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DEVELOPERS' BEHAVIOR DURING THE PANDEMIC IN THE CITIES OF POLAND, CASE STUDY

The article is an attempt to show how the coronavirus pandemic has had and continues to affect the development market. As is well known, at the beginning of March 2020, Poland recorded the first case of COVID-19 infection. From that time until July 2021, the authorities announced several economic closures – lockdowns in Poland. This mainly concerned trade and services. Initially, the situation related to COVID-19 on the housing market was also uncertain. Developers have suspended some construction works, some have not started at all. This was due to several factors, including new requirements set by banks for borrowers, uncertainty of investors – future apartment buyers, and the unstable situation of other industries. For this reason, this article analyzes the reactions of the primary market to the subsequent restrictions and the epidemic situation. The analysis of developers' behavior, changes in the prices of building materials and changes in the prices of construction services was undertaken. The research results will be based on data from five cities in Poland.

Keywords: pandemic, housing market, developer, lockdown, primary market, COVID-19

1. INTRODUCTION

The COVID-19 pandemic, which began at the end of 2019 in Wuhan, China, has a significant impact, not only on human health, but also on the economy. The first cases of SARS-CoV-2 began on December 31, 2019, in the Chinese provinces of Wuhan, where 59 cases of pneumonia were reported, possibly related to a new type of coronavirus that later turned out to be known worldwide as COVID-19. The coronavirus spreads directly from person to person. One can become infected through close contact with a sick person. SARS-CoV-2 is spread by airborne drop-

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lets [Hidalgo, Rodríguez-Vega, Pérez-Fernández 2019]. Those droplets are formed when an infected person sneezes or coughs and can travel through the mouth or nose when we breathe into the lungs [ECDC 2021a]. The problem is that a person infected with coronavirus, these may be people who have the disease asymptotically (estimated 40-45%), emit aerosols when talking or breathing. Aerosols are infectious particles that can remain in the air for up to 3 hours [Health.Harvard.edu]. But if SARS-CoV-2 was spread mainly by airborne transmission, such as measles, the pandemic would spread much faster around the world, according to experts [ECDC 2021b; OECD 2020]. The most common symptoms of COVID-19 are: fever, dry cough, tiredness. Other symptoms that are less common and may affect some patients include: loss of taste or smell stuffed nose, conjunctivitis (also known as red eyes), sore throat, headache, muscle or joint pain, different types of skin rash, nausea or vomiting, diarrhoea, chills or dizziness.

Unfortunately, the situation worsened month by month, and COVID-19 began to spread beyond China's borders. March 11, 2020 it was declared a pandemic by the World Health Organization (WHO) [Suckling, Lechler 2021]. European countries began to introduce restrictions on the movement of people. Initially, state authorities closed airports and borders to reduce the likelihood of "importing" the virus from abroad. Then, as the pandemic progressed, restrictions were introduced on the economies of the countries concerned [Balemi, Füss, Weigand 2021]. And so, initially, restrictions on the number of people staying in shops were introduced, cinemas, theatres, gyms and hotels were close [GOV 2021]. The first lockdown (shutdown of the economy in the strict sense) was supposed to last two weeks, it is mid-2021 and still not all sectors of the economy are fully open. This work largely focuses on the impact of the COVID-19 pandemic on the housing market, development construction and social behaviour that has evolved by the above-mentioned pandemic in Poland.

2. THE IMPACT OF COVID-19 ON THE HOUSING MARKET, REVIEW OF THE PROCESS

The COVID-19 pandemic has significantly weakened the real estate sector [Dąbrowski, Kirejczyk 2001] all over the world. This was partly due to restrictions imposed by national governments. Also, entrepreneurs were afraid of investing due to the volatility of the markets [Shaw 2018]. For this reason, the restrictions introduced by investors included the complete or partial closure of construction sites and refraining from starting new ones. In the United States, the number of constructions started fell by more than 30% and only slightly increased in May – about 4% [OECD 2020]. Despite large declines in home sales in early spring, real estate activity started improving. Sales, which fell by more than 30% in April, increased by almost 30% in the middle of the third quarter of 2020 compared to last year's sales in the same period. However, increased unemployment caused by the pan-

demic and economic uncertainty continue to weigh on the housing market [De Toro, Nocca, Buglione 2021]. As in the crisis of 2007-2009, foreclosures due to non-payment of rents and more difficult obtaining of loans will prevent many people from purchasing their own apartments (federal reserve bank of st. Louis) [Stlouisfed.org 2021].

