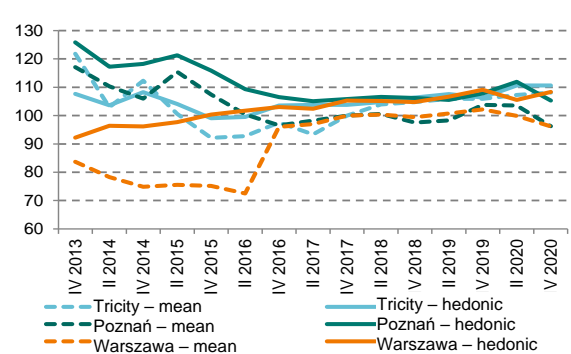
Source: NBP

Figure 68 Index of rents for offices, average and hedonic rents (2017 Q4 = 100)



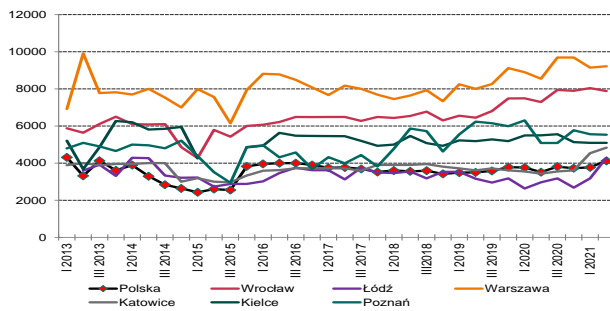
Source: NBP

Figure 69 Index of rents for shopping centres, average and hedonic rents (2017 Q4 = 100)



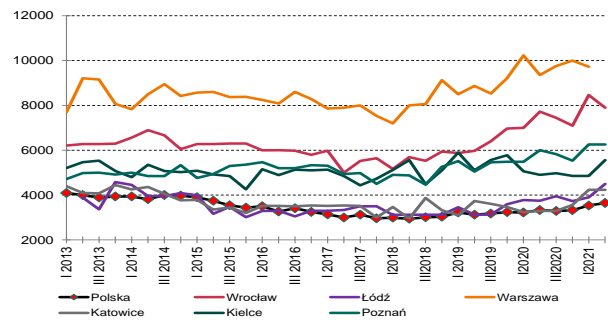
Source: NBP

Figure 70 Median of offer selling price of small office premises in SM (PLN/sq.m.)



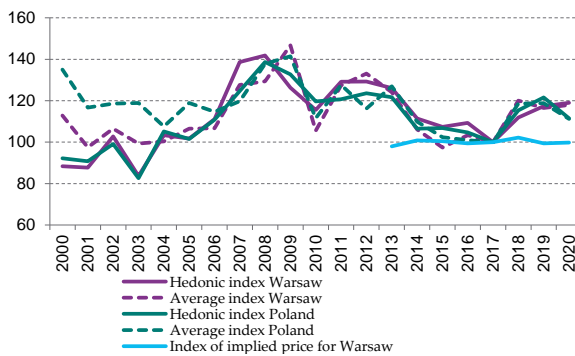
Source: PONT, NBP report

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



Source: PONT, NBP report

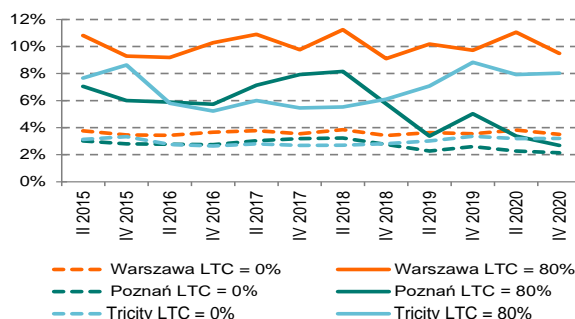
Figure 72 Growth of average and hedonic prices of office real estate in Warsaw and the whole of Poland (2017=100) and the index of implied price for Warsaw



Note: The analysis comprises transaction prices and bank valuations 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

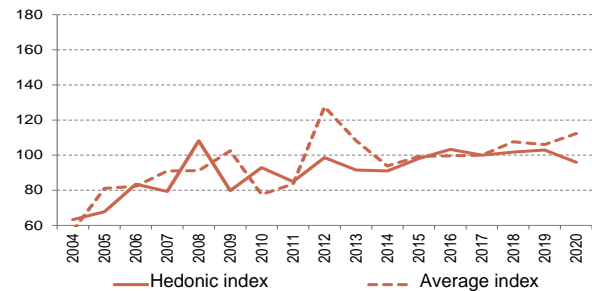
Figure 74 Estimated rate of return on equity (ROE) from investment and putting into commercial use of A class office building



Note: 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

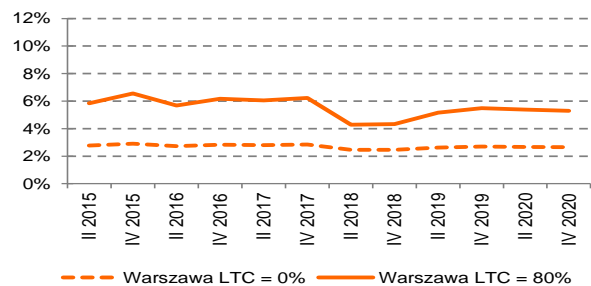
Figure 73 Growth of average and hedonic prices of retail real estate in the whole of Poland (2017=100)



Note: The analysis comprises transaction prices and bank valuations of commercial properties.

Source: NBP, Comparables.pl, AMRON

Figure 75 Estimated rate of return on equity (ROE) from investment in B class office space from the existing stock in Warsaw



Note: Description of the ROE calculation method can be found under Table 6.

Source: NBP, Comparables.pl, AMRON, NBP report

Table 3 Average prices per square metre of housing in the primary market in Gdańsk

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 781	8 806	9 621	9 024	9 691	9 400	10 068	9 795	9 714	10 257
growth (q-o-q)	98,8	100,7	98,4	102,5	100,7	104,2	103,9	104,2	96,5	104,7
growth (y-o-y)	108,3	106,2	101,6	105,7	98,8	109,5	101,7	112,1	99,3	116,5
dwelling price range	3 374	709	3 533	1 189	3 946	1 407	4 047	1 603	4 194	2 199
<=4 000 PLN/sq.m	4	3	12	0	7	1	3	4	1	0
(4 001; 6 000] PLN/sq.m	83	54	42	51	15	31	17	20	11	8
(6 001; 8 000] PLN/sq.m	1 046	280	1 064	498	1 281	501	872	436	1 161	547
(8 001; 10 000] PLN/sq.m	766	170	1 057	253	1 099	320	1 562	478	1 721	650
>10 001 PLN/sq.m	1 475	202	1 358	387	1 544	554	1 593	665	1 300	994
dwelling space range	3 374	709	3 533	1 189	3 946	1 407	4 047	1 603	4 194	2 199
<= 40 sq.m	520	154	507	263	515	304	475	334	799	526
(40,1; 60] sq.m	1474	334	1561	600	1776	630	1861	731	1820	1008
(60,1; 80] sq.m	946	170	1000	243	1175	334	1222	373	1180	461
> 80,1 sq.m	434	51	465	83	480	139	489	165	395	204
average price of 1 sq.m. of dwelling	9 781	8 806	9 621	9 024	9 691	9 400	10 068	9 795	9 714	10 257
<=4 000 sq.m	10 440	9 063	10 156	8 976	10357	9573	11168	10133	10424	11164
(40,1; 60] sq.m	9 643	9 017	9 486	9 072	9492	9282	9943	9859	9446	9905
(60,1; 80] sq.m	9 184	7 785	9 189	8 333	9246	9015	9555	9159	9372	9625
> 80,1 sq.m	10 761	10 051	10 421	10 862	10801	10484	10754	10264	10533	11083
average offer price deviation	11,1%	x	6,6%	x	3,1%	x	2,8%	x	-5,3%	x
<= 40 sq.m	15,2%	x	13,2%	x	8,2%	x	10,2%	x	-6,6%	x
(40,1; 60] sq.m	6,9%	x	4,6%	x	2,3%	x	0,9%	x	-4,6%	x
(60,1; 80] sq.m	18,0%	x	10,3%	x	2,6%	x	4,3%	x	-2,6%	x
> 80,1 sq.m	7,1%	x	-4,1%	x	3,0%	x	4,8%	x	-5,0%	x

Source: NBP

Table 4 Average prices per square metre of housing in the secondary market in Gdańsk

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 332	8 509	10 264	8 960	10 523	9 042	10 529	9 341	10 819	9 071
growth (q-o-q)	97,7	101,4	99,3	105,3	102,5	100,9	100,1	103,3	102,8	97,1
growth (y-o-y)	110,6	108,8	103,1	115,4	106,4	108,1	99,6	111,3	104,7	106,6
dwelling price range	1 057	1 034	1 052	1 126	825	1 064	574	855	2 223	445
<=4 000 PLN/sq.m	0	6	2	6	0	2	0	1	0	0
(4 001; 6 000] PLN/sq.m	31	79	45	67	26	41	11	34	18	22
(6 001; 8 000] PLN/sq.m	218	376	211	367	110	351	81	243	256	122
(8 001; 10 000] PLN/sq.m	325	375	324	390	298	381	217	304	828	184
>10 001 PLN/sq.m	483	198	470	296	391	289	265	273	1 121	117
dwelling space range	1 057	1 034	1 052	1 126	825	1 064	574	855	2 223	445
<= 40 sq.m	160	253	143	270	123	253	88	204	375	107
(40,1; 60] sq.m	422	479	398	536	328	504	214	391	931	192
(60,1; 80] sq.m	289	214	319	239	220	234	181	195	619	114
> 80,1 sq.m	186	88	192	81	154	73	91	65	298	32
average price of 1 sq.m. of dwelling	10 332	8 509	10 264	8 960	10 523	9 042	10 529	9 341	10 819	9 071
<=4 000 sq.m	11 647	9 198	12 019	9 804	11857	9995	11865	9929	12001	10077
(40,1; 60] sq.m	10 308	8 609	10 530	8 660	10819	8890	10797	9319	10840	9096
(60,1; 80] sq.m	9 739	7 692	9 482	8 590	9731	8372	9828	8851	10357	8545
> 80,1 sq.m	10 177	7 974	9 706	9 221	9957	8936	10001	9102	10226	7435
average offer price deviation	21,4%	x	14,6%	x	16,4%	x	12,7%	x	19,3%	x
<= 40 sq.m	26,6%	x	22,6%	x	18,6%	x	19,5%	x	19,1%	x
(40,1; 60] sq.m	19,7%	x	21,6%	x	21,7%	x	15,9%	x	19,2%	x
(60,1; 80] sq.m	26,6%	x	10,4%	x	16,2%	x	11,0%	x	21,2%	x
> 80,1 sq.m	27,6%	x	5,3%	x	11,4%	x	9,9%	x	37,5%	x

Source: NBP

Table 5 Average prices per square metre of housing in the primary market in Kraków

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 758	8 608	9 466	8 893	9 615	8 735	9 741	8 896	10 148	9 446
growth (q-o-q)	105,9	103,6	97,0	103,3	101,6	98,2	101,3	101,8	104,2	106,2
growth (y-o-y)	122,6	111,2	118,1	114,2	112,7	106,0	105,7	107,1	104,0	109,7
dwellings price range	5 975	1 090	7 328	1 378	6 928	1 714	6 671	1 671	6 379	2 460
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	98	59	95	37	63	44	78	45	27	47
(6 001; 8 000] PLN/sq.m	1 285	401	1 658	437	1 436	542	1 212	471	672	533
(8 001; 10 000] PLN/sq.m	2 203	407	3 087	555	2 941	800	2 818	782	2 762	1 074
>10 001 PLN/sq.m	2 389	223	2 488	349	2 488	328	2 563	373	2 918	806
dwellings space range	5 975	1 090	7 328	1 378	6 928	1 714	6 671	1 671	6 379	2 460
<= 40 sq.m	1194	238	1484	388	1478	369	1493	380	1488	573
(40,1; 60] sq.m	2758	549	3334	659	3021	895	2874	751	2726	1105
(60,1; 80] sq.m	1541	231	1946	264	1913	353	1766	454	1694	602
> 80,1 sq.m	482	72	564	67	516	97	538	86	471	180
average price of 1 sq.m. of dwelling	9 758	8 608	9 466	8 893	9 615	8 735	9 741	8 896	10 148	9 446
<=4 000 sq.m	10 983	9 278	10 549	9 546	10703	9151	10871	9597	10804	10325
(40,1; 60] sq.m	9 576	8 507	9 302	8 634	9477	8694	9621	8788	10153	9330
(60,1; 80] sq.m	9 078	8 315	8 873	8 465	8963	8313	9032	8377	9586	8827
> 80,1 sq.m	9 934	8 111	9 630	9 348	9720	9071	9578	9479	10066	9424
average offer price deviation	13,4%	x	6,4%	x	10,1%	x	9,5%	x	7,4%	x
<= 40 sq.m	18,4%	x	10,5%	x	17,0%	x	13,3%	x	4,6%	x
(40,1; 60] sq.m	12,6%	x	7,7%	x	9,0%	x	9,5%	x	8,8%	x
(60,1; 80] sq.m	9,2%	x	4,8%	x	7,8%	x	7,8%	x	8,6%	x
> 80,1 sq.m	22,5%	x	3,0%	x	7,2%	x	1,0%	x	6,8%	x

Source: NBP

Table 6 Average prices per square metre of housing in the secondary market in Kraków

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	9 672	8 061	9 542	8 100	9 820	8 118	9 899	8 366	10 231	9 103
growth (q-o-q)	101,6	103,8	98,7	100,5	102,9	100,2	100,8	103,1	103,4	108,8
growth (y-o-y)	108,7	115,9	107,1	113,5	107,8	109,5	104,0	107,7	105,8	112,9
dwellings price range	587	201	470	286	614	243	728	302	697	505
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	2	17	2	16	2	13	3	18	1	14
(6 001; 8 000] PLN/sq.m	132	83	109	130	130	109	128	107	81	138
(8 001; 10 000] PLN/sq.m	253	82	205	110	259	99	324	137	304	213
>10 001 PLN/sq.m	200	19	154	30	223	22	273	40	311	140
dwellings space range	587	201	470	286	614	243	728	302	697	505
<= 40 sq.m	161	69	124	126	164	103	186	126	159	208
(40,1; 60] sq.m	283	101	227	124	284	106	331	132	332	198
(60,1; 80] sq.m	109	22	91	31	117	31	149	40	155	79
> 80,1 sq.m	34	9	28	5	49	3	62	4	51	20
average price of 1 sq.m. of dwelling	9 672	8 061	9 542	8 100	9 820	8 118	9 899	8 366	10 231	9 103
<=4 000 sq.m	10 614	8 249	10 359	8 614	10939	8455	10606	8789	11182	9464
(40,1; 60] sq.m	9 399	8 153	9 228	7 884	9500	7973	9753	8210	9965	8756
(60,1; 80] sq.m	8 928	7 617	8 858	7 100	9080	7409	9274	7546	9678	8810
> 80,1 sq.m	9 873	6 671	10 700	6 668	9693	9017	10062	8405	10681	9940
average offer price deviation	20,0%	x	17,8%	x	21,0%	x	18,3%	x	12,4%	x
<= 40 sq.m	28,7%	x	20,3%	x	29,4%	x	20,7%	x	18,2%	x
(40,1; 60] sq.m	15,3%	x	17,0%	x	19,2%	x	18,8%	x	13,8%	x
(60,1; 80] sq.m	17,2%	x	24,8%	x	22,6%	x	22,9%	x	9,8%	x
> 80,1 sq.m	48,0%	x	60,5%	x	7,5%	x	19,7%	x	7,5%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	6 510	6 080	6 734	6 406	6 761	6 624	6 854	6 500	7 409	6 676
growth (q-o-q)	98,5	97,3	103,4	105,4	100,4	103,4	101,4	98,1	108,1	102,7
growth (y-o-y)	108,3	103,9	111,7	108,9	107,8	109,9	103,7	104,0	113,8	109,8
dwelling price range	1 218	171	1 390	287	1 431	437	1 463	501	1 642	624
<=4 000 PLN/sq.m	0	0	0	0	0	1	0	0	0	0
(4 001; 5 000] PLN/sq.m	5	4	4	2	3	2	3	3	1	3
(5 001; 6 000] PLN/sq.m	399	85	247	91	281	94	209	123	73	123
(6 001; 7 000] PLN/sq.m	533	58	708	135	692	224	757	270	492	303
(7 001; 8 000] PLN/sq.m	214	23	343	48	340	92	354	94	655	170
> 8 000 PLN/sq.m	67	1	88	11	115	24	140	11	421	25
dwelling space range	1 218	171	1 390	287	1 431	437	1 463	501	1 642	624
<= 40 sq.m	201	34	275	52	307	120	280	91	374	106
(40,1; 60] sq.m	557	83	655	145	646	221	724	267	742	323
(60,1; 80] sq.m	363	42	350	75	370	80	345	112	410	143
> 80,1 sq.m	97	12	110	15	108	16	114	31	116	52
average price of 1 sq.m. of dwelling	6 510	6 080	6 734	6 406	6 761	6 624	6 854	6 500	7 409	6 676
<=4 000 sq.m	7 456	6 911	7 386	7 327	7 547	7 220	7 554	7 223	8 022	7 035
(40,1; 60] sq.m	6 464	6 002	6 701	6 405	6 691	6 517	6 835	6 464	7 350	6 764
(60,1; 80] sq.m	6 068	5 520	6 312	5 782	6 286	6 073	6 394	6 027	7 039	6 339
> 80,1 sq.m	6 463	6 225	6 637	6 346	6 566	6 388	6 648	6 399	7 110	6 322
average offer price deviation	7,1%	x	5,1%	x	2,1%	x	5,4%	x	11,0%	x
<= 40 sq.m	7,9%	x	0,8%	x	4,5%	x	4,6%	x	14,0%	x
(40,1; 60] sq.m	7,7%	x	4,6%	x	2,7%	x	5,7%	x	8,7%	x
(60,1; 80] sq.m	9,9%	x	9,2%	x	3,5%	x	6,1%	x	11,0%	x
> 80,1 sq.m	3,8%	x	4,6%	x	2,8%	x	3,9%	x	12,5%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	5 432	5 245	5 464	5 613	5 721	5 522	5 905	5 433	6 012	5 800
growth (q-o-q)	99,4	104,7	100,6	107,0	104,7	98,4	103,2	98,4	101,8	106,7
growth (y-o-y)	106,2	114,1	105,0	119,2	106,1	113,4	108,1	108,4	110,7	110,6
dwelling price range	298	54	264	50	342	63	740	75	318	81
<= 3 000 PLN/sq.m	0	1	0	0	0	0	0	0	0	0
(3 001; 4 000] PLN/sq.m	29	4	24	2	25	4	43	7	19	5
(4 001; 5 000] PLN/sq.m	79	19	68	10	65	17	121	21	47	13
(5 001; 6 000] PLN/sq.m	122	22	103	21	126	21	279	28	103	31
(6 001; 7 000] PLN/sq.m	40	6	49	13	89	16	179	10	88	22
> 7 001 PLN/sq.m	28	2	20	4	37	5	118	9	61	10
dwelling space range	298	54	264	50	342	63	740	75	318	81
<= 40 sq.m	40	14	44	15	73	24	148	22	51	27
(40,1; 60] sq.m	108	29	106	26	128	29	292	36	130	32
(60,1; 80] sq.m	68	10	54	5	81	5	167	9	78	18
> 80,1 sq.m	82	1	60	4	60	5	133	8	59	4
average price of 1 sq.m. of dwelling	5 432	5 245	5 464	5 613	5 721	5 522	5 905	5 433	6 012	5 800
<=4 000 sq.m	6 004	5 481	5 911	6 280	6 290	6 097	6 478	6 097	6 697	6 215
(40,1; 60] sq.m	5 473	5 340	5 644	5 402	5 804	5 366	5 903	5 357	6 110	5 903
(60,1; 80] sq.m	5 356	4 894	5 312	5 473	5 639	4 808	5 718	5 143	5 755	5 233
> 80,1 sq.m	5 160	2 710	4 953	4 658	4 962	4 378	5 504	4 278	5 543	4 730
average offer price deviation	3,6%	x	-2,7%	x	3,6%	x	8,7%	x	3,7%	x
<= 40 sq.m	9,5%	x	-5,9%	x	3,2%	x	6,2%	x	7,7%	x
(40,1; 60] sq.m	2,5%	x	4,5%	x	8,2%	x	10,2%	x	3,5%	x
(60,1; 80] sq.m	9,4%	x	-2,9%	x	17,3%	x	11,2%	x	10,0%	x
> 80,1 sq.m	90,4%	x	6,3%	x	13,3%	x	28,7%	x	17,2%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 764	7 431	7 922	7 459	7 980	7 633	7 989	7 968	8 254	7 934
growth (q-o-q)	102,9	100,1	102,0	100,4	100,7	102,3	100,1	104,4	103,3	99,6
growth (y-o-y)	107,3	104,9	107,2	105,0	107,9	103,2	105,9	107,3	106,3	106,8
dwelling price range	5 927	1 002	6 086	1 128	5 284	1 469	6 228	1 549	5 343	2 271
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	334	92	211	124	122	94	75	70	22	42
(6 001; 8 000] PLN/sq.m	3 502	698	3 498	719	3 168	895	3 693	852	2 619	1 292
(8 001; 10 000] PLN/sq.m	1 812	180	2 047	255	1 701	418	2 194	543	2 354	854
>10 001 PLN/sq.m	279	32	330	30	293	62	266	84	348	83
dwelling space range	5 927	1 002	6 086	1 128	5 284	1 469	6 228	1 549	5 343	2 271
<= 40 sq.m	1043	231	1071	299	895	363	1190	363	997	670
(40,1; 60] sq.m	2536	500	2549	565	2157	676	2511	700	2249	950
(60,1; 80] sq.m	1838	230	1933	204	1747	339	1988	362	1619	508
> 80,1 sq.m	510	41	533	60	485	91	539	124	478	143
average price of 1 sq.m. of dwelling	7 764	7 431	7 922	7 459	7 980	7 633	7 989	7 968	8 254	7 934
<=4 000 sq.m	8 409	7 406	8 660	7 586	8768	7869	8558	8675	9079	8383
(40,1; 60] sq.m	7 729	7 329	7 901	7 336	7935	7613	8064	7855	8311	7940
(60,1; 80] sq.m	7 397	7 231	7 495	7 364	7569	7364	7530	7576	7683	7357
> 80,1 sq.m	7 938	9 941	8 088	8 298	8204	7850	8078	7676	8198	7841
average offer price deviation	4,5%	x	6,2%	x	4,5%	x	0,3%	x	4,0%	x
<= 40 sq.m	13,5%	x	14,2%	x	11,4%	x	-1,4%	x	8,3%	x
(40,1; 60] sq.m	5,5%	x	7,7%	x	4,2%	x	2,7%	x	4,7%	x
(60,1; 80] sq.m	2,3%	x	1,8%	x	2,8%	x	-0,6%	x	4,4%	x
> 80,1 sq.m	-20,1%	x	-2,5%	x	4,5%	x	5,2%	x	4,5%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	7 823	7 022	7 851	7 069	7 808	7 095	7 943	6 960	8 137	6 923
growth (q-o-q)	100,2	102,7	100,4	100,7	99,5	100,4	101,7	98,1	102,4	99,5
growth (y-o-y)	110,6	110,7	109,2	109,7	102,2	106,5	101,7	101,8	104,0	98,6
dwelling price range	975	865	1312	725	860	697	923	397	865	381
<=4 000 PLN/sq.m	4	11	2	13	0	11	0	0	1	2
(4 001; 6 000] PLN/sq.m	99	188	115	144	80	116	81	92	45	69
(6 001; 8 000] PLN/sq.m	501	483	686	409	450	429	473	229	423	256
(8 001; 10 000] PLN/sq.m	285	161	397	126	256	116	275	67	302	52
>10 001 PLN/sq.m	86	22	112	33	74	25	94	9	94	2
dwelling space range	975	865	1312	725	860	697	923	400	865	381
<= 40 sq.m	165	244	281	253	194	227	196	137	186	110
(40,1; 60] sq.m	440	395	598	320	372	327	373	182	385	189
(60,1; 80] sq.m	250	166	282	113	209	110	265	64	221	73
> 80,1 sq.m	120	60	151	39	85	33	89	17	73	9
average price of 1 sq.m. of dwelling	7823	7022	7851	7069	7 808	7 095	7 943	6 960	8 137	6 923
<=4 000 sq.m	8656	7674	8721	7756	8 736	7 739	8 901	7 689	9 063	7 517
(40,1; 60] sq.m	8037	7060	7870	6922	7 806	6 982	8 014	6 844	8 224	6 866
(60,1; 80] sq.m	7192	6454	7235	6181	7 258	6 335	7 369	6 117	7 316	6 274
> 80,1 sq.m	7207	5695	7308	6391	7 053	6 308	7 242	5 502	7 803	6 116
average offer price deviation	11,4%	x	11,1%	x	10,1%	x	14,1%	x	17,5%	x
<= 40 sq.m	12,8%	x	12,4%	x	12,9%	x	15,8%	x	20,6%	x
(40,1; 60] sq.m	13,8%	x	13,7%	x	11,8%	x	17,1%	x	19,8%	x
(60,1; 80] sq.m	11,4%	x	17,0%	x	14,6%	x	20,5%	x	16,6%	x
> 80,1 sq.m	26,6%	x	14,4%	x	11,8%	x	31,6%	x	27,6%	x

