



2022 EVALUER INDEX

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



EMMERSON
EVALUATION

Table of contents

INTRODUCTION

page 3

RESIDENTIAL
MARKET ANALYSIS
IN 2021

page 4

RESIDENTIAL
MARKET
IN POLAND

page 6

WARSAW page 7
CRACOW page 10
WROCLAW page 12
POZNAN page 14
TRI-CITY page 16
LODZ page 18
KATOWICE + SILESIAN
AGGLOMERATION page 20
REGIONAL CITIES page 22

APARTMENT
RENTAL MARKET

page 24

PRIVATE RENTED
SECTOR
(PRS)

page 26

BUILDING
PERMITS

page 27

CONSTRUCTION
COSTS
OF DEVELOPER'S
INVESTMENTS

page 28

FORECAST
2022

page 29

DESCRIPTION
OF OPERATIONS
OF EMMERSON
EVALUATION
AND EVALUER

page 31

Introduction

Dear Readers,

We are pleased to present to you the ninth edition of the Evaluator Index report, our annual study of the residential market in Poland. Traditionally, we have analyzed residential markets in Poland's largest cities and looked at the most important developments in 2021. We described the price changes that took place over the past year in over 21 locations. We paid special attention to the largest markets: Warsaw, Cracow, Wroclaw, Poznan, Tricity, Lodz and Katowice as well as the Silesian Agglomeration. The results of our analysis show that 2021 was yet another year with record price increases and increased apartment sales. Rising prices per sqm did not stop the demand, which at times outpaced the supply. We hope that this report will be positively received by you and will help to better shed light on the residential real estate market in Poland. Should you wish to obtain a detailed analysis or wish to order studies with a different scope, please contact us.

Management Board of Emmerson Evaluation



RESIDENTIAL MARKET ANALYSIS IN 2021

Despite fears that the COVID-19 pandemic would slow apartment price growth, 2021 was a record year in terms of dynamic price increases in the real estate market. Factors such as increased demand fueled by abundant credit availability and low interest rates, soaring prices of building materials and land, and rising inflation played a key role.

In October 2021 the Monetary Policy Council decided to raise interest rates for the first time in 10 years and did so eight more times in a row, with interest rates reaching 5.25% in May 2022. Higher interest rates were followed by stricter lending rules and creditworthiness tests, which had to include a higher buffer against possible further rate increases.

The situation on the real estate market in 2021 was much better than before the pandemic. Predictions that the housing market was in danger of collapse because of COVID-19, which might have been the case had interest rates not been kept at record lows during the period, did not materialize. 2021 was a year in which developers reported record sales results. The first half of the year was particularly fruitful. The end of the year, on the other hand, saw rapid changes in the market due to high inflation and rising interest rates.

In the first half of 2021, developers provided 20% more apartments compared to the same period of 2020. At the same time, it should be borne in mind that the reference point is the period at the beginning of the pandemic, a period of uncertainty in the market when demand slowed down.

In early 2021, low interest rates encouraged buyers to take out mortgages, and the fact that housing prices continued to rise meant that those looking for a new home and investors made property purchase decisions faster. This situation began to change slightly in the second half of the year, when it became clear that interest rates would soon rise. Developers, adapting to the prevailing situation, gradually began to reduce the supply of apartments, flexibly responding to the upcoming changes in the market.

In 2021, the largest increase in the prices of raw materials and construction materials was recorded accompanied by a problem with their availability. Many companies began to buy the materials whose prices were going up fastest, building up their inventories, which resulted in a shortage in the market and extended lead times. Additionally, developers continued to face shortages of skilled construction workers and rising labor costs.

Throughout 2021, more than 56,000 apartments were introduced for sale on the primary market in Warsaw, Cracow, Lodz, Wroclaw, Poznan, the Tri-City and Katowice, representing an increase of 16% compared to last year. This increase would likely have been greater, had it not been for the pandemic. It caused uncertainty about the future, which temporarily slowed down the activity of developers and postponed the introduction of new investments.

The number of apartments sold in the seven analyzed markets exceeded 63,000 in total, which was the best result since the record-breaking 2017.

Very high sales were recorded in Lodz and Poznan, where the sales growth was the highest in the history of these cities. The primary market recorded significant price increases in 2021. The position of the leader in terms of their amount was maintained by Sopot (median price of PLN 21,543 per sqm). Warsaw, with the median price of PLN 12,312/sqm/month, has been in second place for years. The third place, for the first time, belongs to Gdynia with PLN 11,820/sqm. The median price per sqm exceeding PLN 11,000 was also observed in Gdansk (PLN 11,054) and Cracow (PLN 11,278). In Wroclaw it reached PLN 10,158, while in Poznan it exceeded PLN 9,300. The lowest median prices among provincial cities were recorded in Lubuskie province. For Zielona Góra the median price amounted to PLN 6,275 /sqm and was higher by 23% y/y. However, the lowest median price among all analyzed cities was recorded in Gorzów Wielkopolski, where it amounted to PLN 5,793 (an increase by 23% y/y). The secondary housing market also showed significant increases. The most expensive city was still Sopot with a median of PLN 12,965/sqm. In Warsaw the median price of second-hand apartments reached PLN 11,446/sqm. Almost all analyzed locations recorded year-on-year increases of several percent, with the exception of Sopot (26%), Wroclaw (22%), Gdansk and Lodz (21% each), which exceeded that threshold.

There were also changes in the structure of apartment buyers in 2021. The year saw a great deal of interest from foreign investment funds. For the PRS Market (institutional lease of apartments), it was a time of the most significant development on the Polish housing market to date. Currently, about 6,000 rental units are ready, with a total of about 30,000 units under construction or in the planning stage.

Price information

This analysis includes data on transaction prices.

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

Median

In this report we use the median real estate transaction prices. The median (the so-called middle value, which divides the set into two equal parts) reflects information about real estate prices better than the average, because its result is not influenced by single values that deviate significantly from the majority of transactions typical in the whole set (such as the purchase of a single luxury property).

In this report, all prices are given per square meter of usable floor area of the residential unit (PLN/sqm). For both primary and secondary markets, gross prices were referenced.

RESIDENTIAL MARKET IN POLAND

MEDIAN PRICES ON THE PRIMARY AND SECONDARY MARKET AND THE ANNUAL TREND IN PRICE CHANGES IN 2021

Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
WARSAW	12 312	14%	11 446	17%
CRACOW	11 278	15%	9 556	19%
LODZ	7 946	19%	6 064	21%
WROCLAW	10 158	14%	8 777	22%
POZNAN	9 342	17%	7 488	12%
GDANSK	11 054	14%	9 572	21%
GDYNIA	11 820	23%	8 642	17%
SOPOT	21 543	29%	12 965	26%
KATOWICE	8 185	23%	5 857	20%
SILESIA AGGLOMERATION (WITHOUT KATOWICE)	5 951	10%	4 449	14%

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
SZCZECIN	7 695	18%	6 577	13%
BYDGOSZCZ	6 970	9%	5 961	17%
LUBLIN	7 338	15%	6 526	13%
BIAŁYSTOK	6 899	14%	6 042	12%
TORUŃ	7 344	13%	6 248	16%
RZESZÓW	7 034	13%	6 453	15%
KIELCE	6 279	10%	5 326	13%
OLSZTYN	6 917	10%	6 164	16%
ZIELONA GÓRA	6 275	23%	4 920	14%
OPOLE	6 133	10%	5 808	12%
GORZÓW WLKP.	5 793	23%	4 512	16%

WARSAW

For years, the Warsaw real estate market has been the leader in terms of investments and transactions on the residential market. The capital city continually attracts new residents, tempting them with its educational offer, jobs and higher salaries.

In 2021 apartment prices on the primary market increased by as much as 14% y/y. The median price of a sqm of a new unit amounted to PLN 12,312. The dynamic increases have not spared the secondary market either. The median price per sqm here was PLN 11,446 and was 17% higher than last year.

On the primary market in half of the districts the median prices per sqm exceeded the barrier of PLN 10,000. The most expensive investments have for years been developed in the city center, where the median price per sqm reached PLN 20,745. High prices were also reported in the area of the first and second underground lines, especially in the districts of Wola and Żoliborz. Wola took the second place here after Śródmieście with the median price of PLN 15,057/sqm. We can say that this district, due to its vastness, is divided into two zones - a more expensive region, located closer to the center, and a cheaper region, located at the level of the Wolski Cemetery. It is the zone bordering with Śródmieście that has influenced such high median apartment prices in this neighborhood. In turn, high prices in Żoliborz are mainly due to the scarcity of new land for residential construction. Additionally, due to the cozy character of this district (low-rise buildings, availability of green recreational areas, good communication) de-

velopers introduce higher standard projects here (e.g. by revitalizing old tenement houses), which also translates into high prices per sqm.

On the right bank of Warsaw, the most expensive districts are still Praga-Północ and Praga-Południe. In Praga-Północ we recorded the median price reaching PLN 13,725/sqm. In the second quarter of 2021, only premium units were available for sale, while in the fourth quarter of 2021, ordinary standard developments prevailed. The change in the nature of investments offset the level of prices, which were at a similar level to the previous year. Some of the more expensive apartments in this district were found in projects located in the area of Krowia and Okrzei Streets, and the largest expansion took place in areas near the East Railway Station. In Praga-Południe, on the other hand, the median price of new apartments amounted to PLN 12,017/sqm. Due to its proximity to the city center, the availability of green areas and a varied offer, the district is currently very popular. The areas in Grochów and Gołław continue to develop intensively. Developers are also keen to introduce higher standard projects. Much more expensive investments were recorded in Gołław, where the median price per sqm of an apartment was over PLN 12,000.