In Poland, in response to the development of the epidemic, most banks tightened the requirements for obtaining a loan. Before the outbreak of the pandemic [1], banks required 10% of own contribution from the client and additional insurance for another 10% [Kamiński 2020]. The situation changed with the beginning of the first lockdown, when 10% of own contribution was replaced with 30% or 40%. This is one of the reasons why developers decided to suspend the commencement of new investments, focusing on completing the ongoing projects. This is illustrated in the chart below on the example of the city of Poznań.

3. RESEARCH METHODOLOGY

Several research methods were used in the article. The main method was a questionnaire survey with interviews with developers' representatives, and the compilation of data from developers' websites. This was to study the behaviour of individual developers during the ever-changing epidemiological situation. In practice, this concerned the analysis of how many new apartments or investments a given developer introduced to the offer during the pandemic and how the price of the apartments has changed.

To find out the prices of building materials [Stlouisfed 2021] and to what extent they have changed over the year, the Jakon database was used and inquiries were sent to suppliers. Thanks to this, it was possible to compare prices year by year and see what impact the coronavirus pandemic had on the change in these prices. The last method is the PMI analysis developed by IHS Markit. These are data for more than 40 economies around the world and come from anonymous private sector management surveys. The survey panels are selected in such a way as to show the structure of the monitored sector of the economy: production, services, construction [Suckling, Lechler 2021]. The organization for economic co-operation and development has combined the PMI index with Google Trends, which provides information on keyword searches related to the construction and real estate sector.

As one can see (Fig. 1), shows data from the fourth quarter of 2019, in which more than 2.500 apartments were launched for sale. Then, in the first quarter of 2020, the number of newly introduced apartments on the development market dropped to approx. 850. The downward trend continued until the third quarter, when slightly over 90 new apartments entered the Poznań market. These are the lowest results since the development market survey was started in 2015. The presented graph illustrates the huge impact of the coronavirus pandemic on the housing market. It was not until mid-2020, when the situation began to stabilize and the