Source: NBP

Table 11 Average prices per square metre of housing in the primary market in Warsaw

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	10 717	9 438	10 735	10 183	10 750	10 240	10 969	10 666	11 359	10 671
growth (q-o-q)	101,0	96,1	100,2	107,9	100,1	100,6	102,0	104,2	103,6	100,1
growth (y-o-y)	120,0	95,0	108,1	110,8	104,6	108,1	103,4	108,6	106,0	113,1
dwellings price range	12 347	2 631	12 735	3 154	11 757	3 917	9 780	4 951	8 429	4 699
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	32	72	26	6	13	8	9	1	6	3
(6 001; 8 000] PLN/sq.m	2 006	679	1 889	609	1 608	609	889	514	785	419
(8 001; 10 000] PLN/sq.m	3 980	1 063	4 053	1 111	3 747	1 568	3 195	1 698	2 163	1 656
>10 001 PLN/sq.m	6 329	817	6 767	1 428	6 389	1 732	5 687	2 738	5 475	2 621
dwellings space range	12 347	2 631	12 735	3 154	11 757	3 917	9 780	4 951	8 429	4 699
<= 40 sq.m	1 784	533	2 084	636	1 801	864	1 524	1 154	1 359	851
(40,1; 60] sq.m	4 995	1 240	5 210	1 324	4 858	1 645	4 087	2 062	3 549	2 101
(60,1; 80] sq.m	4 011	647	3 840	855	3 588	1 001	2 864	1 286	2 397	1 239
> 80,1 sq.m	1 557	211	1 601	339	1 510	407	1 305	449	1 124	508
average price of 1 sq.m. of dwelling	10 717	9 438	10 735	10 183	10 750	10 240	10 969	10 666	11 359	10 671
<=4 000 sq.m	12 772	9 933	12 327	10 851	12 346	10 722	12 267	11 432	12 819	11 286
(40,1; 60] sq.m	10 600	9 315	10 635	10 097	10 603	10 099	10 845	10 623	11 212	10 738
(60,1; 80] sq.m	9 693	9 034	9 774	9 529	9 919	9 424	10 269	9 928	10 608	9 989
> 80,1 sq.m	11 378	10 155	11 297	10 912	11 299	11 789	11 380	11 010	11 663	11 031
average offer price deviation	13,6%	x	5,4%	x	5,0%	x	2,8%	x	6,4%	x
<= 40 sq.m	28,6%	x	13,6%	x	15,1%	x	7,3%	x	13,6%	x
(40,1; 60] sq.m	13,8%	x	5,3%	x	5,0%	x	2,1%	x	4,4%	x
(60,1; 80] sq.m	7,3%	x	2,6%	x	5,3%	x	3,4%	x	6,2%	x
> 80,1 sq.m	12,0%	x	3,5%	x	-4,2%	x	3,4%	x	5,7%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	11 521	10 286	11 713	10 472	11 893	10 661	12 217	10 392	12 473	10 513
growth (q-o-q)	98,8	102,8	101,7	101,8	101,5	101,8	102,7	97,5	102,1	101,2
growth (y-o-y)	108,9	111,3	108,3	110,7	106,3	108,6	104,8	103,9	108,3	102,2
dwellings price range	2 098	2 667	2 015	2 850	2 640	3 737	2 186	1 547	2 373	1 322
<=4 000 PLN/sq.m	0	0	0	0	0	0	0	0	0	0
(4 001; 6 000] PLN/sq.m	17	33	8	6	12	8	3	1	3	3
(6 001; 8 000] PLN/sq.m	200	398	169	360	172	413	115	188	79	131
(8 001; 10 000] PLN/sq.m	585	919	528	964	657	1 245	497	547	490	489
>10 001 PLN/sq.m	1 296	1 317	1 310	1 520	1 799	2 071	1 571	811	1 801	699
dwellings space range	2 098	2 667	2 015	2 850	2 640	3 737	2 186	1 547	2 373	1 322
<= 40 sq.m	268	700	262	904	425	1 130	357	466	432	407
(40,1; 60] sq.m	696	1 198	681	1 196	950	1 654	795	653	893	593
(60,1; 80] sq.m	539	477	514	465	651	634	538	288	554	222
> 80,1 sq.m	595	292	558	285	614	319	496	140	494	100
average price of 1 sq.m. of dwelling	11 521	10 286	11 713	10 472	11 893	10 661	12 217	10 392	12 473	10 513
<=4 000 sq.m	12 965	11 020	13 114	10 971	13 250	11 129	13 706	11 091	13 961	11 216
(40,1; 60] sq.m	11 295	9 968	11 529	10 127	11 610	10 300	11 857	10 122	12 012	10 226
(60,1; 80] sq.m	11 102	9 689	11 350	10 118	11 292	10 330	11 387	9 852	11 698	9 910
> 80,1 sq.m	11 513	10 806	11 614	10 912	12 028	11 526	12 622	10 443	12 876	10 697
average offer price deviation	12,0%	x	11,9%	x	11,6%	x	17,6%	x	18,6%	x
<= 40 sq.m	17,6%	x	19,5%	x	19,1%	x	23,6%	x	24,5%	x
(40,1; 60] sq.m	13,3%	x	13,8%	x	12,7%	x	17,1%	x	17,5%	x
(60,1; 80] sq.m	14,6%	x	12,2%	x	9,3%	x	15,6%	x	18,0%	x
> 80,1 sq.m	6,5%	x	6,4%	x	4,4%	x	20,9%	x	20,4%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	8 652	8 041	8 670	8 109	8 630	8 233	9 062	8 423	9 387	8 578
growth (q-o-q)	102,0	96,2	100,2	100,9	99,5	101,5	105,0	102,3	103,6	101,8
growth (y-o-y)	113,3	108,1	109,6	105,8	108,2	107,8	106,8	100,8	108,5	106,7
dwellings price range	6 792	786	6 092	1 487	6 411	1 362	5 936	1 690	4 827	2 030
<=4 000 PLN/sq.m	0	0	0	1	0	0	0	5	0	0
(4 001; 6 000] PLN/sq.m	325	91	375	106	267	80	143	106	27	113
(6 001; 8 000] PLN/sq.m	2 403	350	2 180	708	2 478	623	1 996	721	1 347	743
(8 001; 10 000] PLN/sq.m	2 502	249	2 282	470	2 343	437	2 236	528	1 879	775
>10 001 PLN/sq.m	1 562	96	1 255	202	1 323	222	1 561	330	1 574	399
dwellings space range	6 792	786	6 092	1 487	6 411	1 362	5 936	1 690	4 827	2 030
<= 40 sq.m	1531	124	1333	380	1248	323	1155	362	959	397
(40,1; 60] sq.m	3185	440	2871	669	3085	648	2777	837	2244	982
(60,1; 80] sq.m	1592	179	1448	357	1630	295	1540	380	1241	511
> 80,1 sq.m	484	43	440	81	448	96	464	111	383	140
average price of 1 sq.m. of dwelling	8 652	8 041	8 670	8 109	8 630	8 233	9 062	8 423	9 387	8 578
<=4 000 sq.m	9787	9135	9983	8952	9691	9389	10138	9748	10207	9587
(40,1; 60] sq.m	8433	7996	8496	7763	8562	7931	8926	8188	9340	8515
(60,1; 80] sq.m	7929	7448	7774	7748	7862	7626	8385	7651	8794	7819
> 80,1 sq.m	8884	7810	8781	8607	8946	8244	9446	8518	9536	8926
average offer price deviation	7,6%	x	6,9%	x	4,8%	x	7,6%	x	9,4%	x
<= 40 sq.m	7,1%	x	11,5%	x	3,2%	x	4,0%	x	6,5%	x
(40,1; 60] sq.m	5,5%	x	9,4%	x	7,9%	x	9,0%	x	9,7%	x
(60,1; 80] sq.m	6,5%	x	0,3%	x	3,1%	x	9,6%	x	12,5%	x
> 80,1 sq.m	13,8%	x	2,0%	x	8,5%	x	10,9%	x	6,8%	x

Source: NBP

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

specification	II Q 2020		III Q 2020		IV Q 2020		I Q 2021		II Q 2021	
	offer	trans.	offer	trans.	offer	trans.	offer	trans.	offer	trans.
average price (PLN/sq.m.)	8 024	7 496	8 303	7 301	8 597	7 973	8 715	8 057	8 982	8 510
growth (q-o-q)	98,4	102,5	103,5	97,4	103,5	109,2	101,4	101,0	103,1	105,6
growth (y-o-y)	107,8	115,6	109,7	106,5	111,4	109,0	106,8	110,1	111,9	113,5
dwellings price range	1 161	282	2 252	139	1 920	449	2 038	421	2 623	796
<=4 000 PLN/sq.m	2	1	0	3	1	2	1	4	2	1
(4 001; 6 000] PLN/sq.m	74	38	103	28	58	47	62	38	49	51
(6 001; 8 000] PLN/sq.m	552	155	964	63	754	191	755	190	839	297
(8 001; 10 000] PLN/sq.m	413	69	925	33	779	159	836	141	1 144	291
>10 001 PLN/sq.m	120	19	260	12	328	50	384	48	589	156
dwellings space range	1 161	282	2 252	139	1 920	449	2 038	421	2 623	796
<= 40 sq.m	150	48	293	29	285	124	308	94	367	201
(40,1; 60] sq.m	466	136	964	68	799	203	856	217	1075	395
(60,1; 80] sq.m	340	75	656	30	559	95	578	82	797	142
> 80,1 sq.m	205	23	339	12	277	27	296	28	384	58
average price of 1 sq.m. of dwelling	8 024	7 496	8 303	7 301	8 597	7 973	8 715	8 057	8 982	8 510
<=4 000 sq.m	9 313	8 712	9 534	8 160	10 038	8 994	10 141	9 241	10 660	9 314
(40,1; 60] sq.m	8 126	7 489	8 395	7 240	8 610	7 886	8 747	7 746	9 022	8 307
(60,1; 80] sq.m	7 665	7 040	7 851	6 959	8 087	7 225	8 244	7 742	8 448	7 852
> 80,1 sq.m	7 445	6 488	7 854	6 422	8 104	6 577	8 062	7 420	8 373	8 714
average offer price deviation	7,0%	x	13,7%	x	7,8%	x	8,2%	x	5,5%	x
<= 40 sq.m	6,9%	x	16,8%	x	11,6%	x	9,7%	x	14,4%	x
(40,1; 60] sq.m	8,5%	x	16,0%	x	9,2%	x	12,9%	x	8,6%	x
(60,1; 80] sq.m	8,9%	x	12,8%	x	11,9%	x	6,5%	x	7,6%	x
> 80,1 sq.m	14,7%	x	22,3%	x	23,2%	x	8,6%	x	-3,9%	x

Source: NBP

7. Analysis of profitability of investment in housing in selected cities in Poland in 2021 Q2³⁰

The last few years have seen the development of the commercial rental housing market. It is a consequence of a number of factors, including reduced tenant protection and favourable economic conditions such as structural demand from the labour market, rising income, low interest rates and the biased public belief in the security of housing investment. Under these circumstances, a question arises what is the profitability of this type of investment in Poland. The prevailing opinion presented in international literature is that this type of investment is not very profitable. A number of risk factors are also identified, such as the business cycle risk, the liquidity risk, high investment and disinvestment costs and regulatory risk (changes in tenant protection law). Therefore, dwellings of this type were built in the period of low interest rates (credit cycle) and usually subsidised (usually accelerated depreciation). It should also be added that when analysing the profitability of rental investments, it is common to use the category of return (*yield*), which includes depreciation rather than pure profit. It must also be taken into account that these analyses usually show flows from the investment highly leveraged with credit. In a low interest rate environment, it generates additional profits, however, once the phase of the financial cycle changes and interest rates rise, the windfall profits may decrease or turn into losses.

In order to show the real profitability of investment in rental housing we usually take into account three categories, often wrongly mixed and interchangeably used in the market, i.e.:

1. **Investment capitalisation rate**, defined as the net rent (i.e. excluding the cost of real estate maintenance) to the price of a dwelling. It comprises taxes and the value of depreciation and, although it is often used, in fact, it is not a measure of investment profitability but rather of cash flow. However, it is the simplest measure and its growth rate is similar to the return on investment, i.e. ROE for LTV = 0%.
2. **Return on equity with financial leverage**, defined as net rent less taxes and depreciation and referred only to the equity engaged. The denominator of this indicator therefore includes return on investment, however, we refer it only to our equity. If we use a loan and the internal rate of return on investment is higher than interest rate on the loan or another form of foreign capital, leverage generates additional flows that increase the return on our capital, but at the same time obscures the picture of the real profitability of the investment. For our analyses, we show ROE with LTV of 50% and 80%, which takes

³⁰ The authors presented a simplified analysis of investment in rental housing conducted by a private individual, taxed with a flat-rate tax on home rental. The analysis was based on data from the voivodeship cities (Opole, Kielce and Zielona Góra were omitted due to the insufficient sample size of recorded home rental transactions in these local markets). In addition, the survey covered profitability of investing in housing in Gdynia. The profitability of investing in rental housing was determined by calculating the capitalisation rate and the ROE (return on equity). The capitalisation rate is calculated as a ratio of the annual rental income to the price of one square meter of housing. Different possible levels of leverage (a fully cash-funded investment with LTV of 0%, an investment with LTV of 50% and a highly leveraged investment with LTV of 80%) were adopted to determine the ROE calculated as net profit relative to equity engaged. 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 (the authors assumed two general overhauls in the period of 100 years). The tax is paid on all rental income, before any 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 Q2 + 950 PLN/sq.m. in Warsaw, +850 in 6 cities and + 750 in the remaining 7 cities). The group of six cities included Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław. The group of 7 cities included Białystok, Bydgoszcz, Katowice, Lublin, Olsztyn, Rzeszów and Szczecin. A PLN-denominated loan granted for 25 years, with equal instalments, payable four times a year was adopted. The assumed occupancy rate was 95%.

into account the banking practice for this type of investment (50%) and the maximum leverage allowed (80%).