Białołęka remains the district with the largest offer, where at the end of the year approximately 19.2% of all available apartments in Warsaw were located. This is the neighborhood where developers provided the largest supply of new apartments in 2021.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
Bemowo	11 590	18%	9 769	11%
Białołęka	8 822	12%	8 237	8%
Bielany	13 529	7%	10 958	13%
Mokotów	14 459	15%	12 441	14%
Ochota	14 560	8%	11 843	11%
Praga-Południe	12 017	18%	10 443	16%
Praga-Północ	13 725	3%	10 937	18%
Rembertów	8 313	11%	7 826	13%
Śródmieście	20 745	4%	16 167	27%
Targówek	10 576	18%	9 486	16%
Ursus	9 846	17%	9 198	16%
Ursynów	13 158	16%	10 550	9%
Wawer	8 591	7%	8 812	17%
Wesoła	8 935	16%	8 192	17%
Wilanów	12 388	25%	13 171	29%
Włochy	11 271	19%	9 981	15%
Wola	15 057	12%	12 797	16%
Żoliborz	14 704	19%	13 692	20%

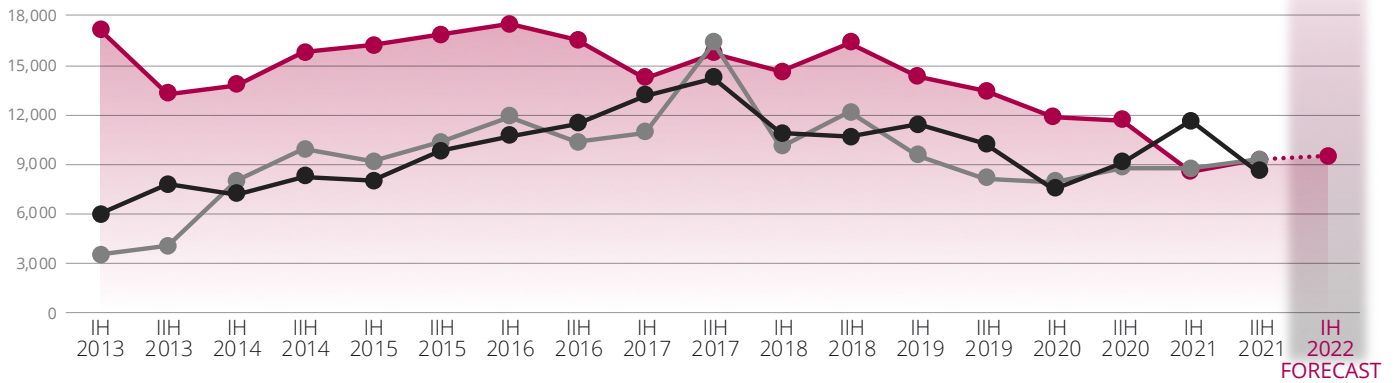
Despite the considerable distance from the city center, the district is very popular among developers due to the greater availability of land and increasingly better transport infrastructure. Buyers, on the other hand, praise the availability of recreational areas and the rapid development of the district. Most investments were made in Żerań, Tarchomin and Nowodwory. New development projects were primarily successive stages of previously completed projects.

Rising prices on the primary market have also affected the secondary market. High demand driven by purchases for household housing needs and demand from individual investors translated into price increases in all districts. The highest increases for second-hand apartments were recorded in the Wilanów district (29% y/y). The median price reached PLN 13,171/sqm here and remains higher than the median on the primary market (PLN 12,388/sqm). This is due to the dominant share of new construction and high standard residential units located in Miasteczko Wilanów. The second district with the highest price growth was Śródmieście (27% y/y) which, thanks to its central location and the best infrastructure, remains the most desirable district to live in. We also observed high increases in districts well connected with the city center, such as: The most popular districts were Żoliborz (20% y/y), Praga-Północ (18% y/y) and Praga-Południe (16% y/y), Targówek (16% y/y) and in the peripheral parts of Warsaw, such as: Wawer (17% y/y), Wesoła (17% y/y), Ursus (16% y/y), where new developments and multi-stage projects have been developing most intensively for years. They end up on the secondary market at a later date, making them more popular with buyers of second-hand apartments.

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

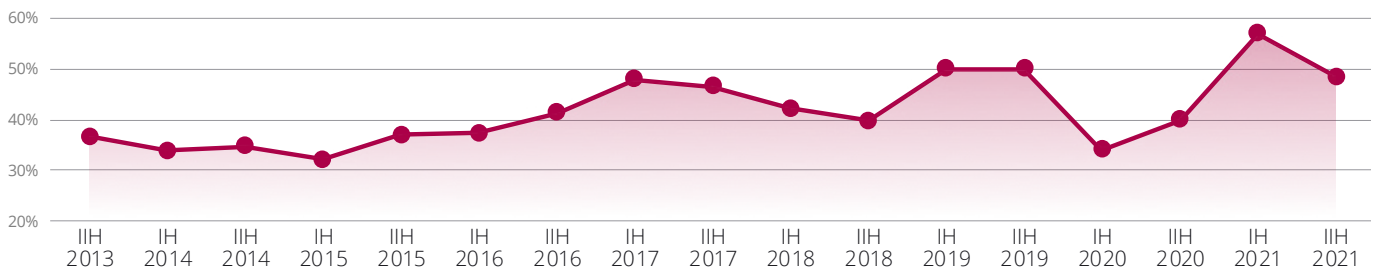
Source: Emmerson Evaluation based on Evaluator data

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



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

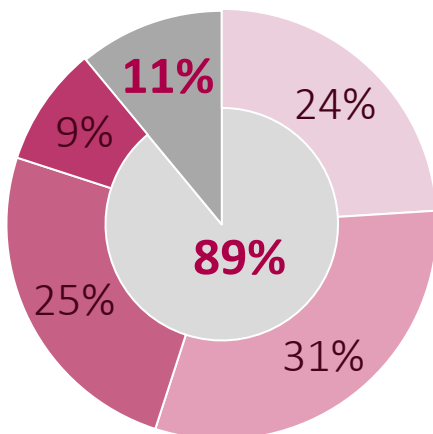
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

*% of flats 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



CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

CRACOW

In CRACOW in 2021, the prosperity in both the primary and secondary markets continued. Price increases of apartments sold by developers reached 15% y/y, The median price of a new unit was PLN 11,278 per square meter. Slightly larger increases occurred on the secondary market. The median price here was PLN 9,556 /sqm and was 19% higher than in 2020.

On the primary market, the upward trend was high. The largest 27% jump was observed in Śródmieście (median PLN 14,680/sqm). In this district we recorded the smallest number of developer investments, and at the same time prices here are invariably the highest. Due to its character, i.e. low, compact development, mainly small apartment investments are created here, based on revitalization of old tenement houses. Because of this and the low supply of land for development, development projects within this district are highly dispersed.

Last year again the largest number of new development projects was realized in the Krowodrza and Podgórze districts. In Krowodrza, the areas of Prądnik Biały and Zwierzyniec are developing particularly dynamically. The most expensive investments were recorded in the Zwierzyniec area, where developers expected PLN 15,500 per sqm. In the Podgórze district, development projects are being built in every area of the delegation. Most new investments appeared in Łagiewniki and Podgórze Duchackie. In Podgórze, the median price reached PLN 10,120/sqm. Some of the most expensive investments in this district were recorded in the area of Old Podgórze, within Kalwaryjska and Życzkowskiego streets. For apartments in this area one had to pay over PLN 12,550/sqm.

Nowa Huta's primary market had the lowest median value in the city at PLN 9,663/sqm. Due to its low prices and numerous green areas, the district is most popular among students and families with children who don't mind long commutes to the city center. In Nowa Huta, areas in the vicinity of Centralna and Sołtysowska streets and in the Piastów and Bohaterów Września housing estates are developing most intensively. The most expensive investments are located on Lema Street, where the median value exceeded PLN 13,000/sqm.

We saw significant increases both on the primary as well as on the secondary market. The biggest growth (by 18% y/y) took place in the cheapest district - Nowa Huta, where the median price reached PLN 8,233/sqm. Due to very well developed road infrastructure, buyers were eager to buy apartments in the area of Aleja Gen. Władysława Andersa and Jana Pawła II street. This district is characterized by a wide variety of investments, so that the structure of transactions varied greatly. Apartments in prime locations in Nowa Huta were sold for as much as PLN 9,500/sqm.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

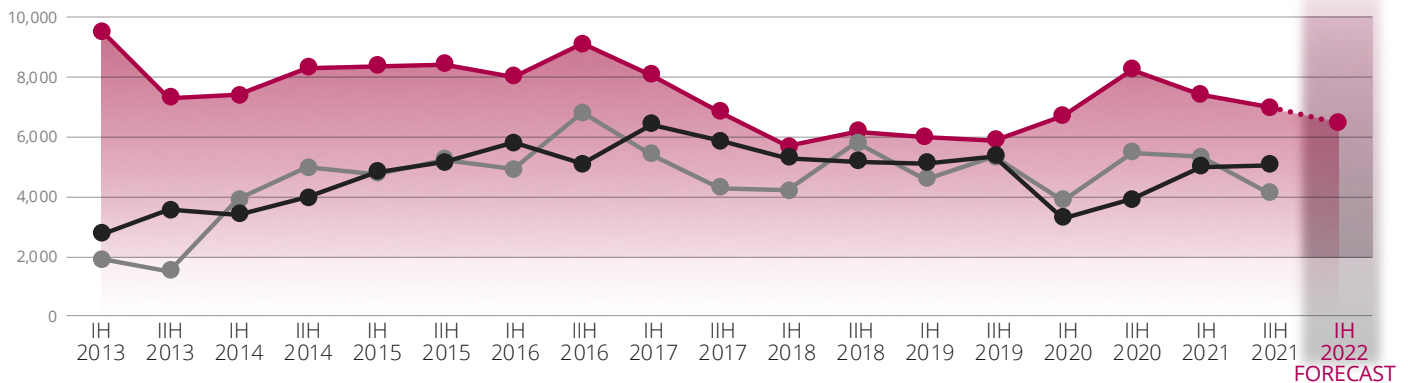
Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
Krowodrza	12 047	23%	9 925	17%
Nowa Huta	9 663	15%	8 233	18%
Podgórze	10 120	16%	8 941	15%
Śródmieście	14 680	27%	10 990	22%

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

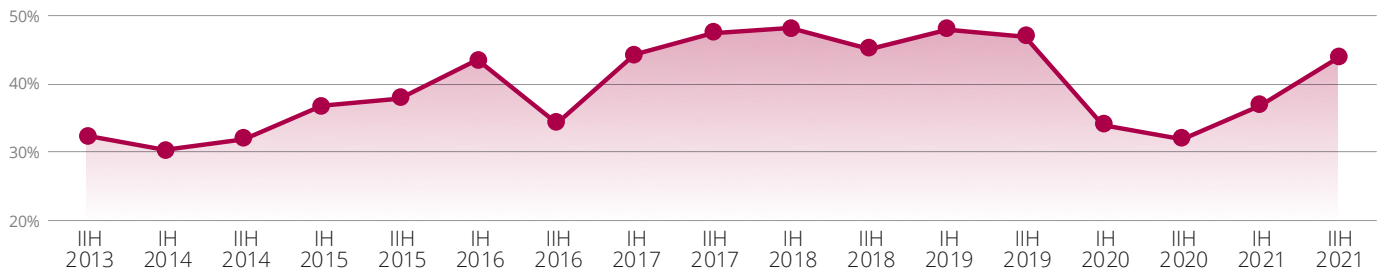
Source: Emmerson Evaluation based on Evaluator data

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



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

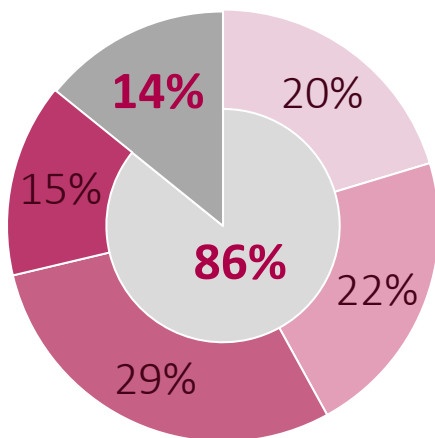
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

*% of flats 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



On the secondary market, for years the most expensive district has been Śródmieście, where the median price of a sqm of apartment on the secondary market amounted to PLN 10,990. Śródmieście, due to its lo-

CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

cation and dense development, which prevents the creation of new investments, gains on the secondary market, which in turn translates into higher prices. Just after Śródmieście, the most expensive district is Krowdrza (PLN 9,925/sqm). It is also the most popular part of the city among people looking for an apartment in Cracow. Numerous restaurants, gyms, cinemas and theaters, as well as proximity to major universities make this district very popular among students, and investors are eagerly looking for rental apartments in the area.

