



EVALUER INDEX'23

ANALYSIS OF TRANSACTION PRICES
AND FORECASTS FOR THE RESIDENTIAL MARKET
IN POLAND
PRIMARY AND SECONDARY MARKET



EMMERSON
EVALUATION

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Introduction

Dear Readers,

We invite you to read the tenth edition of the Evaluator Index report, our comprehensive study of the housing market in Poland. As every year, we analyzed housing markets in Poland's largest cities: Warsaw, Cracow, Wroclaw, Poznan, Lodz, Tri-city and Katowice together with the Silesian agglomeration. We summarized last year's most important developments on the residential real estate market. We also attempted to determine trends and the direction in which the market will be headed in the coming months. The results of our analysis show that the real estate market changed in the past year. The difficult economic and political situation in the country translated into declines in sales and slowed down the growth rate of housing prices in the second half of 2022, but on the other hand had a stimulating effect on the rental market.

We hope that our report will be positively received and will broaden your knowledge about the situation on the residential real estate market in Poland. If you are interested in a detailed analysis, or would like to request studies of a different scope, please feel free to contact us.

Management Board of Emmerson Evaluation



RESIDENTIAL MARKET ANALYSIS IN 2022

Due to the unfavorable political (outbreak of war in Ukraine) and macroeconomic (high inflation) situation in our part of Europe, last year proved difficult for the Polish real estate market. The unfavorable economic situation had an impact on demand. After years of good fortune, the housing market experienced declines in sales.

The cyclical interest rate hikes introduced by the Monetary Policy Council's decision rose in 2022 from 2.25% in January to 6.75% in September, discouraging customers who needed a mortgage loan from making housing purchase decisions.

In addition, a recommendation introduced in April 2022 by the Financial Supervision Commission tightened the criteria for granting mortgage loans. As a result: in March 2022, 18,100 housing loans were granted, and in September and October only 6,600 in each month. In 2022, the amount of loans granted fell by almost half - to PLN 45.4 billion and this decline (by 49% y/y) was caused by a drastic reduction in the creditworthiness of Poles.

In the past year, there were changes in the structure of customers according to funding source. The previous proportions, where there were fewer customers paying in cash than those taking mortgage loans, were reversed. Last year developers could count mainly on customers with cash. Developers, adapting their offerings to them, began to develop projects in attractive locations or with high standards, which drove up prices. As a result, 2022 saw higher prices on the primary market. Depending on location, increases ranged from 1% to 19% y/y.

In 2022, a large role on the market was played by individual investors, paying in cash and treating the purchase of an apartment as a capital investment. Buyers with savings were quicker to make decisions to purchase units with investment intentions. Factors rushing such decisions were the desire to protect capital from loss of value and rental income, which increased significantly last year.

The year 2022 brought such challenges to the primary market as reduced availability of construction materials and their high prices; rapid outflow of labor; broken supply chains or rising energy costs. In response to this market situation, some developers withdrew from or halted investment projects. Developers, observing and analyzing the market system, began to better adjust their supply in response to declining demand. Nevertheless, 2022 saw a historically high level of apartment offerings in Gdansk, Lodz and Katowice, driven by a record number of projects introduced for sale in the second half of 2021.

For the past nine years, housing prices were rising steadily, and 2021 was a record year in this regard. Despite the difficult economic situation, housing prices continued to rise in 2022, both on the primary and secondary market. The market for new units saw increases of several percent (y/y) in most of the analyzed locations. The highest increases on the primary market were recorded in Białystok (19% y/y), Szczecin (18% y/y) and Opole (16% y/y). On the secondary market, increases of several percent were visible in almost all analyzed cities, and in Gorzow Wlkp., Białystok and Zielona Góra they were

the highest at over 20% (y/y). In 2022, developers introduced more than 37,700 units onto the market, by 33% less than in 2021. New regulations introduced in the middle of the year (the so-called New Developers' Law) resulted in an increased number of building permits issued in the first half of last year. Some of the developments were „artificially” introduced for sale before July 1, 2022, in order to be able to circumvent the new regulations, hence despite the large number of building permits issued, these apartments were not offered on the market.

The number of apartments sold on the primary market in the locations we analyzed exceeded 24,600. Sales fell by about 49% y/y in all of the cities surveyed, with the sharpest declines recorded in Katowice (down by 60%) and Poznań (down by 52%), and the smallest in Lodz (down by 34%). However, it is worth noting that the benchmark is the record sales in the history of the residential market, which occurred in 2021.

The highest prices in 2022 on the primary market were recorded in Sopot (median PLN 21,690/sqm), second place was invariably taken by Warsaw (median PLN 13,758/sqm), and third place by Gdynia (with a median of PLN 12,946/sqm). Median prices per sqm higher than PLN 12,000 were also recorded in Cracow (PLN 12,682) and Gdansk (PLN 12,090). The median price per square meter in Wroclaw reached PLN 11,520, while in Poznan it was PLN 10,569. Among provincial cities, the lowest median prices per square meter were found in Gorzów Wlkp. (PLN 6,534) and Opole (PLN 7,109).

The secondary market also saw price increases. The highest median price per square meter was recorded in Sopot (PLN 15,088). Warsaw was on the second place with PLN 12,771/sqm. The lowest median prices per square meter were recorded in Gorzów Wlkp (PLN 5,406) and Zielona Góra (PLN 6,054).

In the past year, buying an apartment was of reach for a large number of potential customers, which translated into an increased demand for rentals.

In 2022, the biggest changes occurred in the rental market. Availability of housing stock for long-term rental fell, which is why we saw the highest rent increases in years. Rental rates rose at a particularly fast pace in the first quarters of last year, during the influx of neighbors from across the eastern border.

Supplying the housing stock with institutional investors may be a long-term solution to the so-called housing deficit. The Private Rented Sector (PRS) increased its stock by about 35% in 2022. More than 9,200 apartments are currently ready. Some 20,000 housing units are expected to be built in the next few years. However, these are only investments that are underway or planned. In the near future, the funds assume greater expansion. It is worth noting that the number of existing institutional rental housing units in Poland is still low, currently accounting for only 4% of the housing units completed in 2022.

Price information

This analysis includes data on transaction prices.

Readers of the report should note that a transaction price should be understood only as the price at which the purchase/sale transaction was made and which was recorded in the notarial deed at the stage of the preliminary or final agreement.

Median

In this report we use the median real estate transaction prices. The median (the so-called middle value, dividing the set into two equal parts) better reflects information on real estate prices than the average, because its result is not influenced by single values deviating considerably from most transactions typical for the whole set (such as the purchase of one luxury property).

In this report, all prices are given per 1 sqm of usable floor area of an apartment (PLN/sqm). For both the primary and secondary market, reference is made to gross prices.

RESIDENTIAL MARKET IN POLAND

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET
TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend I1H22/IH22	median price 1 sqm	trend 22/21	trend I1H22/IH22
WARSAW	13,758	12%	3%	12,771	12%	3%
CRACOW	12,682	12%	3%	10,731	12%	4%
LODZ	9,066	14%	3%	6,655	10%	2%
WROCLAW	11,520	13%	3%	9,743	11%	4%
POZNAN	10,569	13%	3%	8,169	9%	3%
GDANSK	12,090	9%	4%	10,882	14%	3%
KATOWICE	9,011	10%	1%	6,385	9%	2%
THE SILESIA AGGLOMERATION (not incl. Katowice)	6,417	8%	3%	5,005	12%	2%
GDYNIA	12,946	10%	2%	9,576	11%	2%
SOPOT	21,690	1%	-2%	15,088	16%	-3%
SZCZECIN	9,089	18%	3%	7,698	17%	3%
BYDGOSZCZ	7,951	14%	3%	6,550	10%	1%
LUBLIN	8,432	15%	2%	7,783	19%	5%
BIAŁYSTOK	8,214	19%	2%	7,284	21%	4%
TORUŃ	8,130	11%	2%	7,275	16%	4%
RZESZÓW	7,987	14%	2%	7,426	15%	4%
KIELCE	7,220	15%	2%	6,331	19%	5%
OLSZTYN	7,750	12%	3%	6,851	11%	5%
ZIELONA GÓRA	7,224	15%	3%	6,054	23%	2%
OPOLE	7,109	16%	6%	6,645	14%	4%
GORZÓW WIELKOPOLSKI	6,534	13%	1%	5,406	20%	1%



WARSAW

The Warsaw real estate market, despite a decline in demand due to the credit market situation, continued to attract buyers, especially those with cash. In Warsaw, price increases of 12% y/y in both the primary and secondary markets were recorded at the end of 2022. In retrospect, the dynamics of housing price increases were not equal. In the first half of 2022, the increases in both markets reached 9%, and in the second half of the year 3%. The median price per square meter of a new unit was PLN 13,758, and that of a second-hand apartment was PLN 12,771.