The number of flats introduced to sale

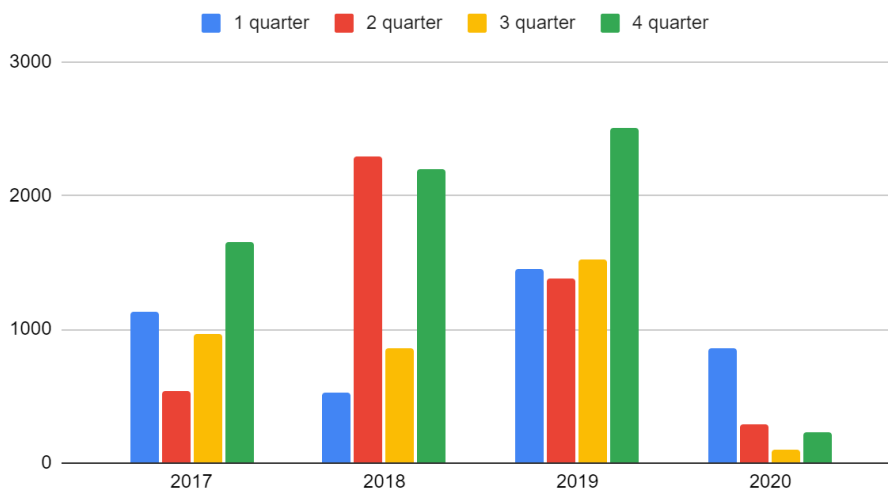


Fig. 1. The number of flats introduced for sale. Own study, based on JAKON data

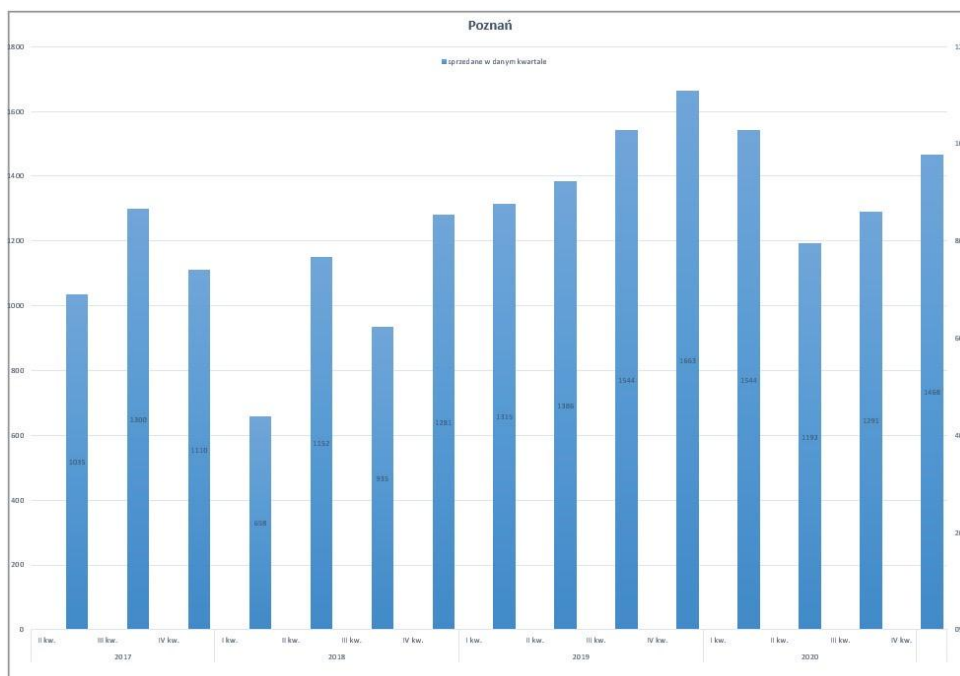


Fig. 2. Number of sold apartments. Own study, based on JAKON data

economy began to slowly unfreeze, credit requirements were loosened, COVID-19 vaccines were developed and introduced to the market, that developers began expanding their offer again. Nevertheless, in Poland, developers started approx. 12 thousand investments fewer than in 2019 (HRE investments 2021) [Kaptur 2021]. These were mainly projects planned for 2020, but due to the epidemic situation, they were postponed to the end of the year and the beginning of 2021. Despite developers' concerns, limiting the launch or launching new investments and difficulties in obtaining loans for apartments, sales remained stable.

As can be seen in the chart above (Fig. 2), the highest sales level was maintained in 2019. With the onset of the pandemic in 2020, the number of flats sold compared to the fourth quarter of 2019 decreased by only about 100 flats and remained at the level of over 1.500 flats sold. Only in the second quarter is the impact of the coronavirus pandemic on apartment sales visible. It is worth noting that it was not until April-June that there was a significant increase in infections (for that period), maintaining an average of 200-400 infections per day [Heritagere 2021a]. It was also the period when the most, strict restrictions were in force. Then, as the spread of the coronavirus slowed down, the Polish government began to ease restrictions, and apartment sales began to increase again. At the end of 2020, over 1.450 apartments on the primary market were sold in Poznań which is only 200 apartments less than in 2019 and 200 apartments more than in 2018.

4. DEMAND FOR HOUSING DURING THE PANDEMIC

In recent months, the picture of the market has been affected by the reduction in interest rates. Currently, it is at the level of 0.01% to a maximum of 0.5%. According to specialists from the HRE Think Tank, this is well below the psychological limit of 1% and at least several times less than the inflation. According to them, the housing market has become a safe haven for capital. It is also related to the uncertain situation on the stock exchange and on the bond and mutual funds market. The above examples are related to the public response to the COVID-19 pandemic. The investment risk in the above-mentioned markets has increased significantly, therefore the investors' attention is focused on the housing market. The opportunities and threats for the housing market are presented below.

HRE Think Tank [GOV 2020; Heritagere 2021b] predictions turned out to be accurate, because after the temporary drop in demand, which was discussed earlier, interest in buying flats increased. The main reason for this is the rise in inflation and the drastic decline in interest rates in banks.

The apartment has become an investment product, an investment of money [Ling, Chongyu, Tingyu 2020]. Just as in the middle of 2020 the stabilization of prices in the housing market was forecast, at this point we can talk about their strong growth. The reason is demand. Fewer and fewer investment areas in cities

Table 1. Opportunities and threats for the housing market. Own study, based on Nieruchomości C.H. Beck [Cebula 2020]

Opportunities and threats for the housing market	
Chances	Threats
Lower interest rates on bank deposits	Decline in Poles' optimism
Falling interest rates	More difficult access to loans
Increase of inflation	Risk of epidemic continuation
Fiscal and monetary stimulation	
Inflow of investment capital	

result in higher prices, still not sold for development investments. Then the prices of construction crews also increased, the prices of construction materials, in some cases, such as construction steel, prices increased from the level of approx. PLN 3.1 / kg to PLN 6.4 / kg as you can see on the chart below. Further price increase is expected as well. The price increase does not only apply to steel only, but to most construction materials, for instance, the price of roofing mineral wool from PLN 280 / m³ at the beginning of 2021 increased to PLN 517 / m³ in May 2021, it is an approx. 85% increase in price (Jakon). The table below shows the changes in the prices of construction and assembly works.