WROCLAW

Last year, the primary and secondary market recorded an upward trend in all districts of the city. In the new apartments market, the median price of new units reached PLN 10,158 per sqm and was 14% higher than last year's figure. For second-hand apartments, it increased by 22% year-on-year to PLN 8,777.

The highest prices were recorded in the Śródmieście district, where the median price per sqm amounted to PLN 13,261. For several years the areas of Nadodrze and Browary Wrocławskie, which are located not far from the Old Town, have been developing intensively. The location makes investments in these areas are priced higher, and the median price reached PLN 13,500 per sqm.

The largest increases were seen in the Fabryczna district (22% y/y), where the median amount reached

PLN 9,251/sqm. The areas in Maślice have been developing most intensively for years, and developers are eager to introduce new development projects here, which are further phases of the existing investments. The most expensive projects were located in the Popowice area, where prices of new apartments started from PLN 10,000/sqm. (up by 25% y/y). We also noted a large increase in prices in the Krzyki district- at 13% per annum and with a median price per sqm of PLN 9,119. It was also the neighborhood in which developers were most eager to introduce new investments. This is due to the large availability of land and the rapid growth of this part of the city. The largest number of new investments were built in the Jagodno area, most of them are the next stages of previous investments. The most expensive were Gaj and Przedmieście Oławskie. In these areas the median price of new apartments reached PLN 8,000/sqm.

The cheapest district was Psie Pole. At the same time, it was the second district with the largest number of apartments on offer, where at the end of the year approximately 23% of all units available in Wrocław were located. The low rates are due to the district's location and significant distance from the city center. Prices of new apartments started at PLN 7,000 per square meter here. The most expensive investments were built in close proximity to Odra and Trzebnicki Bridge, where the median amounted to PLN 15,000/sqm.

Prices of apartments on the secondary market grew as fast as those on the primary market. Śródmieście (21% y/y) and the Old Town (19% y/y) were at the forefront in

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

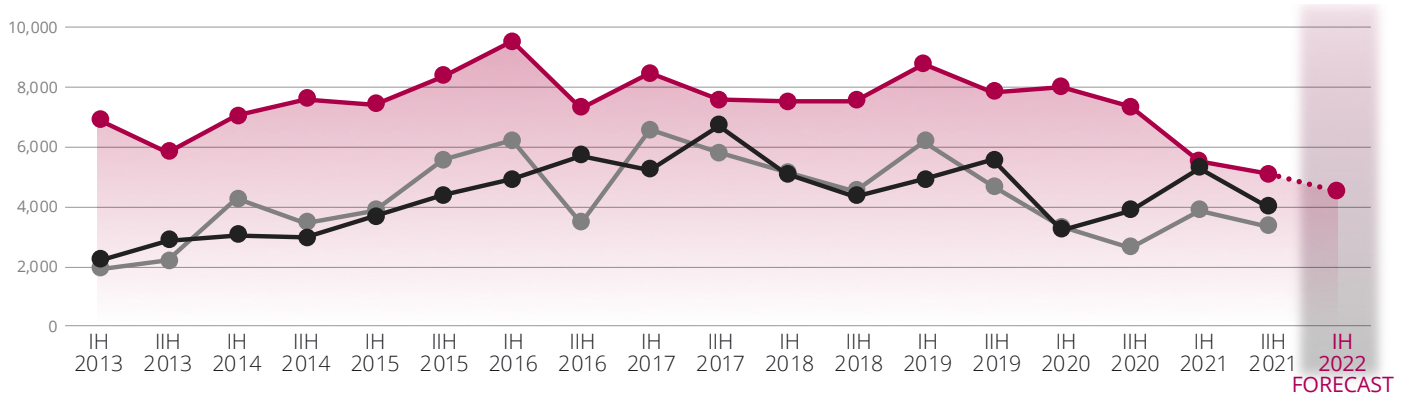
Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
Fabryczna	9 251	22%	7 942	17%
Krzyki	9 119	13%	8 141	16%
Psie Pole	8 985	20%	7 968	19%
Stare Miasto	12 567	21%	9 412	19%
Śródmieście	13 261	15%	9 199	21%

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

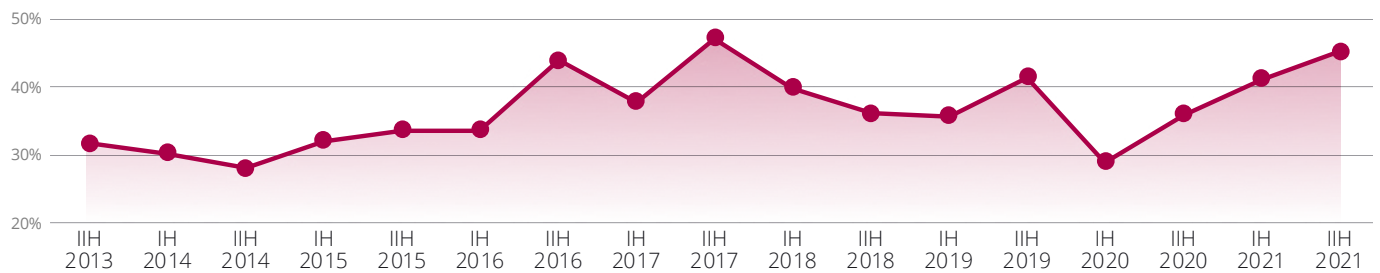
Source: Emmerson Evaluation based on Evaluator data

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



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

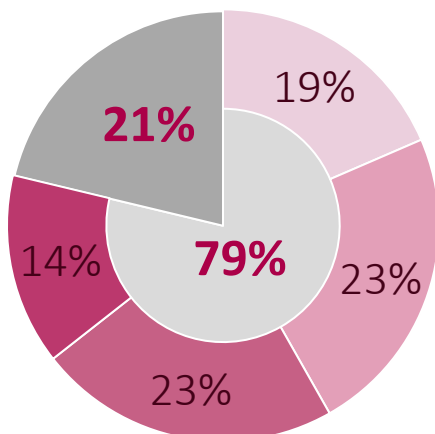
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

*% of flats 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



CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

this respect. There was a lot of interest in small apartments (one- and small two-room units), which were bought mainly for short-term rental purposes. For years Wrocław has been very popular among Polish and foreign tourists, who are most eagerly looking for accommodation in the Old Town and the city center.

POZNAN

In 2021 on the Poznan real estate market the median price per sqm of new premises increased by 17% y/y, reaching the level of PLN 9,342. Prices of second-hand apartments increased by 12% y/y to PLN 7,488/sqm.

The highest median value (PLN 11,090 per sqm) was recorded in Wilda. It is also here that we recorded the smallest supply of new apartments. Due to intensive inner-city development and limited availability of land for multi-family residential development, small projects are being developed here.

The second district with the highest median value (PLN 9,126/sqm) was Grunwald. It also ranks second in terms of the number of apartments on offer. The popularity of this district is related to its convenient access to the city center, as well as its proximity to green areas and well-developed urban infrastructure.

Nowe Miasto is the district with the biggest offer and hence with the largest number of available apartments constituting as much as 36% of the total offer.

It is a dynamically developing district with good urban infrastructure and numerous green areas, as well as an attraction in the form of Maltańskie Lake. For this reason, the most intensive development is taking place in the Łacina area, near this body of water. In 2021, the median price for new apartments in the district was PLN 8,897/sqm.

In the Old Town district, once again the largest number of development projects is being built in the Naramice area. The increased interest in this area was primarily related to the implementation of new streetcar and road infrastructure, which made the connection with other districts of the city easier and more comfortable. In the case of the Jeżyce district, the most intensively developing areas are the Jeżyce housing estates, which are located in close proximity to the Old Town. A lot of development investments are also located in Podolany precinct, which is significantly cheaper than Jeżyce, located closer to the center.

On the secondary market, the largest increase (20% y/y) was recorded in the Jeżyce district, where the median rose to PLN 8,158/sqm. Increases in this location were primarily influenced by transactions in newly built apartments, which achieved the highest rates. The district benefits from good transport links to the rest of the city, an attractive retail and service offer, and the proximity of universities and colleges.

A significant increase in prices (by 17% y/y) was also observed in the Grunwald district. The median price of a second-hand apartment in this location was PLN 7,830. The most expensive apartments were those located in close proximity to the city center. The remaining districts saw similar increases of over 13% y/y, with medians not exceeding PLN 8,000/sqm.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

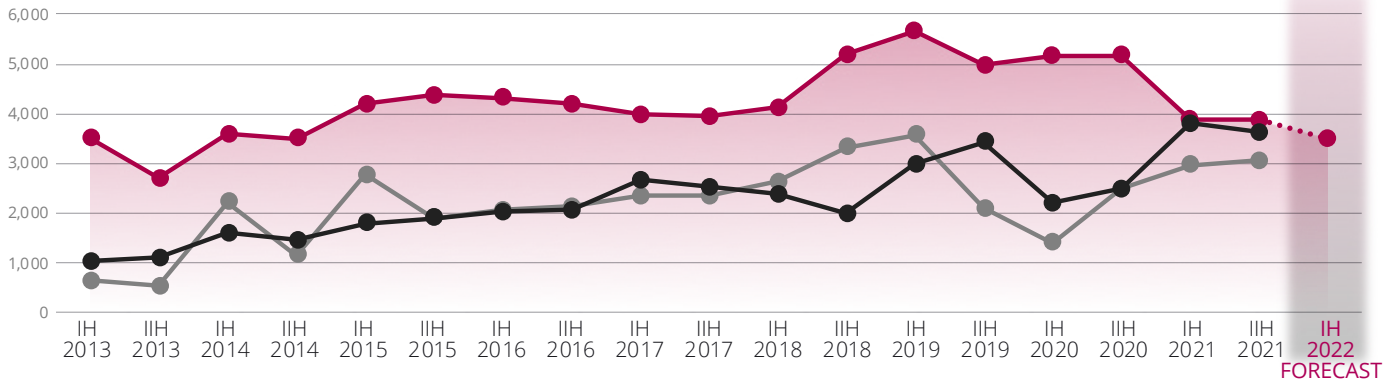
Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
Grunwald	9 126	20%	7 830	17%
Jeżyce	8 968	15%	8 158	20%
Nowe Miasto	8 897	13%	7 732	15%
Stare Miasto	8 587	6%	7 984	16%
Wilda	11 090	23%	7 451	13%