In the second half of 2022, there was clearly less interest from buyers, resulting in a 49% drop in sales compared to the analogical period in 2021. Comparing the results in 2022 alone, the second half of the year turned out to be weaker in terms of sales (down by 25% when compared to H1 2022). Śródmieście remained Warsaw's most expensive district due to its central location, high demand and limited supply, caused by the scarce availability of land. In Śródmieście developers offer higher-standard developments, which further affects the price of a unit. The median price per square meter of a new apartment in 2022 in Śródmieście was PLN 26,767, up by 29% year-on-year.

Apart from Śródmieście, the highest apartment prices on the primary market were seen in Ochota, where median price per sqm reached PLN 20,158 (up by 28% y/y). The district overtook Wola, which ranked second a year ago, in 2022. This is due to the fact that last year developers introduced higher-standard developments for sale in Ochota.

In 2022, not all districts saw an increase in housing prices. A decline in primary market prices occurred in Bielany. The reductions were prompted by a sell-out, as developers had the last remaining, less attractive or large apartments.

In the second half of 2022 in Warsaw, developers added almost 5,000 new apartments to the supply, which is a 50% drop compared to the same period of 2021.

Comparing the two year halves of last year in terms of offering, in the second half of the year developers introduced 25% fewer units onto the market. In the second half of the year, most new developments were introduced in Białołęka and Praga Południe, and it is in this district that the largest number of new apartments will be built. Developers in Praga were most eager to supplement supply in Grochów and Goławy. The northern part of the capital is developing most actively in Białołęka: in Brzeziny and Henryków. This district also has the largest number of apartments on offer. At the end of H2 2022, you could find here more than 19% of units to buy from the entire Warsaw market. The second district with the largest offering was Wola. For several years, invariably the two mentioned districts had the largest supply, which is due to the high availability of building land in this part of the city.

The high supply of apartments in the above locations is associated with high demand for units in these districts. In 2022, the primary market saw the largest number of apartments sold in Białołęka and Praga Południe, with buyers mostly choosing 2- or 3-room apartments.

As for the secondary market, the most expensive districts were: Śródmieście with a median price of PLN 17,111/sqm (increase of 6% y/y) and Żoliborz, where the price per meter reached PLN 15,387/sqm (increase of 12% y/y). Żoliborz, due to the lack of offering from developers, enjoyed increased interest from customers on the secondary market, who are attracted by its prestigious location, but also by the district's quiet and historic character.

The largest price increases of apartments on the sec-

ondary market were recorded in Ursynów (increase of 23% y/y).

The district continues to be popular among buyers due to its developed infrastructure and good transport connections with the rest of the city thanks to the subway line. On the secondary market, the largest number of sold apartments was recorded in Wola. Buyers were most likely to choose apartments between 30 and 50 sqm. Apartments of this size accounted for almost 50% of all units purchased in the district.

**MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET
TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.**

Source: Evaluator data base

**CHANGES
ON THE DEVELOPER'S MARKET
2022/2021**

Source: Emmerson Evaluation based on Evaluator data

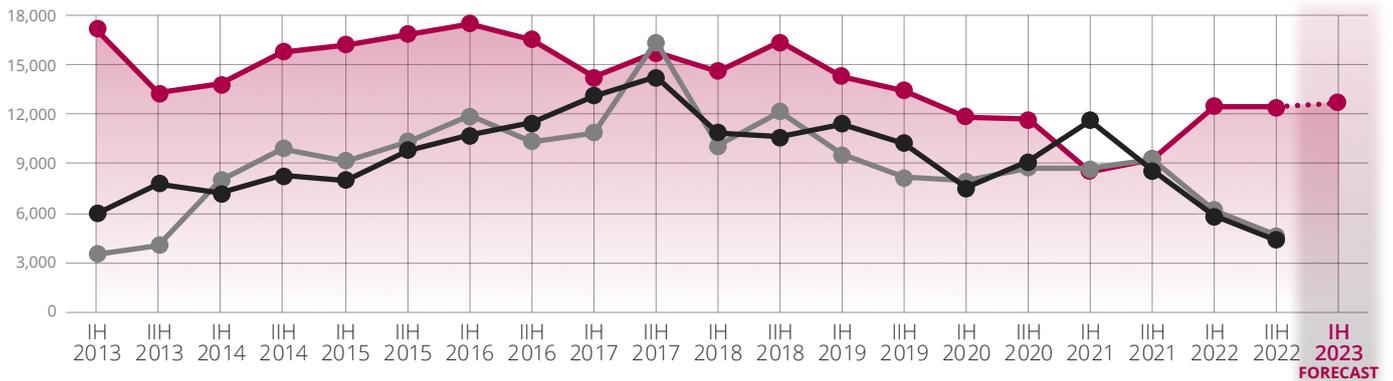
	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Bemowo	12,792	10%	1%	11,161	14%	3%
Białołęka	10,051	14%	4%	9,838	19%	3%
Bielany	13,334	-1%	4%	11,991	9%	2%
Mokotów	15,351	6%	-2%	14,084	13%	3%
Ochota	20,158	28%	0%	13,441	13%	2%
Praga-Południe	13,731	14%	1%	11,937	14%	3%
Praga-Północ	14,962	9%	2%	12,532	15%	4%
Rembertów	10,156	22%	-1%	8,631	10%	1%
Śródmieście	26,767	29%	3%	17,111	6%	2%
Targówek	11,496	9%	1%	10,660	12%	4%
Ursus	11,022	12%	1%	9,754	6%	3%
Ursynów	14,948	14%	-1%	12,976	23%	4%
Wawer	9,366	9%	3%	9,716	10%	4%
Wesoła	9,944	11%	0%	8,882	8%	3%
Wilanów	13,398	8%	-2%	14,520	10%	4%
Włochy	12,304	9%	0%	11,319	13%	3%
Wola	18,884	25%	3%	13,545	6%	4%
Żoliborz	-	-	-	15,387	12%	4%



SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
 number of apartments introduced onto the market in the period
 no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

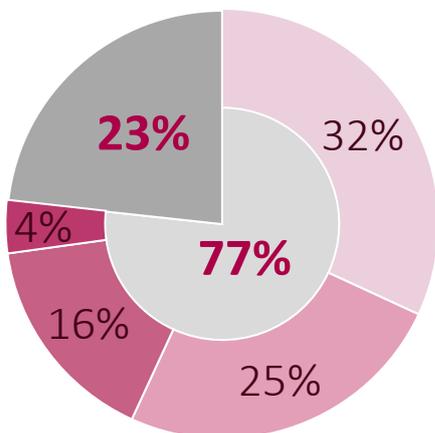
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

sales in 1H
 sales in 2H
 sales in 3H
 sales in 4H
 remaining on sale after 2 years

*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
 Source: Emmerson Evaluation based on Evaluator data



CRACOW

In Cracow, as in other markets, sales volume fell significantly. In the second half of 2022, developers reported a 51% drop in sales compared to the same period in 2021. The decline reached 30% compared to the first half of the year. Despite the slump in sales, apartment prices rose. The median price of a square meter of new apartment at the end of 2022 was PLN 12,682, 12% higher than in 2021. The second half of last year saw a lower rate of price growth, which reached values 3% higher than in the first half of the year.

On Cracow's primary market, the largest share of apartments in the city's offering was seen in Podgórze (36%) and Krowodrza (35%), and it was in Podgórze that customers bought the largest number of apartments. They were most likely to choose 2- and 3-room apartments. In the second half of 2022, developers added more than 1,500 new units to the Cracow's market's supply, 59% less than in the first half of 2022. Juxtaposing the new supply from the second half of last year with the same period in 2021, a decline of 63% is evident.

In the last six months investors introduced most projects into their offering in Śródmieście. Most of these

developments are revitalized tenement houses, located in close proximity to the Old Town. Śródmieście, due to its historic urban layout and cultural landscape, is very popular with customers. This results in the activity of investors, but also of people wishing to buy a unit for their own housing purposes. This district remained the most expensive and saw the largest price increase, as much as 20%, where the median price per sqm. was PLN 17,654. The second market with the highest number of new apartments was Podgórze, where buyers had to pay an average of PLN 11,636 thousand per sqm.