3. **The return on equity without financial leverage (loan) (LTV = 0%), i.e. the rate of return on investment.** The denominator of this indicator is the same as for the one discussed above, but the numerator includes the overall capital engaged in the investment. It is therefore a real measure of investment profitability often equated and comparable with a percentage. This measure shows how many groszy of profit each invested zloty generates for our dwelling each year and it is a universal indicator used in the calculation of the economic effectiveness of investment for comparison purposes.

The calculations presented should be regarded as estimates of rental profitability in the cities surveyed and should not be treated as business information. The availability of rental data from rental transactions is limited; moreover this market is not homogeneous and would require the application of econometric techniques to compare, often hardly comparable, dwellings.

Despite these reservations, the analysis of the income on residential investment in Poland confirms the general relationships discussed earlier. Taking into account depreciation, taxes and leverage effects, the real rates of return on an investment in rental housing with LTV=0, range on average between 2.4% and 3.7% depending on the city. At present, the low level of interest rates means that financing investment with a loan generates additional, albeit small, returns, so that returns on equity are higher. Since the difference between the internal rate of return and the cost of borrowing is small, investments financed according to this model become very sensitive to changes in interest rates, fluctuations in rental rates and vacancy risk and should not provide an incentive for highly leveraged investments. The main reason for demand for real estate rental is therefore the current phase of the financial cycle and the associated low returns on alternative financial investments available to households, rather than the implied high profitability of rental. According to the estimated profitability ratios, the residential real estate market still remains an alternative for capital investment

In 2021 Q2, nine locations out of fourteen cities analysed saw an increase in average rental transaction rates compared to the previous quarter, with the highest rates recorded in Białystok and Kraków. Five other cities experienced rent adjustments, with the decline seen for another quarter in Katowice, Poznań and Szczecin.

Analysis of the data available in 2021 Q2 showed considerable differences in the estimated capitalisation rate (the rental return expected by the real estate buyer, expressed as a percentage of the price of the real estate purchase fully in cash). The estimated capitalisation rate in 2021 Q2 in relation to the previous quarter decreased in seven cities as a result of an increased differential between the purchase price of a dwelling and the transaction rent for home rental. In the period under analysis, the highest estimated capitalisation rates were recorded in Łódź (6.9%), Wrocław (6.1%), Białystok (6.6%) and in Katowice (5.9%). Other cities recorded lower values: Poznań (5.6%), Warsaw (5.3%), Gdańsk (5.1%) and Kraków (4.9%).

The return on investment in housing, despite the continued downturn observed in all the analysed local rental markets, was more favourable in 2021 Q2 than safe investment in government bonds or bank deposits and yielded higher returns.

For six cities, mainly smaller ones, where rental transaction prices returned to their previous levels, the estimated time of return on investment in rental housing was slightly shorter. Łódź, Białystok, Wrocław, Katowice, Lublin and Szczecin had the shortest period of return (less than 18 years) in the analysed period. The

longest period of return on investment in housing (over 20 years) was seen in Gdynia, Kraków and Rzeszów. In Warsaw being the largest residential market, the time of return on investment in housing for rent reached almost 19 years.

In 2021 Q2, the ROE, measuring the return on the cash actually invested in the purchase of housing remained significantly below the calculated capitalisation rate in all cities. In a situation when the entire investment in residential real estate was financed by cash, the highest return on equity can be expected by investors in Łódź (4.2%), Wrocław (3.5%), Katowice (3.3%) and Lublin (3.2%). In the remaining local markets, the level of ROE ranged between 3.1% and 2.4%, including 2.9% in the largest Warsaw market, compared to 2.7% in the previous quarter.

In the seven analysed cities (Gdynia, Katowice, Łódź, Poznań, Rzeszów, Szczecin and Wrocław), in 2021 Q2, compared to the previous quarter, the use of leverage (bank loan to finance a dwelling with LTV=50%, LTV=80%) exacerbated the decline in the return on equity (ROE). Nevertheless, in the cities mentioned above, the return on equity in the case of loan-financed home purchase remained higher than the return on equity without the leverage.

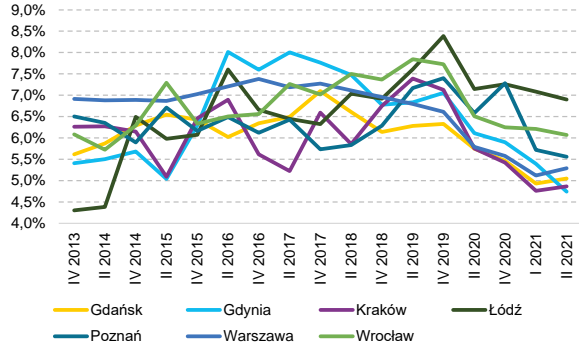
Weak rental market conditions and the resulting difficulty in securing continuous occupancy continue to pose a significant risk to investing in rental housing, despite a slight improvement in 2021 Q2. For both long-term and short-term rentals, occupancy is mainly determined by the location of the dwelling and, increasingly, the age of the real estate, the standard of finishing and the changing preferences of buyers. Although purchase prices for downtown properties are significantly higher than those located in the suburbs, investing in a real estate closer to the centre carries a lower risk of vacancy and offers a higher probability of generating continuous rental income. The profitability of the investment and the potential risks are highly dependent on the region of the country and the city.

Table 15 Estimated capitalisation rate (return expected by a real estate buyer, expressed as a percentage of the purchase price of the real estate fully paid in cash) in selected cities (in %)

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Warsaw	Wrocław
2013 Q4	5.3%	4.5%	5.6%	5.4%	6.8%	6.3%	6.3%	4.3%	4.8%	6.5%	5.6%	5.9%	6.9%	6.1%
2014 Q2	6.0%	4.8%	5.9%	5.5%	5.9%	6.3%	6.4%	4.4%	5.1%	6.4%	5.5%	6.3%	6.9%	5.7%
2014 Q4	8.2%	6.6%	6.3%	5.7%	6.5%	6.2%	7.0%	6.5%	6.1%	5.9%	6.4%	7.0%	6.9%	6.3%
2015 Q2	6.6%	7.3%	6.5%	5.0%	7.7%	5.1%	5.8%	6.0%	6.3%	6.7%	5.9%	7.0%	6.9%	7.3%
2015 Q4	6.2%	6.5%	6.4%	6.3%	7.6%	6.5%	7.0%	6.1%	6.0%	6.2%	7.1%	6.8%	7.0%	6.3%
2016 Q2	5.5%	6.5%	6.0%	8.0%	7.7%	6.9%	8.3%	7.6%	5.8%	6.5%	6.8%	6.5%	7.2%	6.5%
2016 Q4	5.9%	7.3%	6.3%	7.6%	8.1%	5.6%	7.9%	6.7%	5.5%	6.1%	6.4%	7.6%	7.4%	6.6%
2017 Q2	7.1%	6.4%	6.5%	8.0%	8.4%	5.2%	8.1%	6.4%	5.6%	6.4%	7.1%	6.9%	7.2%	7.3%
2017 Q4	6.7%	6.6%	7.1%	7.8%	7.6%	6.6%	7.7%	6.3%	5.5%	5.7%	6.8%	7.4%	7.3%	7.0%
2018 Q2	6.5%	5.9%	6.6%	7.5%	7.9%	5.9%	7.6%	7.0%	5.6%	5.8%	7.3%	6.6%	7.1%	7.5%
2018 Q4	7.1%	6.9%	6.1%	6.8%	7.6%	6.8%	6.5%	6.9%	5.7%	6.3%	6.2%	7.3%	7.0%	7.4%
2019 Q2	6.8%	7.3%	6.3%	6.8%	7.7%	7.4%	6.7%	7.6%	6.0%	7.2%	6.3%	7.0%	6.8%	7.8%
2019 Q4	7.1%	6.6%	6.3%	7.1%	7.4%	7.1%	6.6%	8.4%	5.1%	7.4%	6.3%	6.9%	6.6%	7.7%
2020 Q2	5.9%	5.9%	5.8%	6.1%	6.5%	5.8%	6.8%	7.1%	5.4%	6.6%	6.0%	7.4%	5.8%	6.5%
2020 Q4	6.9%	5.6%	5.5%	5.9%	6.8%	5.4%	5.9%	7.3%	5.6%	7.3%	5.5%	6.7%	5.6%	6.2%
2021 Q1	6.2%	4.8%	4.9%	5.4%	6.5%	4.8%	5.7%	7.1%	5.0%	5.7%	6.1%	6.2%	5.1%	6.2%
2021 Q2	6.6%	5.1%	5.1%	4.7%	5.9%	4.9%	5.7%	6.9%	5.1%	5.6%	4.9%	5.6%	5.3%	6.1%

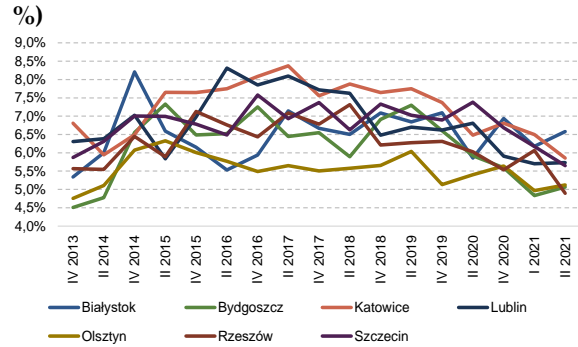
Source: NBP

Figure 76 Estimated capitalisation rate (return expected by a real estate buyer, expressed as a percentage of the purchase price of the real estate in full cash terms) in seven large cities (in %)



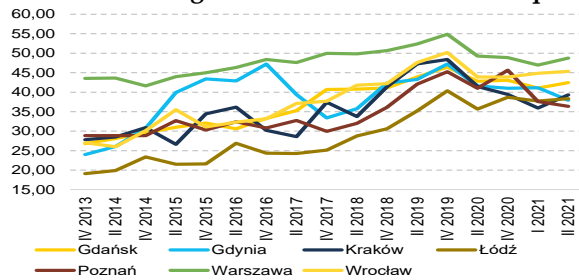
Source: NBP

Figure 77 Estimated capitalisation rate (return expected by a real estate buyer, expressed as a percentage of the purchase price of the real estate in full cash terms) in eight other selected cities (in %)



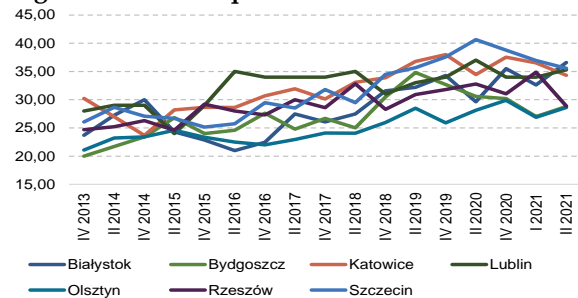
Source: NBP

Figure 78 Transaction rates of housing rental in seven large cities (PLN/sq.m.)



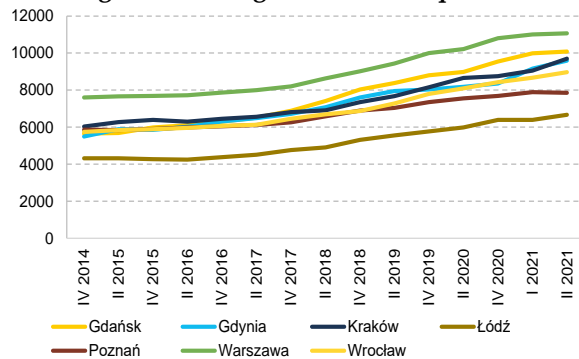
Source: NBP

Figure 79 Transaction rates of housing rental in eight cities (PLN/sq.m.)



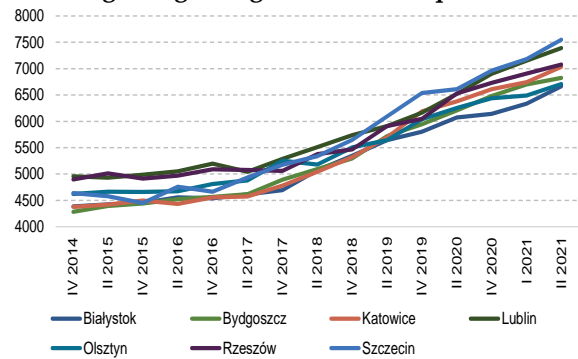
Source: NBP

Figure 80 Transaction prices of an average dwelling in seven large cities (PLN/sq.m.)



Source: NBP

Figure 81 Transaction prices of an average dwelling in eight large cities (PLN/sq.m.)

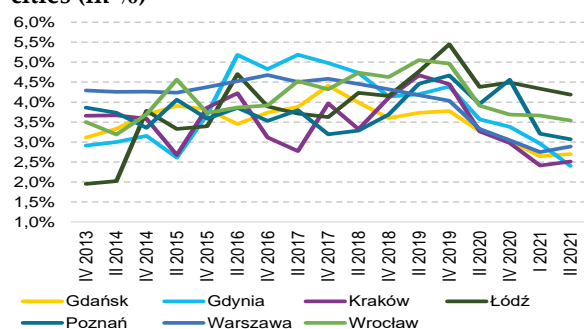


Source: NBP

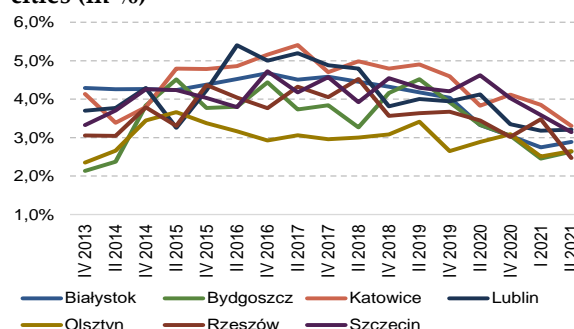
Table 16 Return on equity (ROE) on a fully cash-funded housing investment (LTV=0% in selected cities) (in %)

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Warsaw	Wrocław
2013 Q4	4.3%	2.1%	3.1%	2.9%	4.1%	3.7%	3.7%	2.0%	2.4%	3.9%	3.1%	3.3%	4.3%	3.5%
2014 Q2	4.3%	2.4%	3.3%	3.0%	3.4%	3.7%	3.8%	2.0%	2.7%	3.7%	3.0%	3.7%	4.3%	3.2%
2014 Q4	4.3%	3.8%	3.7%	3.2%	3.8%	3.6%	4.3%	3.8%	3.4%	3.4%	3.8%	4.3%	4.3%	3.7%
2015 Q2	4.2%	4.5%	3.9%	2.6%	4.8%	2.7%	3.3%	3.3%	3.7%	4.1%	3.3%	4.2%	4.2%	4.6%
2015 Q4	4.4%	3.8%	3.8%	3.7%	4.8%	3.9%	4.2%	3.4%	3.4%	3.6%	4.4%	4.0%	4.4%	3.7%
2016 Q2	4.5%	3.8%	3.5%	5.2%	4.9%	4.2%	5.4%	4.7%	3.2%	3.9%	4.0%	3.8%	4.5%	3.9%
2016 Q4	4.7%	4.4%	3.7%	4.8%	5.2%	3.1%	5.0%	3.9%	2.9%	3.5%	3.8%	4.7%	4.7%	3.9%
2017 Q2	4.5%	3.7%	3.9%	5.2%	5.4%	2.8%	5.2%	3.7%	3.1%	3.8%	4.3%	4.2%	4.5%	4.5%
2017 Q4	4.6%	3.8%	4.4%	5.0%	4.7%	4.0%	4.9%	3.6%	3.0%	3.2%	4.1%	4.6%	4.6%	4.3%
2018 Q2	4.5%	3.3%	4.0%	4.7%	5.0%	3.3%	4.8%	4.2%	3.0%	3.3%	4.5%	3.9%	4.5%	4.7%
2018 Q4	4.3%	4.2%	3.6%	4.1%	4.8%	4.1%	3.8%	4.2%	3.1%	3.7%	3.6%	4.5%	4.3%	4.6%
2019 Q2	4.2%	4.5%	3.7%	4.2%	4.9%	4.7%	4.0%	4.8%	3.4%	4.5%	3.6%	4.3%	4.2%	5.1%
2019 Q4	4.0%	3.9%	3.8%	4.4%	4.6%	4.5%	3.9%	5.4%	2.6%	4.7%	3.7%	4.2%	4.0%	5.0%
2020 Q2	3.3%	3.3%	3.3%	3.6%	3.8%	3.3%	4.1%	4.4%	2.9%	4.0%	3.4%	4.6%	3.3%	3.9%
2020 Q4	3.0%	3.1%	3.0%	3.4%	4.1%	3.0%	3.3%	4.5%	3.1%	4.6%	3.0%	4.0%	3.0%	3.7%
2021 Q1	2.7%	2.5%	2.6%	3.0%	3.9%	2.4%	3.2%	4.3%	2.5%	3.2%	3.5%	3.6%	2.7%	3.7%
2021 Q2	2.9%	2.6%	2.7%	2.4%	3.3%	2.5%	3.2%	4.2%	2.6%	3.1%	2.5%	3.1%	2.9%	3.5%

Source: NBP

Figure 82 Return on equity (ROE) on a fully cash-funded housing investment (LTV=0%) in seven cities (in %)

Source: NBP

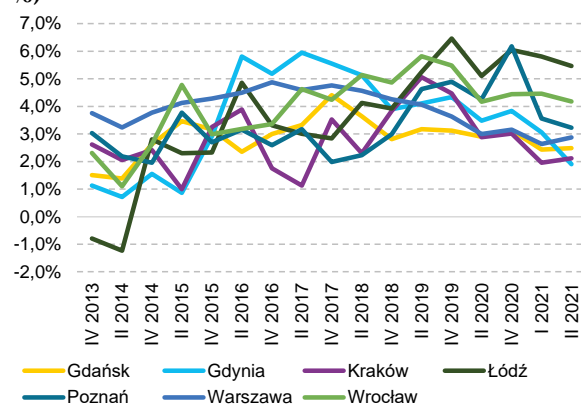
Figure 83 Return on equity (ROE) on a fully cash-funded housing investment (LTV=0%) in eight cities (in %)

Source: NBP

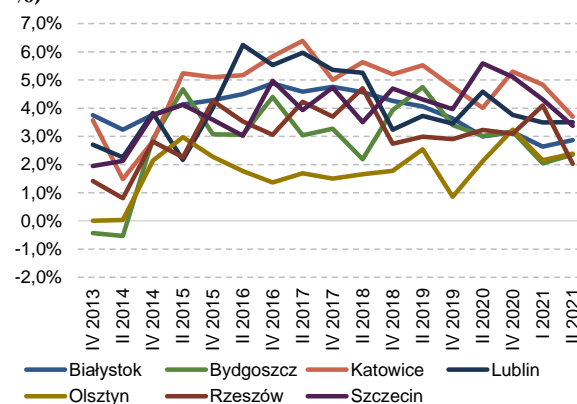
Figure 17 Return on equity (ROE) on a leveraged housing investment (LTV=50%) in selected cities (in %)

