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EVALUER INDEX

ANALYSIS OF THE TRANSACTION PRICES
AND FORECAST FOR THE RESIDENTIAL MARKET
PRIMARY AND SECONDARY MARKET



EMMERSON
EVALUATION

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Introduction

Dear Readers,

We are delighted to already be able to give you the sixth edition of the EVALUER INDEX report on the residential market in Poland.

This year, as in previous years, we have been looking at the markets in the largest Polish cities. First of all, we analysed price changes that have taken place over the last year in more than 20 locations. We analysed in detail 8 major agglomerations, i.e. Warsaw, Cracow, Wroclaw, Poznan, Tri-City, Lodz, Katowice and the Silesian Agglomeration. The results of our observations clearly show that 2018 was a record-breaking year, mainly in terms of housing price increases.

In this year's edition of our report, we also analyse the current stock of flats per capita in a given city.

We examine the number of finished flats, as well as those for which construction permits have been issued. On this basis, we forecast the situation on the residential market in the coming months.

We also monitored the residential rental market in 2018. We examined rental rates in 9 cities, including minimum and maximum rental rates and their median. We also show the achievable rental income in these locations. All these analyses are conducted for 1-, 2- and 3- room flats.

We hope that this publication will be positively received by you and will supplement your knowledge of the current situation on the residential real estate market in Poland. If you have additional questions or would like to obtain a more detailed analysis of a given subject or a study of a different area, please do not hesitate to contact us.

Management Board of Emmerson Evaluation

ANALYSIS OF THE RESIDENTIAL MARKET IN 2018

The data we have gathered shows that 2018 was a period of considerable increases – both in the prices of flats, which in many locations reached record high levels, as well as in the costs of construction work and the prices of land for new housing investments.

Flat prices increased both on the primary and secondary market in 2018. The median prices per sq. m. on the primary market, in virtually all the cities analysed in the report, were more than PLN 4,000. In 6 of the cities analysed in the report, the median price per sq. m. exceeded PLN 5,000 for the first time since 2013. This was the case in Katowice, Szczecin, Bydgoszcz, Olsztyn, Białystok and Rzeszów. In Warsaw, for the first time in the 6-year history of EVALUER INDEX reports, the median price per square metre on the primary market exceeded PLN 9,000; in Cracow, Wrocław, Poznań and Gdańsk it exceeded PLN 7,000. The prices of flats in Gdynia also went up considerably, where the median in 2018 reached more than PLN 8,000 per square metre. According to our analyses, there were greater increases in prices for primary market flats than for second-hand flats. In more than ¾ of the analysed locations, the increases exceeded 10% when compared to 2017. The highest values were recorded in the aforementioned Gdynia, Sopot and Szczecin (28%, 21% and 19% respectively). Slightly less dynamic growth (below 10%) was recorded in Łódź, Zielona Góra, and Toruń (9%, 8% and 7% respectively). A growth of up to 5% was observed only in two cities – Lublin and Kielce. Prices in Kielce approached PLN 5,000 per square metre (the median price per square metre in Kielce was PLN 4,900).

The increase in housing prices in 2018 was caused by several main factors. On the supply side, it was most affected by the increase in general contracting costs, including both construction materials and labour.

The increase in hard construction costs was especially visible in Warsaw, where, according to our analyses, it was 17% compared to 2017. The increases were also recorded in smaller voivodship cities, where we noticed an average increase of 9%. In absolute terms, in all the cities we analysed, the hard cost of construction of 1 square metre of usable floor area (UFA sqm) exceeded PLN 4,000 and in Warsaw it amounted to PLN 4,500 per square metre. The purchase prices of land for construction also increased in 2018. According to our estimates, the greatest increases, i.e. double-digit increase in land prices per square metre of residential usable area, were seen in Wrocław and Warsaw (11% in each of these cities in comparison to the previous year) and Poznań (by 10% in comparison to 2017).

The increase in housing prices was also stimulated by the demand side. Flats were sold out at the „hole in the ground” stage for another year in a row. Therefore, developers could freely offer increasingly higher prices for flats. They raised the offer prices as often as once a month, so the buyers did not have much room for negotiation.

The situation on the primary market also stimulated the secondary market, where there were also considerable sales increases. A much better location, including better access to public transport, such as schools, kindergartens, and proximity to green areas, and above all a lower price per square metre than on the primary market, meant that those looking for flats decided to buy them on the secondary market. The median price on the secondary market in 2018 exceeded PLN 8,000 per square metre in Warsaw and PLN 6,000 per square metre in Gdańsk for the first time since 2013. Almost 1/3 of the analysed locations recorded price increases of at least 10% compared to 2017. The largest price increases took place in Łódź (18%).

We also consider developers' activity in 2018 to be high. Most of the cities analysed in our report recorded an increase in the number of new flats on the market. The leader in this respect is the city of Katowice, which recorded an increase of more than 40% compared to the level recorded in 2017, resulting from an accumulation of the number of flats for which construction permits were issued over the last few years. An increase in the number of newly offered residential units also occurred in Poznan (over 25% compared to 2017), Lodz and Cracow (about 5% compared to the previous year). The number of newly introduced flats on the market decreased in Wroclaw (by 22% compared to 2017), in Warsaw (by 18% compared to 2017) and in Tri-City (by 11% compared to 2017). In these cities, developers are already being more cautious in making decisions to launch new projects, which may be due to fear of a slowdown in the pace of sales of flats in the future.

The above results indicate a very good situation for flat sellers last year. Some symptoms of a slowdown were already visible on the market, but, in our opinion, they were not significant enough to stop 2018 being considered as a very good year in terms of sales. Despite the fact that the sales rate in several locations decreased

in 2018 – including in Katowice (by 19 p.p. when compared to the second half of 2018 and the second half of 2017), Wroclaw (14 p.p.) and Poznan (13 p.p.) – the recorded level is still one of the highest in history. The number of flats sold in the 7 largest Polish cities (Warsaw, Cracow, Wroclaw, Poznan, Gdansk, Lodz and Katowice) in 2018 was by only 0.3% lower than in 2016 and by 17% lower than in 2017. This is the third result in history that confirms the continuing high sales rate of residential units. A smaller number of transactions was recorded mainly for cash purchases, usually made by those investing in flats for rent. For some of them, prices in some locations may have already reached a level that poses a threat to achieving the expected return on investment. Preferential credit terms offered by banks stimulated a good situation for buyers purchasing flats for their own housing purposes. Both the number and value of newly granted mortgage loans increased in 2018 (by over 11.5% and 20.8%, respectively, compared to 2017). As regards the value of newly granted mortgage loans, the result achieved in 2018 (over PLN 50 billion) was the highest since 2013. The number of newly concluded loan agreements in 2018 exceeded 200 thousand for the first time since 2011.

Prices

This analysis includes data on transaction prices. Readers of the report are reminded that a transaction price should be understood only as the price at which the sale and purchase transaction took place and which was recorded in a notarial deed at the stage of the preliminary or final agreement.

Median

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

In this report, all prices are provided per sq. m. of usable area of a residential unit (PLN/sq. m.). Gross prices are provided for both the primary and secondary market.

RESIDENTIAL MARKET IN POLAND

MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS ANNUAL PRICE CHANGE TREND

Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
WARSAW	9 030	14%	8 130	10%
CRACOW	7 680	13%	6 730	9%
WROCLAW	7 120	16%	5 950	9%
POZNAN	7 070	16%	5 750	7%
GDANSK	7 900	18%	6 230	9%
GDYNIA	8 300	28%	5 900	13%
SOPOT	13 480	21%	8 050	9%
LODZ	5 570	9%	3 950	18%
KATOWICE	5 770	18%	3 990	8%
SILESIA AGGLOMERATION (WITHOUT KATOWICE)	4 750	14%	3 110	9%

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
SZCZECIN	5 600	19%	4 480	9%
GORZÓW WLKP.	3 910	13%	3 170	8%
ZIELONA GÓRA	4 150	8%	3 520	8%
OPOLE	4 860	13%	4 590	12%
KIELCE	4 930	4%	3 900	8%
BYDGOSZCZ	5 380	11%	4 250	12%
TORUŃ	5 820	7%	4 370	8%
OLSZTYN	5 330	12%	4 500	7%
BIAŁYSTOK	5 190	13%	4 390	9%
LUBLIN	5 420	4%	4 920	4%
RZESZÓW	5 050	12%	4 880	11%

WARSAW

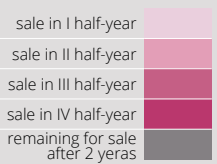
In Warsaw, flat prices reached record levels in 2018. For the first time since 2013, the median price of a square metre of a residential unit on the Warsaw primary market exceeded PLN 9,000 and PLN 8,000 on the secondary market. These were increases of 14% and 10% respectively when compared to 2017. The increases affected all the districts of the capital city. On the prima-

ry market, prices increased the most in Praga Północ (19%), Targówek and Żoliborz (18%). The dynamic growth of at least 10% was observed in more than half of all districts. The most expensive in 2018 remained Śródmieście (with the median price per square metre of over PLN 17,500). In over 1/3 of Warsaw districts, the median rose by over a thousand zlotys within a year.

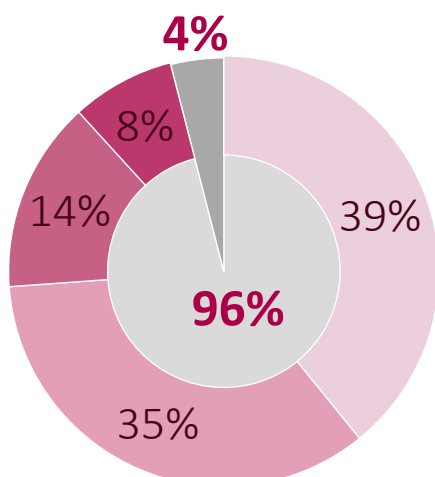
MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
BEMOWO	7 820	13%	7 380	8%
BIAŁOŁĘKA	6 890	8%	6 480	7%
BIELANY	8 980	6%	7 410	8%
MOKOTÓW	9 920	6%	9 150	14%
OCHOTA	10 290	7%	8 680	8%
PRAGA PD.	8 890	9%	7 350	6%
PRAGA PN.	9 410	19%	7 080	6%
REMBERTÓW	6 880	3%	6 310	5%
ŚRÓDMIEŚCIE	17 580	7%	11 280	11%
TARGÓWEK	7 920	18%	6 610	8%
URSUS	7 250	5%	6 800	7%
URSYNÓW	9 050	12%	8 470	7%
WAWER	7 120	14%	6 630	7%
WESOŁA	6 670	10%	6 260	11%
WILANÓW	8 800	13%	8 880	10%
WŁOCHY	7 910	15%	7 570	8%
WOLA	9 920	13%	8 800	15%
ŻOLIBORZ	10 650	18%	9 670	15%

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



The median price per square metre in Żoliborz district significantly exceeded PLN 10,000 (PLN 10,650), in Targówek it approached almost PLN 8,000 (PLN 7,920), and in Wola almost PLN 10,000 (PLN 9,920). Dynamic increases in flat prices were particularly visible in locations where new road and transport infrastructure is under construction or planned. Such locations include Targówek and Wola, where the second line of the underground is being built. Areas in the vicinity of Śródmieście, especially Wola, where a new business centre is developing, have become more attractive.

A very high demand in the most desirable districts and an increase in prices resulted in the outflow of some potential customers to regions with relatively lower prices, such as Ursus. As a result, the median price of a residential unit in Ursus district exceeded the historical limit of PLN 7,000 per square metre.

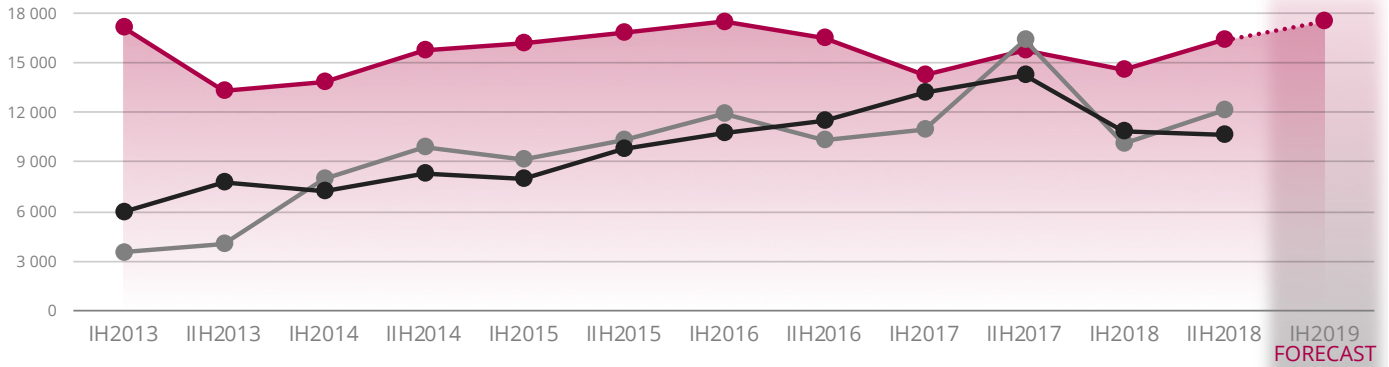
The very good situation on the primary market had a positive impact on the secondary market. The rapidly growing prices of new flats propelled some customers to look for cheaper secondary market flats. Although the second-hand market showed lower dynamics of price growth when compared to developer flats, in 1/3 of districts, we recorded growth of at least 10%. Prices of flats on the secondary market increased the most in Żoliborz and Wola, by as much as 15%, and also in Mokotów, where prices increased by 14% compared to 2017. In the case of the secondary market, virtually every median of the prices of Warsaw districts is lower than on the primary market. The exception is Wilanów district, whose median prices per square metre on the secondary market reached a higher level than on the primary market in 2018. A considerable share of the transactions on the secondary market in Wilanów concerned trading in high-standard finished flats located in the relatively new Miasteczko Wilanów housing estate.