In each of Cracow's districts, the median price per square meter of a new apartment exceeded PLN 10,000. Nowa Huta remained the cheapest district with a median of PLN 10,132/sqm (increase of 5% y/y). This district recorded the smallest number of new apartments offered by developers: one project was launched there in the second half of the year, and customers purchased the smallest number of units in this part of the city compared to the other districts.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET
TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Krowodrza	12,955	8%	2%	11,094	12%	4%
Nowa Huta	10,132	5%	1%	9,584	16%	3%
Podgórze	11,636	15%	3%	10,542	18%	2%
Śródmieście	17,654	20%	4%	12,443	13%	4%

CHANGES
ON THE DEVELOPER'S MARKET
2022/2021

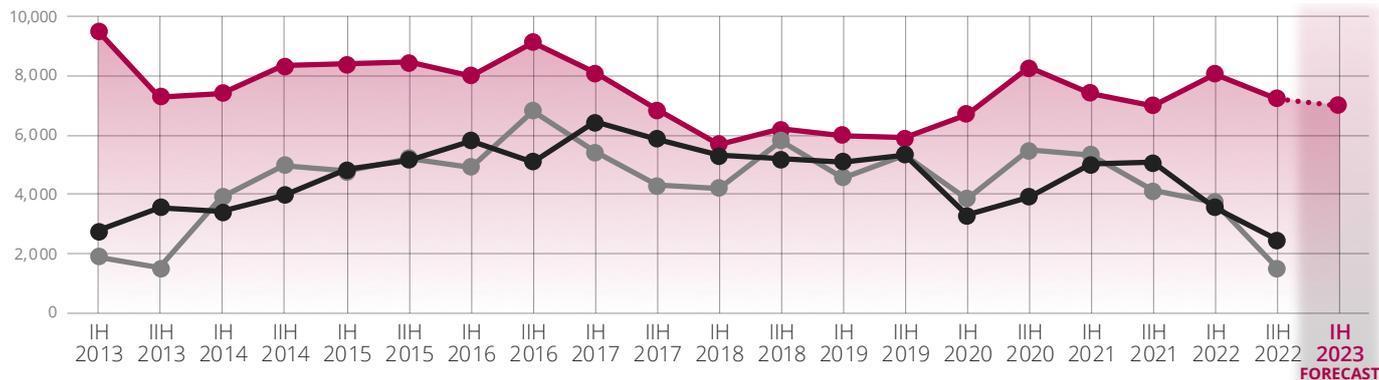
Source: Emmerson Evaluation based on Evaluator data



SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
 number of apartments introduced onto the market in the period
 no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

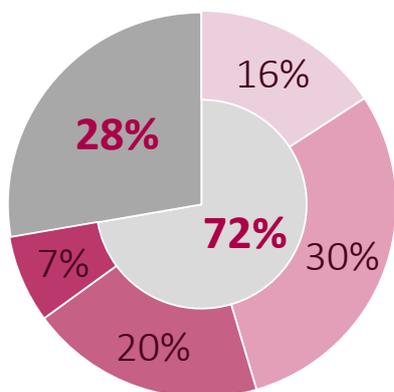
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
 Source: Emmerson Evaluation based on Evaluator data

sales in 1H
 sales in 2H
 sales in 3H
 sales in 4H
 remaining on sale after 2 years



The median price of a square meter on the secondary market reached PLN 10,731, which is by 12% more when compared to 2021. The dynamics of price increases slowed down in the second half of 2022, with prices rising by 4% compared to the previous six months. On the other hand, all districts saw increases of more than 10% compared to the previous year. In Podgórze the increase reached 18%, in Nowa Huta 16%, in Śródmieście 13% and in Krowodrza 12%. The highest median prices occurred in Śródmieście and amounted to PLN 12,443/sqm. The next most expensive location after Śródmieście was Krowodrza with a median of PLN 11,094/sqm. The largest number of second-hand apartments was sold in Podgórze district and accounted for more than 35% of the units purchased in the entire city. The median price per square meter in this district was PLN 10,542. Buyers on the secondary market most often chose 2-room apartments, which accounted for more than 49% of the apartments bought in this part of the city.

WROCLAW

Last year, the primary and secondary markets in Wrocław saw growing prices throughout the city. At the end of 2022, the median price per square meter of new apartments reached PLN 11,520, up by 13% y/y. Comparing the six months of last year in terms of price growth, it can be seen that it slowed down in the second half of the year, and the median price per sqm was 3% higher than in the first half of the year. Second-hand apartments became more expensive by 11% year-on-year. In the first half of 2022, increases reached 7%, and in the second half of 2022 only 4%, which also indicates a weakening of the upward trend. The median price per sqm at the end of the year on the secondary market was PLN 9,743. In 2022, sales in the Wrocław real estate market fell by more than 45% compared to the same period in 2021. Analyzing last year in terms of transactions, the second half of the year turned out to be weaker, as there was a 24% decrease in the number of sold apartments compared to the first half of the year. The highest price increases on the primary market were seen in the Krzyki district, for which the median price per sqm amounted to PLN 10,549, up by 16% y/y. Śródmieście

remained the most expensive district in Wrocław with a median price of PLN 14,645/sqm, up 10% from 2021. The largest number of new developments was built in the Oławskie suburbs.

In the second half of 2022, developers in the Lower Silesian capital put more than 2,400 apartments on the market, 34% less than in the first half of the year and 28% less than in the same period in 2021. Developers decided to start the largest number of investments in Fabryczna district, and most often chose Grabiszyn and Maślice. The second district with the highest number of new development projects was Krzyki. The Old Town was in third place, and it was there that developers sold apartments in new projects at the highest prices in the entire city, the average price of a new unit there amounted to almost PLN 19 thousand/sqm. At the end of 2022, the largest number of available apartments on the primary market was recorded in Krzyki district, and amounted to 39% of the whole city's offering. Developers choose to develop their projects there because of the abundant availability of land. Due to a lot of interest in buying units in this location,

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET
TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Fabryczna	9,776	6%	3%	9,507	20%	1%
Krzyki	10,549	16%	5%	9,898	22%	3%
Psie Pole	9,938	11%	3%	9,223	16%	4%
Stare Miasto	14,388	14%	2%	10,799	15%	3%
Śródmieście	14,645	10%	0%	10,593	15%	5%

CHANGES
ON THE DEVELOPER'S MARKET
2022/2021

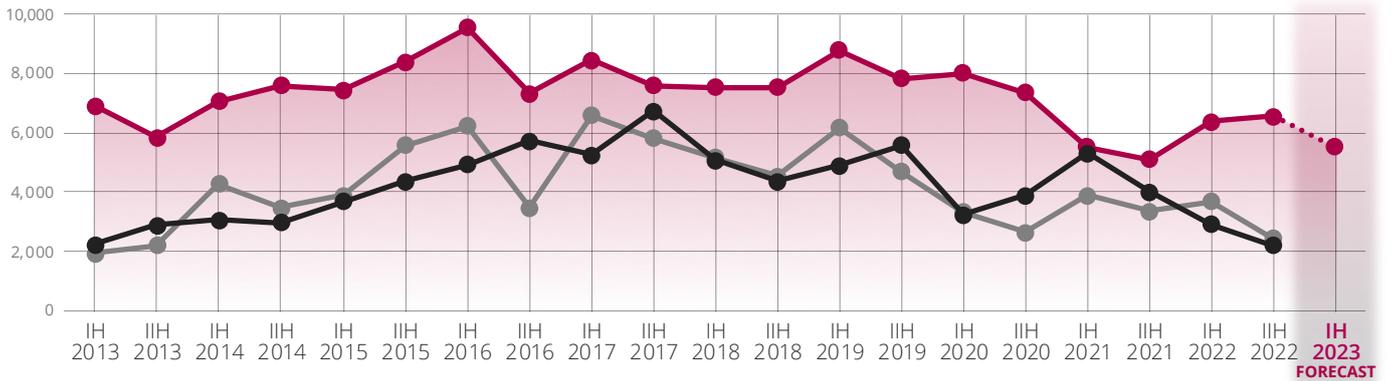
Source: Emmerson Evaluation based on Evaluator data

Total offering	
Number of apartments introduced onto the market	

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
 number of apartments introduced onto the market in the period
 no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



the largest number of apartments on the primary market was sold here. The district of Krzyki has been attracting buyers for many years with its good urban infrastructure, but also with its numerous parks and

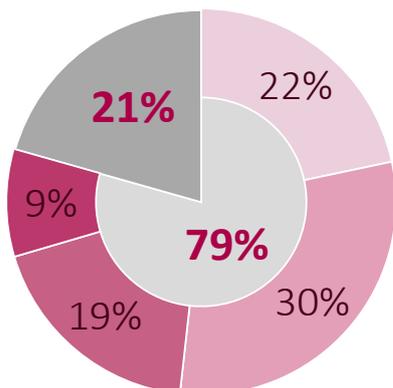
green areas, making it an attractive place for those looking for a new apartment of their own in Wroclaw. Krzyki was also the most popular district on the secondary market. Sales of apartments in this district accounted for almost 36% of transactions in the entire city. The most popular apartments were between 30 and 50 sqm. This district also saw the largest price increase. Median price reached PLN 9,898/sqm, a 22% increase compared to 2021.

However, the most expensive district in Wroclaw was the Old Town with a median price of PLN 10,799/sqm. (increase of 15% y/y). Thanks to its location and prestige, this district remains a popular place to live, but also has great potential for buyers looking for a unit for investment purposes. The lowest price on the secondary market was recorded in Psie Pole district, where the median price was PLN 9,223/sqm. (Increase of 16% y/y). The lower rates here are due to the district's location. The district lacks developed infrastructure, is inadequately connected with the city center and far away from important points in the city. In Psie Pole, besides large housing estates, you will also find typically industrial areas.

AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
 Source: Emmerson Evaluation based on Evaluator data

sales in 1H
 sales in 2H
 sales in 3H
 sales in 4H
 remaining on sale after 2 years



POZNAN

On Poznan's real estate market, the median price per square meter of new units increased by 13% in 2022 compared to 2021. At the end of the second half of the year, one had to pay PLN 10,569 per square meter of an apartment from a developer, 3% more than in the first half of the year. Apartments from the secondary market in 2022 became 9% more expensive (y/y), and 3% more expensive on a six-month basis (H1. 2022/second half. 2022), reaching a median price of PLN 8,169/sqm.