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

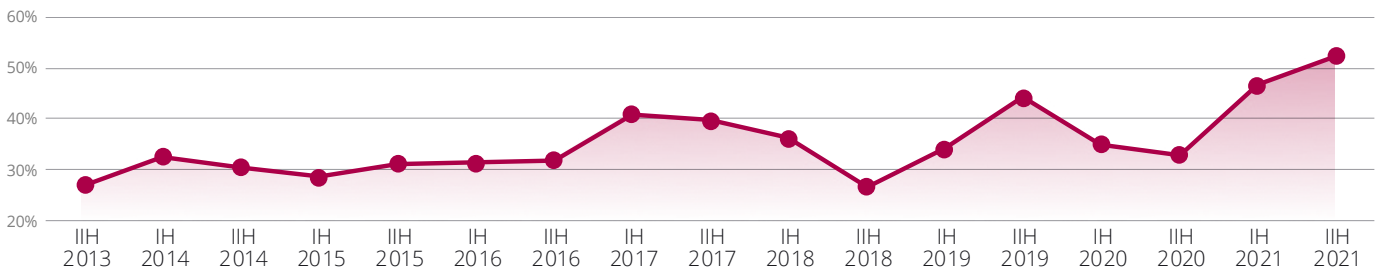
Source: Emmerson Evaluation based on Evaluator data

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



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

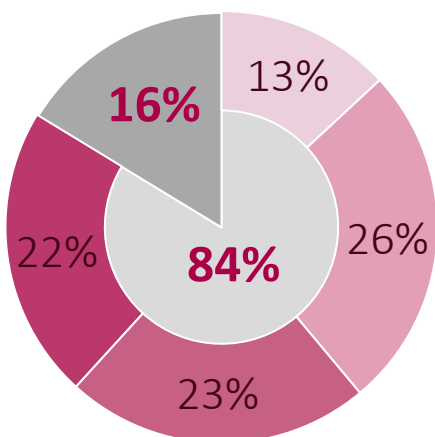
% of the sold offering in the given period
 Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

*% of flats 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



CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

TRI-CITY

In 2021, the Tri-Cities market saw significant increases in apartment prices once again. On the primary market they reached from 14% in Gdansk to 29% in Sopot per year. In case of apartments available on the secondary market, prices increased from 17% in Gdynia to 26% in Sopot.

In Gdańsk, the areas of intermediate and peripheral districts, where there is the largest amount of land for multi-family housing, develop the most. Especially a lot is happening in the districts of Chelm, Ujeścisko-Los-towice, and Jasien. Last year, a lot of new developments were also built in the top location, which is Śródmieście. The district has grown in popularity in recent years due to infrastructure development. Increased demand was also noted in coastal districts, such as Letnica.

The most expensive apartments are located in the coastal districts and in the downtown zone, where there is very little land available for development. The highest median prices were in Śródmieście, Oliwa and Wrzeszcz. On the other hand, the cheapest apartments can be found in the area near the Tri-City ring road, in Jasienice and Łostowice.

In Gdynia, the greatest concentration of developers' activities can be seen in the Mały Kack area. Thanks to a large number of upscale investments, the neighborhood has grown in popularity. The proximity of green areas and good communication with other districts and the city center have made many customers decide to buy an apartment in this area. Śródmieście remained one of the most expensive areas in Gdynia. The median price of new apartments in this district was PLN 16,500/sqm.

The most expensive apartments in the Tri-City development offer are traditionally found in Sopot. Due to dense development and a lack of new land for investments, developers have very limited investment opportunities and the supply is represented by small-scale projects.

The largest increase in property prices on the Tri-city secondary market was recorded in Sopot with the median price per sqm at PLN 12,965 (an increase of 26% y/y). The city, due to the low availability of developer offers, is very popular among buyers of second-hand apartments. Sopot attracts many clients who want to invest in a second home, the proximity of the sea and the attractiveness of the city are important to them. The largest share belonged to apartments from 50 to 70 sqm. In Gdansk and Gdynia the increases amounted to 20% y/y. In the provincial capital the median price per sqm amounted to nearly PLN 9,600. In Gdynia, the price for second-hand apartments was PLN 8,642/sqm.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

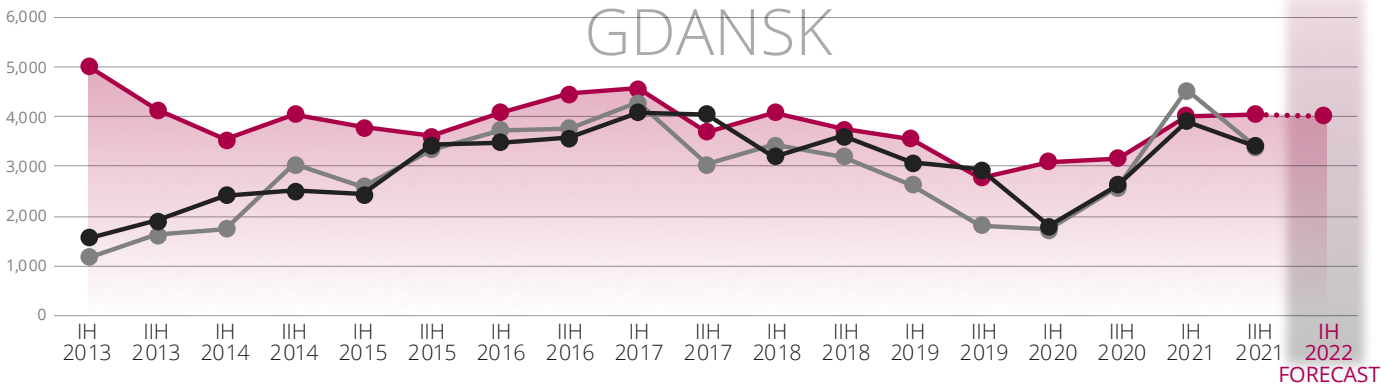
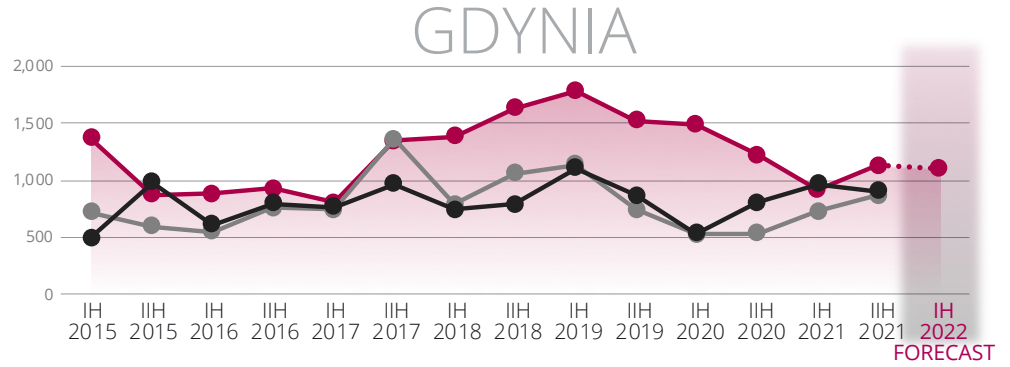
Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
GDANSK	11 054	14%	9 572	21%
GDYNIA	11 820	23%	8 642	17%
SOPOT	21 543	29%	12 965	26%

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

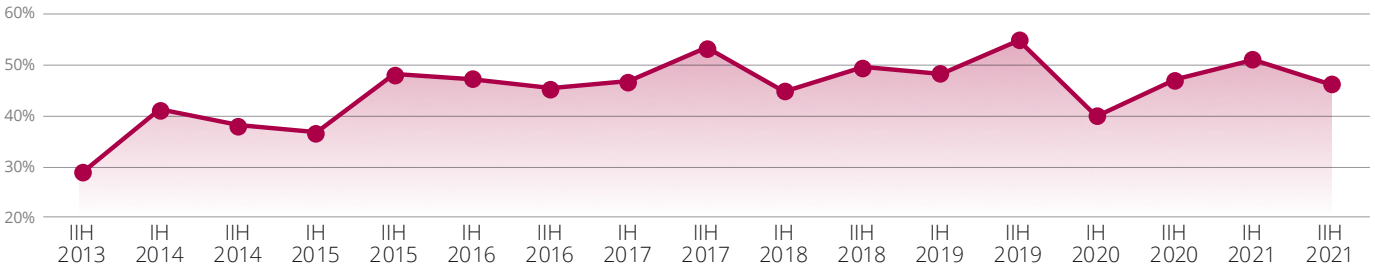
offer at the end of the period
number of flats introduced onto the market in the period
no. of flats sold in the period

Source: Emmerson Evaluation based on Evaluator data



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

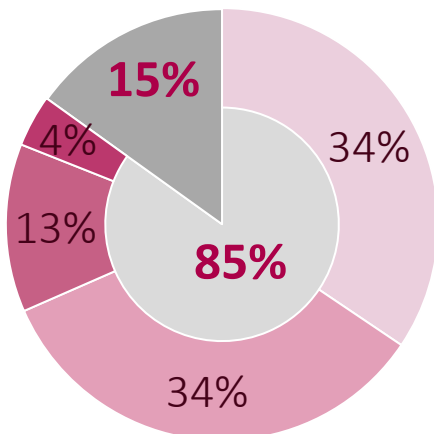
% of the sold offering in the given period; The data presented concern Gdansk
Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%]
PRIMARY MARKET

*% of flats sold in individual halves of the year after the introduction of the investment onto the market (average); The data presented concern Tri-city
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



CHANGES ON THE DEVELOPER'S MARKET 2021/2020	GDANSK	GDYNIA
TOTAL OFFER	↗	↘
NO. OF FLATS INTRODUCED ONTO THE MARKET	↗	↗

Source: Emmerson Evaluation based on Evaluator data

LODZ



The Lodz residential real estate market saw record-high increases of apartment prices both on the primary and secondary market. The median price of a unit in developer condition here was at the level of PLN 7,946/sqm and it increased by 19% y/y. The secondary housing market experienced similar growth dynamics. Second-hand apartments were priced at PLN 6,064/sqm, 21% more than a year ago. Lodz has gained popularity due to the large availability of land in attractive locations. Śródmieście, Lodz Fabryczna Railway Station are places where developers were eager to build their projects, and buyers were willing to invest in purchasing an apartment here, treating it as a profitable investment.