The largest number of new developer's projects are currently under construction in Mokotów and Białołęka. These are large districts with better access to land for multi-family housing development in comparison to Warsaw as a whole. In Białołęka, the Nowodwory and Żerań regions are developing particularly dynamically, while in Mokotów, new projects are being developed mainly in Stegny and Siekierki. Many new investments are also under construction in Wola district.

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET AND THE SUPPLY FORECAST – PRIMARY MARKET

—●— the number of offers at the end of the period
—●— the number of newly introduced flats to the market in the period
—●— the number of sold flats in the period

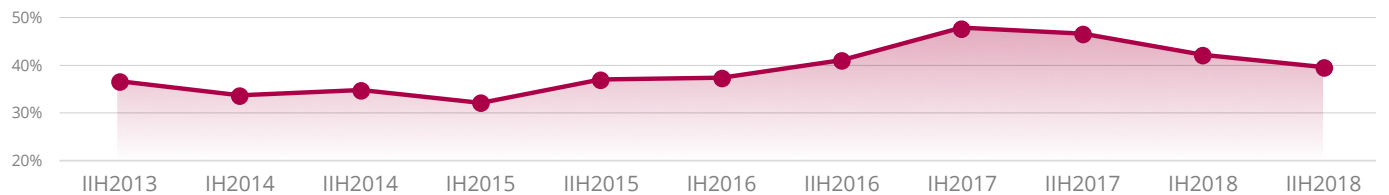
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

—●— % sold offer in this period of time

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



The most dynamically developing part of Wola is Odolany and the areas adjacent to the city centre, where there are still post-industrial areas which are subject to revitalisation, changing their function to office and residential. Post-industrial areas in Kamionek region in Praga Południe are also developing dynamically. The least investments are carried out in the highly urbanised districts of Śródmieście and Żoliborz, as well as in those dominated by single-family housing such as Wesoła or Wawer.

We expect that the biggest demand for flats in Warsaw and the most dynamic development will be recorded in the vicinity of the second underground line. Important changes on the map of Warsaw include the opening of al. Polski Walczącej (Czerniakowska-Bis) in Warsaw's Siekierki district. Opened in February 2019, the route helped to communicate two developing regions of Mokotów, i.e. Siekierki and Czerniaków.

CHANGES ON THE DEVELOPER'S MARKET 2018/2017

total offer	
the number of newly introduced flats to the market	

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

It is also worth watching the areas of Warsaw whose current function will be changed, such as the area around ul. Jagiellońska in Praga Północ (change of character for the former industrial areas located close to the Żerań FSO factory to land for multi-family housing).

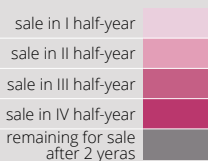
CRACOW

The median price per square metre of flat on the primary market in the whole of Cracow increased by 13% compared to 2017 and reached more than PLN 7,000. In all the quarters, we recorded an increase of over ten percent. The highest price increase (16%) was recorded in Śródmieście, where flats are the most expensive

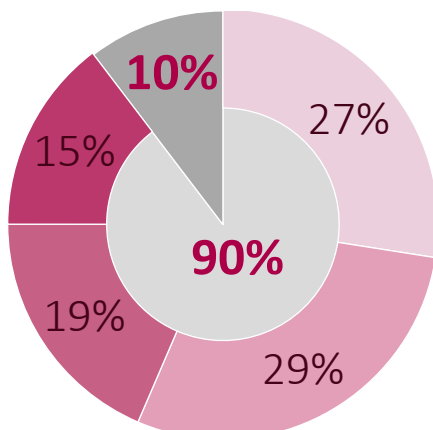
MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
KROWODRZA	7 580	12%	7 150	7%
NOWA HUTA	6 170	12%	5 500	9%
PODGÓRZE	6 390	15%	6 440	10%
ŚRÓDMIEŚCIE	8 380	16%	7 630	12%

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



(the median price per square metre was PLN 8,380 in 2018). In other Cracow districts, the median price of sq. m. exceeded PLN 6,000, and as much as PLN 7,000 in the district of Krowodrza (the median price was PLN 7,580 per sq. m.). In the cheapest Nowa Huta district, the median price per square metre reached PLN 6,170. There was also a good situation on the secondary market. The average price increase in Cracow was 9%. The highest increase, i.e. 12%, was recorded in Śródmieście district. In Śródmieście and Krowodrza, the median price exceeded PLN 7,000 per square metre and PLN 6,000 per square metre in Podgórze. The only district where the median price did not exceed the level of PLN 6,000 per square metre was Nowa Huta. In 2018 in Podgórze, there was a noticeable high demand for flats in older prefabricated buildings (e.g. in Bieżanów-Prokocim district), as a result of which the prices of flats on the secondary market almost equalled those on the primary market. In the remaining districts, a large number of purchases on the secondary market were stimulated by flat prices that were lower than those offered by developers.

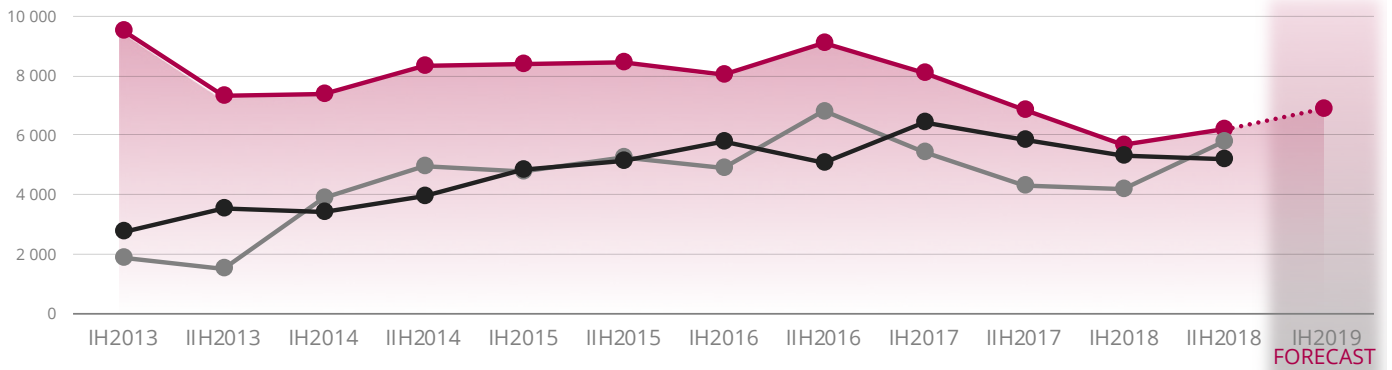
New investments are being carried in each of the four Cracow quarters. Most of them are being built in Podgórze, and a lot are also being built in Krowodrza district (mainly in the area around the Bronowice Gallery). The smallest number of new projects is currently being implemented in Nowa Huta. Closer to the centre, smaller, more intimate projects are being developed, consisting of individual blocks of flats of a higher standard (e.g. ul. Barska in Dębniki, ul. Madalińskiego in the Vistula region).

The largest number of flats with an area of 50-60 sq. m. are sold in the capital of Małopolska. In Cracow, there is also a noticeable demand for flats purchased for investment, especially in the city centre, both for short-term and long-term rental.

SUPPLY AND DEMAND
ON THE RESIDENTIAL
INVESTMENT MARKET
AND THE SUPPLY
FORECAST – PRIMARY MARKET

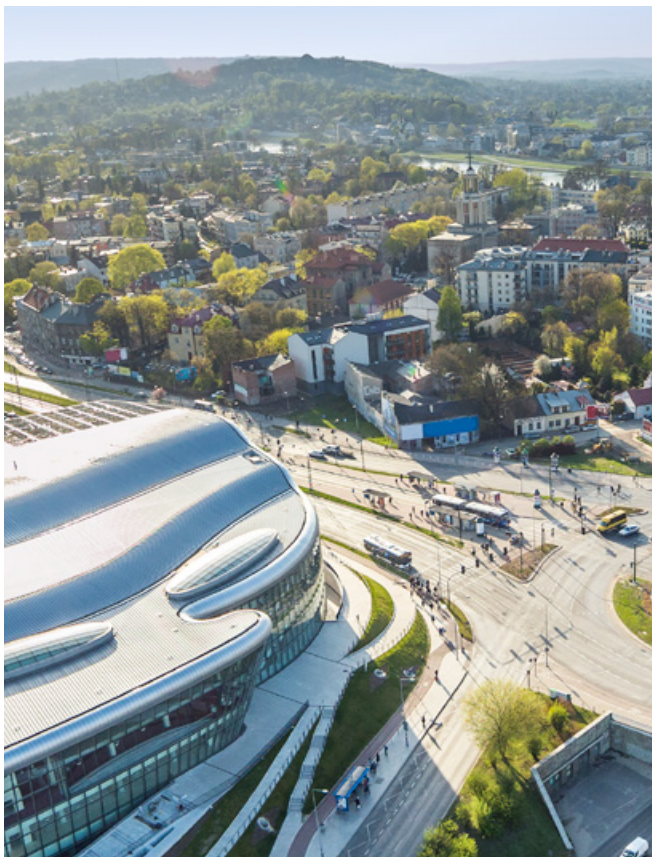
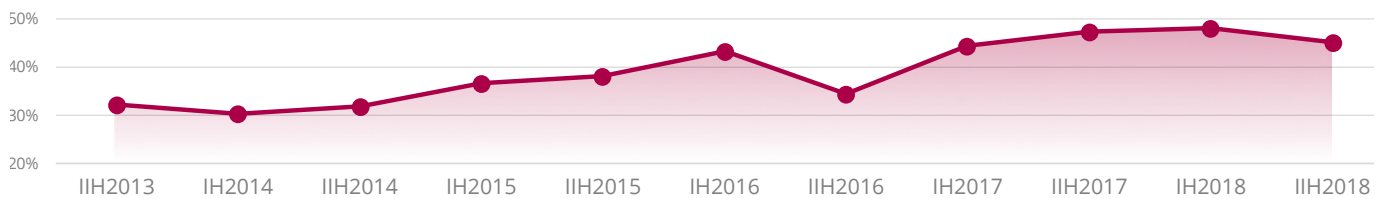
the number of offers
at the end of the period
the number of newly introduced
flats to the market in the period
the number of sold flats
in the period

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD
TO THE TOTAL NUMBER OF FLATS
ON THE PRIMARY MARKET

% sold offer in this period of time
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



CHANGES ON THE DEVELOPER'S MARKET 2018/2017

total offer	↘
the number of newly introduced flats to the market	↗

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

Prices on the Cracow market have reached a very high level. We do not assume that prices will fall in the coming months, but the growth potential will decrease.

WROCLAW

Last year, the primary market saw an upward trend in prices in all districts of Wrocław. On average, the prices of flats in the whole of the city increased by 16% compared to 2017, and the median price of flats exceeded PLN 7,000 per square metre. The upward trend in prices was very high, in 4 districts it reached over a doz-

MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS

ANNUAL PRICE CHANGE TREND

Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
FABRYCZNA	6 160	14%	5 600	5%
KRZYKI	6 580	16%	6 030	10%
PSIE POLE	6 250	5%	5 430	8%
STARE MIASTO	8 380	22%	6 640	12%
ŚRÓDMIEŚCIE	7 950	24%	5 930	14%

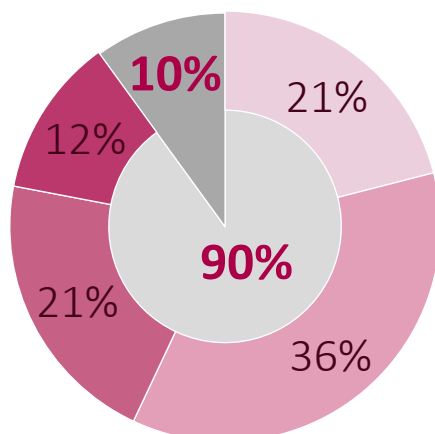
AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION

2017-2018* [%]

PRIMARY MARKET

*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



en percent, and in two of them it exceeded the level of 20% (in Śródmieście and Stare Miasto 24% and 22% respectively). The median price of flats in the Stare Miasto (the Old Town) exceeded PLN 8,000 per square metre and in Śródmieście it exceeded PLN 7,000 per sq. m. The remaining districts (Krzyki, Psie Pole and Fabryczna) recorded median prices of sq. m. below PLN 6,600 (PLN 6,580, PLN 6,250 and PLN 6,160 respectively).