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Warsaw	Wrocław
2013 Q4	3.8%	-0.4%	1.5%	1.1%	3.6%	2.6%	2.7%	-0.8%	0.0%	3.0%	1.4%	2.0%	3.8%	2.3%
2014 Q2	3.2%	-0.5%	1.4%	0.7%	1.5%	2.1%	2.3%	-1.2%	0.0%	2.2%	0.8%	2.1%	3.2%	1.1%
2014 Q4	3.8%	2.9%	2.6%	1.6%	2.8%	2.4%	3.8%	2.8%	2.1%	2.0%	2.8%	3.8%	3.8%	2.6%
2015 Q2	4.1%	4.7%	3.5%	0.9%	5.2%	1.0%	2.2%	2.3%	3.0%	3.8%	2.3%	4.1%	4.1%	4.8%
2015 Q4	4.3%	3.1%	3.2%	2.9%	5.1%	3.3%	4.0%	2.3%	2.3%	2.7%	4.3%	3.6%	4.3%	3.0%
2016 Q2	4.5%	3.1%	2.4%	5.8%	5.2%	3.9%	6.2%	4.9%	1.8%	3.2%	3.5%	3.0%	4.5%	3.2%
2016 Q4	4.9%	4.4%	3.0%	5.2%	5.8%	1.8%	5.5%	3.3%	1.4%	2.6%	3.1%	5.0%	4.9%	3.4%
2017 Q2	4.6%	3.0%	3.3%	6.0%	6.4%	1.1%	6.0%	3.0%	1.7%	3.2%	4.2%	3.9%	4.6%	4.6%
2017 Q4	4.8%	3.3%	4.4%	5.6%	5.0%	3.5%	5.4%	2.8%	1.5%	2.0%	3.7%	4.7%	4.8%	4.2%
2018 Q2	4.6%	2.2%	3.6%	5.1%	5.6%	2.3%	5.3%	4.1%	1.7%	2.2%	4.7%	3.5%	4.6%	5.1%
2018 Q4	4.3%	3.9%	2.8%	3.9%	5.2%	3.8%	3.2%	3.9%	1.8%	3.0%	2.7%	4.7%	4.3%	4.9%
2019 Q2	4.1%	4.7%	3.2%	4.1%	5.5%	5.1%	3.7%	5.2%	2.5%	4.6%	3.0%	4.3%	4.1%	5.8%
2019 Q4	3.6%	3.4%	3.1%	4.3%	4.8%	4.5%	3.5%	6.5%	0.9%	4.9%	2.9%	4.0%	3.6%	5.5%
2020 Q2	3.0%	3.0%	2.9%	3.5%	4.0%	2.9%	4.6%	5.1%	2.1%	4.3%	3.2%	5.6%	3.0%	4.2%
2020 Q4	3.2%	3.2%	3.1%	3.8%	5.3%	3.0%	3.8%	6.0%	3.2%	6.2%	3.1%	5.1%	3.2%	4.4%
2021 Q1	2.6%	2.0%	2.4%	3.1%	4.8%	2.0%	3.5%	5.8%	2.2%	3.6%	4.1%	4.3%	2.6%	4.5%
2021 Q2	2.9%	2.4%	2.5%	1.9%	3.7%	2.1%	3.5%	5.5%	2.4%	3.2%	2.0%	3.4%	2.9%	4.2%

Source: NBP

Figure 84 Return on equity (ROE) on a leveraged housing investment (LTV=50%) in seven cities (in %)


Source: NBP

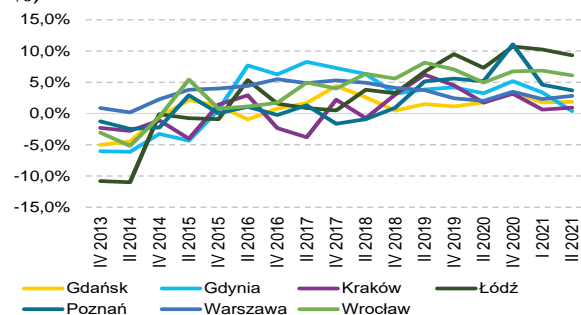
Figure 85 Return on equity (ROE) on a leveraged housing investment (LTV=50%) in eight cities (in %)


Source: NBP

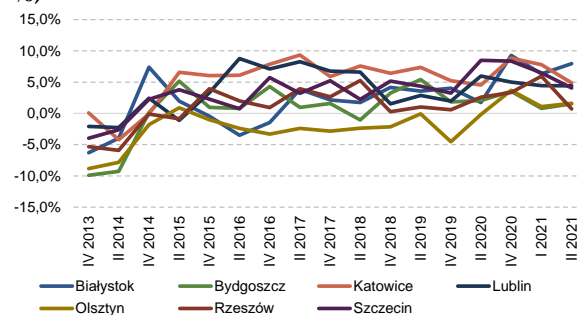
Figure 18 Return on equity (ROE) on a leveraged housing investment (LTV=80%) in selected cities (in %)

Period	Białystok	Bydgoszcz	Gdańsk	Gdynia	Katowice	Kielce	Kraków	Lublin	Łódź	Olsztyn	Poznań	Rzeszów	Szczecin	Warsaw	Wrocław
2013 Q4	-6.3%	-9.9%	-5.0%	-6.0%	0.1%	-7.7%	-2.3%	-2.1%	-10.8%	-8.8%	-1.3%	-5.3%	-4.0%	0.9%	-3.1%
2014 Q2	-4.0%	-9.3%	-4.5%	-6.1%	-4.2%	-10.5%	-2.8%	-2.3%	-11.0%	-7.8%	-2.5%	-5.9%	-2.6%	0.2%	-5.2%
2014 Q4	7.4%	0.2%	-0.6%	-3.3%	-0.1%	-2.6%	-1.1%	2.4%	-0.1%	-1.8%	-2.2%	-0.1%	2.3%	2.3%	-0.6%
2015 Q2	2.0%	5.2%	2.1%	-4.4%	6.6%	-0.9%	-4.0%	-1.1%	-0.8%	0.9%	2.9%	-0.9%	3.8%	3.8%	5.4%
2015 Q4	-0.5%	1.0%	1.2%	0.6%	6.0%	-1.3%	1.4%	3.3%	-0.9%	-1.0%	0.0%	3.9%	2.3%	4.0%	0.8%
2016 Q2	-3.5%	0.8%	-1.0%	7.7%	6.1%	-2.7%	2.9%	8.8%	5.3%	-2.4%	1.1%	2.0%	0.7%	4.4%	1.1%
2016 Q4	-1.5%	4.3%	0.8%	6.2%	7.9%	-1.4%	-2.3%	7.1%	1.6%	-3.3%	-0.2%	0.9%	5.7%	5.5%	1.7%
2017 Q2	3.8%	1.0%	1.7%	8.2%	9.3%	-0.4%	-3.8%	8.3%	0.9%	-2.4%	1.3%	3.9%	3.2%	4.8%	4.9%
2017 Q4	2.2%	1.6%	4.4%	7.3%	5.9%	-1.8%	2.2%	6.8%	0.5%	-2.8%	-1.6%	2.6%	5.2%	5.3%	4.0%
2018 Q2	1.7%	-1.0%	2.6%	6.3%	7.6%	-2.0%	-0.8%	6.6%	3.8%	-2.4%	-0.9%	5.2%	2.2%	4.9%	6.3%
2018 Q4	4.2%	3.3%	0.5%	3.1%	6.4%	-0.3%	3.0%	1.5%	3.2%	-2.1%	0.9%	0.3%	5.2%	4.1%	5.6%
2019 Q2	3.6%	5.4%	1.5%	3.8%	7.4%	-0.1%	6.2%	2.9%	6.7%	-0.1%	5.1%	1.0%	4.3%	3.7%	8.1%
2019 Q4	4.0%	1.8%	1.1%	4.2%	5.2%	1.5%	4.5%	2.0%	9.5%	-4.5%	5.6%	0.6%	3.3%	2.4%	7.1%
2020 Q2	1.7%	2.0%	1.8%	3.2%	4.5%	1.1%	1.7%	6.0%	7.3%	-0.2%	5.2%	2.6%	8.5%	2.0%	4.9%
2020 Q4	9.3%	3.5%	3.4%	5.2%	8.9%	4.1%	3.1%	5.0%	10.7%	3.7%	11.1%	3.3%	8.4%	3.5%	6.7%
2021 Q1	6.3%	0.8%	1.8%	5.1%	7.8%	5.7%	0.6%	4.4%	10.2%	1.1%	4.6%	5.9%	6.5%	2.3%	6.9%
2021 Q2	8.0%	1.4%	1.8%	3.4%	4.8%	-20.9%	0.8%	4.3%	9.2%	1.5%	3.6%	0.6%	4.0%	2.8%	6.0%

Source: NBP

Figure 86 Return on equity (ROE) on a leveraged housing investment (LTV=80%) in seven cities (in %)


Source: NBP

Figure 87 Return on equity (ROE) on a leveraged housing investment (LTV=80%) in eight cities (in %)


Source: NBP

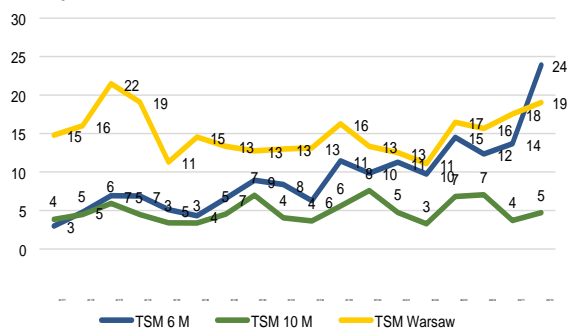
8. Housing rental market in the period of the pandemic

After a period of relatively dynamic growth in the housing rental market, the unprecedented change in socio-economic conditions driven by the COVID-19 pandemic significantly reduced demand. The abandonment of housing rental by a significant percentage of tenants (students, those working remotely, some foreigners), created a gap in the market, which was widened by the decline in demand for new employees, generally creating new demand for home rental. The effect of the resulting demand gap was falling housing rental rates.

However, since the beginning of 2021, a gradual increase in activity in the housing rental market had been observed. In the BaRN survey, in the first half of 2021 compared to the first half of 2020, a significant increase in the average number of housing rental transactions was recorded in 6 cities, a slight increase in Warsaw, while in 10 cities, the average number of transactions was similar to the previous years' level.

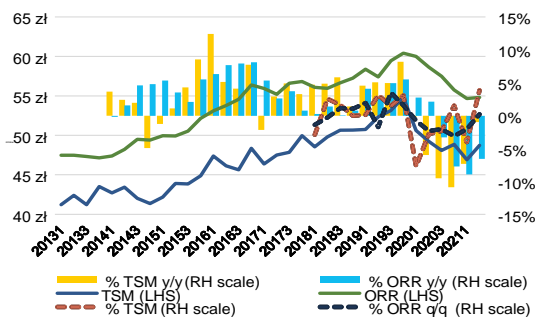
In 6 cities the increase in activity in the first half of 2021 was driven by a rise in rental rates putting an end to the downward cycle in rates observed in 2020. In the Warsaw market, rental rates did not increase until 2021 Q2. On the other hand, 10 cities the first half of 2021 saw no significant change in rental rates compared to 2020.

Figure 88 Average number of housing rental transactions submitted by 1 respondent in the BaRN survey



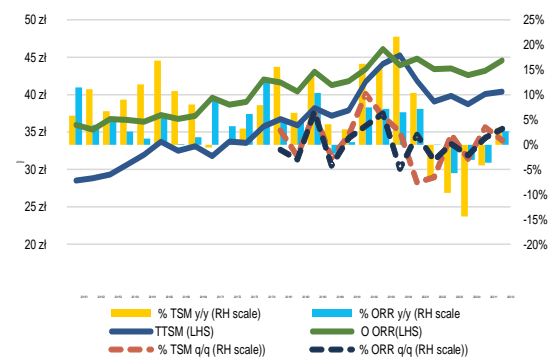
Source: BaRN

Figure 90 Offer rent rates (ORR) and transaction rent rates (TRR) and trends of their change, in y/y/ terms, in Warsaw



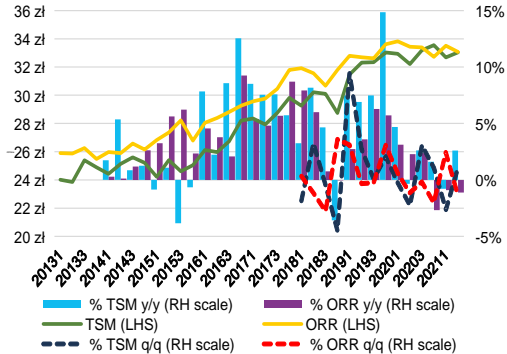
Source: BaRN

Figure 89 Offer rent rates (ORR) and transaction rent rates (TRR) and trends of their change, in y/y/ terms, in 6M



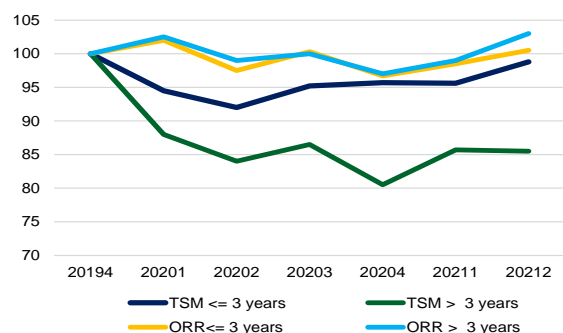
Source: BaRN

Figure 91 Offer rent rates (ORR) and transaction rent rates (TRR) and trends of their change, in y/y/ terms, in 10 cities



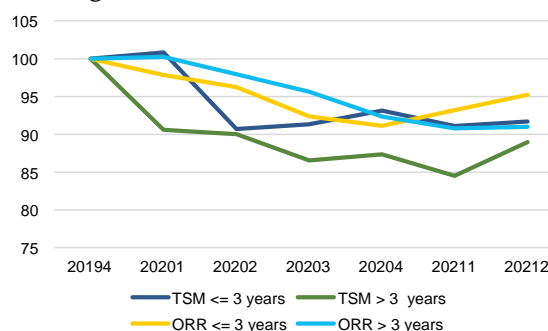
Source: BaRN

Figure 92 Trends of change in rent rates in 6 cities broken down into new and older dwellings (20194=100)



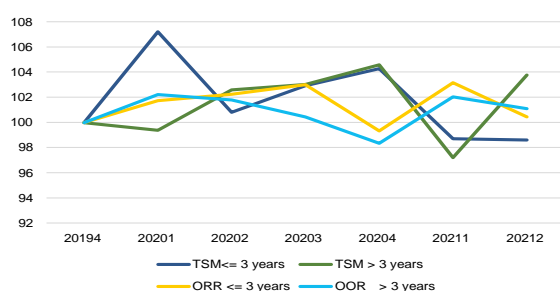
Source: NBP

Figure 93 Trends of change in rent rates in Warsaw broken down into new and older dwellings (20194=100)



Source: NBP

Figure 94 Trends of change in rent rates in 10 cities broken down into new and older dwellings (20194=100)



Source: NBP

9. Extended analysis of financial standing of real estate developers, construction companies involved in the construction of building and related entities

Analysis of financial standing of real estate developers³¹

Analysis of data available from various sources and the NBP data available up to 2021 Q2 confirmed a dynamic growth of advance sales of dwellings in the primary market, an acceleration of the offer turnover and a further increase in housing prices. It also indicated a strengthening of the financial standing of the vast majority of the analysed developers and groups of entities associated within the housing production process, including construction companies, wholesalers and producers of construction materials. Continued high demand for housing encouraged investor activity in residential construction. High volume of sales also translated into difficulties in matching supply with demand. Many developers saw market demand exceeding their production capacity. The increasing tensions in housing production resulted, among others, from the shrinking

³¹ The calculations and conclusions in this issue of the Information are based on data resulting 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 more than 49 persons (data available until 2021 Q2 in quarterly periods), engaged in the development of building 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 Q1.

stock of land owned by developers, labour shortages in the construction industry, rising prices of construction materials and delays in their delivery. Good economic conditions in the housing market, while accelerating the increase in prices of construction in 2021, generate the risk of unprofitable contracts concluded earlier with an underestimated budget, which may weaken the condition of their contractors and lead to growing payment bottlenecks.

According to the NBP data, the number of dwellings sold in the primary market of the largest cities in both 2021 Q2 and 2021 Q1 was significantly higher than the quarterly sales recorded in the two previous years. Sales of home construction contracts of sixteen developers listed on the Warsaw Stock Exchange confirmed high volume of sales in the first half of 2021, including a further increase in the sales of home construction contracts (by 6%) in 2021 Q2 (7,228 dwellings) compared to the previous quarter (6,806 dwellings).

The need to adapt supply to growing demand stimulated the launch of further projects. According to the Statistics Poland data, in 2021 Q2 the construction of 47,552 dwellings for sale or rent was started, which showed a 18% increase compared to the previous quarter. According to the statistics, the number of dwellings whose construction was launched in the analysed period was one of the highest among those ever recorded by Statistics Poland. Home construction starts in the previous three quarters also reached record high level (40,130 dwellings in 2021 Q1, 36,392 in 2020 Q4 and 40,283 in 2020 Q3). The increase in housing production was confirmed by the financial data reported by developers in their F01 reports, according to which the value of projects under development increased significantly. Their value in 2021 Q2, compared to 2021 Q1, increased by 21% in the group of large developers and by 33% in the entire first half of 2021, as compared to the second half of 2020, in the group of small developers.

The decline in the housing production index (dwellings started less dwellings completed) observed since mid-2019 on a quarterly basis, including the deepening of its negative value in the past three quarters in the face of rising demand for housing, confirms growing supply-demand mismatch and may lead to problems on the production side and encourage further increases in both housing prices and housing manufacturing costs.

It was the second consecutive quarter when developers reported a record low number of finished dwellings in completed buildings made ready for occupancy. Their share in the total structure of assets as at the end of June 2021 reached just over 3% in the group of larger developers and over 2% in the group of small developers

At the end of June 2021 compared to the end of March 2021, the average value of the stock of land reported by larger developers had increased slightly, yet, it was half the value reported a year ago, despite the increase in building land prices and the systematic replenishment of the stock of land for residential construction. The number of building permits issued for housing for sale or for rent (52,404 dwellings) was slightly lower in 2021 Q2 than the record high number in the previous two quarters (56,663 dwellings in 2021 Q1 and 56,917 in 2020 Q4), which indicates that there is still considerable production capacity for developers.

According to the Statistics Poland data for 2021 Q2, the number of dwellings built for sale or rent were completed and made move-in ready was twice as high as in the previous quarter (99% increase) and in the corresponding quarter of 2020 (a 90% increase). The Statistics Poland data concerning the significant increase in the number of dwellings completed and made ready for occupancy in the period analysed is confirmed by the higher value of average sales revenues reported in the F01 reports in the group of large developers (by 32%

in relation to the previous quarter and by 13% in relation to the corresponding quarter in 2020). The number of dwellings completed and made move-in ready was the result of the number of dwellings whose construction had started less than two years earlier. The vast majority of those dwellings were sold at the production stage and did not have a major impact on housing supply in the analysed period .

In the group of larger developers, for another consecutive quarter, the ratio of operating expenses to sales revenues (operating expense ratio) continued at a similar and slightly less favourable level than in the previous quarter (0.85 in 2021 Q2 compared to 0.83 in 2021 Q1), which may illustrate an increase in project development costs. In 2021 Q2, along with increasing value of projects under development in the structure of operating expenses incurred, the group of larger developers saw a 66% increase in costs for third-party services (compared with 62% in 2021 Q1 and 64% in 2020 Q2) and an increase of more than 20% in costs for electricity consumption (compared with 17% in 2021 Q1 and a mere 10% in 2020 Q2). On the other hand, the average number of employees and the share of payroll expenses and social security contributions decreased compared to the previous quarter, which may confirm labour shortages.

In the group of small companies, the operating expense ratio (OER) has remained at a less favourable level than in the case of larger developers for several years. Its value deteriorated to 0.91 in the first half of 2021 against 0.88 in the second half of 2020. The structure of operating expenses of small entities in the first half of 2021 compared to the previous six months remained stable with a slight upward trend in project implementation without subcontractors (a slight increase in energy consumption and payroll expenses with a similar number of employees combined with a slight decrease in costs of third-party services).