The highest prices on the primary market were recorded in the Śródmieście district, where the median price of a sqm of apartment was PLN 8,940 (an increase of 15% y/y). On the other hand, its value was the lowest in Górna district, where it reached PLN 7,209 (an increase of 16% y/y).

In Lodz the largest number of new residential investments on sale is located in Polesie and Śródmieście districts. In Polesie the most intensive development is taking place in the area close to the city center, where Stare Polesie housing estate is located. In the city center investments are concentrated around the Lodz Fabryczna station. On the other hand, Widzew remains the second district with the largest offer of apartments, where the largest number of investments are erected in the area of Lodz Widzew Railway Sta-

tion. However, the most expensive apartments can be found in Stary Widzew.

In Bałuty investments are scattered all over the district, but most projects are being developed in the area of Pojezierska Street and in close proximity to Manufaktura. The most expensive developments are located at the junction of Franciszkańska and Wojska Polskiego Streets, with an average price of over PLN 8,000 per sqm.

Górna is the cheapest district with the median value of PLN 7,209/sqm and at the same time the district with the fewest investments. The low price of apartments is due to the underdeveloped urban infrastructure. Prices of new apartments in this area start from PLN 6,000 per sqm. The most expensive apartments are being built in Wróblewskiego Street, where the median price is above PLN 8,000/sqm.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

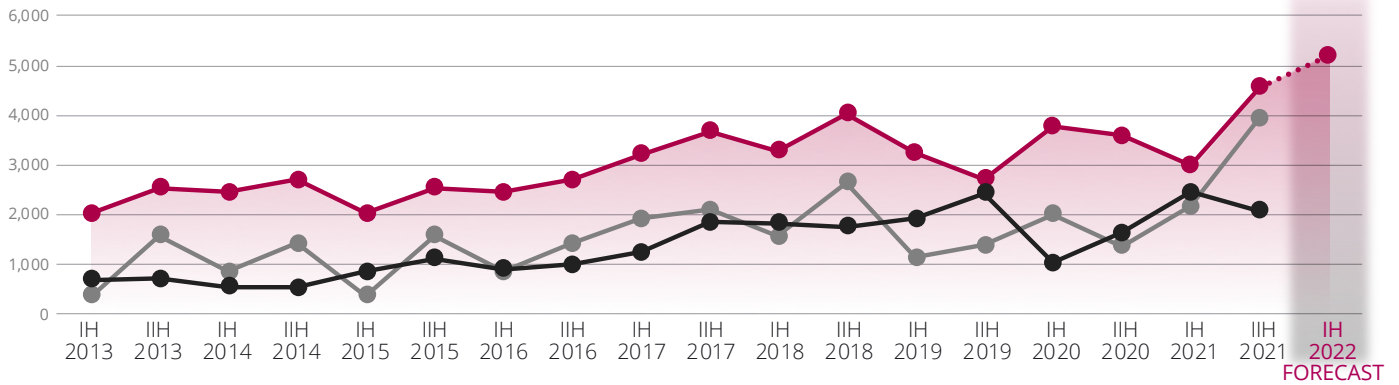
Source: Evaluator data base

	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
Bałuty	7 612	17%	5 593	12%
Górna	7 209	16%	5 997	20%
Polesie	7 806	22%	6 069	15%
Śródmieście	8 940	15%	6 185	26%
Widzew	7 497	21%	5 985	15%

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

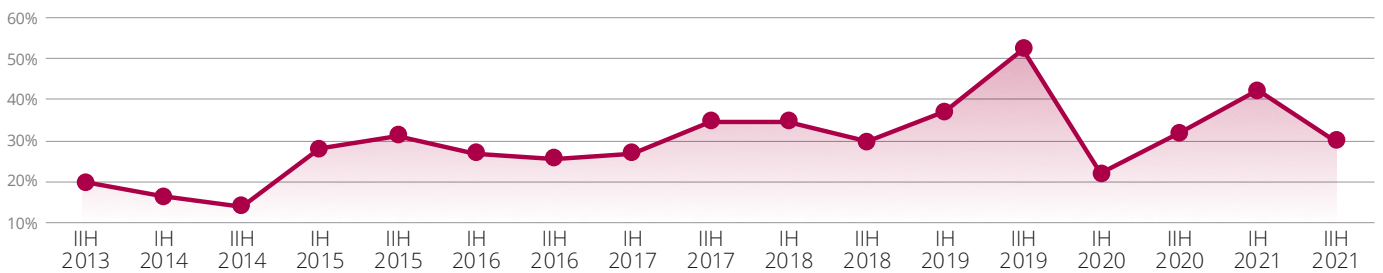
Source: Emmerson Evaluation based on Evaluator data

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



RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

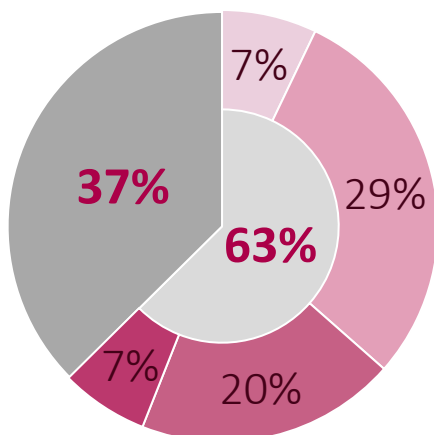
% of the sold offering in the given period
Source: Emmerson Evaluation based on Evaluator data



AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

*% of flats 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



CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

Górna is also the district for which we observed the highest increase of prices on the secondary market, which is probably related to the smallest supply of new investments within its borders. In each of the Lodz districts, the median price per sqm of a second-hand apartment exceeded PLN 5,500. In case of the secondary market, the lowest price level was recorded in Bałuty (PLN 5,593/sqm).

KATOWICE+ SILESIAN AGGLOMERATION

As in other major cities, housing prices in the Silesian Agglomeration increased in both the primary and secondary markets. In the case of apartments as built by the developers, the year-on-year increases reached 10%, and for second hand apartments - 14%. Median prices for those markets amounted to PLN 5,951/sqm/month. and PLN 4,449/sqm. In the case of Katowice, the increases were record high compared to last year. In the new apartments market, the median price rose by 26%, while in case of second hand apartments it increased by 20% in that period (the median price per sq m was PLN 8,185 and PLN 5,857, respectively).

Downtown and western districts were the most popular among developers operating in Katowice. These are the areas where developers have introduced the biggest new supply into their offerings. In the downtown districts, new projects were created in the Koszutki area. The western districts were dominated by projects in the Ligota-Panewniki area. In terms of prices, the most expensive areas were those located in the downtown districts, with prices of new apartments starting from over PLN 6,000 per sqm and going up to around PLN 16,000. In 2021, Katowice gained in popularity. The city's growth has brought with it a greater need for housing, which has increased the number of development projects. Developers offered more apartments than in the previous year.

Numerous office buildings have begun to spring up in Śródmieście, consequently creating new jobs and driving a bigger supply. Katowice, despite the price increase, is still far from the average rates in other major Polish cities. It pays off for investors to buy apartments

for rent here, especially as the Silesian capital attracts people not only with its offer of new jobs, but also with its renowned higher education institutions.

On the secondary market, Katowice has remained the most expensive city in the Silesian agglomeration for years. Prices of second hand apartments in Katowice grew comparably fast to those on the primary market. The median price in Katowice amounted to PLN 5,857/sqm (an increase of 20% y/y). Apartments with an area between 40 and 60 sqm had the largest share in sales.

In the remaining cities of the agglomeration, the most expensive apartments on the secondary market were located in Tychy (the average price per sqm was PLN 6,034). The cheapest apartments were located in Zabrze, Świętochłowice, Bytom and Piekary Śląskie. The median price per sqm in those locations did not exceed PLN 4,000 per sqm. Low prices on the secondary market are a consequence of the poor technical condition of buildings. In addition, these areas do not attract much interest among investors because of the land degraded after mining activities.

MEDIAN PRICE ON THE PRIMARY AND SECONDARY MARKET AND ANNUAL TREND OF PRICE CHANGES

Source: Evaluator data base

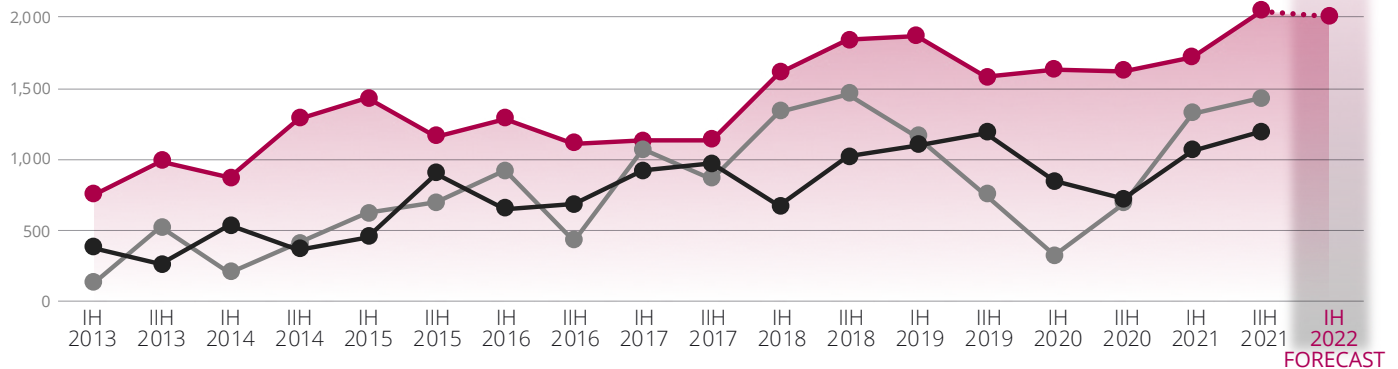
	primary market		secondary market	
	median price 1 m ²	annual trend	median price 1 m ²	annual trend
KATOWICE	8 185	23%	5 857	20%
SILESIAN AGGLOMERATION (EXCEPT FOR KATOWICE)	5 951	10%	4 449	14%

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 flats introduced onto the market in the period
 no. of flats sold flats in the period