Along with price increases, developers also experienced a drop in sales in the second half of 2022. Compared to the same period in 2021, the drop amounted to 56%. At the same time, 53 percent fewer apartments were also introduced onto the market. Declines are also seen on a six-month basis. In the second half of last year, 16% fewer units were sold than in the first, and developers put nearly 1,500 units on the market, which is a decrease of 39%.

For years Wilda has been the district with the highest median price per sqm, amounting to PLN 11,374 at the end of the year (up by 3% y/y). The reason is the proximity to the city center, well-developed infrastructure,

green areas and easy access to public transport. Wilda is attractive to residents, and with demand, the price per square meter of real estate in this location is increasing. The next district in terms of prices for new residential units is the Old Town, with median prices at PLN 10,950/sqm. This district saw the highest hike in rates per meter in the past year (up 28% y/y). The Old Town, due to its character, architecture and location, remains attractive to potential real estate buyers, which translates into high rates for units.

The third place, in terms of primary market prices, belonged to Jezyce, with the median reaching PLN 10,726/sqm. (increase of 20% y/y). Buyers are keen to choose this district because of its location in the central part of the city, which makes it very well connected to other Poznan districts, as well as to the highway and national roads.

The largest offering of new apartments in the capital of Wielkopolska voivodeship can be found in the Grunwald district (28% of the whole city's offering). Developers introduced the largest number of new developments onto the market in this district due to the large

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET
TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Grunwald	10,086	11%	4%	8,468	8%	3%
Jezyce	10,726	20%	2%	8,756	7%	1%
Nowe Miasto	10,231	15%	2%	8,934	16%	3%
Stare Miasto	10,950	28%	4%	8,079	1%	2%
Wilda	11,374	3%	0%	8,683	17%	2%

CHANGES
ON THE DEVELOPER'S MARKET
2022/2021

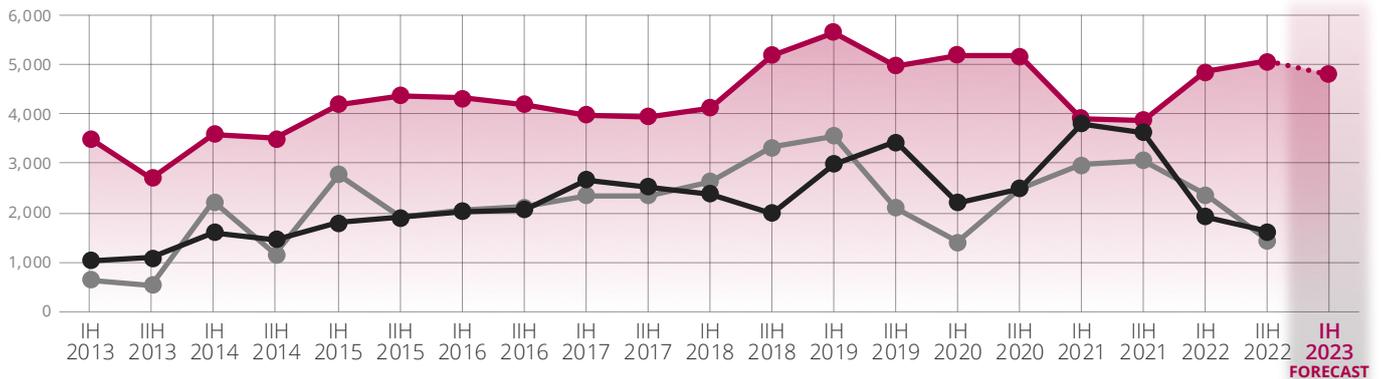
Source: Emmerson Evaluation based on Evaluator data



SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
 number of apartments introduced onto the market in the period
 no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



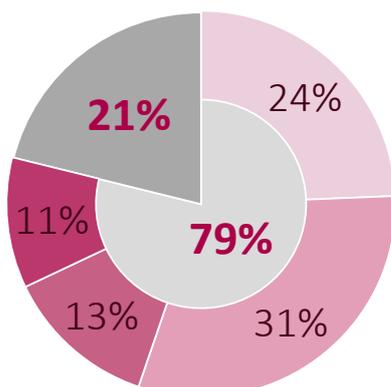
supply of undeveloped land. The median price of a sqm of a new apartment in this location was the lowest in Poznan, at PLN 10,086 (up by 11% y/y), increasing buyers' interest in this part of the city.

On Poznan's secondary market, rates per meter rose by 9% y/y, with the median reaching PLN 8,169/sqm. The largest increase (by 17% y/y) was recorded in the Wilda district. Nowe Miasto was the most expensive district, where one had to pay PLN 8,934 per meter (up by 16% y/y). Nowe Miasto is one of the largest and fastest growing districts of Poznan. A number of new developments have been built here in recent years, which complemented the secondary market sales offering, increasing the median price for the entire district. In each of Poznan's districts, median prices per sqm exceeded PLN 8,000. In case of the secondary market, the lowest median price was recorded in the Old Town and amounted to PLN 8,079/sqm. This district also saw the lowest rate of price growth on the secondary market, which increased by only 1% compared to 2021. The largest number of second-hand apartments were sold in the Old Town district and buyers were most likely to choose 2-room apartments, which accounted for about 56% of all secondary market sales in the district.

AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
 Source: Emmerson Evaluation based on Evaluator data

sales in 1H
 sales in 2H
 sales in 3H
 sales in 4H
 remaining on sale after 2 years



TRI-CITY

In the Tri-City real estate market, sales in the second half of 2022 fell by almost 50% compared to the same period of 2021. Analyzing last year from this angle, the second half turned out to be weaker by 30% compared to the first half of the year. Despite the drop in sales, median prices on the primary market rose year-on-year from 1% in Sopot to 10% in Gdynia. For secondary market apartments, the year-over-year increases were between 11% in Gdynia to 16% in Sopot. In a six-month perspective (H2 2022/H1 2022) in Gdansk on both markets prices increased by 4%, and in Gdynia by 2%. Sopot was the only one on the Tri-City market to record

a decline in rates for units. In the second half of the year the drop amounted to 2% on the primary market and to 3% on the secondary market.

In the second half of 2022 in Gdansk, developers increased supply by more than 1,900 new apartments, down by 63% when compared to the first half and 44% less when compared to the same period in 2021. In the Pomeranian capital, most investment is being developed in the areas of Jasień, Ujeścisko-Łostowice and Chełm. Investors were also eager to build in the coastal strip, and the units with the highest prices are also located there.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
GDANSK	12,090	9%	4%	10,882	14%	4%
GDYNIA	12,946	10%	2%	9,576	11%	2%
SOPOT	21,690	1%	-2%	15,088	16%	-3%

CHANGES ON THE DEVELOPER'S MARKET 2022/2021

Source: Emmerson Evaluation based on Evaluator data

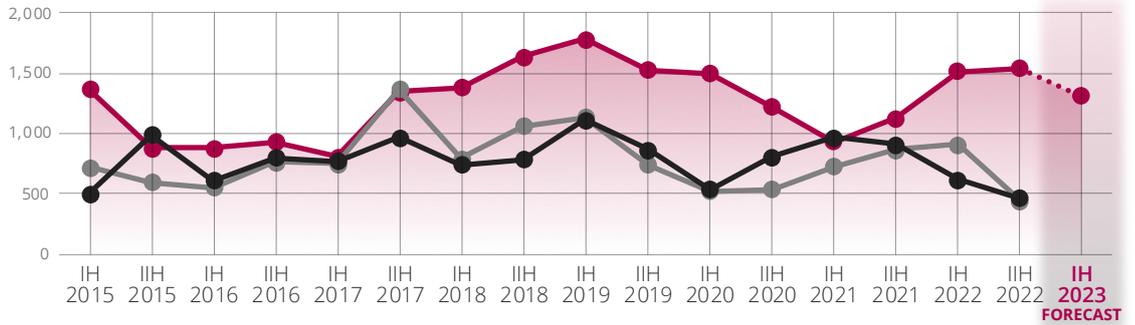
	GDANSK	GDYNIA
Total offering		
Number of apartments introduced onto the market		

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET
WITH A SUPPLY FORECAST PRIMARY MARKET