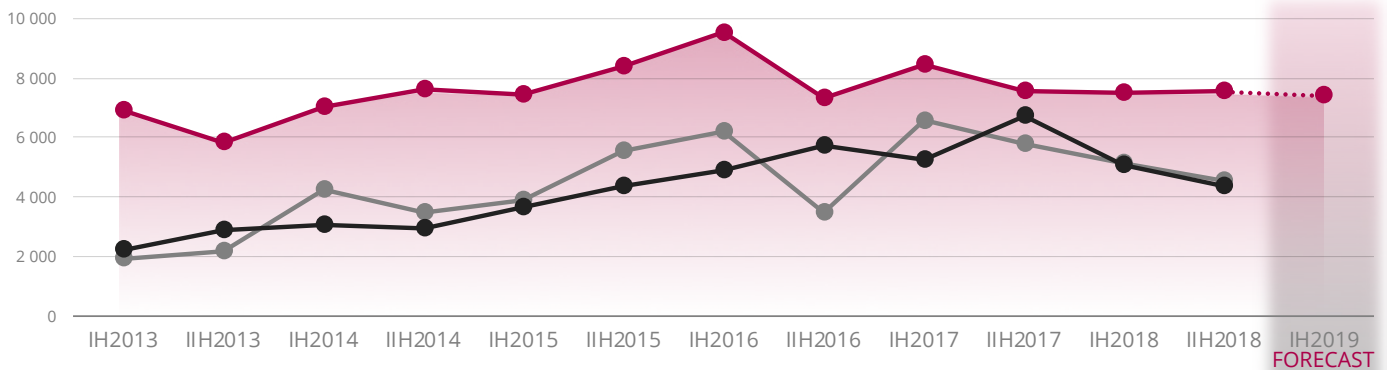
Prices of flats on the secondary market grew slightly slower than on the primary market. An upward trend of at least 10% was recorded in three districts of Wrocław (Śródmieście, Stare Miasto and Krzyki). The highest growth, similarly as for the primary market, took place in Śródmieście district (a price increase of 14% compared to 2017), although the median price in this district did not exceed PLN 6,000 per square metre (it amounted to PLN 5,930 sq. m.). In the districts of Krzyki and Stare Miasto, the median prices per square metre were PLN 6,030 and PLN 6,640, respectively. So far, the median prices in these locations have not exceeded PLN 6,000 per sq. m.

New housing investments are being developed practically all over the city. Most of the new projects are currently being developed in Krzyki district. They are concentrated mostly in Jagodno, Wojszyce and Krzyki districts. These districts have been enjoying quite a lot of interest for many years now. The developed social and road infrastructure, as well as the new tram line being built (in Jagodno district) have led to both developers and buyers noticing the high potential of these districts. Much is also being built in Fabryczna district, where investments are located mainly within the boundaries of Stabłowice and Maślice precincts. Due to the low supply of investment land in districts such as Stare Miasto and Śródmieście, developers are increasingly forced to purchase developed plots of land where the development is to be demolished or supervised by a conservator.

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET AND THE SUPPLY FORECAST – PRIMARY MARKET

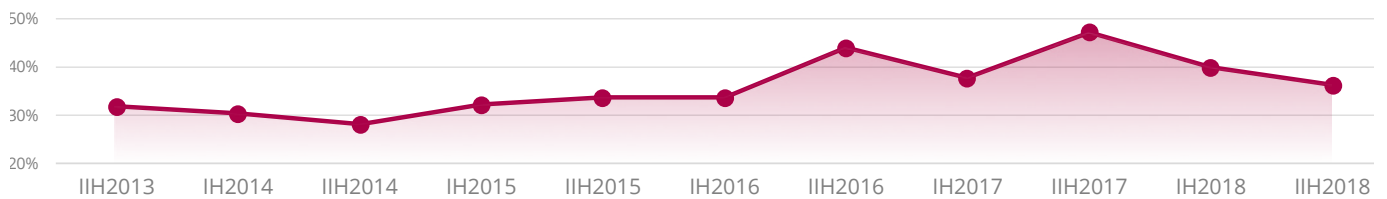
the number of offers at the end of the period
 the number of newly introduced flats to the market in the period
 the number of sold flats in the period

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

% sold offer in this period of time
 Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



On the Wrocław housing market, the best sellers were new flats with an area of 40-50 sq. m. in central locations of the city, such as the Old Town, Śródmieście and Krzyki. Apart from primary market flats, flats requiring renovation in prefabricated blocks of flats were very popular, less frequently in tenement houses.

The coming months in Wrocław will probably see a gradual decrease in the supply of new flats. In 2018, a clear decrease in the number of flats for which building permits were issued occurred (almost 40% less than in 2017). Our analyses indicate that the largest number of new flats will still be built on the outskirts of Krzyki district and in Fabryczna district, and in the longer term also in Psie Pole district.

In 2019, we do not expect any decline in flat prices in Wrocław. In the perspective of the coming months, there may still be some price increases by a few percent. The largest increases are possible in Stare Miasto district due to the low supply and considerable attractiveness of the location for investors.

CHANGES ON THE DEVELOPER'S MARKET 2018/2017



Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

POZNAN

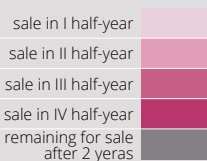
In 2018, the good situation on the Poznan residential market was maintained on both the primary and secondary markets. The price increases of developer flats in the whole of Poznan reached an average of 16%. The median price of a flat exceeded PLN 7,000 in the city. The highest growth (21%) was recorded in Stare

Miasto district. The median price in the most expensive district of Poznan was PLN 7,150 per sq. m. The median price of new flats in Wilda district also increased considerably – by 18% compared to 2017. It practically equalled the median price in Stare Miasto and amounted to PLN 7,130 per sq. m. Such considerable price increases were related to the sale of more expensive, intimate residential investments in these locations. An example is the investment in ul. Niedziałkowskiego in Wilda district, where prices often reach as much as PLN 9,000 per sq. m. In the districts of Nowe Miasto and Grunwald, the median prices per square metre were PLN 6,890 and PLN 6,500 in 2018, respectively. The lowest increase (of 5%) was observed in Jeźyce, where the median price was PLN 6,450 per sq. m. On the secondary market, flat prices grew less dynamically. The average increase was 7% compared to 2017, and the median price was PLN 5,750 per sq. m. The median prices in individual districts reached quite equal levels in 2018. The median price in Stare Miasto district increased by 9% compared to 2017 and reached PLN 5,850 per sq. m. It was the highest median value recorded for 2018 out of all Poznan districts. A median price per square metre above PLN 5,500 was also achieved in both Jeźyce and Nowe Miasto (PLN 5,790 and PLN 5,710, respectively – 8% and 6% more than in 2017).

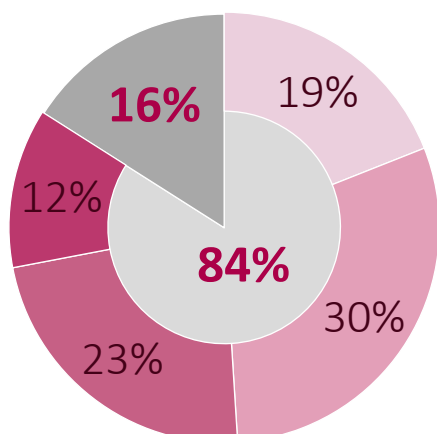
MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
GRUNWALD	6 500	10%	5 470	6%
JEŻYCE	6 450	5%	5 790	8%
NOWE MIASTO	6 890	14%	5 710	6%
STARE MIASTO	7 150	21%	5 850	9%
WILDA	7 130	18%	5 480	5%

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

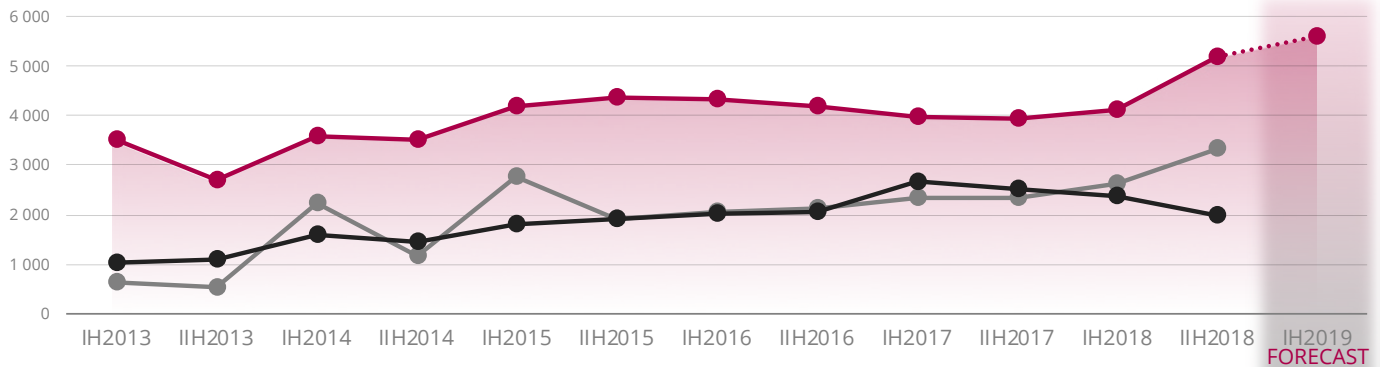


Most investments are currently being built within the districts of Nowe Miasto, Grunwald and Stare Miasto. The area of Łacina (in the vicinity of the Poznan Shopping Centre), where in previous years the city sold a few investment plots to developers, is developing intensively. In Stare Miasto district, part of Naramowice is developing intensively. In ul. Karpia and ul. Sielawy alone, 6 large developer investments are being carried out.

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET AND THE SUPPLY FORECAST – PRIMARY MARKET

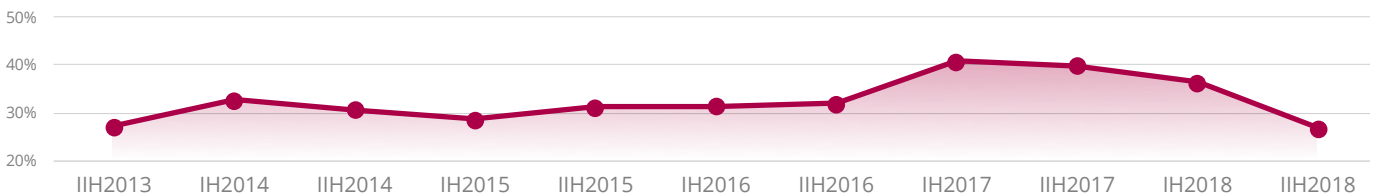
the number of offers at the end of the period
 the number of newly introduced flats to the market in the period
 the number of sold flats in the period

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

% sold offer in this period of time
 Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



CHANGES ON THE DEVELOPER'S MARKET 2018/2017

total offer	
the number of newly introduced flats to the market	

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

Few investments, compared to other districts, are being built in Wilda district. It is a small district with intensive downtown development. Due to the limited availability of investment areas, small projects are being implemented here.

Buyers of flats in Poznan may expect further price increases in 2019. In the next few years, the Poznan market will also see the development of new investments by developers that do not come from Poznan. This is quite a new situation on the Poznan market, as the largest developer investments have so far been carried out by local investors.

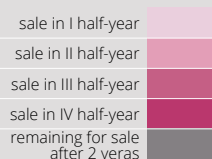
TRI-CITY

The Tri-City market also saw increases in residential prices in 2018, especially in developer projects. Prices of flats on the Tri-City primary market increased from 18% in Gdansk to 28% in Gdynia. In Gdynia, the median price per square metre rose above PLN 8,000 (PLN 8,300 to be precise), thus exceeding the median price per square metre in Gdansk, which amounted to PLN 7,900. In Gdynia, the highest increases were

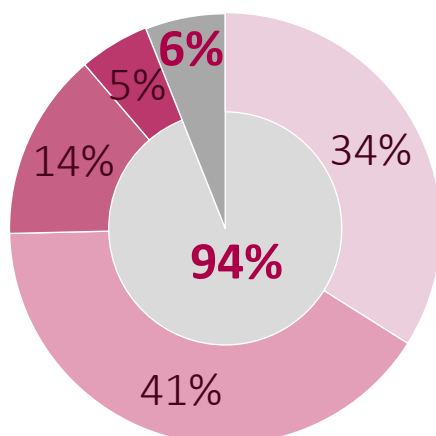
MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
GDANSK	7 900	18%	6 230	9%
GDYNIA	8 300	28%	5 900	13%
SOPOT	13 480	21%	8 050	9%

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
The data given is for Tri-City
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



recorded in Śródmieście, Kamienna Gora, Redłowo, Orłowo and in the area around St. Maximilian's Hill. In Gdansk, the highest increases in flat prices were recorded in Wrzeszcz, Przymorze and Śródmieście. Large increases also occurred in Piecki-Migowo district, which has been developing dynamically in recent years. Thanks to the construction of roads and the fast Pomeranian Metropolitan Railway with a stop in the district, its location is becoming more and more popular. Additionally, developers operating in this region are implementing investments of a higher standard, which may also contribute to a further increase in the popularity of this district among buyers.

Sopot, where the median price in 2018 amounted to over PLN 13,000 per square metre, remains the most expensive part of Tri-City (an increase of 21% compared to 2017).

Prices were also rising on the secondary market. The largest increases were recorded in Gdynia, an increase of 13% compared to the previous year, where the median price per square metre was PLN 5,900. Increases of 9% were recorded in Gdansk and Sopot. In Gdansk, the median price of residential units was PLN 6,230 and in PLN 8,050 in Sopot.