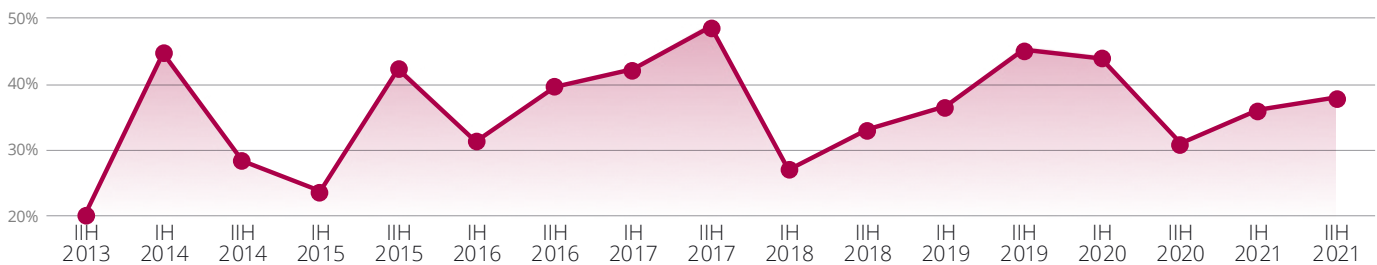


RELATION OF FLATS SOLD TO TOTAL OFFER PRIMARY MARKET

The data presented concern Katowice

% of the sold offering in the given period

Source: Emmerson Evaluation based on Evaluator data



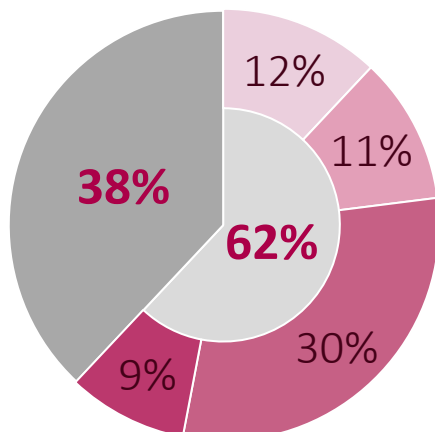
AVERAGE RATE OF SALES OF FLATS DURING THE INVESTMENT IMPLEMENTATION PERIOD 2020-2021* [%] PRIMARY MARKET

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

*% of flats sold in individual halves of the year after the introduction of the investment onto the market (average)

The data presented concern Katowice

Source: Emmerson Evaluation based on Evaluator data



CHANGES ON THE DEVELOPER'S MARKET 2021/2020



Source: Emmerson Evaluation based on Evaluator data

OTHER REGIONAL CITIES

SZCZECIN

Szczecin experienced price increases comparable to those in 2020. At the end of 2021, they reached 18% y/y on the primary market. The median price per sqm of new apartments as built by the developer was PLN 7,695. On the secondary market, we noted a similar upward trend (13% y/y), with the median price at the level of PLN 6,577/sqm. In the case of apartments from the newer stock, prices were significantly higher and sellers reached even PLN 8,000/sqm in the best locations.

The majority of development projects in Szczecin's market are concentrated in its left-bank part. The largest number of investments was recorded in the western areas of the city, such as Warszewo and West Pogodno. Developers continued their projects and sold subsequent stages of existing investments in areas that had gained attractiveness in recent years (e.g. Gumience). In terms of prices the most expensive area was Śródmieście, where prices of new apartments started at PLN 7,500 and reached over PLN 11,000 per sqm.

On the secondary market the highest price per sqm was recorded for apartments located in the city center and in districts directly adjacent to it (including Turzyn, Niebuszewo-Bolinko, Drzetowo-Grabowo), where its median value exceeded PLN 8,000. On the other hand, the cheapest second hand apartments were available in the Prawobrzeże district. In this part of the city, it was possible to find an apartment with a price of PLN 6,000 per sqm.

LUBLIN

In Lublin, prices of new apartments rose 15% y/y. The median price per sqm of a new apartment amounted to PLN 7,300. On the secondary market, the increase was smaller and amounted to 13% compared to 2020. The median price per sqm reached PLN 6,500. In 2021, the largest number of new investments were located in the north-western part of Lublin. Areas where developers are active include Sławin, Węglin Południe and Wrotków.

Strong interest in apartments encouraged developers to introduce new investments onto the market. A broad offer of apartments influenced the high level of sales. Not only apartments from the primary market enjoyed growing popularity, but also historic premises in Śródmieście and in the Old Town, where prices remained the highest and reached even over PLN 10,000/sqm.

RZESZÓW

In 2021, the primary residential market in Rzeszów recorded price growth of 13% y/y. The median price per sqm of a new apartment was PLN 7,034. On the secondary market, the increase was greater and amounted to 15% when compared to 2020. The median reached a high of PLN 6,453. Currently, in the capital city of the sub-Carpathian region, several investments are being carried out and they cover the area of the whole city. Most new investments are being developed in the Drabinianka district, which is very popular due to the nearby green areas and the Żwirownia (Gravel Pit) lake, which is a local attraction and recreational area for residents. Prices in this area started from PLN 6,900/sqm and exceeded PLN 10,000/sqm. On the secondary market, the highest prices were achieved by apartments in the left-bank part of the city, in areas close to the city center. The highest values were recorded in the housing estates of Króla Stanisława Augusta, 1000-lecia and Grota-Roweckiego. Often buyers in these areas paid over PLN 8,000 per sqm for apartments.

BIAŁYSTOK

On the primary market in Białystok, we recorded a price increase of 14% y/y. The median price of a new apartment was PLN 6,899 per sqm. Developers offered new apartments in almost the entire area of Białystok, but most projects were available in Nowe Miasto. The most expensive investments could be found in the area of Sienkiewicza Street, where prices reached PLN 10,000/sqm. On the secondary market, the median reached PLN 6,042, a 12% increase compared to 2020. The highest price per sqm was achieved by apartments located in close proximity to the city center. In the Sienkiewicza estate prices often exceeded PLN 7,500/sqm, and in the Przydworcowa and Piaski housing estates prices exceeded PLN 6,900 per sqm.

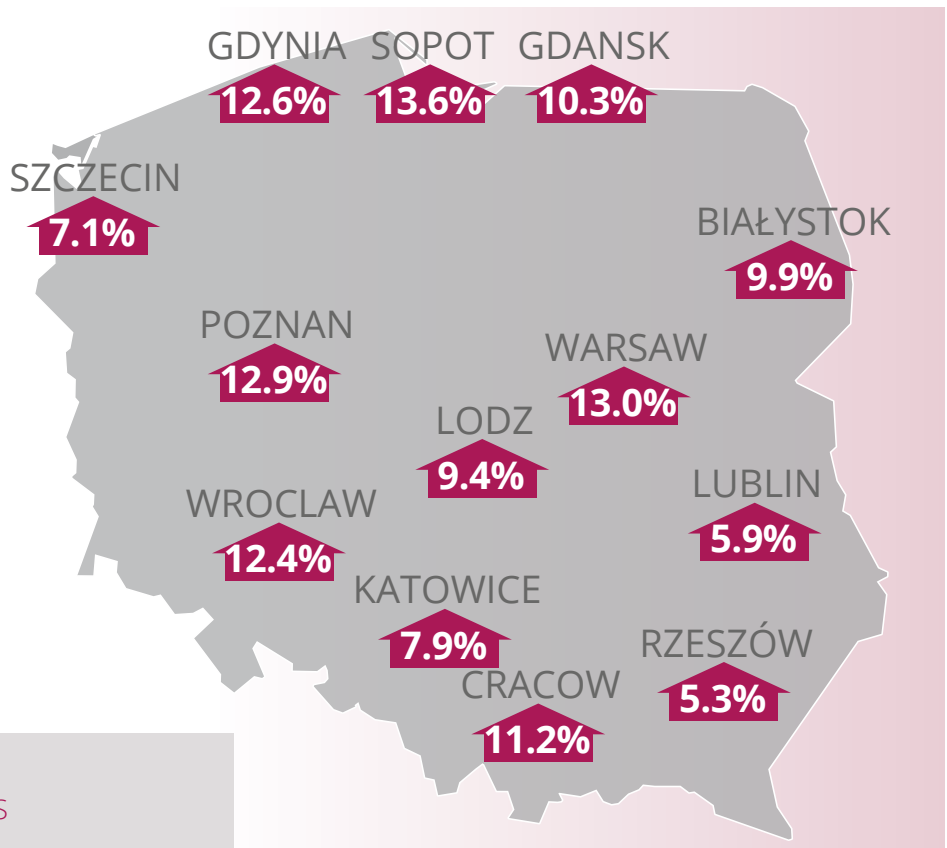
BYDGOSZCZ

In Bydgoszcz the price growth on the primary market was 9% y/y. The median price per sqm of a new apartment was PLN 6,970. As in previous years, the majority of development projects were located in Śródmieście and neighboring districts. On the secondary market, growth was much higher, at 17% y/y. The median price of a sqm of second hand apartment reached PLN 5,961. The highest prices started from PLN 7,000 per sqm, rising to over PLN 10,000 per sqm for the best situated apartments. On the secondary market, the highest price per sqm in 2021 was achieved by apartments located in the city center and in the area of the Valley of Five Ponds Park, which attracts buyers with attractive green areas.

OTHER REGIONAL CITIES

In Olsztyn, the median price per sqm for new apartments was PLN 6,917, an increase of 10% y/y. The secondary market recorded an increase of 16% y/y and a median of PLN 6,164/sqm. A similar year-on-year increase in prices of new apartments was recorded in Opole (10%), where units from developers cost PLN 6,133/sqm. On the other hand, the median price per sqm on the secondary market increased by 12% y/y to PLN 5,808. In Kielce, the median price per sqm for apartments on the primary market was PLN 6,279 and for apartments on the secondary market - PLN 5,326. In Toruń, the year-on-year increases in the offer from developers amounted to 13%, and the median price was PLN 7,344/sqm. In case of second hand apartments the growth was higher and reached 16% y/y with prices at the level of PLN 6,248/sqm/month. For another year in a row, the lowest housing prices among the largest cities were recorded in centers in the Lubuskie province. In Zielona Góra the median price per sqm. for primary market apartments was PLN 6,275 and for secondary market apartments - PLN 4,920. For years, Gorzów Wielkopolski has remained the cheapest of the analyzed locations. In 2021, the median price of a square meter of new apartments in this city was at the level of PLN 5,793 (an increase of 23% y/y). For second hand apartments, it amounted to PLN 4,512 (an increase of 16% y/y).

APARTMENT RENTAL MARKET



A negotiation loss of 5% of the offer rent was included in the calculation of median rents. Net monthly rental rates were assumed in the analysis, i.e. not including administrative fees, fees for parking space, storage units and costs incurred for utilities.

ANNUAL CHANGES IN THE MEDIAN OF RENTAL RATES

In 2021, the rental market experienced a recovery, influenced by the ending pandemic and the lack of new restrictions. As the economy recovered, rental prices rose, returning to pre-pandemic levels and even topping them by the end of the year. The return of workers to offices and students to universities has reinforced this trend. In addition, investments on the housing market are still a competitive investment method, especially if we look at the interest rates of bank deposits, or even long-term investment products such as treasury bonds. Investors continue to view it as a safe way to invest capital, even at a less attractive rate of return.