Both analysed groups of developers generated higher averaged net financial result. Despite the deterioration in the expense-to-revenue ratio, accompanied by satisfactory volume of sales and rising housing prices, both groups of developers saw improved profitability. In 2021 Q2 in the group of larger developers, the average return on sales (ROS) was 14.5%, return on equity (ROE) - 7.4% and return on assets (ROA) - 2.5%, compared to slightly lower ratios recorded in the previous quarter (13.3% ROS, 6.2% ROE and close to 2.5% ROA) and much lower ratios a year ago (8.5% ROS, 3.8% ROE and 1.5% ROA). Along with the improvement in profitability, the share of larger developers with a positive financial result increased (73% of companies in 2021 Q2 compared to 60% in the previous quarter and 71% a year ago), including a significant increase in the share of developers with a higher positive net financial result - in the range above PLN 2 million (43% of companies in 2021 Q2 compared to 32% in the previous quarter and 27% a year ago).

Weaker return on sales (ROS) than in the group of larger developers and similar return on equity (ROE) and on assets (ROA) was recorded by small companies. In this group of entities, in the first half of 2021, the average return on sales (ROS) was 10.4%, return on equity (ROE) - 7.1% and return on assets (ROA) - 2.5%, against comparable ratios recorded in the previous semi-annual period (10.0% ROS, 6.7% ROE and close to 3.2% ROA) and lower ratios recorded a year ago (6.8% ROS, 4.4% ROE and 1.8% ROA). In the first half of 2021, 63% of small developers reported a positive net financial result, yet it was lower compared to the second half of 2020 (75% of entities) and against the first half of 2020 (65% of companies).

Both in the group of larger and small real estate developers, the percentage share of capital in the structure of liabilities decreased significantly, despite an increase in its average value in both groups. The decrease in the share of own capital (equity) is the result of a significant growth in the share of external financing sources. As

at the end of June 2021 compared to the end of 2020, the share of equity in the structure of liabilities decreased by 6 percentage points (up to approx. 34%) in the group of larger developers and by 7 percentage points (up to 40%) in the group of small entities. Declines in the share of equity in both groups analysed weakened the assets-to-equity ratio and debt-to-equity ratio, which, should the economic situation in the country and in the sector deteriorate, could indicate weaker creditworthiness and reliability driven by rising corporate debt. The increase in developers' external debt at a time of prosperity and high demand fosters business growth, increases profitability and helps to enhance competitive advantage.

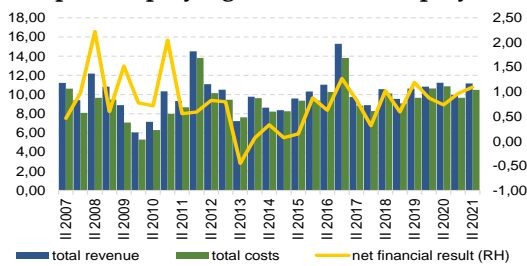
The analysis of the data reported by the larger developers in their F01 reports as at the end of June 2021 in terms of external financing showed a significant increase in liabilities to housing contractors (to over 33% in the structure of liabilities at the end of 2021 Q2, compared to 20% - 25% at the end of the corresponding quarters in the previous three years), which shows that financing comes from delayed payment of corporate liabilities. In the period analysed, prepayments by home purchasers continued to play an important role in project financing, whose share in the liability structure remained at a level of 20%. Debt securities remained another important source of funding for larger developers, with their share ranging between 8% and 10% for more than a year. With a similar number of developer bond issuers on the Catalyst market in 2021 Q2 and Q1, the total value of bonds issued by real estate developers increased in both of these periods (by 7% and 9%, respectively in relation to the previous quarters), with a slight increase in the average coupon rate of the bonds. Larger real estate developers are less likely to reach for bank financing despite their good financial standing. Bank debt of larger entities decreased to approx. 6% in the structure of liabilities at the end of June 2021, compared to more than 8% at the end of 2020 and more than 10% as at the end of June 2020.

In the first half of 2021, bank debt in the group of small developers increased significantly (more than 26% the total structure of liabilities as at the end of June 2021, compared to approx. 17% as at the end of 2020 and 20% as at the end of June 2020). The increase in bank debt indicates an improvement in the reliability of small companies when assessing their creditworthiness. In this group, prepayments from home buyers also play an important role in corporate financing (increasing to over 16% in the structure of liabilities at the end of June 2021, compared to over 14% a year before). The share of liabilities to trading partners, mainly project contractors, has decreased which, combined with increasing work in progress, indicates significantly less delays in the settlement of their liabilities than in the group of larger companies.

Liquidity in both analysed groups of real estate developers remained at a favourable level, despite its slight weakening in 2021.

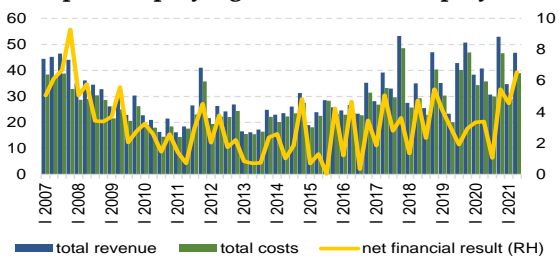
According to the financial data of more than a dozen of the largest developers listed on the Warsaw Stock Exchange, the positive cash flows from operating activities recorded in three consecutive quarters, i.e. in 2020 Q3 and Q4 and in 2021 Q1, accompanied by negative cash flows from investment and financing activities confirm that this group of developers generates substantial profits which are used for further investment and repayment of financial liabilities.

Figure 95 Economic indicators of real estate developers employing from 9 to 49 employees



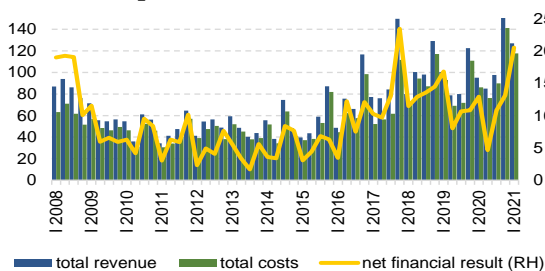
Source: NBP based on Statistics Poland (F01)

Figure 96 Economic indicators of real estate developers employing more than 49 employees



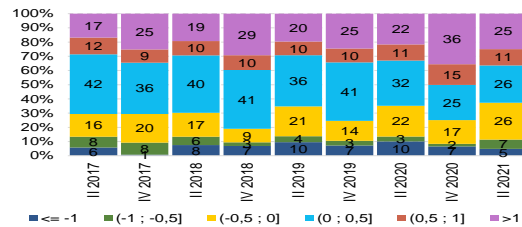
Source: NBP based on Statistics Poland (F01)

Figure 97 Economic indicators of WSE-listed real estate developers



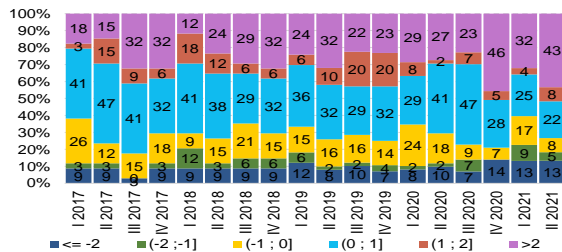
Source: NBP based on Quant Research sp. z o.o.

Figure 98 Structure of real estate developers employing from 9 to 49 employees, depending on the value of net financial result (in %)



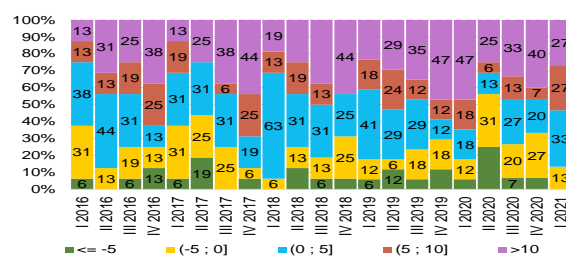
Source: NBP based on Statistics Poland (F01)

Figure 99 Structure of real estate developers employing over 49 employees, depending on the value of net financial result (in %)



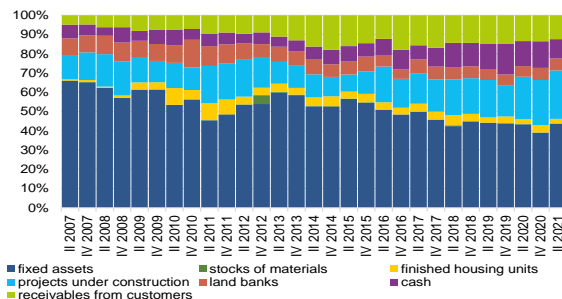
Source: NBP based on Statistics Poland (F01)

Figure 100 Structure of WSE-listed real estate developers, depending on the value of net financial result (in %)



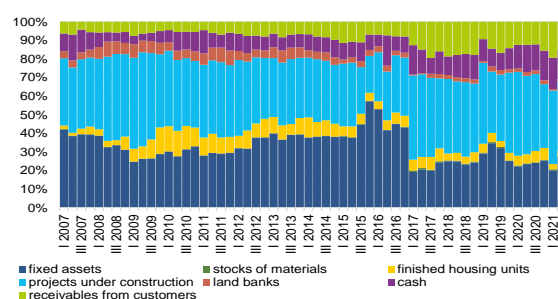
Source: NBP based on Quant Research sp. z o.o.

Figure 101 Structure of assets of real estate developers employing from 9 to 49 employees



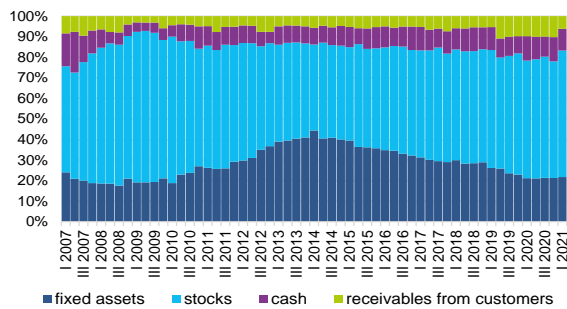
Source: NBP based on Statistics Poland (F01)

Figure 102 Structure of assets of real estate developers employing more than 49 employees



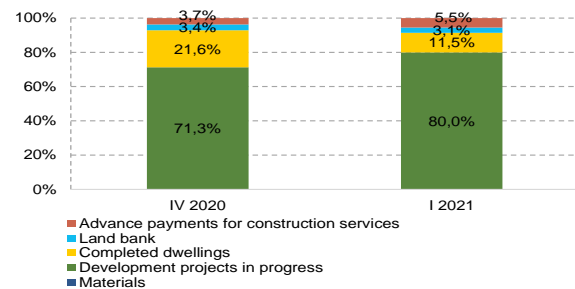
Source: NBP based on Statistics Poland (F01)

Figure 103 Structure of assets of WSE-listed real estate developers



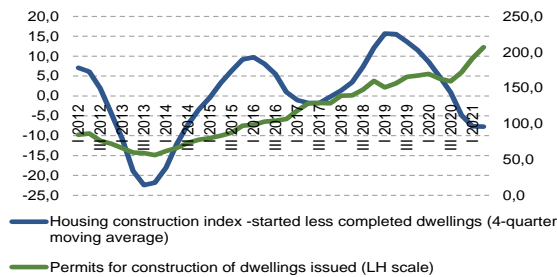
Source: NBP based on Quant Research sp. z o.o.

Figure 104 Stock structure (in current assets) of WSE listed developers - closing balance of quarters (%)



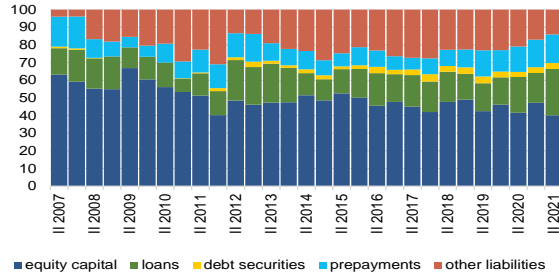
Source: NBP based on Quant Research sp. z o.o.

Figure 105 Housing production index and building permits issued in Poland



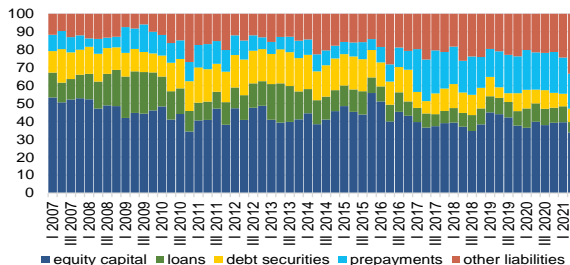
Source: NBP based on Statistics Poland

Figure 106 Structure of liabilities of real estate developers employing from 9 to 49 employees



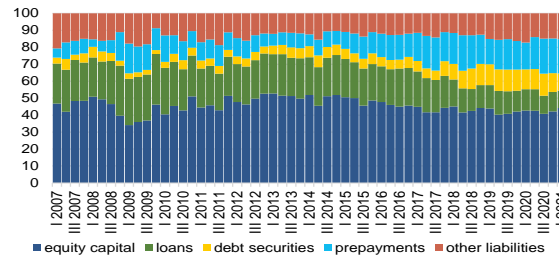
Source: NBP based on Statistics Poland (F01)

Figure 107 Structure of liabilities of real estate developers employing more than 49 employees



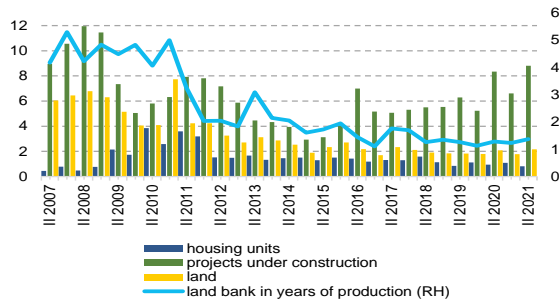
Source: NBP based on Statistics Poland (F01)

Figure 108 Structure of liabilities of WSE-listed real estate developers



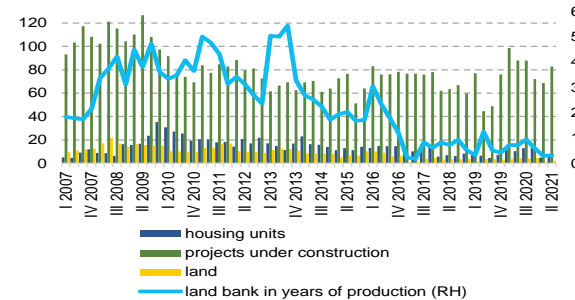
Source: NBP based on Quant Research sp. z o.o.

Figure 109 Situation of real estate developers employing from 9 to 49 employees



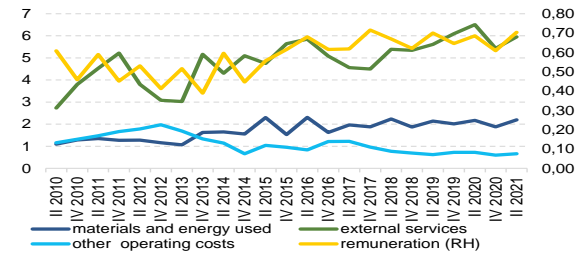
Source: NBP based on Statistics Poland (F01)

Figure 110 Situation of real estate developers employing more than 49 employees



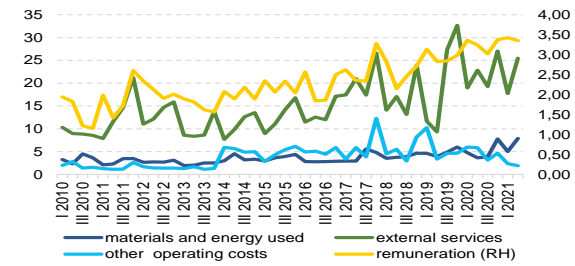
Source: NBP based on Statistics Poland (F01)

Figure 111 Operating expenses of real estate developers employing from 9 to 49 employees



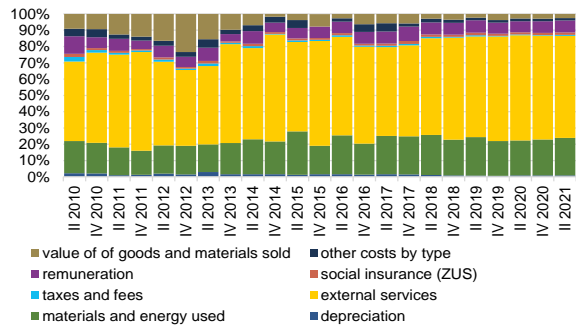
Source: NBP based on Statistics Poland (F01)

Figure 112 Operating expenses of real estate developers employing more than 49 employees



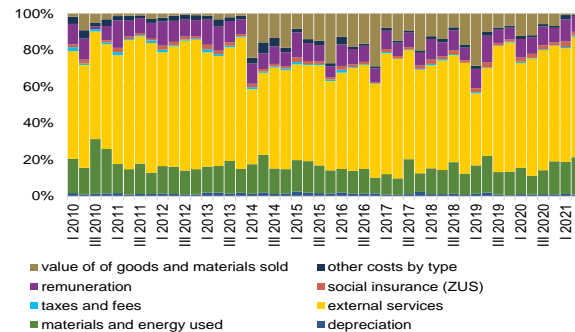
Source: NBP based on Statistics Poland (F01)

Figure 113 Structure of operating expenses of real estate developers employing from 9 to 49 employees



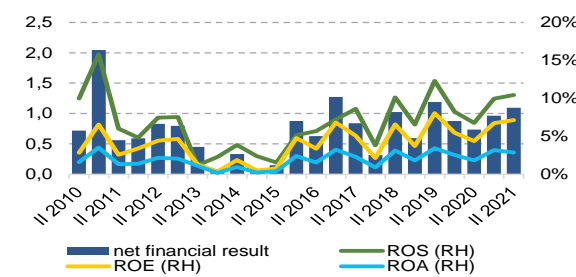
Source: NBP based on Statistics Poland (F01) and financial statements

Figure 114 Structure of operating expenses of real estate developers employing more than 49 employees



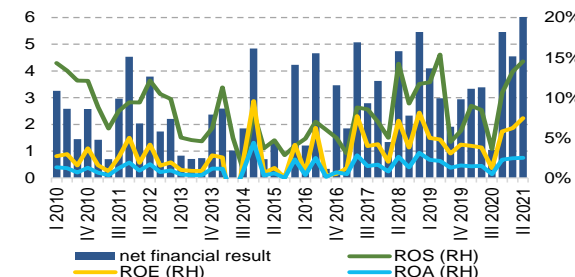
Source: NBP based on Statistics Poland (F01) and financial statements

Figure 115 Profitability of real estate developers employing from 9 to 49 employees



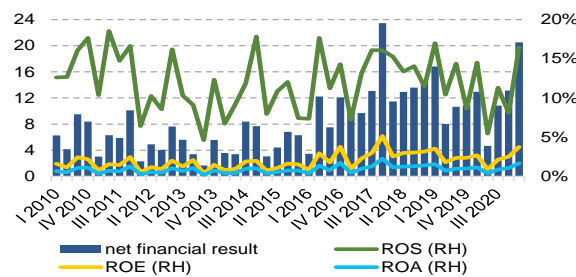
Source: NBP based on Statistics Poland (F01)

Figure 116 Profitability of real estate developers employing more than 49 employees



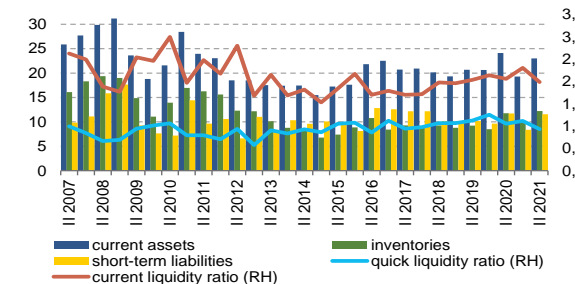
Source: NBP based on Statistics Poland (F01)

Figure 117 Profitability of WSE-listed real estate developers



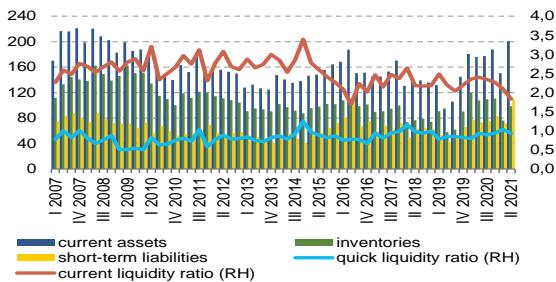
Source: NBP based on Quant Research sp. z o.o.