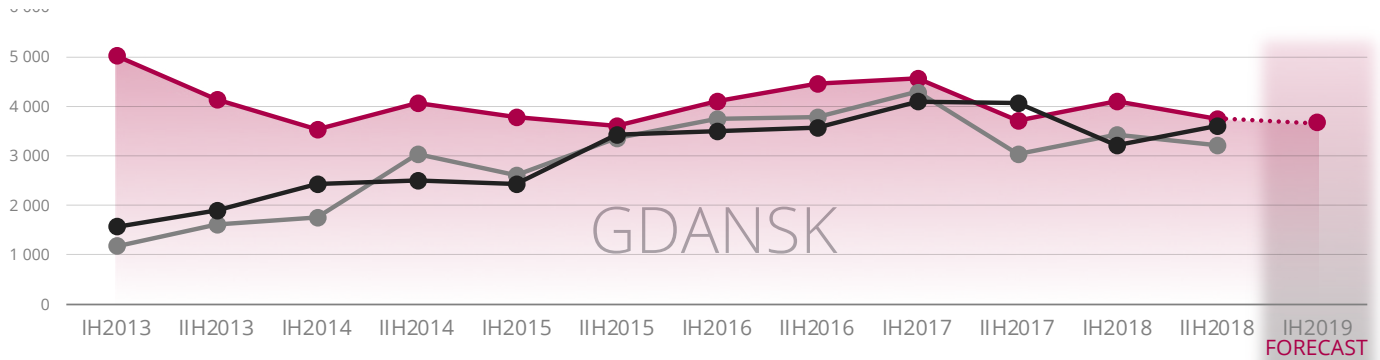
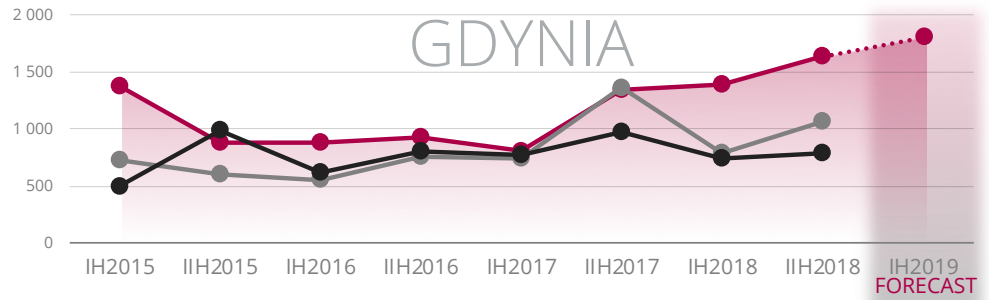
The largest number of new projects in Gdansk is currently being implemented in the southern part of the city, in Chełm, Jasień and Ujeścisko - Łostowice districts. The lowest supply of new projects is in the western part of the city located behind the Tri-City ring road, i.e. in the districts of Kokoszki, Matarnia and Osowa, as well as in the districts located in the east of Gdansk, close to the sea.

In Gdynia, the greatest developer activity can be seen in Chwarzno-Wiczlino district. Despite the fact that it is a peripheral district, the market is developing here thanks to very good communications. In Gdynia, more and more investments are also appearing in Śródmieście. In this district, revitalisation of the port and railway areas is planned (the so-called Gdynia Międzytorze).

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

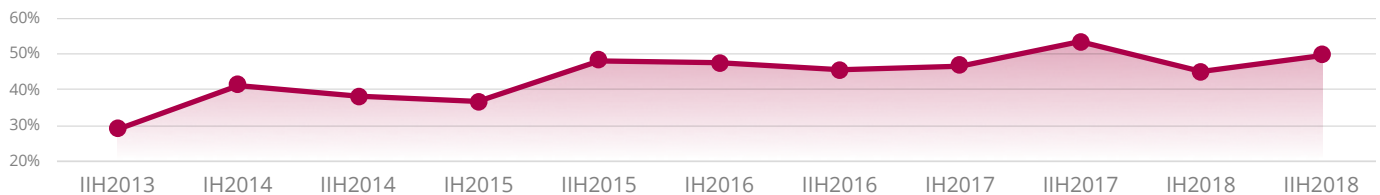
the number of offers at the end of the period
 the number of newly introduced flats to the market in the period
 the number of sold flats in the period

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

% sold offer in this period of time
 The data given is for Gdansk
 Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



The developer market in Sopot is much less developed, with single investments being carried out here. In Tri-City, there is a noticeable „fashion” for investing in rental. In coastal areas, the greatest demand is for small, two-room flats in new apartment buildings. These flats are usually used for short-term rental and are mainly purchased by investors from outside Tri-City. However, we note that the profitability of such investments is falling every year, mainly due to the high level of transaction prices and the growing competition from condo hotels.

We forecast that prices on the Tri-City market will stabilise within a year, and in the longer term, some locations may experience a slight price correction. Such a situation may occur mainly in coastal and inner-city areas, where current prices have reached exceptionally high levels. The most prospective locations in terms of new flats will

CHANGES ON THE DEVELOPER'S MARKET 2018/2017	GDANSK	GDYNIA
total offer	↘	↗↗↗
the number of newly introduced flats to the market	↘↘	↘↘

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

be the peripheral areas of Gdansk and Gdynia. A strategic investment in Gdansk is the extension of ul. Bulońska and the construction of a tram line in Jasień. Developers are taking advantage of this fact and building new housing estates in these regions. In Gdynia, Chwarzno-Wiczlino district awaits intensive development.

LODZ

In 2018, Lodz was the only city analysed in the report that recorded an increase in the number of residential units sold on the developer market compared to 2017. High demand contributed to large price increases on the primary market. According to our analyses, prices in the whole city increased by 9% compared to the pre-

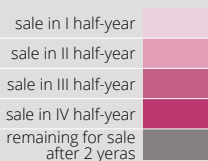
vious year. One of the higher price increases on the primary market was recorded in the quarter of Bałuty (an increase of 11% compared to 2017). The highest prices on the primary market were recorded in Śródmieście, where the median price of a residential unit was PLN 6,450. The locations with the lowest median in 2018 were Górna and Polesie. In Górna, the median price per square metre reached PLN 5,550 in 2018 (an increase of 9% compared to 2017), while in Polesie, the median price per square metre was PLN 5,370 (an increase of 5%). A slight increase (of 5%) took place in Widzew, where the median price per square metre was PLN 5,710.

MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

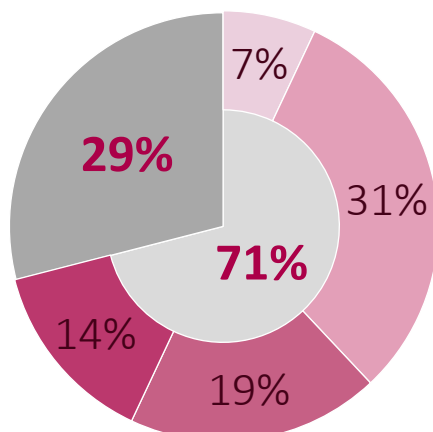
	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
BAŁUTY	5 640	11%	4 080	17%
GÓRNA	5 550	9%	4 050	16%
POLESIE	5 370	5%	4 290	12%
ŚRÓDMIEŚCIE	6 450	8%	3 820	18%
WIDZEW	5 710	5%	4 400	11%

On the secondary market, we recorded price increases of 18% compared to 2017. The highest price increases were recorded in Śródmieście and Bałuty (18% and 17% respectively when compared to 2017). Smaller increases in median prices per square metre were recorded in the quarter of Polesie and Widzew (12% and 11% respectively). In 2018, four of the Lodz quarter (Bałuty, Górna, Polesie and Widzew) recorded median prices per square metre above PLN 4,000. However, the median price per square metre in Śródmieście did not exceed this level, despite the already mentioned 18% increase in comparison to 2017. In 2018, the median price per square metre in Śródmieście reached PLN 3,820.

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

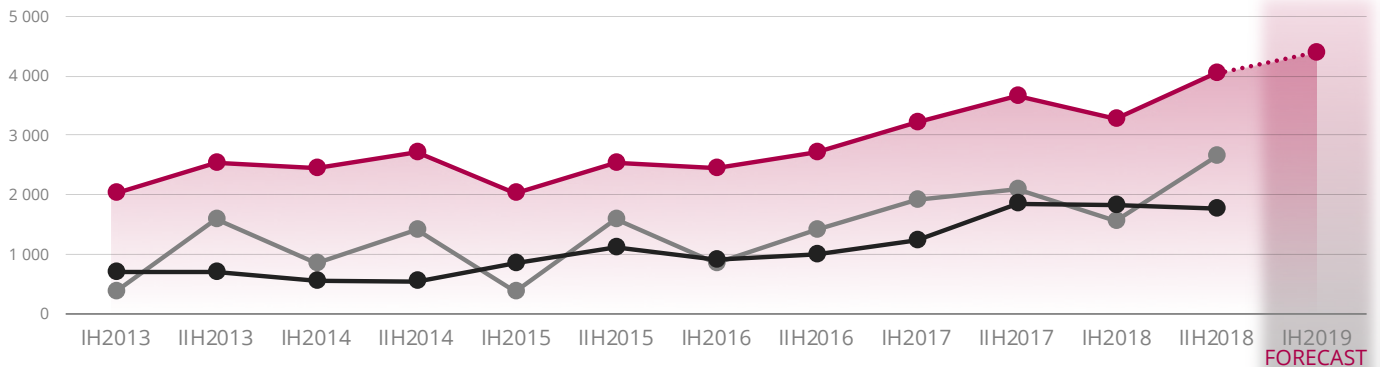


The largest number of new residential developments in Lodz, which are currently on sale, are located in the districts of Polesie and Bałuty. The smallest number of new housing developments is being built in Śródmieście district. Developers who want to build in Śródmieście still face a challenge to fit new investments into the existing urban layout, as investment land is mainly the land between existing tenement houses. The smallest number of projects outside Śródmieście are being carried out in Górna district.

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET AND THE SUPPLY FORECAST – PRIMARY MARKET

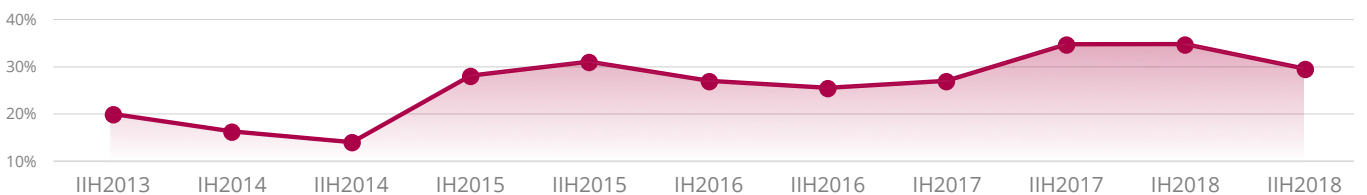
the number of offers at the end of the period
 the number of newly introduced flats to the market in the period
 the number of sold flats in the period

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

% sold offer in this period of time
 Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



Buyers are very interested in studios and 2-room flats of up to 40 square metres from the primary market. Demand for these types of flats is especially evident in Polesie district, near the dormitories of the Technical University of Lodz and on the border of the districts of Śródmieście and Widzew, near the faculties of the University of Lodz. There is also growing interest in large flats (over 70 square metres) in tenement houses in Śródmieście. In many cases, buyers buy them for rent.

In terms of the development of residential housing in the coming years, attention should be paid to Śródmieście, where the New Centre of Lodz is being built, with its transport infrastructure and modern office buildings. This is the area where we expect new investments to be carried out, as well as revitalisation of old buildings.

CHANGES ON THE DEVELOPER'S MARKET 2018/2017

total offer	↑
the number of newly introduced flats to the market	↑

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

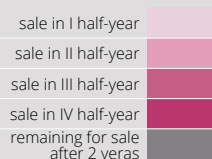
KATOWICE AND THE SILESIA AGGLOMERATION

Prices of flats on the primary market in 2019 increased both in Katowice and other cities of the Silesian Agglomeration. The median residential prices in Katowice increased by 18% compared to 2017 and reached a level of PLN 5,770 for the first time since 2013. In the cities of the Agglomeration outside Katowice,

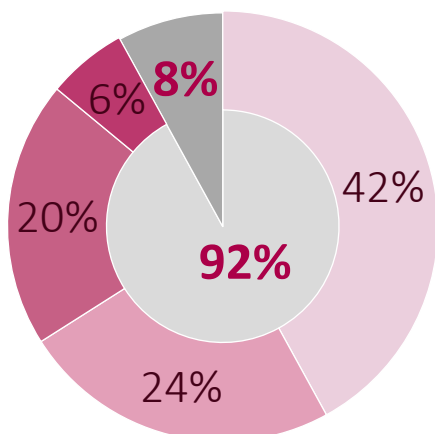
MEDIAN PRICES ON PRIMARY AND SECONDARY MARKETS
ANNUAL PRICE CHANGE TREND
Source: Emmerson Evaluation based on Evaluator database

	primary market		secondary market	
	median price 1sqm	annual trend	median price 1sqm	annual trend
KATOWICE	5 770	18%	3 990	8%
SILESIA AGGLOMERATION (WITHOUT KATOWICE)	4 750	14%	3 110	9%

AVERAGE PACE OF FLATS SALE IN THE PERIOD OF INVESTMENT IMPLEMENTATION 2017-2018* [%]
PRIMARY MARKET



*% of flats sold in the particular six month periods since the introduction of the investment to the market (average)
The data given is for Katowice
Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



an increase of 14% was recorded in comparison to 2017. Apart from Katowice, the most expensive flats on the developer market were in Gliwice and Tychy (the median prices were PLN 5,500 per square metre and PLN 5,400 per square metre respectively). Cheaper flats were offered by developers in Sosnowiec and Chorzów (the median prices were PLN 4,700 per square metre and PLN 4,500 per square metre respectively). The lowest price of approx. PLN 4,000 per square metre was paid for a flat in Ruda Śląska.