On the markets analyzed by us, the largest rent increases were recorded in Sopot and Warsaw. By 13.6% and 13% y/y, respectively. The smallest increases occurred in Rzeszów, where rents rose by 5.3% on an annual basis. Among the cities presented in the report, the highest rental rates were characteristic of the city of Warsaw. The largest number of offers was recorded in its central districts, such as Śródmieście, Mokotów and Wola. For years, Śródmieście has remained the most expensive district, with median rents ranging from PLN 2,090/month for one-room apartments to over PLN 5,605/month for three-room apartments.

The Tri-City market is chasing the Warsaw market in terms of prices for another year. The most expensive city was in Sopot, where median rents ranged from PLN 1,900/month for one-room apartments to PLN 3,800/month for three-room ones. In Gdansk prices were not much lower than in Sopot. The price ranged from PLN 1,800/month for one room to PLN 3,000/month for three-room apartments. Gdynia turned out to be the cheapest of the three cities, with prices ranging from over PLN 1,400/month for the smallest apartments to PLN 2,700/month for three-room apartments. In Wroclaw, tenants paid the highest rates in the Old Town district, where the median rates ranged from PLN 1,800 to over 3,300 per month. Equally high rents were observed in the Śródmieście district, with medians ranging from PLN 1,700 to over PLN 2,850 per month. Last year, average rental yields ranged from 2.5% to 5.2%. The highest yields were obtained in Szczecin, with 5.2% for one-room apartments, 4.6% for two-room apartments and 4.3% for three-room apart-

ments. The next most profitable cities were Wroclaw and Gdansk with a return rate of 4.9% for 1-bedroom apartments. The least profitable were apartments with 3 rooms (4.1% for Wroclaw and 3.6% for Gdansk). The rental market in Lodz continued to do well, with yields ranging from 4.1% to 4.8%. Lodz remained one of the most attractive cities to invest in. Its real estate market is one of the best growing in Poland. The offer of apartments here is the most varied. Developers focus on building new investments not only in the suburbs, but also in the center, where there is still land available for new buildings and revitalized old tenement houses. On the Tri-city market, just after Gdansk, Gdynia turned out to be the most profitable city, with rates of return in the range of 3.7%-4.1%. The lowest profitability rates were recorded in Sopot and Białystok. In Sopot it ranged from 2.6% (for 3-room apartments) to 3.7% (for 1-room apartments). The rates for Białystok were slightly lower, ranging from 2.5% and 3.4%, respectively.

RANGE OF YIELDS GENERATED BY RENTAL OF APARTMENTS IN 2021

	1-ROOM	2-ROOM	3-ROOM	
WARSAW	4.8%	3.9%	3.0%	<p>RATE OF RETURN</p> <p>The rental yield was calculated as the ratio of the annual income obtainable from rent to the transaction price of the apartment.</p> <p>The transaction price was increased by the cost of finishing the apartment (in case of apartments purchased on the primary market) and the cost of renovation of the apartment in order to prepare it for rent (in case of transactions from the secondary market). The cost of renovation was assumed to be 50% of the cost incurred to finish the apartment.</p> <p>The rental income of the apartment was reduced by the amount that the landlord allocates for the renovation of the apartment scheduled once every 10 years from the year the lease began.</p> <p>The above amount was calculated by multiplying the area of the apartment by 50% of the finishing costs. The model adopted includes a flat tax on rental income of 8.5% and the loss of income associated with the 2-month period spent searching for a tenant.</p>
CRACOW	3.8%	3.6%	3.5%	
WROCLAW	4.9%	4.5%	4.1%	
POZNAN	4.4%	4.3%	3.6%	
LODZ	4.8%	4.6%	4.1%	
GDANSK	4.9%	4.2%	3.6%	
GDYNIA	4.1%	4.0%	3.7%	
SOPOT	3.7%	3.4%	2.6%	
BIAŁYSTOK	3.4%	2.9%	2.5%	
LUBLIN	4.2%	4.7%	3.9%	
SZCZECIN	5.2%	4.6%	4.3%	
RZESZÓW	3.7%	3.3%	3.2%	
KATOWICE	4.7%	4.5%	4.3%	

PRIVATE RENTED SECTOR (PRS)

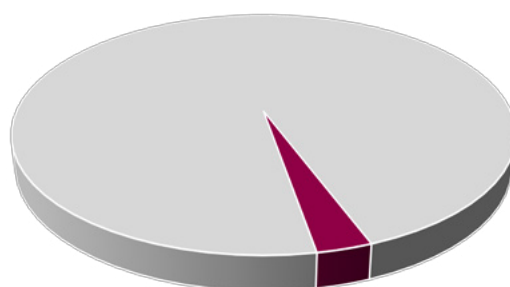
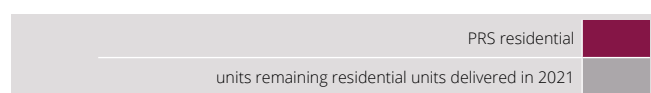
The PRS sector is developing more and more dynamically on the Polish market, with foreign funds eager to invest in the purchase of real estate for institutional lease. The PRS can provide an alternative to selling new apartments when demand decreases and sales on the primary market decline. Already now, some developers have decided to enter the PRS Market, allocating part of their investments to institutional leasing.

Under institutional rental, the housing stock focuses on the largest Polish cities, such as Warsaw, Wrocław, Poznań, Cracow, Łódź, Katowice and Tri-city. Data shows that companies have plans to expand the rental market by about 30,000 units. There are currently approximately 6,000 completed rental apartments on the market. Resi4Rent and the forerunner of this type of project on the Polish market, Fundusz Mieszkań na Wynajem (Rental Housing Fund), have the largest number of apartments in their offer. In total, they currently offer 2,000 built apartments.

The institutional rental market has been changing over the past few years. Funds are buying up not only apartments and entire buildings, but also acquiring developers. After the foreign fund merged with the Wrocław-based developer Vantage Development SA, TAG Immobilien did not stop investing in the Polish market. Last year it entered into a conditional agreement to sell 100% of the shares in Robyq, owned by the Goldman Sachs Group, increasing its portfolio of residential units under construction by about 20,000. In turn, Heimstaden Bostad, Europe's third largest real estate company, has entered into an agreement with Spravia (formerly

Budimex) for the purchase of 2,500 apartments. Projects were sold in five Polish cities: Warsaw, Cracow, Wrocław, Gdańsk and Poznań.

More and more developers dedicate a part of their offer to institutional lease, an example of which is Develia, which plans to build 300-400 apartments per year. The scale of the ready supply of residential units in the institutional rental system at this point in time accounts for only 3% of all commissioned apartments.



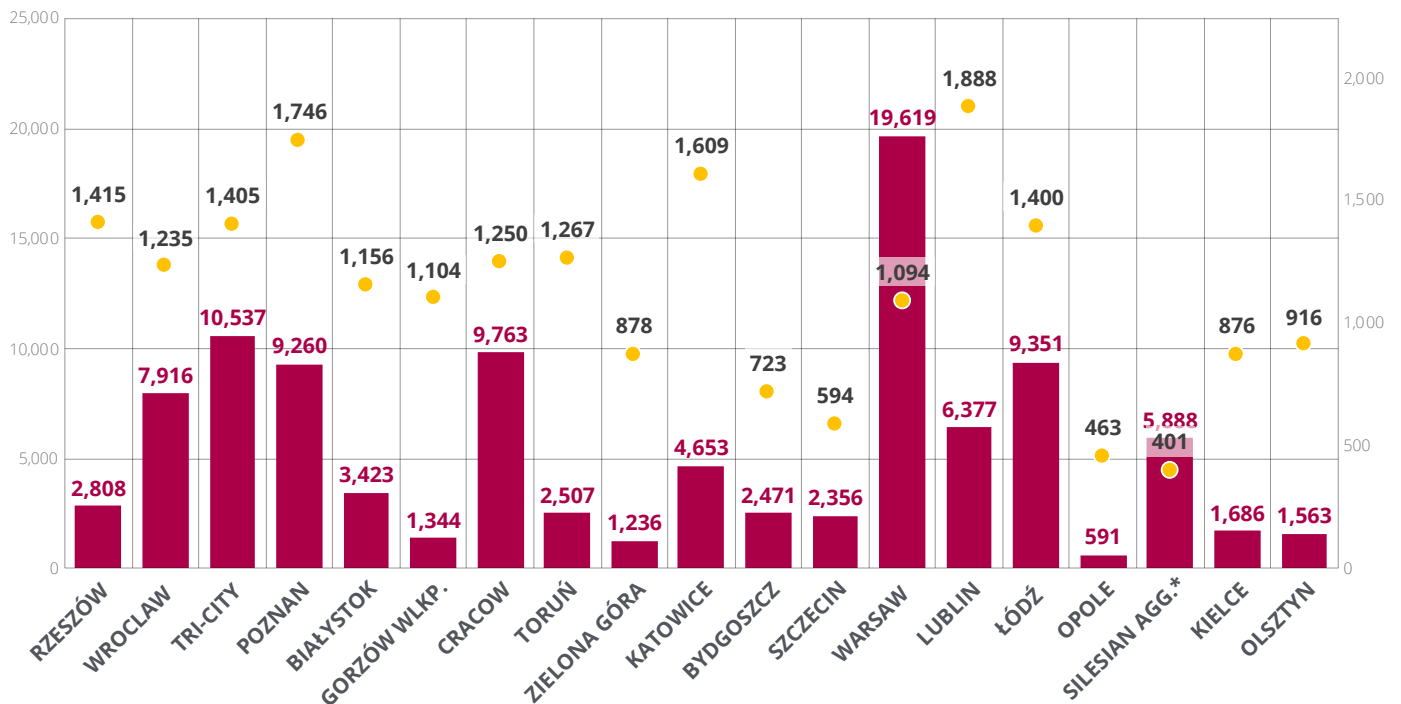
Poland has become an interesting destination for companies specializing in institutional lease, especially because of the possibility of achieving higher profits from investment in comparison with the Western European market. This makes us, as a country, attractive to foreign funds which, through their market share, increase the demand for the purchase of apartments. With their current plans, the offerings will continue to grow, but not fast enough to take over the market and be the dominant landlord. The Polish real estate market is still dominated by individual investors, whose activity is also steadily growing.