Figure 118 Liquidity ratios of real estate developers employing from 9 to 49 employees



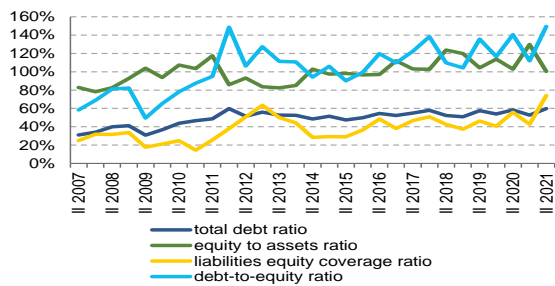
Source: NBP based on Statistics Poland (F01)

Figure 119 Liquidity ratios of real estate developers employing more than 49 employees



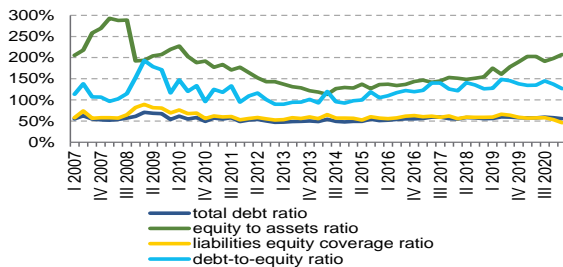
Source: NBP based on Statistics Poland (F01)

Figure 121 Debt ratios and debt service coverage ratios of developers employing from 9 to 49 employees



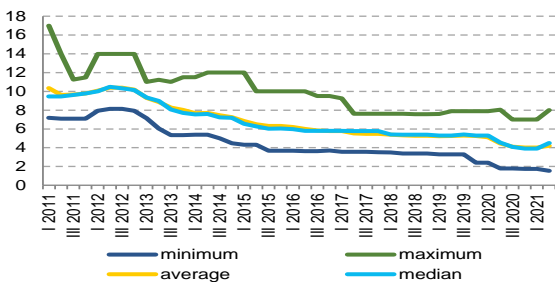
Source: NBP based on Statistics Poland (F01)

Figure 123 Debt ratios and indicators of securing liabilities of WSE-listed real estate developers



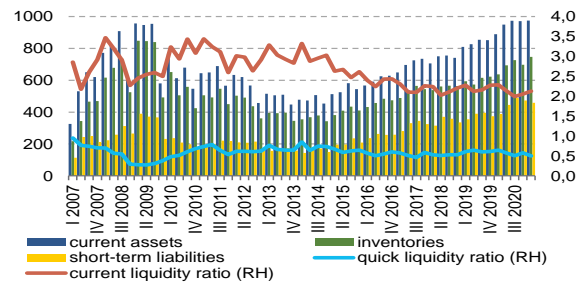
Source: NBP based on Quant Research sp. z o.o.

Figure 125 Interest on bond coupons of real estate developers listed on the Catalyst market



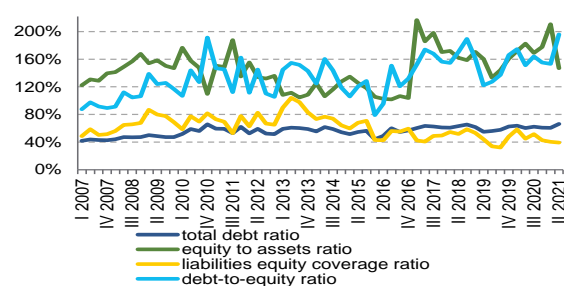
Source: NBP based on Catalyst data

Figure 120 Liquidity ratios of WSE-listed real estate developers



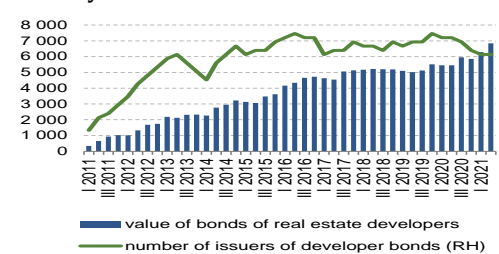
Source: NBP based on Quant Research sp. z o.o.

Figure 122 Debt ratios and debt service coverage ratios of developers employing more than 49 employees



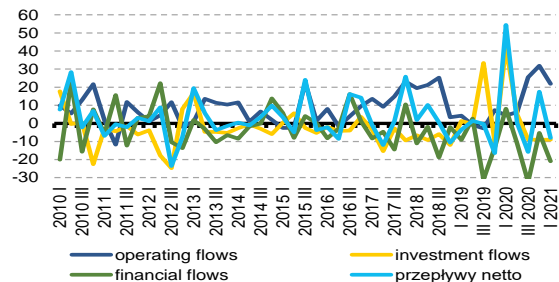
Source: NBP based on Statistics Poland (F01)

Figure 124 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 126 Flows of WSE-listed real estate developers



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

Analysis of financial standing of developers involved in the construction of buildings³²

Strengthening demand for housing since mid-2020 meant that a large part of construction companies involved in the construction of buildings began the year 2021 with a significant portfolio of new contracts which, with rising home prices and increasing competition for contractors, enabled them to negotiate higher contractor prices and take into account cost increases and ensure satisfactory margins. According to the financial data reported in the F01 reports, in 2021 Q1 larger construction companies (PKD 41.20) generated the highest return on sales in year-on-year terms (7.8%) since 2017 in the analysed period. In 2021 Q2, these companies posted some of their record revenues which were on average 15% higher than the figures recorded in 2019-2020. Record high revenues were generated while the operating expenses ratio deteriorated (0.96 in 2021 Q2 compared to 0.91 in the previous quarter and 0.94 in the corresponding period of 2020). This suggests that the prices of construction materials and the prices of services provided by subcontractors increased more than anticipated at the contract negotiation stage. Consequently, despite the high turnover, lower averaged net financial result was recorded (a decrease of 22% against the previous quarter and 14% against 2020 Q2). The increase in construction costs may hinder the completion of some of the contracts under previously agreed terms. In the period analysed, the operating cost structure did not differ significantly from that recorded in 2020. The deterioration in the operating expenses to sales revenue ratio translated into lower profitability in the analysed group of companies involved in the construction of buildings. In 2020 Q2, they achieved 5.3% return on sales (ROS), 3.9% return on equity (ROE) and 1.5% return on assets (ROA), compared to higher values achieved in the previous quarter (ROS 7.8%, ROE 5.2% and ROA 2.0%) and in the corresponding quarter of 2020 (ROS 6.7%, ROE 4.8% and ROA 2.0%).

The financial standing of small companies involved in the construction of buildings, including their profitability and the operating expenses to sales revenue ratio, was more favourable. In this group of companies, in the first half of 2021, total revenues increased by 18% compared to the first half of 2020, while total costs increased by 16% year-on-year, generating a 13% higher net financial result. The structure of operating expenses remained at a similar level. The operating expenses to sales revenue ratio did not exceed 0.89, which allowed them to achieve 7.9% return on sales compared to 8.2% in the first half of 2020. Return on equity (5.9 ROE) and return on assets (3.1% ROA) remained at levels similar to those recorded a year ago.

Larger construction companies saw for the second consecutive quarter an increase in the share of receivables in the structure of assets (to 32% in 2021 Q2) and in the third quarter an increase in the share of liabilities to trade partners in the structure of liabilities (to 45% in 2021 Q2). This may indicate growing problems in the timely collection of receivables and payment of liabilities. The group of small companies, despite also systematically increasing turnover and work-in-progress, had seen a significantly lower share of receivables in the structure of assets (18%) and a twice lower share of liabilities to subcontractors (23%) since the beginning of 2020 than the group of larger companies.

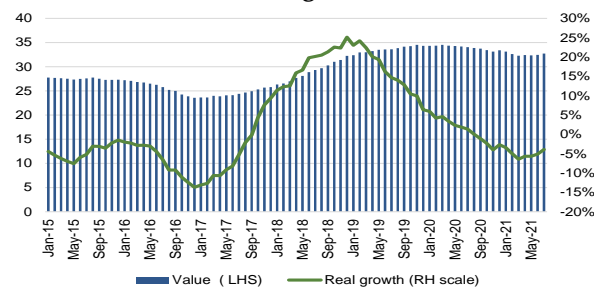
Both larger and small companies involved in the construction of buildings maintained similar structure of liabilities.

³² 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 entities: small entities - employing from 9 to 49 employees (data available until the first half of 2021 in semi-annual periods) and larger-sized entities 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).

The main source of financing is equity, whose share was stable and remained high at the end of June 2021 (44% in the group of larger entities and 59% in the group of small companies), which ensures favourable debt-to-equity and assets-to-equity ratios. Among external sources of financing, the share of borrowings from financial institutions in the structure of liabilities remained stable in both groups (10% in the group of larger entities and 11% in the group of small companies).

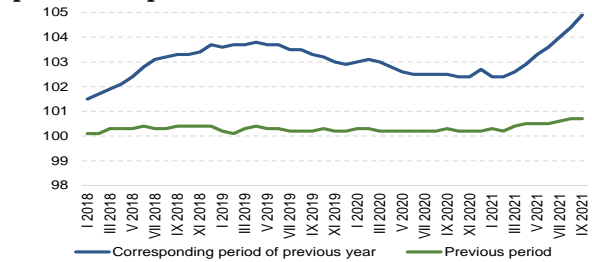
Liquidity ratios in both groups of construction companies remained at a safe level, despite their slight weakening in 2021 as a result of an increase in short-term liabilities.

Figure 127 Construction works associated with the erection of buildings (23-month total)



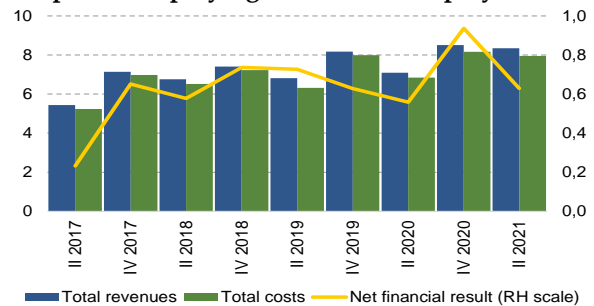
Source: NBP based on Statistics Poland

Figure 128 Growth of construction and assembly production prices (%)



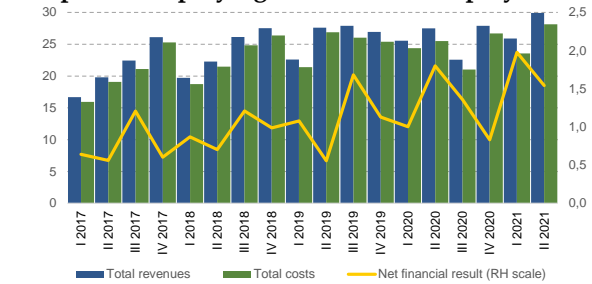
Source: NBP based on Statistics Poland

Figure 129 Economic indicators of construction companies employing from 9 to 49 employees



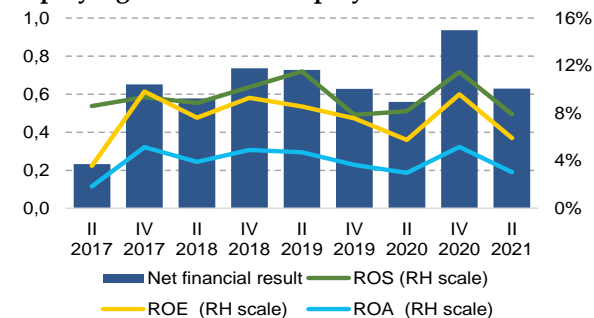
Source: NBP based on Statistics Poland (F01)

Figure 130 Economic indicators of construction companies employing more than 49 employees



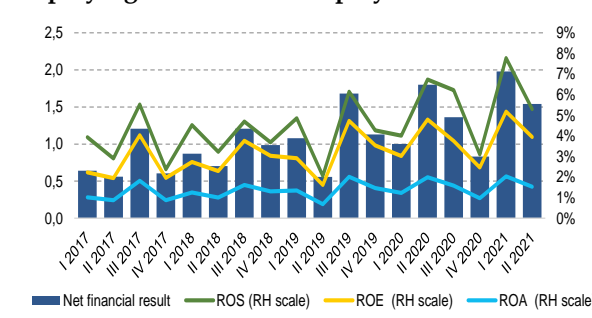
Source: NBP based on Statistics Poland (F01)

Figure 131 Profitability of construction companies employing from 9 to 49 employees



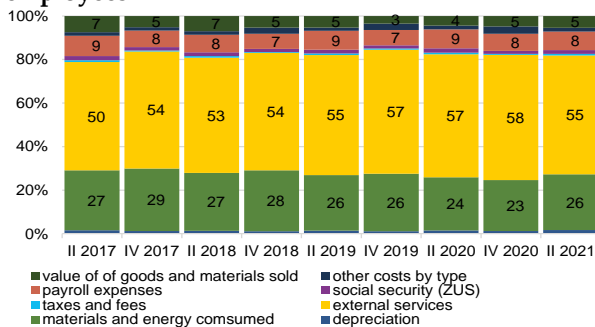
Source: NBP based on Statistics Poland (F01)

Figure 132 Profitability of construction companies employing more than 49 employees



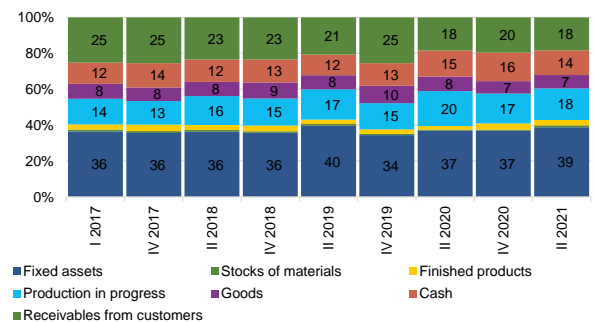
Source: NBP based on Statistics Poland (F01)

Figure 133 Structure of operating expenses of construction companies employing from 9 to 49 employees



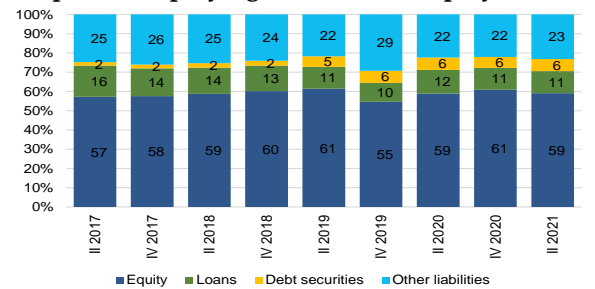
Source: NBP based on Statistics Poland (F01)

Figure 135 Structure of assets of construction companies employing from 9 to 49 employees



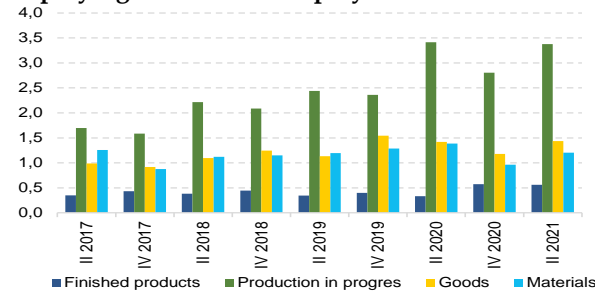
Source: NBP based on Statistics Poland (F01)

Figure 137 Structure of liabilities of construction companies employing from 9 to 49 employees



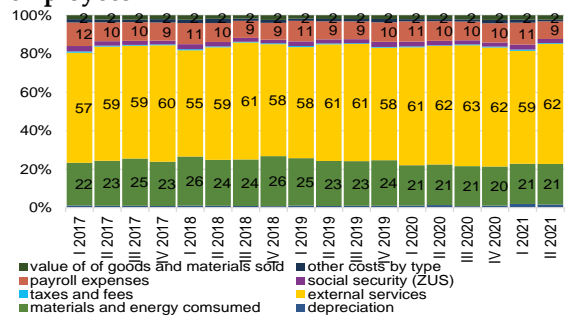
Source: NBP based on Statistics Poland (F01)

Figure 139 Situation of real estate developers employing from 9 to 49 employees



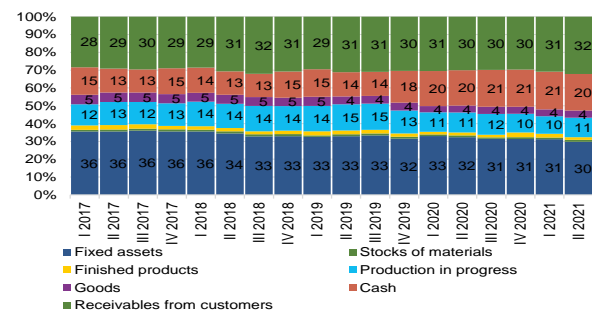
Source: NBP based on Statistics Poland (F01)

Figure 134 Structure of operating expenses of construction companies employing more than 49 employees



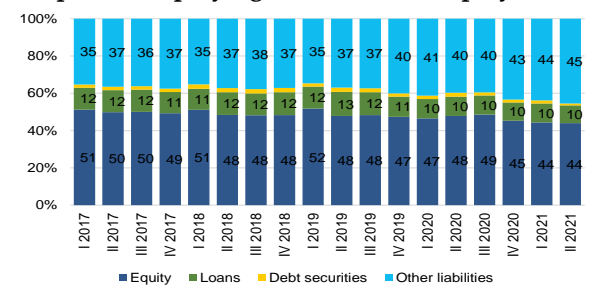
Source: NBP based on Statistics Poland (F01)

Figure 136 Structure of assets of construction companies employing more than 49 employees



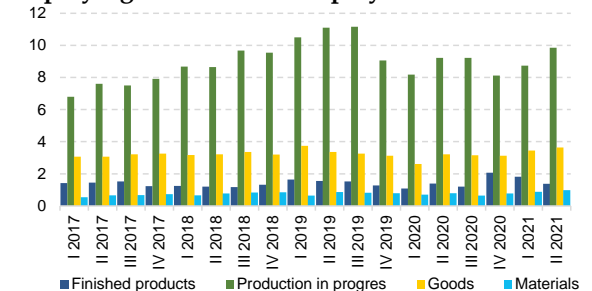
Source: NBP based on Statistics Poland (F01)

Figure 138 Structure of liabilities of construction companies employing more than 49 employees



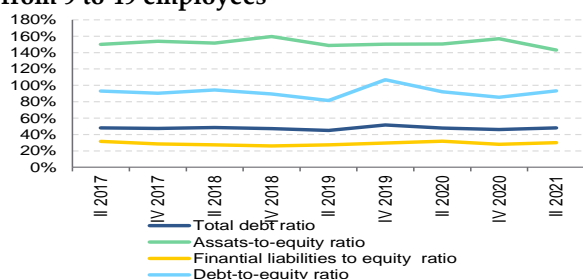
Source: NBP based on Statistics Poland (F01)