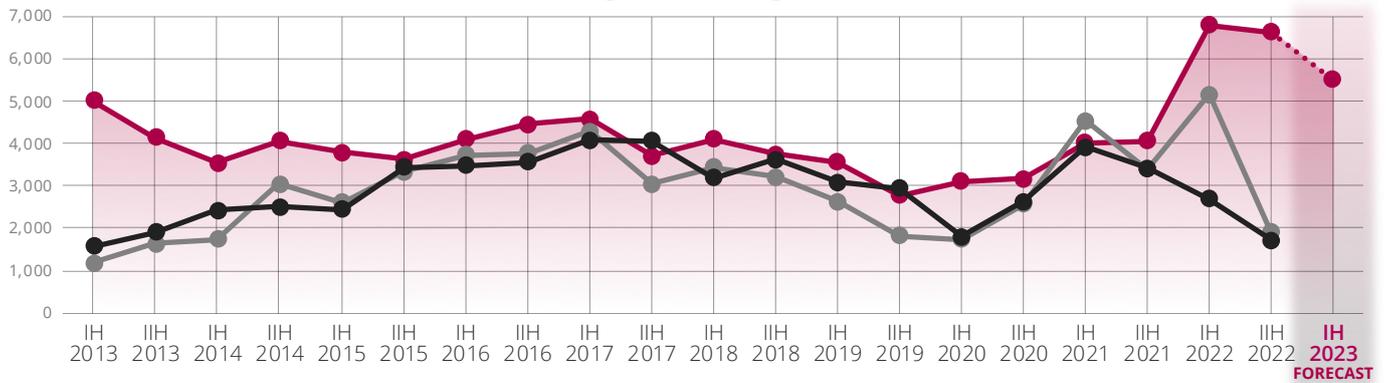
Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
number of apartments introduced onto the market in the period
no. of apartments sold flats in the period

GDYNIA



GDANSK



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

The data presented concern Gdansk

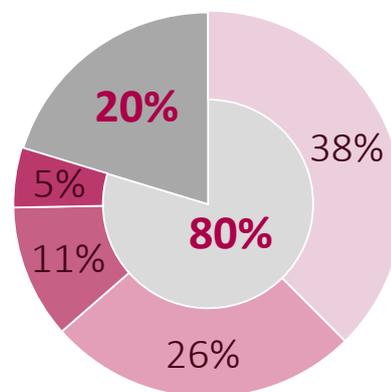
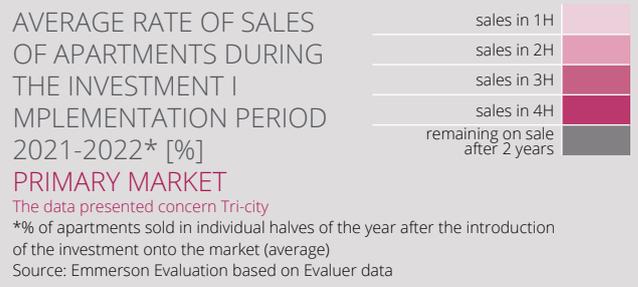
% of the sold offering in the given period

Source: Emmerson Evaluation based on Evaluator data



However, the most expensive development projects were created not only in the coastal strip, but also in Śródmieście or Oliwa. The cheapest units are located in Jasień and Chełm. This is also where developers were most likely to start new investments.

In Gdynia, in the second half of 2022 developers introduced almost 51% fewer apartments on the market compared to the first half of the year, and 49% fewer compared to the same period of 2021. In this city, the highest developers' activity was recorded in Chwarzno-Wiczlino. It is a district characterized by peace and quiet, which is gaining in attractiveness due to its location away from the city center. This is one of the most rapidly developing parts of Gdynia, making it a very popular choice for families with children. The area with the most expensive investments is Orłowo, with prices often exceeding PLN 20,000/sqm. Due to its coastal location, surrounded by a nature reserve, but also due to its villa-like development, small premium, high-standard investments are being built here, matching the character of the district. In the Tri-City, Sopot was the most expensive for years, with a median price per square meter on the primary market of PLN 21,690. Thanks to its small size and dense development, Sopot is characterized by high land prices, which translates into the value of residential units. In the second half of last year, developers did not introduce a single development on the market, and only five remained on sale at the end of 2022. Sales here fell by 82%.



Comparing the two halves of 2022, the second one turned out to be 55% weaker than the first.

Prices on the Tri-City's secondary market also rose. Sopot has the most expensive offering both on the primary as well as on the secondary market, with the median price reaching PLN 15,088/sqm, an increase of 16% compared to 2021. The offering on the Sopot second-hand housing market includes mainly higher-standard developments. Gdansk and Gdynia's second-hand market also saw increases in median prices per sqm, up by 14% and by 11%, respectively, compared to 2021.



LODZ

On the Lodz real estate market, a square meter of a unit in developer's standard at the end of 2022 cost PLN 9,066. This is 14% more than last year and 3% more than in H1 2022. The median value for second-hand apartments reached PLN 6,655/sqm, 10% more than a year earlier and 2% more than in H1 2022. The primary market in the second half of last year saw a 43% drop in sales compared to the same period of 2021, and a 34% drop compared to the first half of the year. In the second half of the year, 63% fewer new apartments were introduced onto the market than in the same period of 2021. The volume of new supply in the second half of the year was 28% lower compared to the offering in the first half of the year. Nevertheless, at the end of 2022, the offering level was the highest in years (4,848 units). The highest prices on the primary market were recorded in Śródmieście, where the median price of a square meter of an apartment reached PLN 10,740, and this district saw its highest growth (up by 20% y/y). In con-

trast, the cheapest apartments were available in Górna district - PLN 8,291 (up by 15% y/y).

At the end of 2022, Polesie was characterized by the largest supply and represented 32% of the whole city's offering. The largest number of people also decided to buy an apartment here. In Lodz, developers completed the largest number of new investments in Śródmieście. These properties were characterized by higher development standards, and buyers had to pay an average of more than PLN 10,000 per square meter. Developers were also eager to introduce new developments in Polesie, Widzew and Górna. In Polesie, investors added the largest number of apartments to the supply in Stare Polesie, with prices there starting at PLN 9,000/sqm. In Widzew and Górna, new investments were scattered throughout the district and their prices varied depending on the location. Customers could find apartments on offer in a price range from PLN 6,000/sqm to PLN 11,000/sqm.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Bałuty	8,305	9%	1%	6,064	8%	5%
Górna	8,291	15%	2%	6,333	6%	2%
Polesie	8,527	9%	4%	6,624	9%	1%
Śródmieście	10,740	20%	2%	6,712	9%	2%
Widzew	8,125	8%	0%	6,433	7%	4%

CHANGES ON THE DEVELOPER'S MARKET 2022/2021

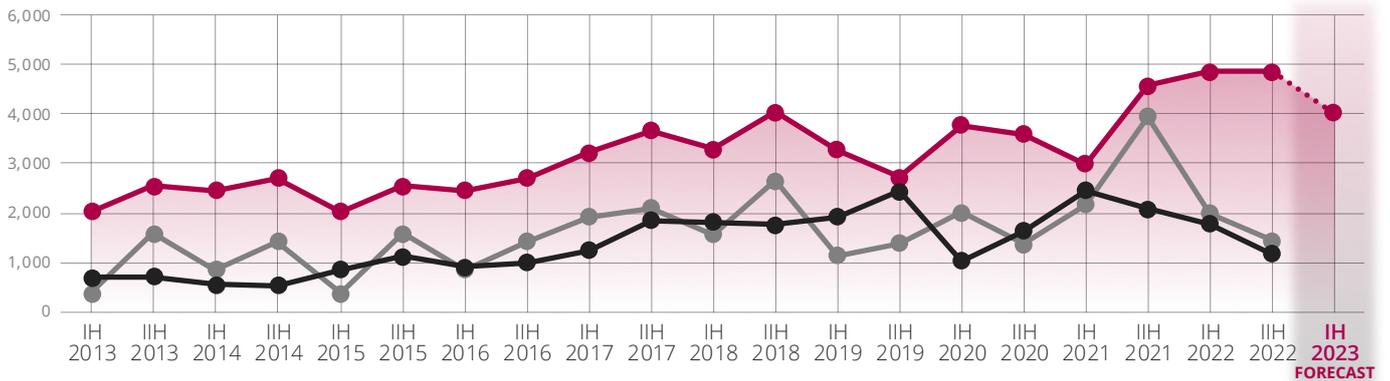
Source: Emmerson Evaluation based on Evaluator data

Total offering	
Number of apartments introduced onto the market	

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
 number of apartments introduced onto the market in the period
 no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

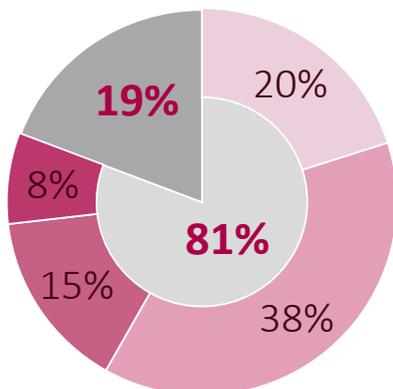
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
 Source: Emmerson Evaluation based on Evaluator data

sales in 1H
 sales in 2H
 sales in 3H
 sales in 4H
 remaining on sale after 2 years



As on the primary market, on the secondary market the most expensive second-hand units were located in Śródmieście and Polesie. In Śródmieście, the median price per sqm was PLN 6,712, and in Polesie it was PLN 6,624. In both districts, a 9% price increase compared to 2021 was evident. In each of Lodz's districts, the median price of a sqm of a second-hand apartment exceeded PLN 6,000. With a median price of PLN 6,064/sqm (up by 8% y/y) Bałuty was the cheapest location among Lodz's districts. Here, buyers most often chose second-hand apartments because of the lower price compared to the rest of the city.