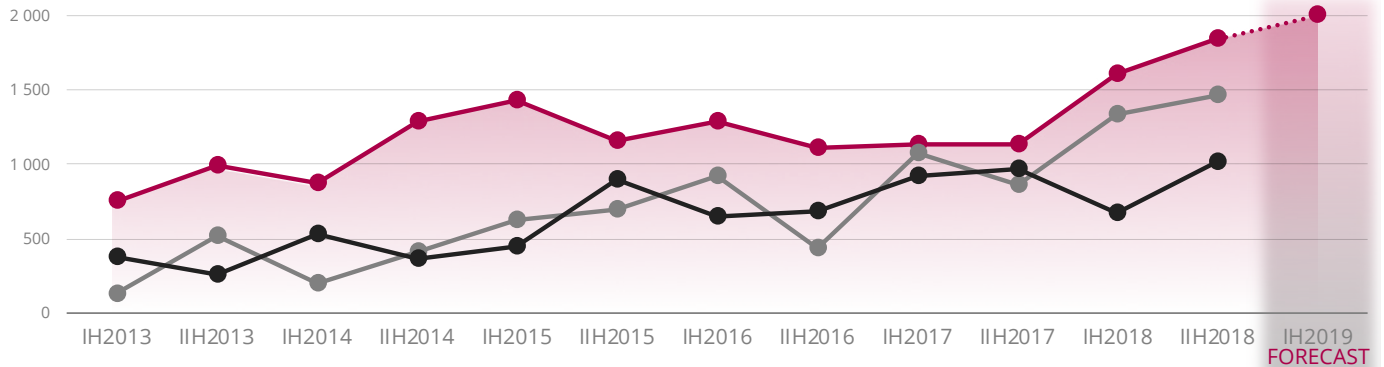
For second hand flats in the cities of the Agglomeration, the recorded increase in prices was 9%, and 8% in Katowice alone. In the cities of the Silesian Agglomeration there are fewer developer projects under construction than in Katowice, which naturally boosted sales on the secondary market. In 2018, the median price per square metre in Katowice approached PLN 4,000 (PLN 3,990). In the cities of the Silesian Agglomeration, the highest prices of flats on the secondary market were recorded in Tychy, where the median price per square metre was PLN 3,900 in 2018. The median price per square metre of PLN 3,000 was recorded in Dąbrowa Górnicza. Cheaper residential units than in Dąbrowa Górnicza were offered in Sosnowiec, where the median price in 2018 was PLN 2,600 per square metre and PLN 2,400 per square metre in Ruda Śląska .

The southern districts of Katowice, especially its western-northern part (the Kostuchna and Piotrowice-Ochojec districts), are currently the most popular among developers. In this region, the largest number of development projects is being carried out. At present, there are no development projects in the eastern part of the city, i.e. in the districts of Zawodzie, Dąbrówka Mała, Szopienice-Burawiec, Janów-Nikiszowiec and Giszowiec. In the cities of the Silesian Agglomeration outside Katowice, a large number of investments is being carried out, especially in Gliwice.

SUPPLY AND DEMAND ON THE RESIDENTIAL INVESTMENT MARKET AND THE SUPPLY FORECAST – PRIMARY MARKET

—●— the number of offers at the end of the period
—●— the number of newly introduced flats to the market in the period
—●— the number of sold flats in the period

The data given is for Katowice
 Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

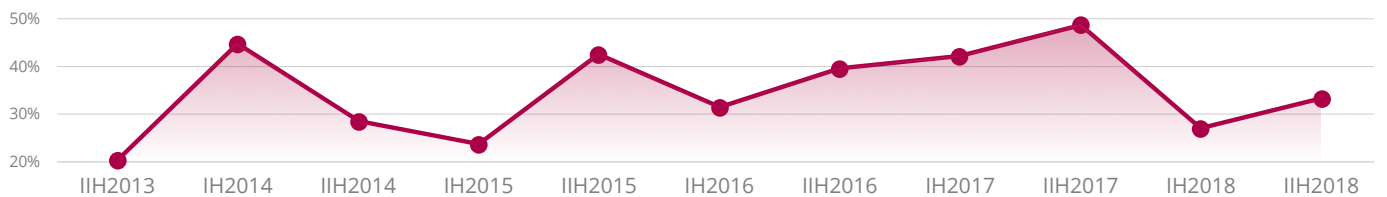


RELATION OF THE NUMBER OF FLATS SOLD TO THE TOTAL NUMBER OF FLATS ON THE PRIMARY MARKET

% sold offer in this period of time

The data given is for Katowice

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.



Prices of new flats here are comparable to those in Katowice, but due to much lower land prices, developers may obtain higher margins from investments. New investments are also appearing in Chorzów, near the Silesian Park, where attractive green areas are located. Fewer projects are being implemented in Tychy or Sosnowiec for example.

In the capital of Silesia, there is high demand for small flats and studios in the city centre. They are usually purchased for investment purposes, mainly for short-term rental. Such transactions often take place in the vicinity of the International Congress Centre and NOSPR.

In the nearest future, we expect the biggest development of new multi-family housing in Katowice and Gliwice. In these cities, building permits were issued for the largest number of residential units in 2018 (over 3,370 and over 1,030, respectively).

CHANGES ON THE DEVELOPER'S MARKET 2018/2017

total offer	
the number of newly introduced flats to the market	

Source: Emmerson Evaluation based on data provided by Emmerson Realty S.A.

REGIONAL CITIES

SZCZECIN

In Szczecin, the primary market saw a 19% increase in flat prices compared to the previous year. The median selling price per square metre of a flat reached a historically high level of PLN 5,600. On the secondary market, the increase was 9% compared to the previous year. The median price per square metre was PLN 4,480.

The largest number of development projects is currently being developed in Śródmieście district, where developers are offering flats for as much as PLN 7,000 per square metre. Such high prices can be seen in the projects implemented on Nowe Miasto housing estate, near ul. Potulicka, al. Piastów and ul. Lewandowskiego. On the Szczecin market, there are investments in which developers offer flats in higher standard buildings at a price above PLN 10,000 per square metre. Price increases of flats in Szczecin were amongst the highest in comparison to smaller regional cities.

LUBLIN

In Lublin, flat prices increased only slightly in 2018. On both the primary and secondary markets, the median price per square metre increased by 4% compared to 2017, reaching PLN 5,420 and PLN 4,920, respectively. Slight price increases in comparison to other large cities may be caused by the high availability of new flats for sale. Many investments are currently under construction in Lublin. They are located mainly on the outskirts of the city, i.e. Węglin-Południe, Wrotków, and Sławin. New investments are also under way near the city centre, e.g. in ul. Nowy Świat, ul. Krętej and at the junction of ul. Wrońska and ul. Męczenników Polskich. Lublin is among the top regional cities in terms of the number of finished flats (in 2017 it was 2,716, and in 2018 – 2,889). Most investments are expected mainly in the central part of Lublin and in the peripheral areas, i.e. Węglin-Południe and the southern areas of Wrotków district.

RZESZOW

In Rzeszow, the median price per square metre increased by 12% compared to 2017 on the primary market and reached PLN 5,050. The growth on the secondary market was also high and amounted to 11% compared to 2017. The median price per square metre of second-hand flats was PLN 4,880.

The largest number of residential projects in Rzeszow is being developed on the outskirts of the city. The districts where developers operate dynamically include Przybyszówka, Staroniwa, Drabinianka, Wilkowyja and Pobitno. Some of the more expensive flats are offered by developers in the area of the Dębina housing estate in Drabinianka district, where prices start from PLN 5,200 per square metre. A similar price can be found in investments in Staroniwa district, although there are also projects where developers offer flats for as much as PLN 6,000 per square metre. In the future, we expect further development of new investments. Compared to smaller regional markets, Rzeszow achieved one of the highest results in terms of the number of flats for which building permits were issued per 100,000 inhabitants in 2018.

BIALYSTOK

Dynamic increases in flat prices also took place on the Białystok market in 2018. Prices of flats on the primary market increased by 13%. The median price of residential units reached PLN 5,190, while on the secondary market the increase was 9%, with the median price of residential units PLN 4,390.

The largest number of multi-family buildings is currently being constructed in the vicinity of the Wysoki Stoczek, Antoniuk and Przydworcowe housing estates, which are located close to the city centre. In these locations, investment prices range from PLN 5,500 to PLN 6,000 per sq. m. Lower prices of PLN 4,700 per sq. m. are offered by developers in investments located on the outskirts of the city – Wygoda, Skorupy and Dojlidy housing estates.

We anticipate further development of housing investments in Białystok. It is the second city among smaller regional markets in the ranking of the number of flats for which building permits were issued in 2018 per 100,000 inhabitants. We expect new investments to be developed mainly in the peripheral areas of the city – Dojlidy, Skorupy, and Dziesięciny housing estates and close to the city centre – Sienkiewicza and Bema housing estates.

KIELCE

In Kielce, the increase in housing prices was higher for the secondary market in 2018. It amounted to 8%, while we recorded an increase of around 4% on the primary market. The significant difference in prices between the primary and secondary markets was the driving force behind the increase in second-hand housing prices. The median price of a flat on the primary market in Kielce amounted to PLN 4,930 and on the secondary market to PLN 3,900.

At present, investments located in the city centre (e.g. in ul. Śniadeckich) are being developed on the market in Kielce. A project is being developed where flats are offered for a price starting from PLN 5,500 per sq. m. Cheaper investments are being carried out in peripheral areas of the city – e.g. in the vicinity of Szydłówek, Piaski and Czarnów housing estates, where flats can be purchased starting from PLN 4,000 per square metre.

OPOLE, TORUN, BYDGOSZCZ, OLSZTYN, GORZOW WIELKOPOLSKI, ZIELONA GORA

In Opole, we recorded a 13% increase in prices on the primary market in 2018. The median flat price did not exceed PLN 5,000 (it reached PLN 4,860). On the secondary market, we recorded a 12% increase in prices compared to 2017, with the median price per square metre reaching PLN 4,590.

In Torun, we observed relatively small price increases of 7% on the primary market and 8% on the secondary market. Thus, in 2018, the median prices per square metre reached PLN 5,820 and PLN 4,370, respectively. A similar situation was observed on the Bydgoszcz market. In Bydgoszcz, prices increased by 11% on the primary market and 12% on the secondary market. In 2018, the median price per square metre in this city amounted to PLN 5,380 on the primary market and PLN 4,250 on the secondary market.

In the capital of Warmia and Mazury, prices on the primary market reached a similar level as in Bydgoszcz. The median price of a flat on the primary market in Olsztyn was PLN 5,330 in 2018, while on the secondary market it was PLN 4,500. Compared to 2017, these were 12% and 7% price increases, respectively.

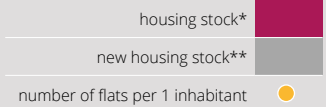
In the cities of Lubuskie voivodship, the largest increase (13%) was seen on the primary market in Gorzow Wielkopolski. The median price per square metre was PLN 3,910. A smaller increase of 8% was recorded on the secondary market, where the median price per square metre was PLN 3,170. The median prices per square metre of flat in Zielona Gora, both on the primary and secondary market, increased by 8%, reaching PLN 4,150 for new developments and PLN 3,520 for secondary market flats.