Figure 140 Situation of real estate developers employing more than 49 employees



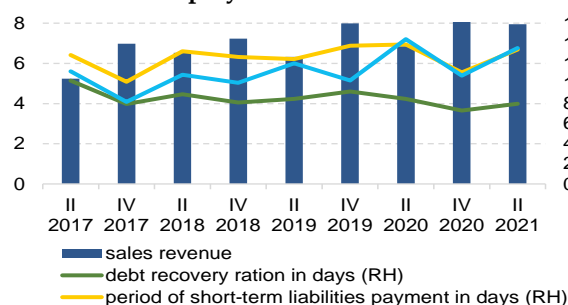
Source: NBP based on Statistics Poland (F01)

Figure 141 Debt ratios and indicators of securing liabilities of construction companies employing from 9 to 49 employees



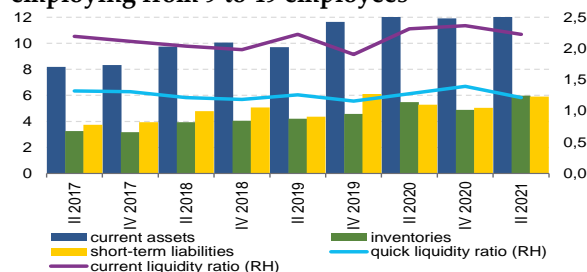
Source: NBP based on Statistics Poland (F01)

Figure 143 Turnover of inventory, receivables and liabilities of construction companies employing from 9 to 49 employees



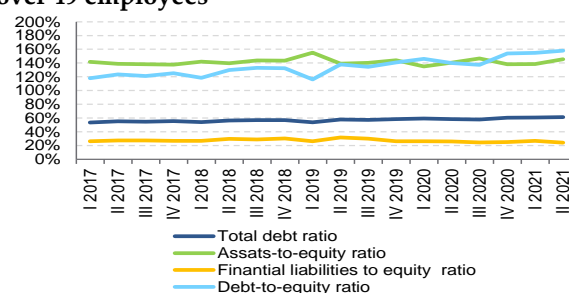
Source: NBP based on Statistics Poland (F01)

Figure 145 Liquidity of construction companies employing from 9 to 49 employees



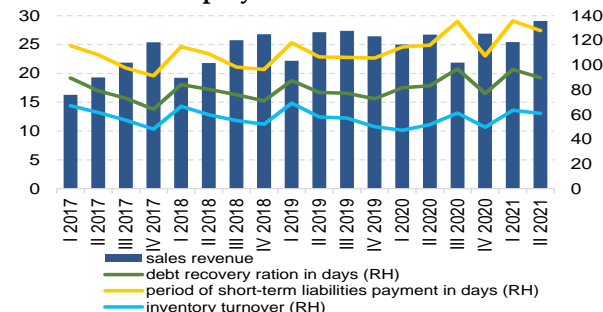
Source: NBP based on Statistics Poland (F01)

Figure 142 Debt ratios and indicators of securing liabilities of construction companies employing over 49 employees



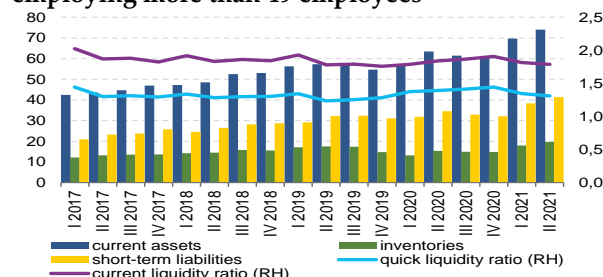
Source: NBP based on Statistics Poland (F01)

Figure 144 Turnover of inventory, receivables and liabilities of construction companies employing more than 49 employees



Source: NBP based on Statistics Poland (F01)

Figure 146 Liquidity of construction companies employing more than 49 employees



Source: NBP based on Statistics Poland (F01)

Analysis of financial standing of companies selling construction materials³³

The rising costs of development projects observed for several years, including an increase in the prices of construction materials, have become one of the more significant factors affecting the profitability of projects and the liquidity of companies. According to data of the Polskie Składy Budowlane Group, prices of materials in the period from January to June 2021, compared to the corresponding period of 2020, increased on average

³³ 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: entities 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 producers of constructions 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 June 2020 and in June 2021, Grupa PSB Handel S.A., July 2020 and July 2021).

by 5.5% in nineteen commodity groups, indicating an acceleration in their year-on-year growth. In the same period a year before, i.e. in the period from January to June 2020, compared to the corresponding period in 2019, growth in the prices of materials was lower and amounted to 1.5%. In the first half of 2021, in relation to the same period in 2020, price increases affected the following product groups: OSB (+26.9%), thermal insulation (+15.1%), drywall (+11.5%), roofs, gutters (+8.0%), lighting, electrical equipment (+7.6%), installations, heating (+7.4%), garden and hobbies (+5.9%), cement, lime (+4.9%), tools (+4.6%), waterproofing (+4.4%), finishes (+3.9%), woodwork and joinery (+3.8%), furnishings, household appliances (+3.7%), automotive (+3.3%), tiles, bathrooms, kitchens (+3.2%), construction chemicals (+3.0%), paints, varnishes (+2.5%), home surroundings (+1.8%) and decorations (+1.8%). A price drop was recorded in one group only: walls, chimneys (-4.6%).

The analysis of the entries in the F01 reports sent to Statistics Poland indicates the continuation of the good overall standing of building material wholesalers and a slight improvement in their profitability.

In 2021 Q2, compared to 2021 Q1, larger wholesalers (employing more than 49 employees) saw a slight increase in the averaged total revenue (by 6.2%) with a lower growth in total costs (by 3.1%). The favourable cost revenue ratio enabled them to generate a significantly higher net financial result. Main economic indicators for 2021 Q2 also improved in relation to the figures recorded in the previous year. The high and growing revenues of building material wholesalers accompanied by an accelerated increase in prices of building materials confirms the recovery in the housing market, growing demand for building materials and the execution of works in the construction industry. It is worth noting that in the group of large wholesalers, despite an increase in total revenues and costs in 2021 Q2 compared to the previous quarter and the corresponding period in the previous year, their growth rate decreased. The analysis of financial data of small wholesalers available up to the first half of 2021 also shows a marked growth in revenues and costs since 2017. In 2021, a marked improvement in the cost revenue ratio led to an increase in the average value of the net financial result.

The share of profitable entities increased in the group of larger wholesaler (92% of companies with a positive net financial result in 2021 Q2 against 70% of companies in 2021 Q1 and 84% in the corresponding period of the previous year). The percentage of small profitable wholesalers was lower, decreasing in the first half of 2021 to 87% compared to 90% in the second half of 2020, but increasing compared to the percentage recorded in the first half of 2020 (84%). Both groups of wholesalers improved their profitability and achieved a similar return on sales (ROS) at a level of over 7%. In the group of small companies, returns on equity and assets (17.3% ROE and 7.7% ROA) were more than twice as high as in the group of larger entities (6.9% ROE and 3.5% ROA), which means that small wholesalers continued to use their capital more efficiently and their financial standing was better. An increase in bank debt of small wholesalers to 17% in the structure of liabilities compared to 12%-13% share in 2018- 2020 was recorded, confirming an improvement in their liquidity and creditworthiness. The debt of larger building materials wholesalers remained at a similar and lower level (12% share in the structure of liabilities).

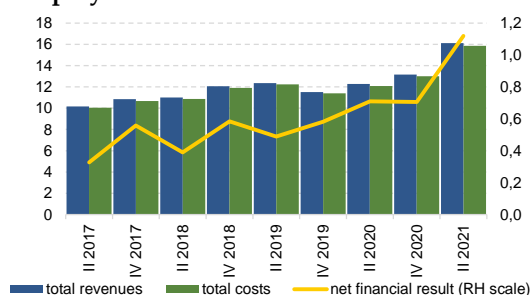
The main source of financing for building materials wholesalers, as is the case for developers and construction companies, is their own capital (equity), while its share in the structure of liabilities had been relatively stable for the past three years (as at the end of June 2021, over 51% in the group of larger companies and approx. 46% in the group of small companies).

As at the end of the first half of 2021, there was a slight increase in the share of receivables from customers in the structure of assets in the group of larger companies (to approx. 34%) and even greater in small wholesalers (to 36%). In both groups of companies, liabilities to trading partners in the structure of liabilities have also increased to 37% (from January to June 2021 by 3 p.p. in large wholesalers and by 7 p.p. in small companies), which slightly undermined their liquidity, however, ratios remained at a safe level for creditors.

Despite the slight volatility, the total debt ratio, the debt-service coverage ratio and the assets-to-equity ratio, the assets-to-equity ratio and debt-to-equity ratio, remained at a favourable level, ensuring creditworthiness and the ability to cover own liabilities.

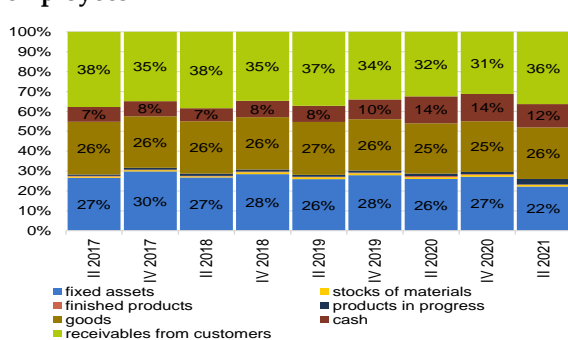
The significant increase in turnover of building materials wholesalers in the first half of 2021 was accompanied by an increase in the share of goods and materials sold in their operating cost structure (up to 79% in larger wholesalers and up to 81% in small companies). The share of own costs remained at a level similar to that recorded in previous periods.

Figure 147 Economic indicators of companies selling construction materials employing from 9 to 49 employees



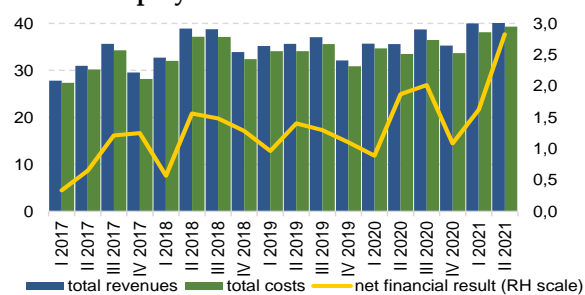
Source: NBP based on Statistics Poland (F01)

Figure 149 Structure of assets of construction material suppliers employing from 9 to 49 employees



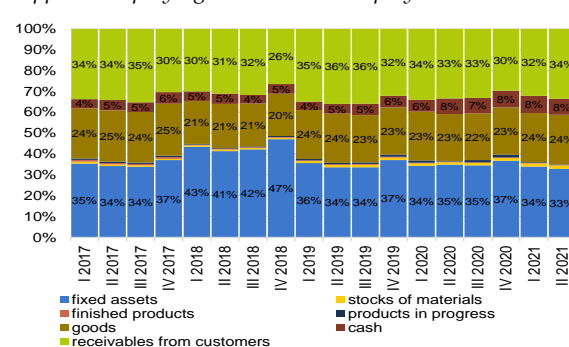
Source: NBP based on Statistics Poland (F01)

Figure 148 Economic indicators of companies selling construction materials employing more than 49 employees



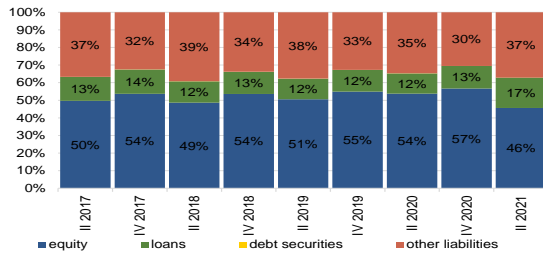
Source: NBP based on Statistics Poland (F01)

Figure 150 Structure of assets of construction material suppliers employing more than 49 employees



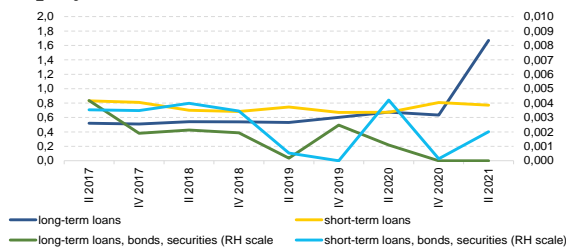
Source: NBP based on Statistics Poland (F01)

Figure 151 Structure of liabilities of construction material suppliers employing from 9 to 49 employees



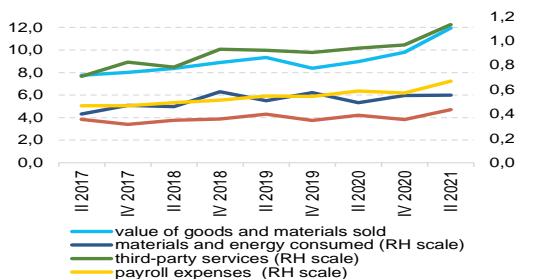
Source: NBP based on Statistics Poland (F01)

Figure 153 Sources of financing of construction material suppliers employing from 9 to 49 employees



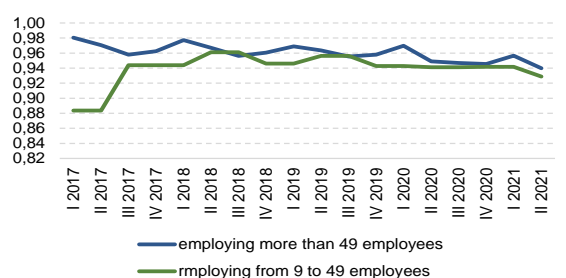
Source: NBP based on Statistics Poland (F01)

Figure 155 Operating expenses of construction material suppliers employing from 9 to 49 employees



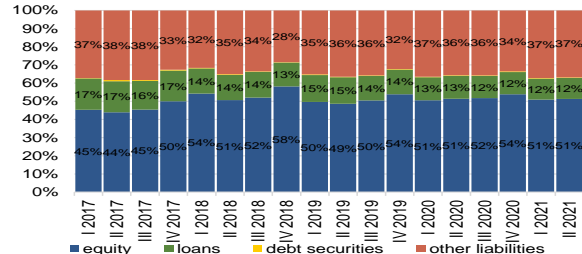
Source: NBP based on Statistics Poland (F01)

Figure 157 Indicators of level of operating expenses according to groups of construction material suppliers



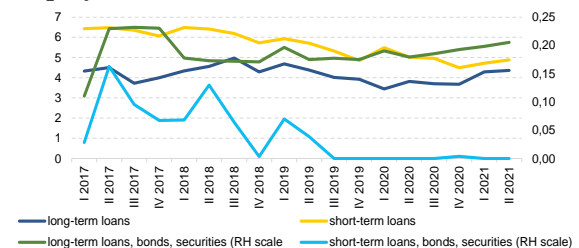
Source: NBP based on Statistics Poland (F01)

Figure 152 Structure of liabilities of construction material suppliers employing more than 49 employees



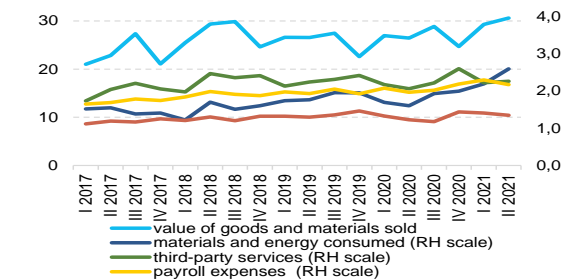
Source: NBP based on Statistics Poland (F01)

Figure 154 Sources of financing of construction material suppliers employing more than 49 employees



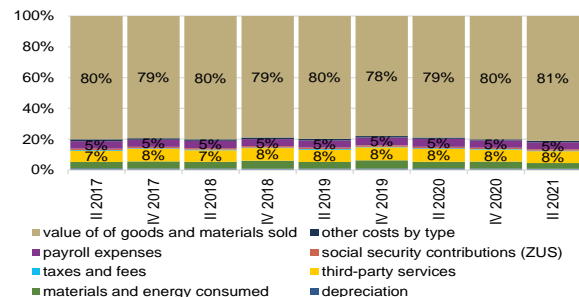
Source: NBP based on Statistics Poland (F01)

Figure 156 Operating expenses of construction material suppliers employing more than 49 employees



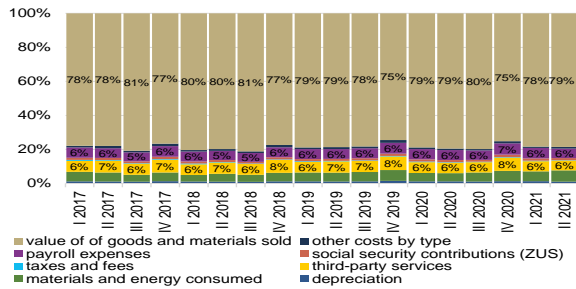
Source: NBP based on Statistics Poland (F01)

Figure 158 Structure of operating expenses of construction material suppliers employing from 9 to 49 employees



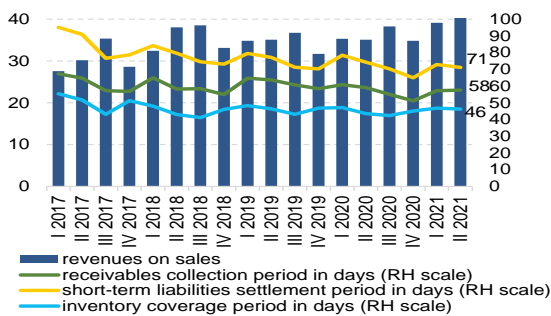
Source: NBP based on Statistics Poland (F01)

Figure 159 Structure of operating expenses of construction material suppliers employing more than 49 employees



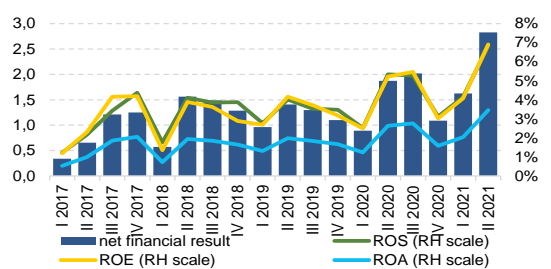
Source: NBP based on Statistics Poland (F01)

Figure 161 Turnover of inventory, receivables and liabilities of construction material suppliers employing more than 49 employees



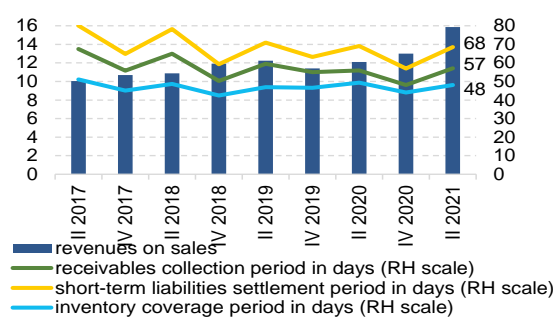
Source: NBP based on Statistics Poland (F01)

Figure 163 Profitability of activities of construction material suppliers employing more than 49 employees



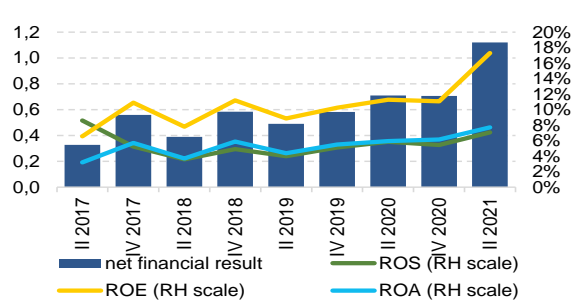
Source: NBP based on Statistics Poland (F01)