KATOWICE

In 2022, the cities of the Silesian Agglomeration (excluding Katowice) saw price increases of 8% y/y on the primary market and 12% y/y on the secondary market. In the second half of the year, the growth rate was slower than in the first - remaining at 3% for apartments from developers and 2% for second-hand units. In case of Katowice, the median price per square meter on the new apartment market increased by 10% y/y (by 2% in terms of H1 2022/H2 2022). And on the secondary market by 9% y/y (by 2% in terms of H1 2022/H2 2022). Median prices in the capital of the voivodeship stood at PLN 9,011/sqm for developer's units and PLN 6,385/sqm for apartments from the secondary market.

In the second half of 2022, developers on the Katowice market reported a 44% drop in sales compared to the same period in the record year of 2021. Analyzing both halves of 2022 in terms of sales, the latter turned out to be weaker and a 9% decline was recorded.

Developers launched significantly fewer projects in the second half of 2022 in an attempt to match supply with demand (down by 56% compared to the first half of the year). The offering of apartments, however, remained well in excess of the number of units sold. Investors introduced the largest number of new units in the northern districts. The largest supply in Katowice at the end of 2022 was recorded in a cluster of downtown districts and reached 57% of the whole offering available within the city limits.

Buyers took the greatest interest in the offering in Śródmieście, where the sales volume increased slightly. Along with the sales, prices in Śródmieście rose too, with increases reaching 30% y/y. Still a year ago, prices in the district started at 6,000 per sqm. In 2022, buyers already had to pay more than PLN 7,000/sqm for an apartment in Śródmieście.

In recent years, the Katowice market has begun to grow rapidly, catching up with the largest cities in Poland.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET TREND 2022/2021 AND TREND 2H/1H2022 OF PRICE CHANGES IN 2022.

Source: Evaluator data base

	primary market			secondary market		
	median price 1 sqm	trend 22/21	trend IIH22/IH22	median price 1 sqm	trend 22/21	trend IIH22/IH22
Katowice	9,011	10%	1%	6,385	9%	2%
THE SILESIA AGGLOMERATION (not incl. Katowice)	6,417	8%	3%	5,005	12%	2%

CHANGES ON THE DEVELOPER'S MARKET 2022/2021

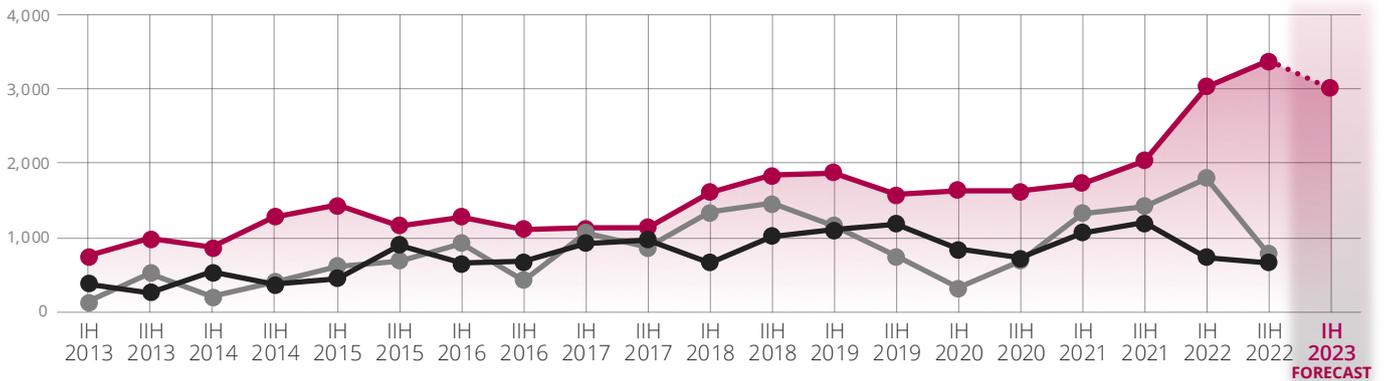
Source: Emmerson Evaluation based on Evaluator data

Total offering	
Number of apartments introduced onto the market	

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET WITH A SUPPLY FORECAST PRIMARY MARKET

The data presented concern Katowice
Source: Emmerson Evaluation based on Evaluator data

offer at the end of the period
number of apartments introduced onto the market in the period
no. of apartments sold flats in the period



RELATION OF APARTMENTS SOLD TO TOTAL OFFERING PRIMARY MARKET

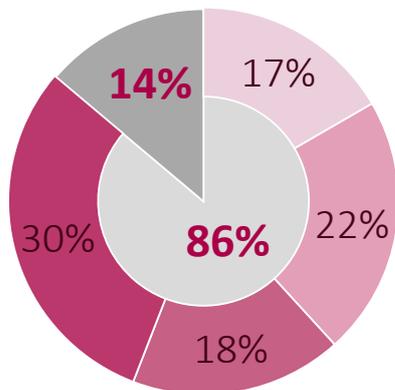
The data presented concern Katowice
% of the sold offering in the given period
Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF APARTMENTS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2021-2022* [%] PRIMARY MARKET

The data presented concern Katowice
*% of apartments sold in individual halves of the year after the introduction of the investment onto the market (average)
Source: Emmerson Evaluation based on Evaluator data

sales in 1H
sales in 2H
sales in 3H
sales in 4H
remaining on sale after 2 years



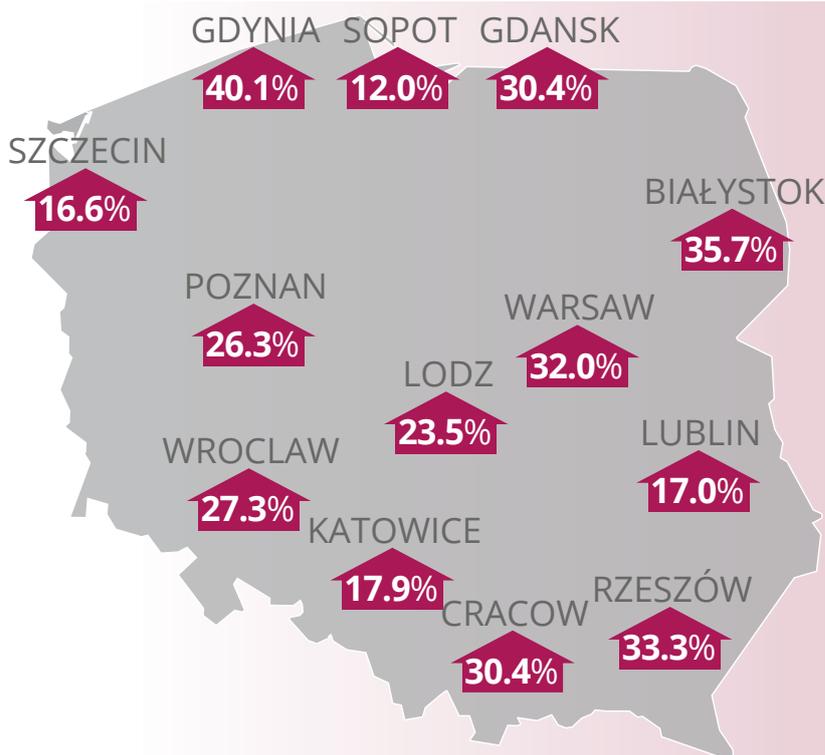
Since 2019, the median price per square meter of a new apartment has increased by almost 70%. The urban fabric of Katowice is characterized by largely outdated buildings in need of modernization. Consequently, buyers who want to improve the standard of their apartment are mostly interested in the offering of developers. In the Silesian Agglomeration, the median price per square meter on the primary market was PLN 6,417, while on the secondary market it was PLN 5,005. Second-hand apartments were most expensive in Tychy, Gliwice, Mikołów and Jaworzno. In these cities, the average price per sqm exceeded PLN 5 thousand. The lowest median price in this local Silesian market was reported in Bytom and it was not higher than PLN 4,000/sqm.

RESIDENTIAL RENTAL MARKET

The past year changed the rental market dramatically. The outbreak of war in Ukraine spurred an influx of refugees from across the eastern border. Inflation contributed to price increases in all rental markets. Landlords used these factors to explain the high rent increases. The situation on the credit market also had a big impact. The increase in interest rates, as well as the stricter requirements of the Financial Supervision Authority, meant that an increasingly smaller group of people could afford to buy their own apartment. As a result of limited access to mortgage loans, some people interested in buying an apartment postponed their decision and chose to rent, thereby increasing demand in the rental market. The first significant price increases came at the end of the first quarter of 2022, when Ukrainians arrived

in Poland as a result of hostilities in their native country. A large number of refugees responsible for the increased demand caused rents to rise in rental markets. The largest increases were recorded in Gdynia, Białystok and Rzeszów. In Rzeszów and Białystok, the increases reached 35.7% and 33.3%, respectively when compared to 2021. In these cities, supply did not keep up pace with demand, resulting in rising rates. Just a year ago, Rzeszów recorded the smallest rent increases among the surveyed cities in Poland. In 2022, median rental rates in Rzeszów amounted to PLN 1,570/month for 1-room units, PLN 1,805/month for 2-room units and PLN 2,375/month for 3-room units. In Białystok, rates were slightly lower, ranging from PLN 1,330/month for 1-room apartments to PLN 1,900/month for 3-room apartments.