HOUSING STOCK BUILDING PERMITS

Housing stock in the chosen cities as at 31 December 2018

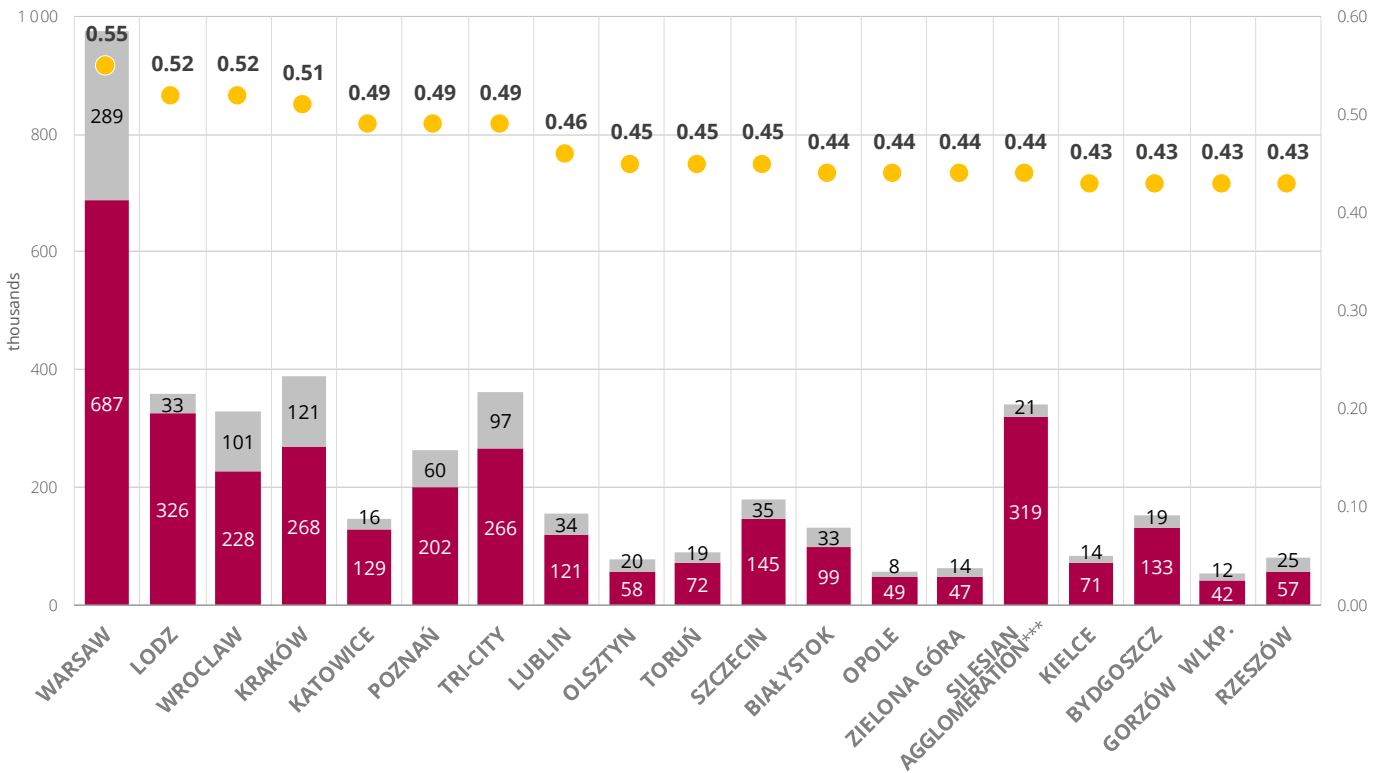
Housing stock according to GUS information – data on housing stock is based on the balance sheet as of 31 December (the information includes the number of flats in residential and non-residential buildings). In 2002 only occupied flats, since 2003 all the housing stock.

NUMBER OF FLATS PER 1 INHABITANT



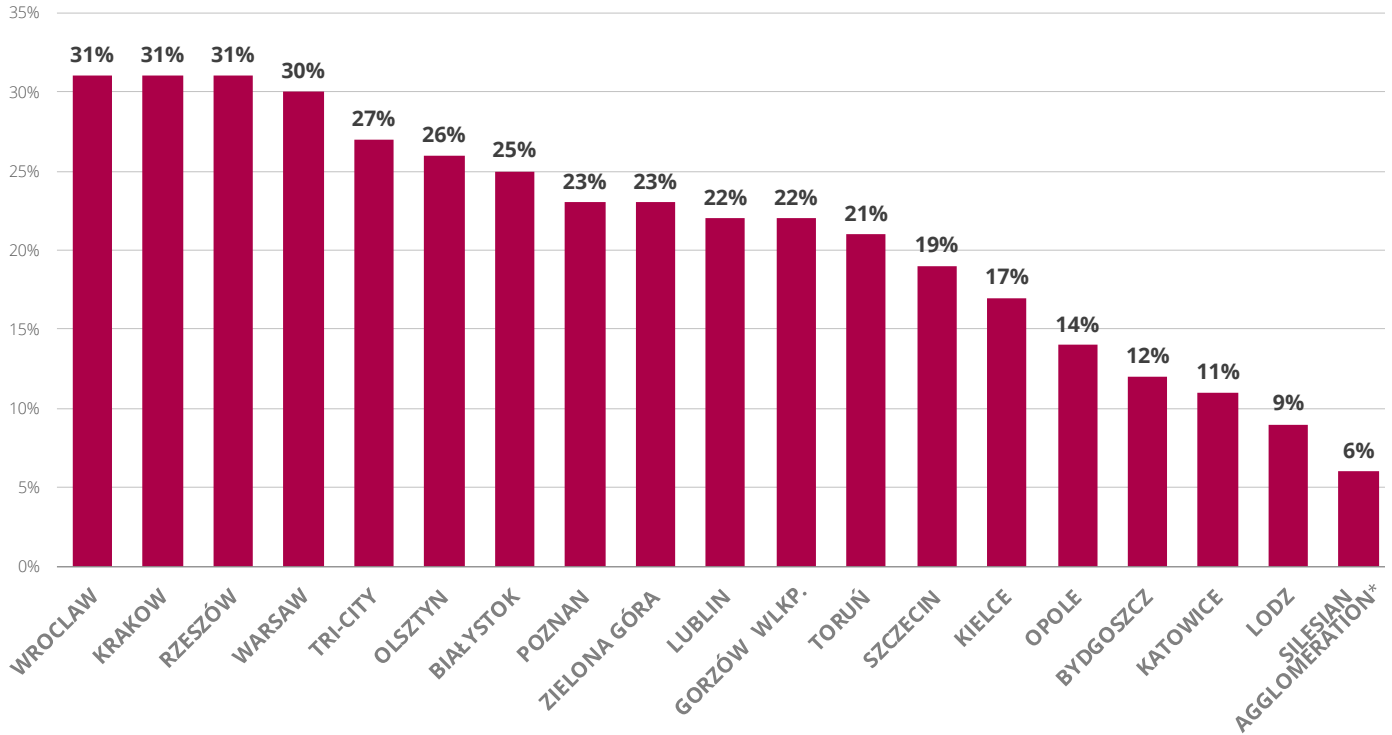
*Flats completed until 1999 (including)
**Flats completed in the years 2000-2018
***Silesian agglomeration: Gliwice, Chorzów, Dąbrowa Górnicza, Sosnowiec, Mysłowice, Jaworzno

Source: Emmerson Evaluation based on CSO data



SHARE OF NEW HOUSING STOCK IN THE TOTAL VOLUME OF HOUSING STOCK

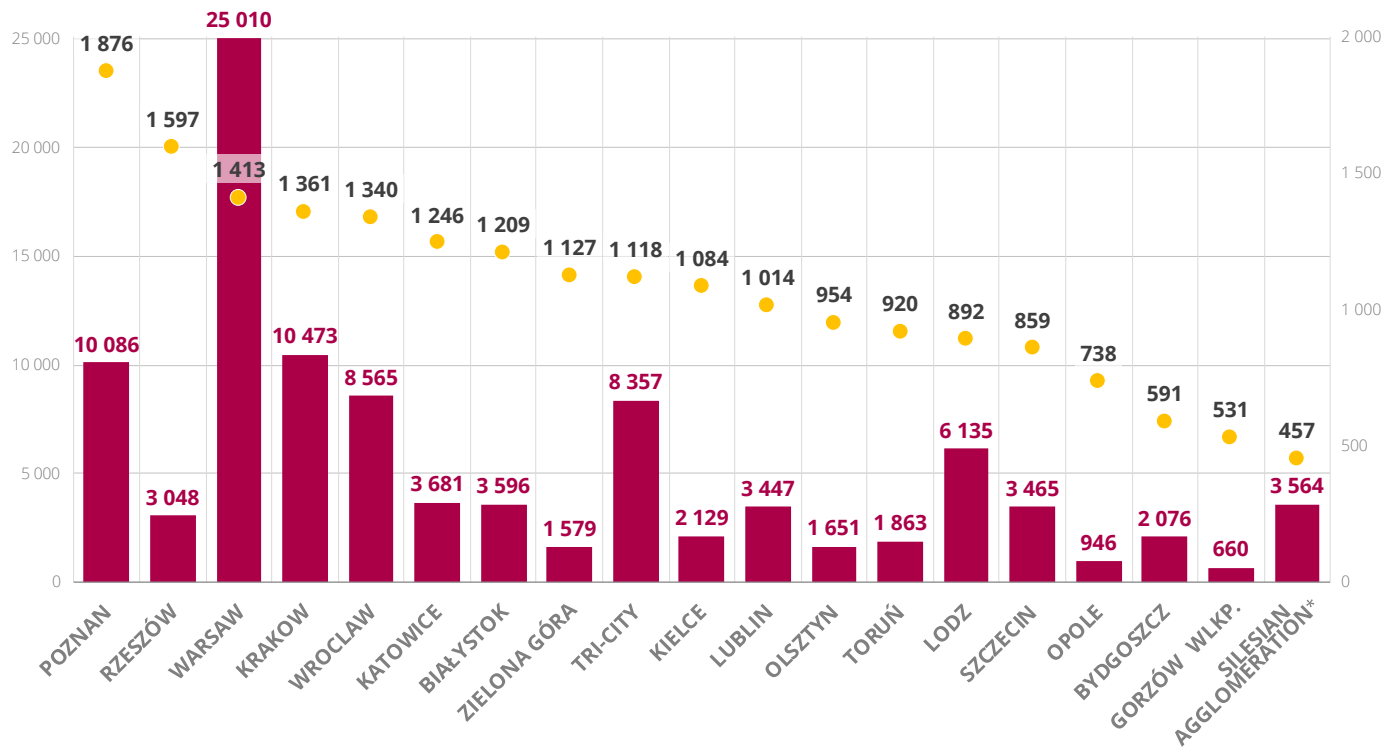
*Silesian agglomeration: Gliwice, Chorzów, Dąbrowa Górnicza, Sosnowiec, Mysłowice, Jaworzno
Source: Emmerson Evaluation based on CSO data



ANALYSIS OF THE BUILDING PERMITS PER 100,000 INHABITANTS

■ the number of flats for which building permits were issued in 2018 (in total)
● the number of flats for which building permits were issued in 2018 per 100,000 inhabitants

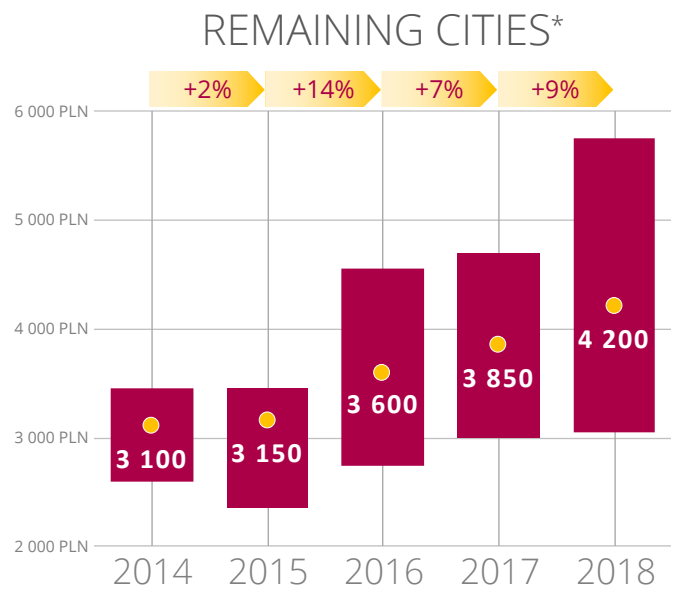
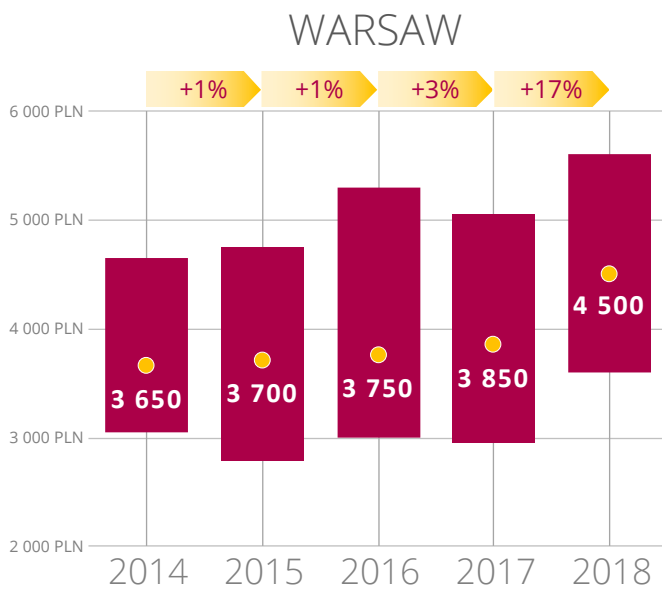
*Silesian agglomeration: Gliwice, Chorzów, Dąbrowa Górnicza, Sosnowiec, Mysłowice, Jaworzno
Source: Emmerson Evaluation based on CSO data



CONSTRUCTION COSTS OF DEVELOPMENT INVESTMENTS

CONSTRUCTION COSTS OF DEVELOPMENT INVESTMENTS
 PLN/UFA SQM

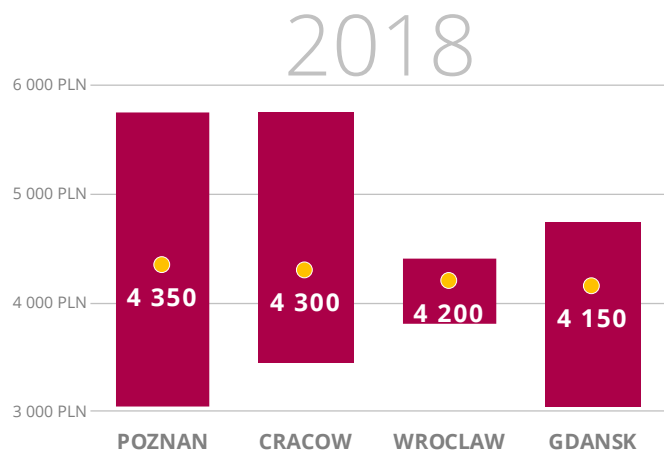
range (min.-max.) of hard construction costs
 average hard construction cost (net)
 changes in the average hard construction cost



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

CONSTRUCTION COSTS OF DEVELOPMENT INVESTMENTS
 SELECTED CITIES
 PLN/UFA SQM

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



THE MARKET OF FLATS TO LET

The flat rental market is concentrated mainly in the largest Polish agglomerations. To a large extent it is dominated by individual investors. In recent years, developers have also started to appear on the market, offering investments with flats for rent. However, their share in the market of flats for rent is still small.