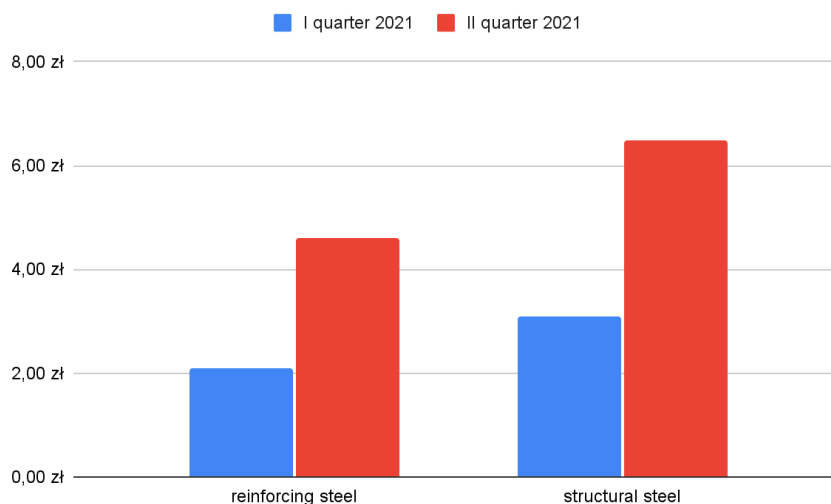


Fig. 3. Changes in prices of reinforcing and structural steel. Own study based on JAKON data

Table 2. % changes in prices for construction services.
Own study, based on GUS data

Specification according to (KNNR)	III 2021	IV 2021	V 2021			IV 2021
	previous month = 100			XII 2020 = = 100	V 2020 = = 100	IV 2020 = 100
1	2	3	4	5	6	7
Four-storey multi-apartment building	100.3	100.5	100.6	102.1	103.4	102.9
Mechanized earthworks	100.1	100.1	100.1	101.4	101.6	101.6
Concrete and reinforced concrete monolithic structures	100.2	100.7	100.5	102.6	104	103.3
Masonry structures	100.2	100.4	100.7	102.2	403.1	102.7
Wooden structures of the roof	100.1	100.1	100.1	100.6	101.1	101
Roofing materials	100.2	100.6	100.8	102	103, 4	102.4
Insulation	100.5	100.5	100.7	102	103.8	103
Partition walls made of building bricks	100.3	100.6	100.7	102	102.8	102
Plaster, cladding and interior facing	100.4	100.5	100.4	101.9	103.5	103.2
Exterior plasters and claddings	100.4	100.5	100.2	101.7	104	104.2
Construction carpentry	100.3	100.4	100.5	102	103.2	102.7
Floors and flooring	100.2	100.8	100.8	102.4	103.6	102.6
Blacksmith and locksmith works	100.1	100.4	100.8	101.5	102.4	101.6
Painting	100.5	100,6	100.5	102.6	104.1	103.4
Scaffolding	100.5	100.2	100.1	101.9	104.3	103.9
Works of plaster and gypsum prefabricated elements	100.5	100.6	100.1	101.7	103.4	103.3
Water supply installations	100.6	100.3	100.2	102.2	104.3	103.8
Sewage installations	100.2	100.5	100.3	101.7	104.3	103.7
Gas installations	100.1	100.8	101	101.9	103.8	101.7
Central heating installations	100.6	100.3	101	103	102.7	103.7
Laying pipes and wiring strips	100.1	100.6	100.1	100.7	104.9	100.8
Laying insulated cables	100.4	100,6	100.5	102.1	101.1	102.7

Table 2 – continue

1	2	3	4	5	6	7
Assembly of installation accessories	100.3	100.6	100.6	102.1	103.3	104
Low voltage switchgear and electrical apparatus	100.1	100.5	100	101	104, 4	101
Light fixtures	100.2	100.1	100.9	102	101.5	102.3
Lightning protection, earthing and equalizer cables	100.4	100.1	100.7	101.4	103.3	100.9

As can be seen, in addition to material prices (Tab. 2), labour prices have also changed. Comparing May 2020 with May 2021, the prices of construction works increased by 3.4%. To sum up, the prices of apartments at the moment will certainly not fall, due to, as explained above, increasing prices of land, prices of materials and construction works. Despite the fact that the pandemic has affected other branches of the economy and Poles' concerns about the certainty of keeping a job are growing, the purchase of a flat seems to be the safest way to allocate one's savings.