ANNUAL CHANGES IN MEDIAN RENTAL RATES



In calculating median rents, losses incurred in negotiations were taken into account in the amount of 5% of the bid rent. The analysis assumes net monthly rental rates, i.e. not including administrative fees, fees for parking space, storage units and costs incurred for utilities.

The highest rental rates in the cities presented in the report were in Warsaw, and the most expensive districts were Śródmieście, Wilanów and Wola. In Śródmieście, the monthly rent rate ranged from PLN 2,890 for a one-room apartment to PLN 7,125 for three-room units. The largest number of apartments offered for rent were located in Śródmieście, Mokotow and Wola.

On the Warsaw market, rental yields ranged from 3.3% for 3-room apartments to 4.6% for 1-room apartments. Comparing this result with 2021, we note an increase in profitability for 2- and 3-room apartments and a minimal decrease in case of one-bedroom apartments (rate of return from rental in 2021: 4.8% for one-room apartments, 3.9% for two-room apartments, 3% for three-room apartments). The lower rate of return in 2022 for studios may be a result of the high rate of price increases for small units.

The highest rental yields in the surveyed locations were obtained in Katowice: 5.2% for one-room apartments, 4.9% for two-room apartments, and 4.5% for three-room apartments. Lodz turned out to be the next most profitable city, with a return rate of 5% for two-room apartments. In Lodz, the smallest profits were generat-

ed by three-room apartments (4.6%). The rental market continued to perform well in Gdansk, where rates of return reached between 4.5% and 5%.

Among the analyzed cities the highest profits could be achieved by buying an apartment in Lodz and Katowice. Due to the low price per square meter, compared to high rental rates, the rate of return in these cities is the most attractive. It is also apparent that tenants, through the prevalence of old architecture characteristic of these cities, are more likely to seek and choose apartments in new developments. In the Tri-City market, right after Gdansk, Gdynia turned out to be the most profitable city, with rates of return ranging from 4.1% for 3-room apartments to 4.7% for 2-room units. In Tri-City, the lowest yields were reported in Sopot and ranged from 2.5% (for apartments with three rooms) to 3.2% (for studios). Although the focus of this report is on the analysis of long-term rentals, it is worth noting that short-term rentals dominate in Sopot during the summer season due to the tourist characteristics of the city. During holidays, landlords make up for low rates of return by offering accommodation for several hundred zlotys per night.

RANGE OF RENTAL HOUSING YIELDS IN 2022.

	1 ROOM	2 ROOMS	3 ROOMS	RATE OF RETURN
WROCLAW	5.3%	4.6%	4.3%	<i>The rental yield was calculated as the ratio of the annual income obtainable from rental to the transaction price of the apartment. The transaction price was increased by the cost of finishing the apartment (in the case of apartments purchased on the primary market) and the cost of renovating the apartment to prepare it for rental (in the case of transactions from the secondary market). The cost of the renovation was assumed as 50% of the costs incurred for finishing the apartment. Rental income from the apartment has been reduced by the amount that the landlord allocates for the renovation of the apartment scheduled once every 10 years from the moment of starting its rental. The above amount was calculated by multiplying the area of the apartment by 50% of the finishing costs. The model adopted takes into account a flat tax on rental income of 8.5% and the loss of income associated with the 2-month period set aside for tenant search.</i>
WARSAW	4.6%	4.3%	3.3%	
SZCZECIN	5.0%	4.9%	4.3%	
SOPOT	3.2%	2.9%	2.5%	
RZESZÓW	4.8%	4.1%	4.1%	
POZNAN	4.7%	4.6%	3.8%	
LODZ	4.9%	5.0%	4.6%	
LUBLIN	4.3%	4.7%	4.1%	
CRACOW	4.8%	4.5%	3.4%	
KATOWICE	5.2%	4.9%	4.5%	
GDYNIA	4.4%	4.7%	4.1%	
GDANSK	5.0%	4.8%	4.5%	
BIAŁYSTOK	4.4%	4.1%	3.0%	

PRIVATE RENTED SECTOR (PRS)

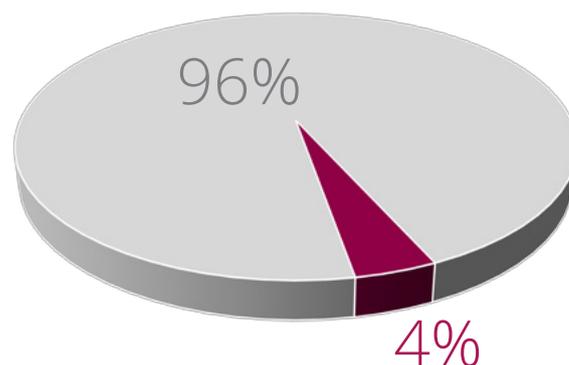
The Private Rented Sector (PRS) is developing in Poland through investments made by developers that are expanding their portfolios with apartments for rent, as well as funds purchasing ready projects. PRS in Poland is still fledging.

In 2022, the housing stock increased significantly (by 35% y/y) due to introduction onto the market of units from construction projects started in 2020-2021. Currently, more than 9,200 apartments are available in the PRS. Over the next few years, the PRS will add more than 20,000 units to its inventory as part of projects under construction or planned. Due to its early stage of development, PRS in Poland focuses on large urban centers. The largest PRS market is Warsaw. PRS projects are also located in Wroclaw, Cracow, the Tri-City, Poznan, Lodz, Katowice and Szczecin.

At the end of 2022, the largest housing stock was available: from Resi4Rent, which owns about 3,000 units, and the Housing for Rent Fund, which has more than 2,000 units in its inventory. Also worth mentioning is TAG Immobilien, which has about 1,600 apartments for rent.

In the previous year, there were no spectacular events on this market, as in 2021. The overall pace of investment slowed down. The perception that Poland is a high-risk country in terms of armed threats, as well as the economic crisis, made some of the funds postpone their investment decisions.

The Polish real estate market is still characterized by a large share of individual investors, whose predominance will eventually falter, however. The shortage of units on the rental market in large Polish cities, as well as the fact that a large part of the population simply cannot afford to buy their own apartment, makes investors recognize the great potential of the PRS. The shortage of housing stock for rental was very visible last year, and the influx of refugees from Ukraine further increased the already high demand. Rising housing prices and limited mortgage opportunities have increased demand in the PRS. A visible decline in demand and sales could make the PRS an attractive alternative for selling new housing developments. According to the current plans of funds and developers, the offering will be increased over the next few years, but it will still not constitute a significant amount of housing stock in the rental market.

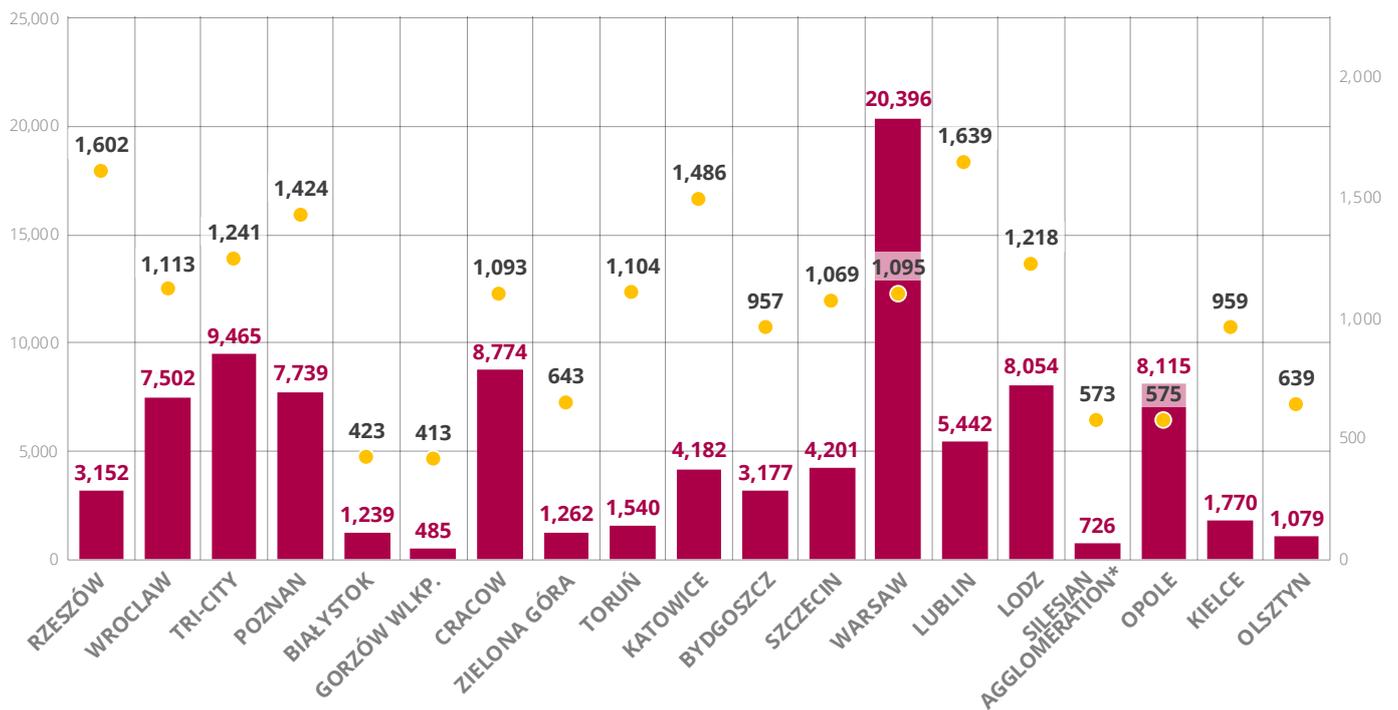


BUILDING PERMITS

ANALYSIS OF BUILDING PERMITS ISSUED PER 100 THOUSAND INHABITANTS

number of apartments for which building permits were issued in 2022 (total) ■
 number of housing units for which building permits were issued per 100,000 residents in 2022. ●