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



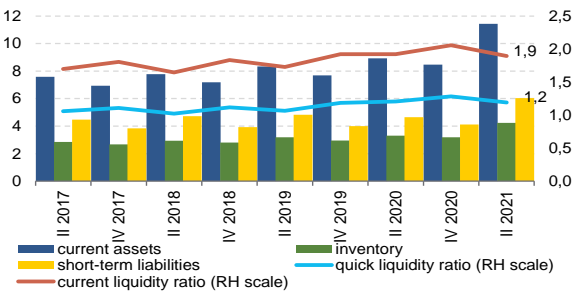
Source: NBP based on Statistics Poland (F01)

Figure 162 Profitability of activities of construction material suppliers employing from 9 to 49 employees



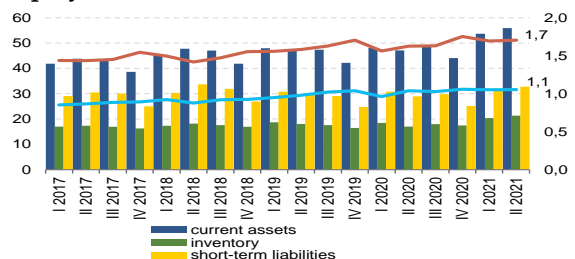
Source: NBP based on Statistics Poland (F01)

Figure 164 Liquidity ratios of construction material suppliers employing from 9 to 49 employees



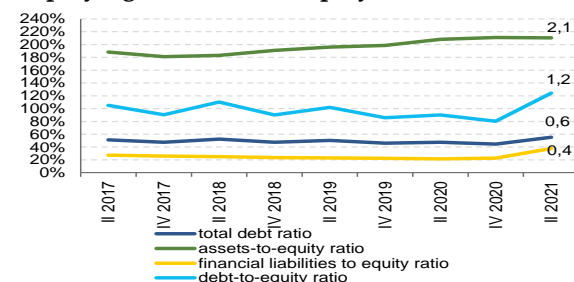
Source: NBP based on Statistics Poland (F01)

Figure 165 Liquidity ratios of construction material suppliers employing more than 49 employees



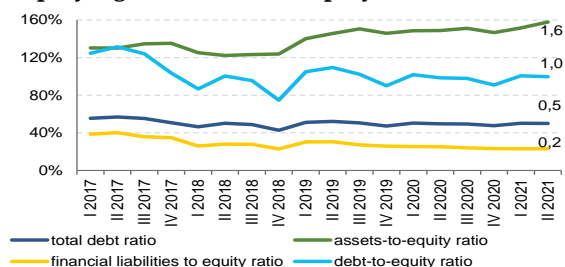
Source: NBP based on Statistics Poland (F01)

Figure 166 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 167 Debt ratios and indicators of securing liabilities of construction material suppliers employing more than 49 employees



Source: NBP based on Statistics Poland (F01)

Analysis of financial standing of companies manufacturing construction materials³⁴

The increased demand for building materials was confirmed by improvement in basic economic indicators mainly in the case of larger building materials producers.

According to the financial data reported by larger producers (those employing more than 49 people) in their F01 reports for 2021 Q2, compared to the corresponding quarter of 2020, the total revenues increased by 26%, including sales revenues by 15%, and similarly, total expenses increased by approx. 27%, including operating expenses by 28%. The revenues generated and expenses incurred in 2021 Q2 allowed larger producers to generate the average net income that was twice as high as in the previous year. The percentage of profitable larger building materials producers in both periods was comparable (approx. 83% of entities). In the analysed 2021 Q2, compared to 2020 Q2, the return on sales (ROS) decreased slightly, to 12.6% from 13.4%, while the return on assets (ROA) and the return on equity (ROE) improved slightly, to 3.7% from 3.6% and to 6.1% from 5.9%) respectively.

Small building material producers in the first half of 2021 posted a lower turnover growth than the group of larger entities and a weaker return on sales (6.7% compared to 8.8% in the first half of 2020) due to generating a weaker net financial result. Small producers, on the other hand, had a more favourable situation in terms of

³⁴ 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: 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)

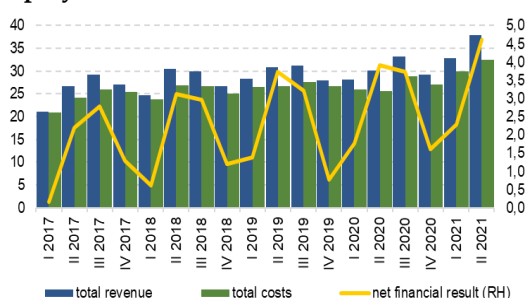
return on equity (8.1%) and return on assets (4.6%), which means that they are slightly more reliable in the opinion of banks and other creditors.

Both larger and small building materials producers held large equity, 64% and 60%, respectively, in the structure of liabilities at the end of June 2021 and recorded a slight improvement in the assets-to-equity ratio, and the debt-service coverage ratio, which has been seen for three years. Both groups also recorded a stable share of liabilities to suppliers of commodities and subcontractors (25% in the structure of liabilities of larger producers and 27% in the group of small entities) and a low and stable share of bank debt (12% and 13% , respectively). The general debt ratios (0.39 and 0.43), which are stable and oscillate at a favourable level, indicate that assets and activities of enterprises are financed rather with equity than debt, which protects them against loss of liquidity and bankruptcy in the event of an economic downturn .The significant demand for construction materials and high competition among construction companies in purchasing them translated into a low level of outstanding receivables from customers in the group of large producers (18% in the structure of assets at the end of the first half of 2021), resulting in a more favourable receivables turnover ratio (52 days) than the accounts payable turnover ratio (72 days). Small producers, on the other hand, have poorer receivables turnover ratio (27% in the structure of assets and 68 days on average) and a less favourable accounts payable turnover ratio (76 days on average).

After a slight improvement in the second half of 2020, liquidity deteriorated slightly in the first half of 2021 in both groups of companies, still remaining at a safe level ensuring payment of current liabilities.

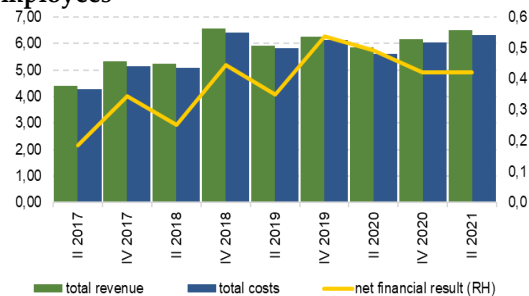
In 2021 Q2 compared to the corresponding period in 2020, in the group of larger producers, it was mainly the share of costs of materials and electricity consumed that increased in the structure of operating expenses (to 54% from 51%). On the other hand, when analysing the change in the value of costs, there was an increase in all components of operating expenses, the most significant being the value of materials and goods sold (by 45%), materials and energy consumed (by 36%), payroll expenses (by 23%) and costs of third-party services (by 8%). In the operating cost structure of small producers, a lower share of materials and electricity consumed (49%), and a higher share of third-party services (16%), indicates increased reliance on subcontractors.

Figure 168 Economic indicators of construction material producers employing more than 49 employees



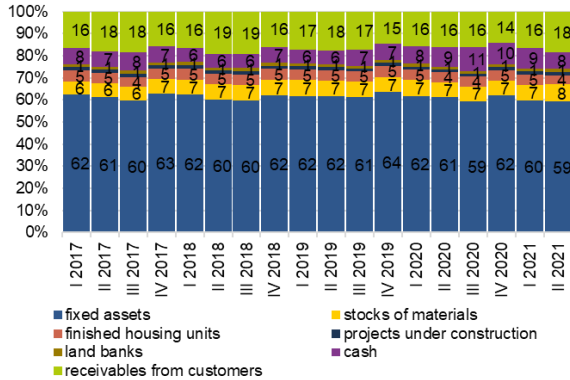
Source: NBP based on Statistics Poland (F01)

Figure 169 Economic indicators of construction material producers employing from 9 to 49 employees



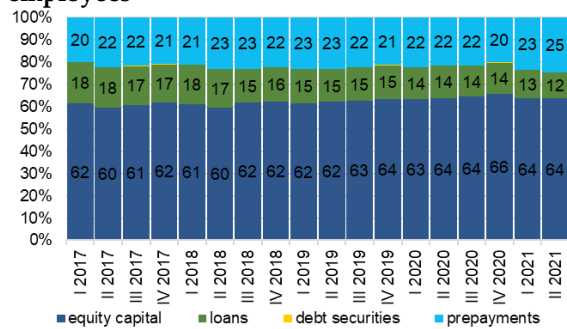
Source: NBP based on Statistics Poland (F01)

Figure 170 Structure of assets of construction material producers employing more than 49 employees



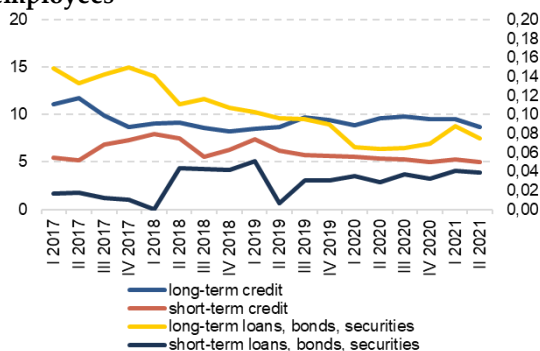
Source: NBP based on Statistics Poland (F01)

Figure 172 Structure of liabilities of construction material producers employing more than 49 employees



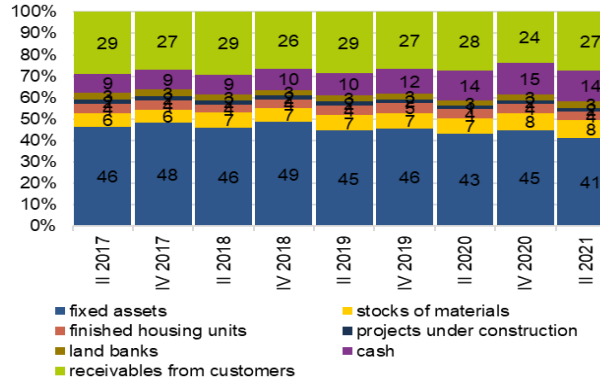
Source: NBP based on Statistics Poland (F01)

Figure 174 Operating expenses of construction material producers employing more than 49 employees



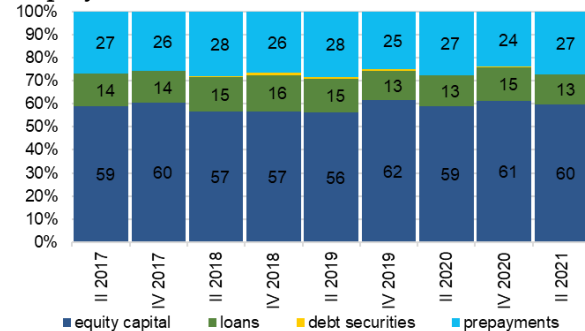
Source: NBP based on Statistics Poland (F01)

Figure 171 Structure of assets of construction materials producers employing from 9 to 49 employees



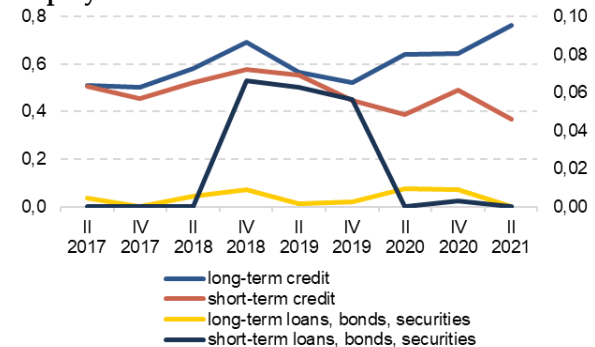
Source: NBP based on Statistics Poland (F01)

Figure 173 Structure of liabilities of construction material producers employing from 9 to 49 employees



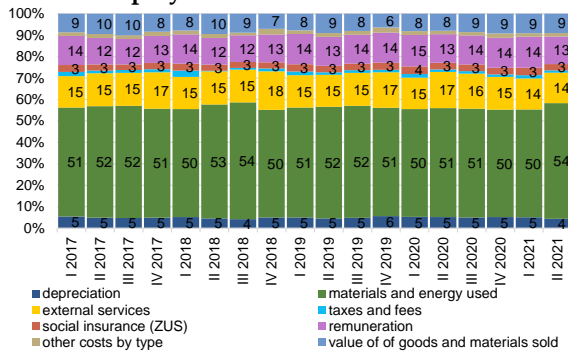
Source: NBP based on Statistics Poland (F01)

Figure 175 Operating expenses of construction material producers employing from 9 to 49 employees



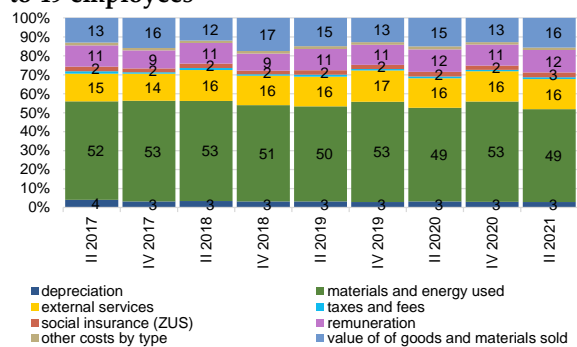
Source: NBP based on Statistics Poland (F01)

Figure 176 Structure of operating expenses of construction material producers employing more than 49 employees



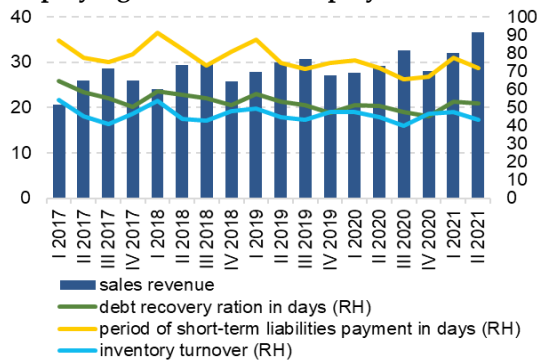
Source: NBP based on Statistics Poland (F01)

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



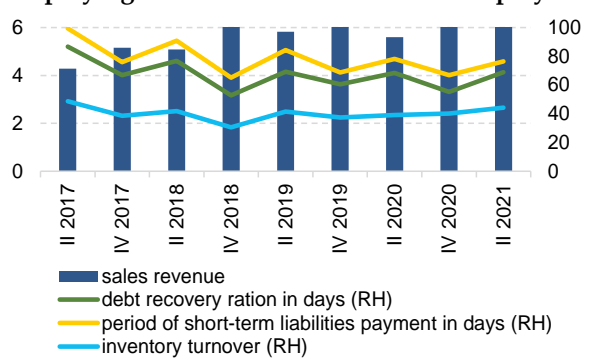
Source: NBP based on Statistics Poland (F01)

Figure 178 Turnover of inventory, receivables and liabilities of construction material producers employing more than 49 employees



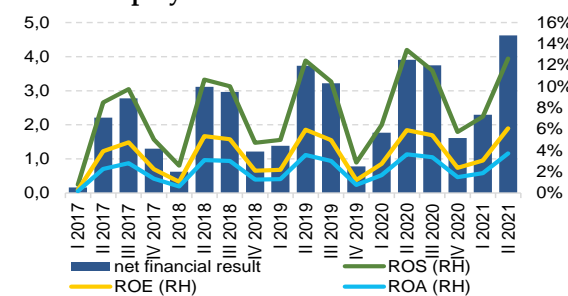
Source: NBP based on Statistics Poland (F01)

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



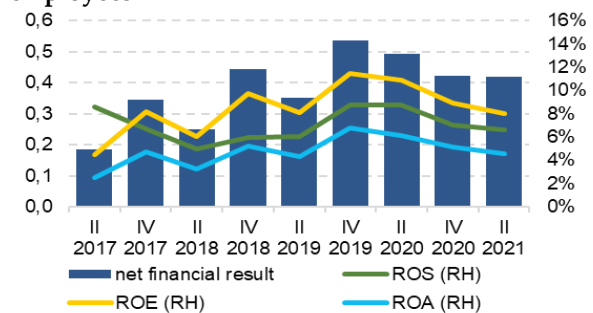
Source: NBP based on Statistics Poland (F01)

Figure 180 Profitability of activities of construction material producers employing more than 49 employees



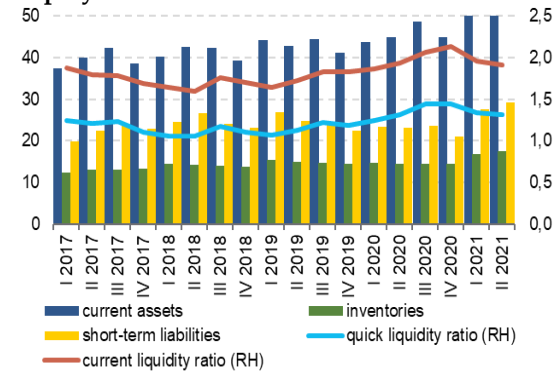
Source: NBP based on Statistics Poland (F01)

Figure 181 Profitability of activity of construction material producers employing from 9 to 49 employees



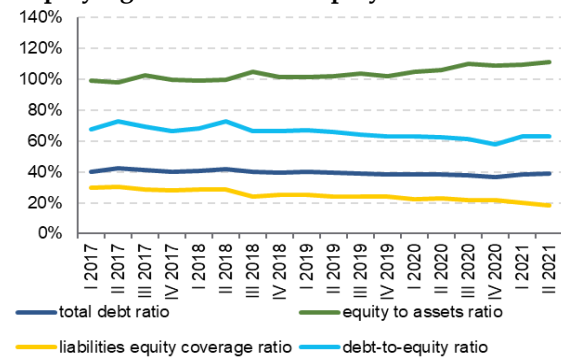
Source: NBP based on Statistics Poland (F01)

Figure 182 Liquidity ratios of construction material producers employing more than 49 employees



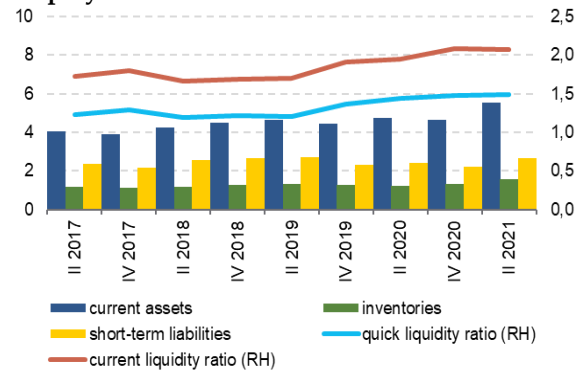
Source: NBP based on Statistics Poland (F01)

Figure 184 Debt ratios and indicators of securing liabilities of construction material producers employing more than 49 employees



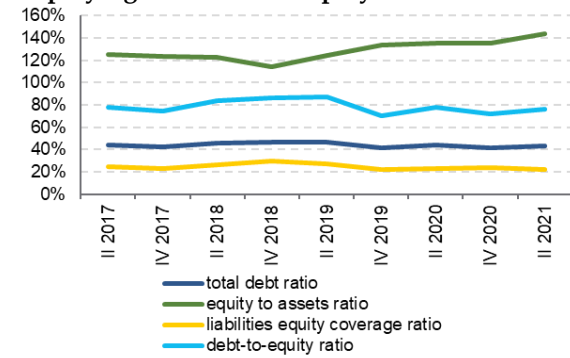
Source: NBP based on Statistics Poland (F01)

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



Source: NBP based on Statistics Poland (F01)

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



Source: NBP based on Statistics Poland (F01)

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