If we are talking about housing prices in the strict sense, the table above (Tab. 3) shows the current trend of price increases. Prices of residential premises in the 1st quarter of 2021 increased by 2.0% compared to the fourth quarter of 2020, primary market by 2.1%, secondary market by 1.9%. Compared to the first quarter of 2020, the prices of residential premises increased by an average of 7.2%-6.5% on the primary market and 7.8% on the secondary market.

Table 3. % changes in housing prices. Author's study, based on GUS data

Specification	Q1 2021		
	Q4 2020 = 100	Q1 2020 = 100	2015 = 100
Overall	102	107.2	141.2
Primary market	102.1	106.5	103.3
Secondary market	101.9	107.8	105.6

Average price - June 2020

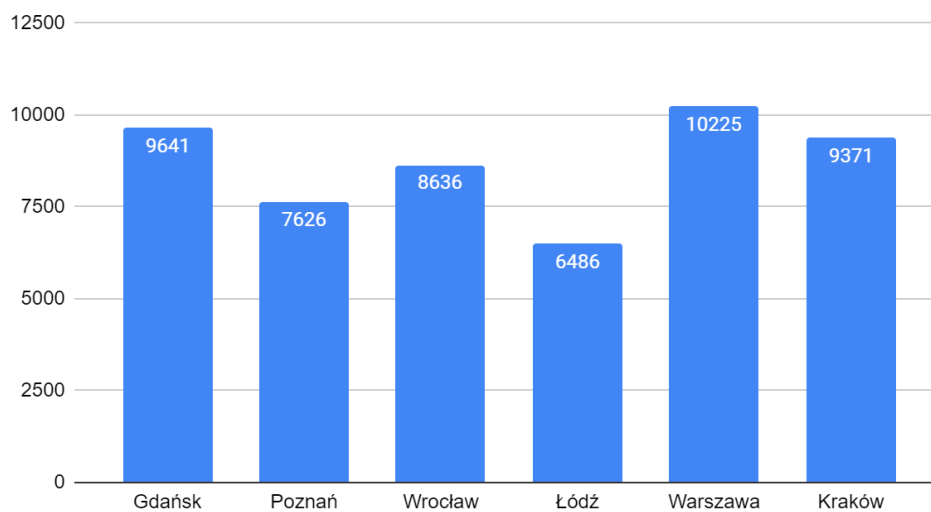


Fig. 4. Average price of a flat in June 2020. Author study, based on Rynekpierwotny.pl. acces 13.08.2021

Average price - June 2021

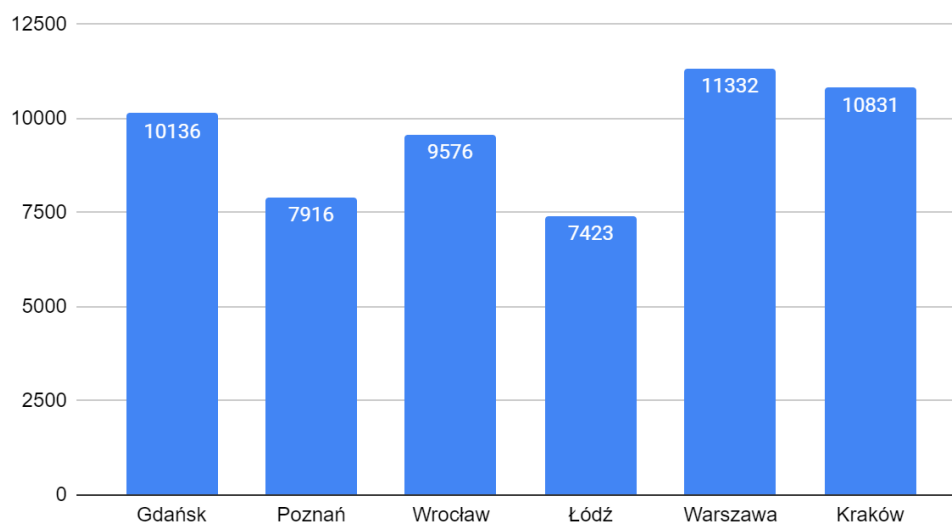


Fig. 5. Average price of a flat in June 2021. Author study, based on rynekpierwotny.pl. acces 13.08.2021