**Silesian agglomeration: Chorzów, Jaworzno, Dąbrowa Górnicza, Gliwice, Sosnowiec, Mysłowice, Ruda Śląska, Siemianowice Śląskie, Świętochłowice, Tychy, Bytom, Zabrze
 Source: Emmerson Evaluation based on GUS (the Central Statistical Office) data



CONSTRUCTION COSTS OF DEVELOPER'S INVESTMENTS

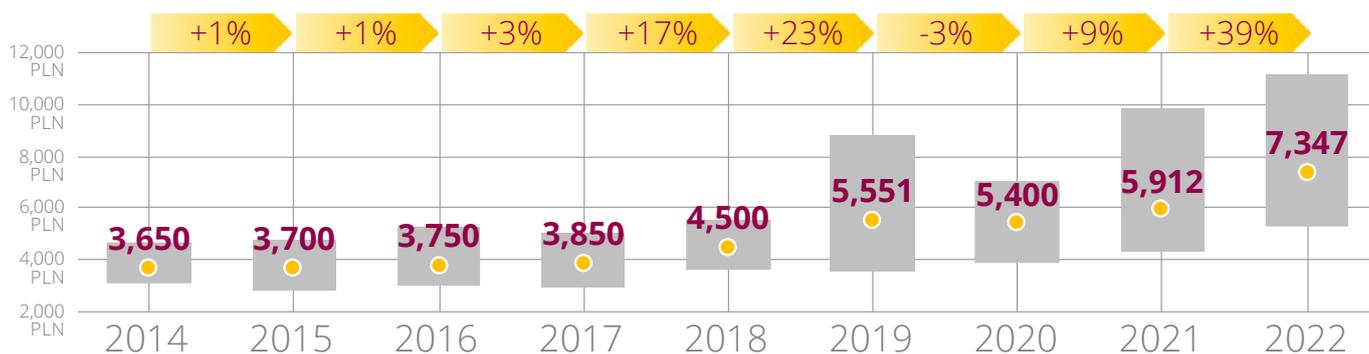
CONSTRUCTION COSTS OF REAL ESTATE DEVELOPMENT PROJECTS
[PLN/SQM. USABLE FLOOR AREA]

range (min-max) of hard construction costs

average hard construction cost (net)

changes in the average hard construction cost

WARSAW



THE REMAINING MARKETS*



*CRACOW, POZNAN, WROCLAW, GDANSK, GDYNIA, SZCZECIN, RZESZÓW, TORUŃ, BYDGOSZCZ, LODZ, LUBLIN, KATOWICE

FORECAST 2023

Last year abounded in challenges for the real estate market. High inflation, cyclical interest rate hikes and the entry into force of the Financial Supervision Commission's recommendation (ordering banks, among other things, to take into account a minimal change in the level of interest rates by 5 percentage points) resulted in a visible drop in sales. In 2022, apartment prices continued to rise, but at a weaker pace than a year earlier.

Currently, the real estate market is experiencing a growing interest in the offering and purchase of housing. Comparing sales results from the first months of 2023 to those of 2022, a minimal recovery is evident, due in part to the National Bank of Poland halting the cycle of reference rate increases. If interest rates are left at the same level, they may cause that more people will decide to buy an apartment. The NBP is declaring interest rate cuts at the end of 2023, which could increase interest of customers who need to take a mortgage loan to buy an apartment.

In view of last year's sudden decline in interest in buying apartments on the primary market, an oversupply phenomenon can be expected. We think that in the coming months of this year, the offering of units will continue to be high, giving the opportunity for greater choice and negotiation of prices or purchase terms. We forecast that in 2023 there will be an increase in demand for cheaper properties, with smaller area (due to the reduced creditworthiness of the public), and for premium apartments.

Developers, wiser thanks to the experience of the 2008-2013 crisis, are actively tuning their offering to the current market demand. We assume that in future months demand for housing will also increase on the

outskirts of large cities and in counties that border larger metropolitan areas. In part, demand will shift to such locations due to lower housing prices. Investors are offering more affordable prices here, due to the lower cost of land, among other factors.

Buyers with savings will continue to be eager to invest in real estate. Due to the reduced supply of mortgage loans, developers are tailoring their offering to customers with cash and to those who need small mortgage loans, introducing more premium developments in prime locations and offering apartments attractive to investment customers. By tailoring the offering to the market realia, developers are launching more and more projects with small units, mainly 1- or 2-room apartments. Most developer's companies can afford a periodic drop in sales and choose not to cut prices, keeping margins from sales at a high level (about 30%). High land prices, especially in top locations or those in attractive neighborhoods and with good transportation, also translate into the continuously rising price of apartments.

We forecast price stabilization on the residential real estate market. In 2023, modest increases may occur on the market for small apartments, which are still in high demand, as well as among premium units. In the segment of large apartments (except for units from luxury developments) there may be price drops of several percent, due to a noticeably smaller interest in such units. Apartments larger than 60 square meters are usually purchased by families, and their purchase is financed with the help of a mortgage loan. Due to high borrowing costs and reduced creditworthiness, demand for this type of apartments has fallen dramatically. Apartments in unattractive locations and those with high maintenance costs may also lose value.

On the primary market, we can expect various promotions, such as a parking space or a storage unit for PLN 1 rather than price declines. Developers also offer favorable repayment schedules, in which payment is divided into two tranches (such as 10/90 and 20/80). As a result, customers pay 10% or 20% of the apartment price when reserving it, and pay the remaining amount before receiving the keys to the apartment.

In 2023, demand for apartment purchases will begin a slow recovery. This is due to the significant loosening of the FSA's regulations since February this year, so the number of applications a mortgage loan is increasing. The stimulus for a greater revival may come from the government's "First Housing" program. Buyers who intend to take advantage of it are holding off until the government initiative takes effect, i.e. until the second half of this year.

As a result, many developers, trying to tailor supply to demand, will hold off launching new projects, postponing them until the second half of 2023. More often, they will also decide to introduce further phases of investments that are attractive to customers and have a lower risk of ineffective sales.

The deceleration of new investments on the market in the long run will lead to a situation in which sellers will have much more to say regarding the price and the

terms of the transaction. Due to the smaller number of apartments currently being introduced onto the real estate market, we do not anticipate significant price declines in the future. In addition, the limited offering introduced on the primary market will cause some of those interested to move to the secondary market - there, too, the offering will shrink, causing prices to rise. We assume that interest rate cuts will boost sales in the coming years. Their lower level will change consumers' behavior in terms of what they choose to do with their savings, which are now usually kept in banks in the form of, among others, time deposits. Some of these funds will then likely return to the real estate market. In the future, we also expect progressive consolidation in the sector and acquisitions of smaller developers with attractive land banks. Such entities may be strongly affected by declining sales and falling profits, which will cause that a merger with a larger company may seem to be a great opportunity for them. By the end of last year, stabilization in the rental market was visible. For the past few months, apartment rental prices have not been rising at a rapid pace. Due to the fact that the increased demand from Ukrainian refugees is faltering and rents are approaching a price limit that tenants can no longer accept, we forecast a slowdown in the growth dynamics on this market. In the coming months, we expect rents to rise at levels below inflation.

DESCRIPTION OF OPERATIONS OF EMMERSON EVALUATION AND EVALUER

Emmerson Evaluation Sp. z o.o. has been operating since 2008 and provides appraisal services for residential, commercial real estate (offices, retail, warehouses, development investments, hotels). The Company performs valuations for all purposes, including, among others, debt protection, financial statements and evaluation of profitability of purchase or sale. It also has extensive experience in the valuation of large property packages, fixed asset valuation and market analysis. All studies prepared by Emmerson Evaluation are in accordance with Polish and international standards. The company has regional offices in 7 major Polish cities and employs over 60 real estate specialists, including 30 appraisers. Emmerson Evaluation offers its services primarily to banks, residential and commercial developers, investment funds and listed companies.

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