In the analysed cities, the nature of rentals is similar. Long-term rental is dominant, and the demand side is represented mainly by students, foreigners, people starting their professional careers and employees delegated to work in a different location than their place of residence.

Rent

Monthly gross rental rates were used in the analysis. The rates given do not include fees for parking spaces, storage units or utility and media costs. The rental rates given include losses incurred on negotiations of 5% of the offered rent.

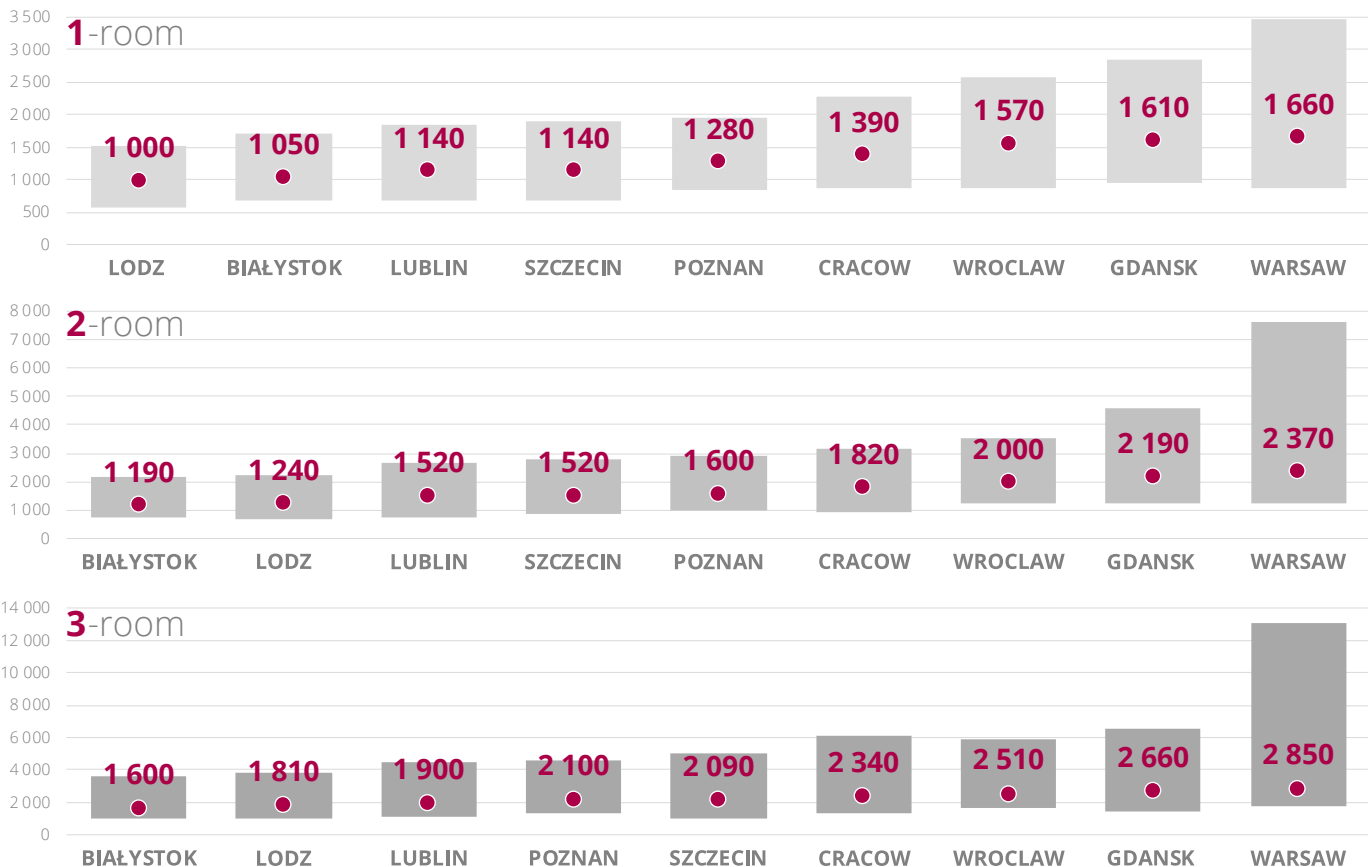
RANGE OF MONTHLY RENTAL RATES INCLUDING THE MEDIAN PER FLATS WITH A DIFFERENT NUMBER OF ROOMS [PLN/MONTH]

range of min-max monthly rental rates

median of the monthly rental rate

SELECTED CITIES

Source: Emmerston Evaluation based on szybko.pl data



The largest supply of flats for rent was seen in the central areas of the largest voivodship cities

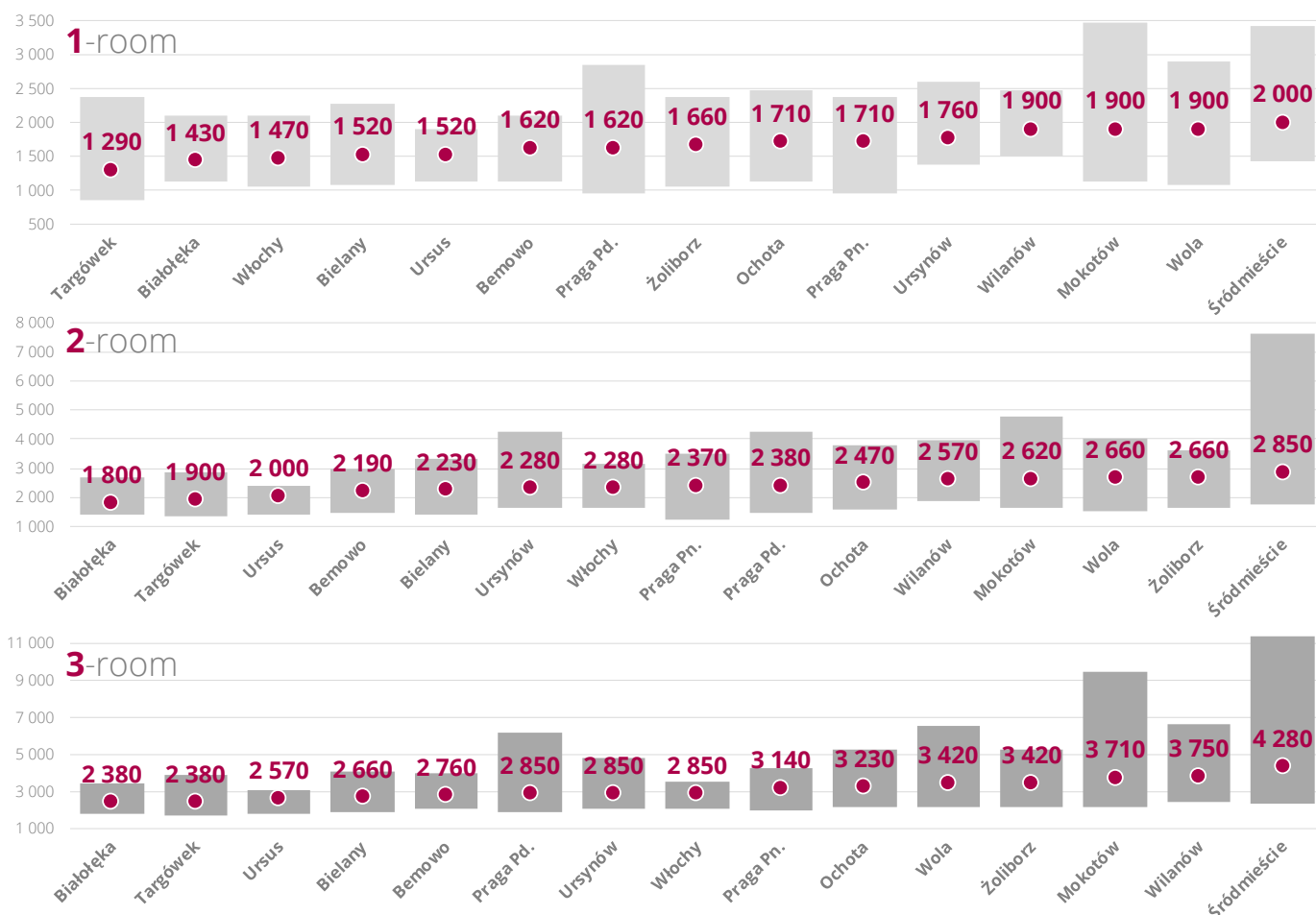
60% of the rental offer concerned the areas of Warsaw and Cracow. A similar situation occurred in Gdansk, where the largest supply was in Śródmieście and Przymorze. In Wrocław, most flats for rent are located in Krzyki district, where the largest number of residential investments has been recently built. As much as 40% of all rental offers come from this area. In Poznan, the residential market is less diversified than in other voivodship cities. In this city, the level of the offer is similar in each of the districts.

Among the analysed cities, the highest rental rates were in the capital city, where the median rent for a studio flat was PLN 1,660 per month in 2018. For a 2-room flat, we recorded a rent of PLN 2,370 per month, and a rent of PLN 2,850 per month for a 3-room flat. The highest number of flats for rent in 2018 was recorded in the districts of Śródmieście, Mokotów and Wola. In these areas, 2- and 3-room

flats constitute the largest share of the offer. In Śródmieście, the highest rental rates were traditionally recorded, where the median rent for a 2-room flat was PLN 2,850 per month and PLN 4,280 per month for a 3-room flat. In Mokotów, the second most popular district on the rental market, the median rent for a 2-room flat was PLN 2,620 per month, while it was PLN 3,710 per month for a 3-room flat. In Wola, the median rent for a 2-room flat was PLN 2,660 per month, while it was PLN 3,420 per month for a 3-room flat.

On the capital market, apart from individual investors, there are also developers offering investments for lease, such as Marvipol with Unique Flats investment and Matexi with a project at ul. Puławska 186. Apart from traditional standard flats on the rental market, we can also find luxury flats offered in Złota 44 and Platinum Residence, whose rental rates start from PLN 6,120 a month, and their upper limit oscillates around PLN 19,750 a month.

RANGE OF MONTHLY RENTAL RATES INCLUDING THE MEDIAN PER FLATS WITH A DIFFERENT NUMBER OF ROOMS [PLN/MONTH]
WARSAW – SELECTED DISTRICTS
 range of min-max monthly rental rates (grey bar)
 median of the monthly rental rate (red dot)
 Source: Emmerston Evaluation based on szybko.pl data



Slightly cheaper flats for rent than in Warsaw are offered on the Gdansk market, where the median rent for a studio flat is PLN 1,610 per month, whereas in 2018, the median for larger flats with 3 rooms was PLN 2,660 per month. The most popular districts among those looking for flats to rent are Przymorze, Wrzeszcz and Żabianka. This results from the fact that these districts are located close to universities and offer access to the fast urban railway. In these areas, the median rent is PLN 1,590 per month for studios and PLN 2,570 per month for 3-room flats. Over the past year, the Gdansk market has seen an average 15% increase in rental rates.

Among the cities with the highest rental rates, we can also find Wrocław, where the median rent for a studio flat is PLN 1,570 a month, for a 2-room flat about 30%

more (PLN 2,000 a month) and a 3-room flat 60% more (PLN 2,510 a month) than the median for a studio flat. The highest rent must undoubtedly be paid for a flat in Stare Miasto (the Old Town), where the median monthly rent rate for a 2-room flat is about PLN 2,190 a month. A similar situation occurs in Cracow, where tenants pay from PLN 1,430 per month for studio flats in the city centre. Both on the Cracow market and in the other largest cities, there are micro-flats with an area of approx. 20 sq. m. They are located mainly in the very centre of the city, which is particularly popular with tourists and students. Their supply is relatively low, and the cost of renting them exceeds PLN 1,600 per month. Apart from the very centre of Cracow, the price for renting a studio flat oscillates between PLN 1,140 and PLN 1,330 per month.