In June 2020, the price report prepared by the RynekPierwotny.pl [Heritagere 2021b] portal showed stabilization of offer rates on the domestic housing market. As can be seen in the chart above (Fig. 4), prices ranged on average from PLN 6,486 / m² in Łódź to PLN 10,225 / m² in Warsaw. Price increases have slowed down considerably and in some cases have even started to decline. At the moment, it can be argued that the prices of residential premises have stabilized due to the uncertain situation related to COVID-19 and the lack of introduction of new investments for sale.

In June 2021, apartment prices increased in the six largest cities in Poland under analysis (Fig. 5). According to the (RynekPierwotny.pl) portal, the price of flats increased month to month by almost 2.5%. Comparing June 2020 with June 2021, the prices of residential premises increased by an average of 9.5%. The highest increase in prices was recorded in Kraków approx. 15%, Łódź approx. 14%, Warsaw and Wrocław approx. 10%. It is relatively stable on Gdańsk and Poznań market, where prices increased on average by 5% and 3%. The price increase is likely to be due to an increase in the prices of building materials and construction services, as can be seen in the table in this work.

5. SUMMARY OF THE PROCESS

In summary, the COVID-19 pandemic is having a significant impact on the housing market. The initial fear of developers at the beginning of the epidemic in Poland (March, April 2020) triggered a slowdown and stabilization of prices on the property development market. The reason was selling off existing buildings or those the construction of which began before COVID-19. For this reason, the price offer remained at a similar level as in the third and fourth quarter of 2019.



Fig. 6. Nowy Wyszogród, JAKON, investment in Bydgoszczy (Fordon)



Fig. 7. Lwowska street 2, JAKON, investment in Poznań

When the Polish government began to ease the restrictions, the situation began to stabilize. Unfortunately, the sale of apartments was extended over time due to the increase in loan requirements by banks, i.e. higher own payment and longer verification of the borrower. On the other hand, the housing market attracted cash customers who saw their money as an investment when buying a flat. The reason for this was the reduction of interest rates below even 0.5% and inflation, which exceeded the interest rates offered by banks. As a result, the situation on the housing market is fairly stable all the time.

Will housing value continue to rise? Probably yes [Pike 2020]. In the coming months, the prices of building materials should stabilize, but housing prices will continue to rise due to land prices. This is because there is less and less land in cities for housing development, which means that the owners are increasing its value. More expensive construction services and the need to meet more and more stringent thermal and energy standards [Verhaeghe, Ghekiere 2020] also have an impact on housing prices. In my opinion, despite the difficult economic situation and the coronavirus pandemic for industries such as hotel industry, fitness chains and gastronomy, the housing boom continues and that is unlikely to change in the near future.

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ZACHOWANIA DEVELOPERÓW W CZASACH PANDEMII. STUDIUM PRZYPADKU

Streszczenie

Artykuł jest próbą pokazania, jak pandemia koronawirusa wpłynęła i nadal wpływa na rynek deweloperski. Jak wiadomo, na początku marca 2020 r. w Polsce odnotowano pierwszy przypadek zakażenia COVID-19. Od tego czasu aż do lipca 2021 r. władze w Polsce ogłosiły kilka zamknięć gospodarczych. Ich decyzje dotyczyły głównie handlu i usług. Początkowo niepewna była również sytuacja związana z COVID-19 na rynku mieszkaniowym. Deweloperzy wstrzymali część prac budowlanych, część w ogóle się nie rozpoczęła. Było to spowodowane kilkoma czynnikami, m.in. nowymi wymaganiami stawianymi przez banki kredytobiorcom, niepewnością inwestorów – przyszłych nabywców mieszkań, oraz niestabilną sytuacją innych branż. Z tego powodu autor niniejszego artykułu analizuje reakcje rynku pierwotnego na kolejne ograniczenia i sytuację epidemiczną. Podjęto analizę zachowań deweloperów, zmian cen materiałów budowlanych oraz zmian cen usług budowlanych. Przedstawione wyniki badań będą oparte na danych z pięciu miast w Polsce.

Słowa kluczowe: pandemia, rynek mieszkaniowy, działalność deweloperska, COVID-19