BUILDING PERMITS

ANALYSIS OF BUILDING PERMITS ISSUED PER 100 THOUSAND INHABITANTS

number of flats for which building permits have been issued in 2021 (total)
 number of flats for which building permits have been issued per 100 thousand inhabitants in 2021

*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

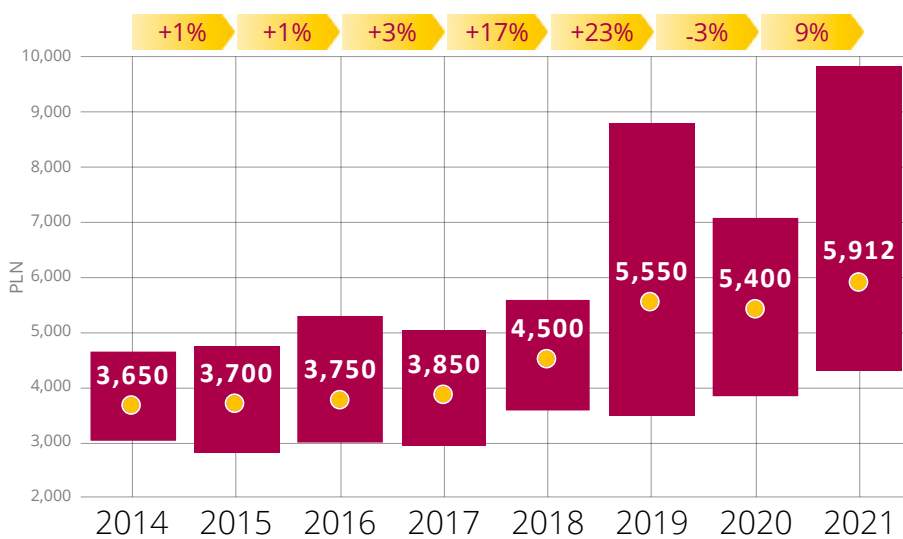


CONSTRUCTION COSTS OF DEVELOPER'S INVESTMENTS

CONSTRUCTION COSTS OF DEVELOPER'S INVESTMENTS [PLN / SQM. USABLE FLOOR AREA]

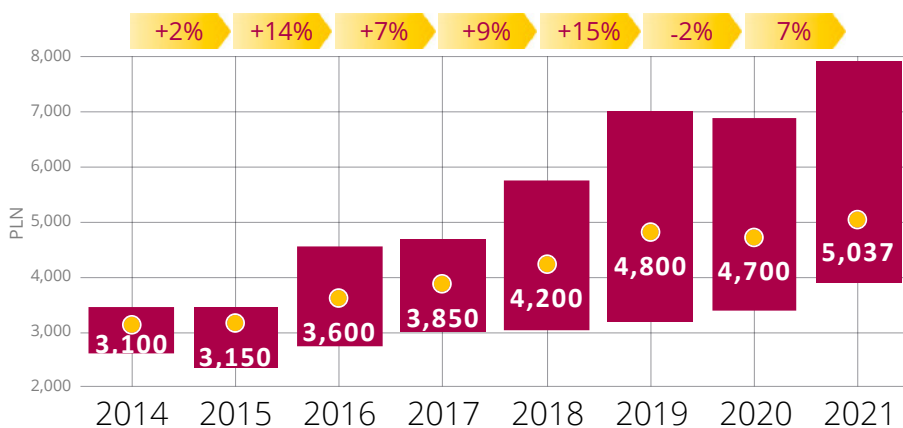
(min-max range of hard construction costs
average hard construction cost (net)
changes in an average hard construction cost

WARSAW



REMAINING MARKETS*

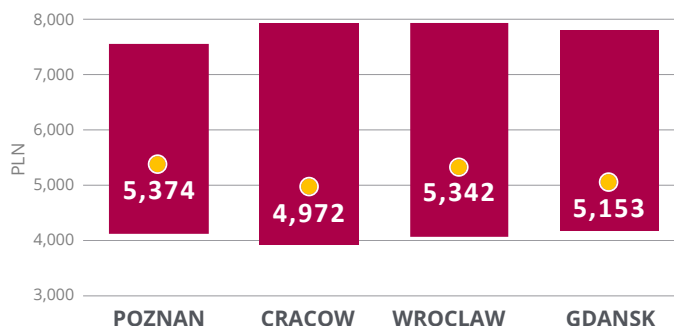
*CRACOW, POZNAN, WROCLAW, GDANSK, GDYNIA, SZCZECIN, RZESZÓW, TORUŃ, BYDGOSZCZ, LODZ, LUBLIN, KATOWICE



CONSTRUCTION COSTS OF DEVELOPER'S INVESTMENTS SELECTED CITIES [PLN/SQM USABLE FLOOR AREA]

min-max range of hard construction costs
average hard construction cost (net)

2021



FORECAST 2022

Increasing inflation, problems with the supply of raw materials, high costs of construction materials, difficulties in recruiting employees and increasingly limited availability of land translated into higher housing prices in 2021. In early 2022, particularly after Russia's invasion of Ukraine, the problems described above only worsened.

Sanctions increase the prices of energy resources, which in turn translate into higher prices for basic products. These factors drive inflation relentlessly, and it will take a long time for the price level to return to equilibrium. The war on the eastern border also caused an exodus of Ukrainian workers from Poland, mainly men, who accounted for a large percentage of those employed at construction sites. Construction companies and developers are struggling to ensure construction continuity due to limited staffing, especially since the problem of staff shortages at construction sites was already present before the war broke out. The amendment to the Act on the Protection of Rights of Buyers of Residential Units and Single-Family Houses dated 16 September 2011, which comes into force on 1 July 2022, will also be important for the developer market. The funds collected from developers on the DFG account will be used for refunds to purchasers in connection with, e.g. withdrawal from the agreement, bankruptcy of the developer or bankruptcy of the bank holding the trust account for the given investment. This is a factor that will further drive up construction costs on the developer's side.

On the other hand, since last autumn, when the National Bank of Poland started a series of interest rate hikes, we have been observing a gradual decrease in the sales of apartments on the primary market. A marked increase of several percent in lending rates has sharply reduced the creditworthiness of potential homebuyers.

It should be assumed that at the moment creditworthiness has been reduced by at least 30% in relation to before the start of the cycle of rate increases by the NBP, and some potential borrowers have become not eligible for a mortgage loan.

The Guaranteed Housing Loan Act, which enters into force on 27 May 2022, may bring about some changes in the situation of customers planning to buy apartments financed by a mortgage loan. Pursuant to its provisions, the state will guarantee, through BGK, up to 20% of the loan amount. However, it will be no more than PLN 100 thousand. This guarantee can replace the own contribution required by banks for a certain group of customers. In the current market situation, however, its absence is not the main factor limiting access to mortgage loans. Since the preparation of the Act, the situation has changed, because today it is not the own contribution (as it was when the Act was passed), but creditworthiness that is the main problem in accessing long-term financing. According to BGK, „the process of estimating the potential for this action by lending banks is currently underway.”

It should be emphasized that at the same time the situation on the housing rental market has changed completely. Demand was strongly influenced by refugees arriving in Poland, which coincided with the lifting of restrictions related to the pandemic. Rental rates have clearly skyrocketed and the number of apartments available for rent is currently very limited. A further strengthening of the rental market is also supported by a reduction in demand for apartments caused by rising interest rates. People who planned to buy an apartment and now can no longer afford it will inevitably drive the rental market up. The increase in housing prices and lower or no creditworthiness, plus the shrinking offer of apartments for rent, may become a big problem for people who do not own their own home. In particular, the decreasing offer of apartments for rent may prove to be a real challenge. As recently as a year ago, when many workers and students were able to work and study from the family home during the pandemic, rental opportunities were readily available, and the selection of ads on specialized portals was very large. Now that the situation with COVID-19 has calmed down and we have an unprecedented influx of refugees, there is no shortage of people willing to rent, but there is a shortage of offers.

Currently, the supply of new apartments is quite large, however, due to the lower than so far demand, a reduction of supply on the part of developers should be taken into account. Particularly if we take into account the growing problems with the cost and availability of construction materials and shortages in the number of workers on construction sites. This process can already be observed, as the number of building permits obtained and investments put on sale is clearly lower

than last year. With the observed increase in the cost of credit, it should be taken into account that more than half or even two-thirds of mortgage-backed purchases could potentially evaporate from the market compared to the previous year. **It is fair to say that real demand and the health of the market will be determined by cash buyers. We expect that in the current situation the market will be dominated by investors who buy apartments with their own funds and intend to rent them out. The role of the PRS funds will also grow, as they will be interested in increasing their shares in the rental market in a good economic situation. Therefore, we can expect more block purchases by these funds.** Thus, over the next few years, we anticipate a noticeable increase in the PRS share of the residential market.

The decrease in demand resulting from the reduction in the number of clients taking mortgage loans will be compensated in the long run by the aforementioned funds and by developers' adjustment of supply to the scale of demand. In spite of the observed decrease in demand in the months to come, we do not expect a noticeable fall in the prices of apartments on the primary market, which will be effectively limited by the record high costs of production. The possibility of a slight correction will be possible next year, in our opinion, at a time when developers will want to sell off the last apartments from projects launched back in 2021 and balance the current supply to the reduced demand. It is likely that at the turn of the year there will be price bargains on the secondary market, as some people who took out mortgages at exceptionally low interest rates will want to limit the rising costs of their servicing and will decide to sell the homes they bought earlier.

DESCRIPTION OF OPERATIONS OF EMMERSON EVALUATION AND EVALUER

Emmerson Evaluation Sp. z o.o. has been operating since 2008 and provides valuation services for residential and commercial properties (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 aims its services primarily at banks, residential and commercial developers, investment funds and listed companies.

Evaluier Sp. z o.o. is a company providing services in terms of making available EVALUER Transaction Database and analytical reports concerning various segments of real estate market. - . The area of activity of Evaluier Sp. z o.o. includes preparing - reports and analyses on the real estate market on the basis of data obtained from developers, as well as collected in the EVALUER Database and monitoring the primary market in major Polish cities. In addition, the company maintains and provides the EVALUER Database containing transactional data from the real estate market (currently over 2,000,000 transactions from all over the country).

WARSAW

Headquarters

Emmerson Evaluation Sp. z o.o.

al. Jana Pawła II 27

00-867 Warszawa, POLAND

phone +48 22 379 99 00

warszawa@emmerson-evaluation.pl

MORE INFORMATION: www.emmerson-evaluation.pl

WROCLAW

al. Armii Krajowej 6a/4

50-541 Wrocław, POLAND

phone +48 71 780 01 41

wroclaw@emmerson-evaluation.pl

POZNAN

ul. Artura Grottgera 6A/15

60-757 Poznań, POLAND

phone +48 61 222 54 41

poznan@emmerson-evaluation.pl

CRACOW

ul. Wodna 2d

30-556 Kraków, POLAND

phone +48 516 000 977

krakow@emmerson-evaluation.pl

TRI-CITY

ul. Grunwaldzka 76/4

81-771 Sopot, POLAND

phone +48 58 341 99 45

trjmiasto@emmerson-evaluation.pl

LODZ

ul. Targowa 9a

90-042 Łódź, POLAND

phone +48 516 000 971

lodz@emmerson-evaluation.pl

KATOWICE

Aleja Wojciecha Korfantego 125A

40-156 Katowice, POLAND

phone +48 509 455 704

katowice@emmerson-evaluation.pl



EMMERSON
EVALUATION