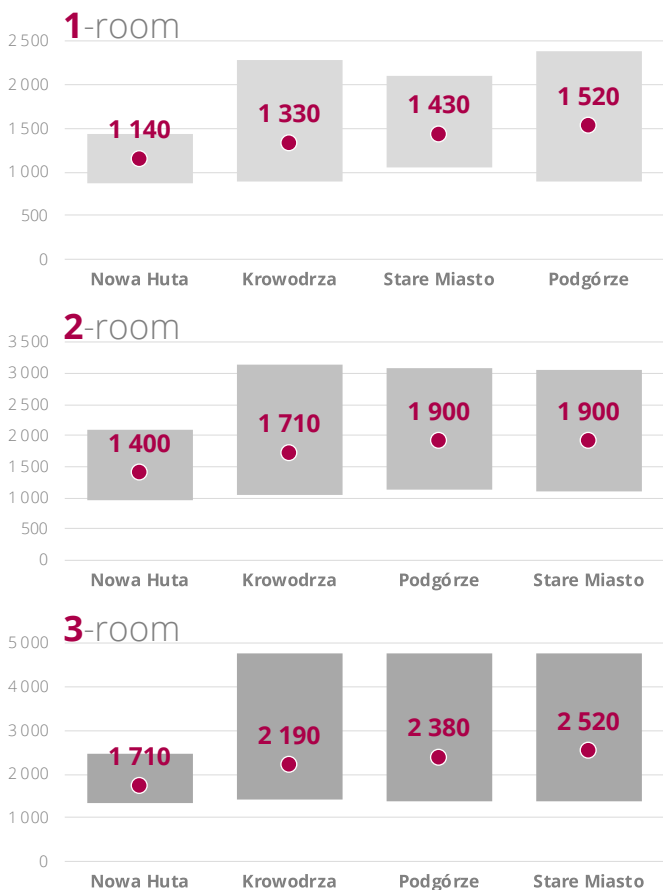
RANGE OF MONTHLY RENTAL RATES INCLUDING THE MEDIAN PER FLATS WITH A DIFFERENT NUMBER OF ROOMS [PLN/MONTH]

range of min-max monthly rental rates

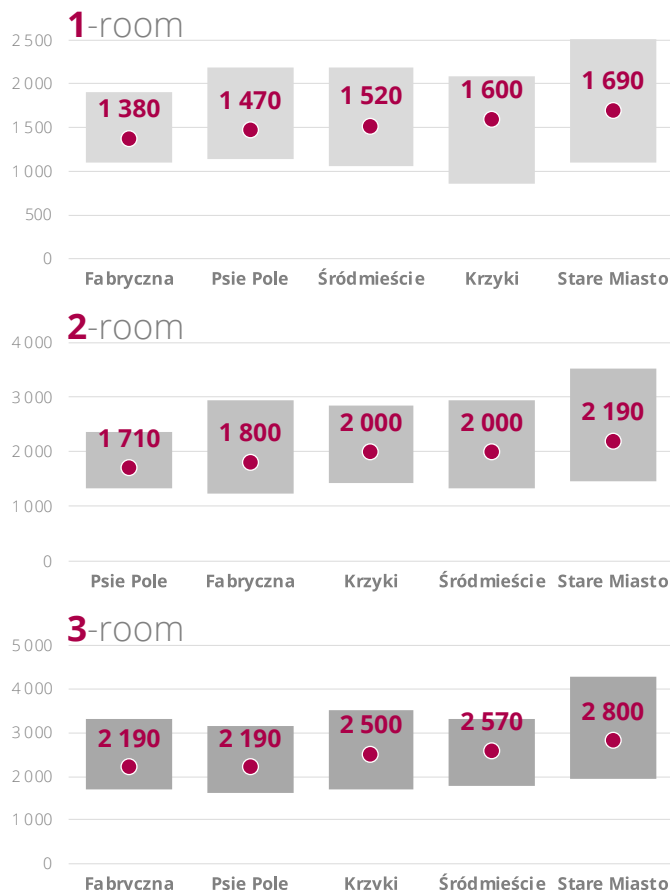
median of the monthly rental rate

Source: Emmerston Evaluation based on szybko.pl data

CRACOW



WROCLAW





The Poznan rental market does not differ considerably from the markets of the other analysed cities. In the capital city of Wielkopolska, the median rent for a studio flat is PLN 1,180 per month on the outskirts of Nowe Miasto to as much as PLN 1,450 per month in the very centre of Stare Miasto. The largest number of flats for rent in 2018 was recorded in Stare Miasto and Grunwald districts. They amounted to over 50% of offers on the market. Analysing the Poznan market, rental rates in these districts are also the highest. Despite its small area compared to the Poznan districts, Wilda also offers a large share of flats for rent (about 15%).

Rental rates in Szczecin have recently increased considerably, reaching a level close to the rental rates in Poznan. There are many reasons for this increase. However, the level of supply is the most impor-

tant reason, which is not adequate to the demand. On the Szczecin market, most of the flats on offer are 2-room flats (over 50%), with median rental rates of PLN 1,520 per month. On the other hand, studios, whose median rent was PLN 1,140 per month in 2018, constituted the smallest share on the rental market (below 20%).

Analysing the market in Lublin, Bialystok and Lodz, the level of rental rates in these cities is similar. It ranged from PLN 1,000 per month in Lodz to PLN 1,140 per month in Lublin. Rents for larger flats (3-room flats) are much higher. The biggest differences were seen in Lodz – about 80% (PLN 1,810 per month) when compared to the rental rates of studio flats. A big difference (approx. 65%) when it comes to the rent of a studio flat was also seen in Lublin. In Bialystok, 3-room flats are more than half as expensive as one-room flats.

RANGE OF MONTHLY RENTAL RATES INCLUDING THE MEDIAN PER FLATS WITH A DIFFERENT NUMBER OF ROOMS [PLN/MONTH]

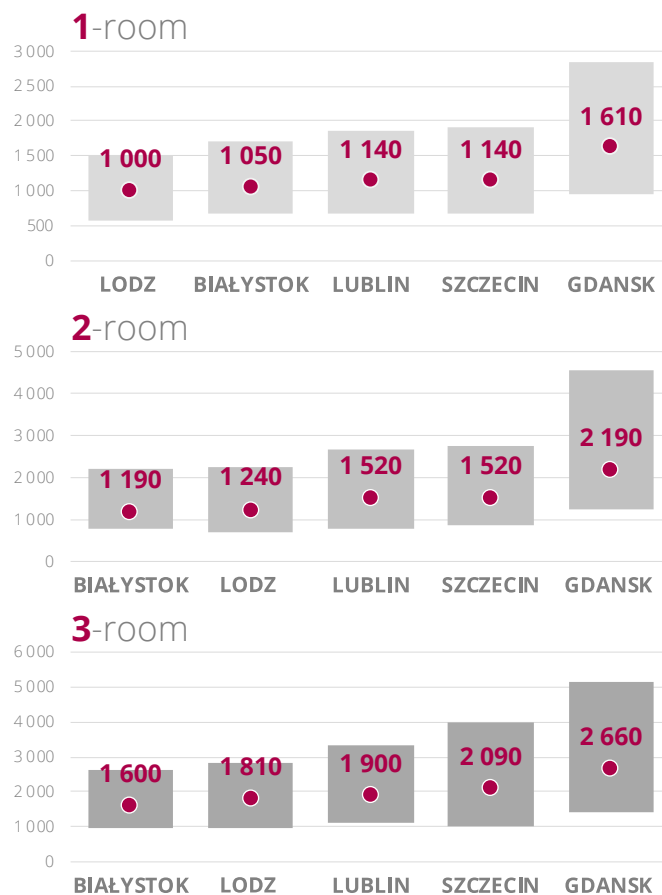
range of min-max monthly rental rates 
median of the monthly rental rate 

Source: Emmerston Evaluation based on szybko.pl data

POZNAN



REMAINING CITIES



Due to the rising purchase prices of flats, the profitability of investing in flats for rent is becoming doubtful. Increases in rental rates are not as visible as increases in flat prices, thus the return on investment from rental is decreasing year by year.

Last year, the average rates of return on rental were in the range of 3.0-5.9%. The highest profitability was guaranteed by the rental of flats in Gdansk and Wroclaw 5.9% and 5.6%, respectively for studio flats. Rental rates in the capital of Tri-City are different, if only because of the distance from the sea. Rental rates for seaside rental flats are significantly higher than for flats located in the southern districts of Gdansk.

The return on flat rental in the capital city ranged from 3.6% (for 3-room flats) to 4.3% (for studio flats). The profitability of renting 2-room flats was at a similar level to that of studio flats. These flats also constitute the greatest part of the market offer – nearly 70%. In the capital city, the level of return on investment is higher for older buildings than for flats purchased on the primary market, which means that the correlation between the level of rental rates and the prices of new and old flats is not uniform.

RANGE OF RATES OF RETURN ON FLAT RENTAL			
	1-room	2-room	3-room
WARSAW	4.3%	4.3%	3.6%
WROCLAW	5.6%	4.8%	4.5%
GDANSK	5.9%	5.1%	4.2%
CRACOW	4.1%	3.6%	3.4%
POZNAN	4.2%	3.5%	3.3%
SZCZECIN	5.1%	4.5%	4.3%
LODZ	5.2%	3.6%	4.4%
LUBLIN	4.4%	3.9%	3.5%
BIAŁYSTOK	4.3%	3.1%	3.0%

On the Lodz market, last year's rental profitability ranged from 3.6% for 2-room flats to 5.2% for studios. The largest share in the offer belonged to small flats (studios) – over 50%, followed by 2-room flats – about 30% of the market offer. The smallest share in the supply belonged to 3-room flats – about 15%. In Lodz, and the profit from renting larger flats amounts to 4.4%.

Due to the increase in flat prices in Bialystok, the profitability of rental decreased in 2018. The highest profitability could be achieved by renting a studio flat – 4.3%, while the lowest profitability could be achieved by renting a 3-room flat – 3.0%. Analysing the supply, the largest number of flats offered on the market in 2018 were studios – about 30%. Two-room flats constituted about 50% of the market offer. On the other hand, 3-room flats account for only 20% of all the flats for rent in Bialystok.

Rate of return

The rate of return on rental was calculated as a relation of the annual income that can be obtained from rental to the transaction price of the flat. The transaction price was increased by the cost of finishing the flat (for flats purchased on the primary market) and the costs of renovating the flat in order to prepare it for rent (for transactions on the secondary market).

The cost of renovation was assumed to be 50% of the costs incurred for finishing the flat. The income from rental of the flat was reduced by the amount that the owner assigns to the renovation of the flat once every 10 years from the year he starts renting it. The above amount was calculated as the product of the surface area of the flat and 50% of the finishing costs.

The adopted model takes into account a lump-sum tax on rental income of 8.5% and income losses related to a 1.5-month period spent on searching for a tenant.

FORECAST FOR THE HOUSING MARKET 2019

COMPLETED
FLATS APPROX.
190 000-200 000

THE NUMBER
OF FLATS FOR
WHICH BUILDING
PERMITS WERE
ISSUED

MEDIAN PRICE
PER SQM
OF A FLAT

In 2019, we expect the growth dynamics of housing prices to gradually slow down.

On the one hand, housing prices will continue to be under pressure from high construction costs. Developers, in the face of rising costs of land, building materials and labour, are forced to increase prices if they want to at least maintain their margins. On the cost side, there may also be additional factors that may create an increase in outlays on the production of flats, such as additional costs of maintaining escrow accounts in connection with the government's planned change in regulations on development activity. On the other hand, it should be noted that the prices of flats have been growing systematically since 2014 and, in that time, they increased on average by about 30%, and even more in the best locations. Further price increases may no longer be acceptable to buyers, especially those purchasing residential units for rent.

It is exactly the widespread investment purchases in recent years that pose the main threat to the further development of the market. Investment buyers, to a lesser extent than those buying for their own residential needs, are guided by emotions or sentiment towards a given location, focusing mainly on the economic aspects of the transaction, in particular the potential profitability that an investment in a particular unit can bring. Due to a consistent increase in flat prices in re-

cent years, the rate of return on such investments has begun to decline. This may be an argument for this group of buyers to wait with their purchases until the market situation stabilises. On the other hand, those who buy flats for their own needs, mainly driven by fear of further price increases, should probably not withdraw from the market. **As a result, we expect that this year's purchases of flats will be slightly lower than last year and the availability of flats should increase slightly in the second half of the year, as the size of the development offer is still at levels close to the record high levels. The high level of the development offer should be maintained at least for 2019 and 2020 due to the record levels of the number of flats for which building permits have been issued in the last two years.** However, the supply-demand ratio, which is more favourable to buyers, will not be large enough to completely halt price increases in 2019. Such a scenario is, in our opinion, possible only in 2020. Certainly, the main factors supporting further market development will be the low cost of credit, rising salaries and the low level of unemployment. The cost of the loan should remain at a low level due to the historically lowest NBP interest rates, which, according to the latest declarations of the Monetary Policy Council, may be maintained at the current level until the end of 2020.

THE DESCRIPTION OF EMMERSON EVALUATION'S ACTIVITIES

Emmerson Evaluation Sp. z o.o. was established in 2008 and provides services involving the appraisal of residential, commercial (offices, trade, warehouse, hotels and development investments). The Company makes all-purpose valuations, including to secure debts, for financial statements and profit evaluation in regard of purchases or sales. It has broad experience in valuing large packages of real property, tangible assets and market analyses. Emmerson Evaluation's studies comply with Polish and international standards.

Emmerson Evaluation also has its own data base of transaction prices on the real property market, EVALUER, which now comprises over 1 300 000 transactional data described in great detail. The Company has regional offices in 4 largest cities in Poland, employs more than 50 real property market experts, including 30 property valuers. Emmerson Evaluation's services are targeted mostly at banks, residential and commercial developers, investment funds and quoted companies.

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