

AGATA ANTCZAK-STĘPNIAK

agata.antczak@uni.lodz.pl

University of Łódź. Faculty of Economics and Sociology

POW 3/5, 90-255 Łódź, Poland

ORCID ID: <http://orcid.org/0000-0002-5858-2774>

*The Popularity of Single-Family Housing in Real Estate  
Development Activity in the Light of the Pandemic –  
the Case Study of Łódź*

**Keywords:** real estate development activity; buyers preferences; COVID-19 pandemic; housing

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**Abstract**

**Theoretical background:** The functioning of the entire housing market and the sale of developer dwellings depends on many factors. They are, e.g. economic and financial, institutional, environmental, cultural, and religious. Due to the complexity of the real estate market and the variety of factors that influence its functioning, the real estate market is characterized by high variability. Some external factors, especially those difficult to predict, may cause rapid changes in the size of this market. Epidemics can be such a factor. Recently, the COVID-19 pandemic has significantly impacted the functioning of many housing markets. Since we spent whole days at home with whole families, it soon turned out that the previous places of residence needed to be bigger, functional, and properly located. Therefore, in many places worldwide, the demand for single-family houses has increased, contributing to the growing sale of such developer projects. The pandemic, however, has passed, but its effects, along with the consequences of the war in Ukraine, also affect the standard of living of the population and real estate development activity, although it seems to be in a different way.

**Purpose of the article:** In connection with the above, two research objectives have been set in this article: to determine the impact of the pandemic on real estate development activity in the Polish housing market

and to analyze, on the example of Łódź, whether the pandemic contributed to changes in developers' offers and level of sale, especially in the context of single-family investments.

**Research methods:** In order to achieve the set goals, the desk research method was used. First, based on statistical data of the Local Data Bank situation on the primary residential real estate market was analyzed (in Łódź). Then, the number of investments implemented in Łódź, broken down into multi-family and single-family housing, was examined (based on data collected by the author from real estate portals and websites of individual developers). Concerning single-family housing, investment commencement, and completion dates were identified and finally, based on the starting dates, single-family investments were divided according to the level of sale.

**Main findings:** The outbreak of the COVID-19 pandemic has "turned on its head" housing markets in many parts of the world. Overnight, entire households switched to remote work or learning, which was difficult to reconcile, especially in small dwellings. Difficulties in functioning partly prompted and partly forced to look for other, more suitable places to live. Because of that, developer projects concerning single-family houses sold very well during the pandemic. However, it seems that the increase in popularity (sale) of single-family investments offered by developers was temporary. The increase in interest rates resulted in a decrease in demand for large dwellings, which few people can afford anymore, and they are not an attractive investment for investors. So, developers have frozen capital, which, unfortunately, with the loans taken out, may, in the long run, lead to the risk of debt growth and bankruptcy of smaller enterprises.

## Introduction

For the housing market to function, there must be a demand for housing supported by purchasing power, and entities creating their supply must operate on the market (Berridge, 1971). Thus, it is a convergence of purchasers and sellers of goods and services related to housing delivered on demand (Mohammed et al., 2021). Buyers can buy existing (from the secondary market) or newly built dwellings (from the primary market), depending on preferences, financial possibilities, and the availability of these dwellings.

The most common reason for purchasing residential real estate is to satisfy one's basic needs. However, in recent years a significant investment demand has appeared in many countries, including Poland. More and more often, dwellings are purchased in order to earn income from long-term or short-term rentals. This increased demand for housing contributed to the developing of many new projects, carried out mainly by developers (nearly 60% of all supply in 2021 in Poland – LDB, 2023).

Real estate development activity consists in transforming real estate in such a way as to increase its value (Śmietana & Zagórska, 2009). Thanks to this, developers can profit from selling or renting real estate (with a higher value than initially). The sale of developer dwellings and the functioning of the entire housing market depends on many factors. They are economic and financial (Ellis, 2008; Feng et al., 2010; Krajnakova et al., 2018), institutional (Hutchison & Disberry, 2015; Laskowska & Torgomyan, 2016), environmental (Makinde, 2013; Wei & Zhao, 2022; Liao et al., 2022), and cultural and religious (Andersson et al., 2019; Bunel et al., 2019). It should be noted that the real estate market in countries that have undergone political transformation is subject to specific conditions, which often makes it impossible

to use certain model simplifications in order to receive “a clear picture of reality” (Bogołębska, 2019, p. 8). Due to complexity of real estate market and the variety of factors that influence its functioning, the real estate market is characterized by high variability. Some external factors, especially those difficult to predict, may cause rapid changes in the size of this market (Jovanović-Milenković et al., 2020) and limit the willingness to invest in it (Gołąbeska, 2018). Examples of such factors are economic and political factors, e.g. global financial crisis (cf. McKibbin & Stoeckel, 2010; Thakor, 2015) or war in Ukraine (cf. Hromada et al., 2023). Epidemics may also be such a factor. They are also an external factor, difficult to predict, and because they are a rare phenomenon, data availability on it is limited (Francke & Korevaar, 2021). Recently, the COVID-19 pandemic has significantly impacted the functioning of many housing markets (cf. Zeng & Yi, 2022; Batalha et al., 2022; Balemi et al., 2021; Hromada, 2021).

A literature study by Mohammed et al. (2021) shows that the COVID-19 pandemic has affected the housing market in two ways. Most often, the positive impact of the pandemic manifested itself in an increase in demand, supply, and housing prices. On the other hand, the pandemic harmed especially the prices of building materials, mortgage loans, and short-term rentals. It should also be noted that these trends were spatially differentiated. Overall, the pandemic has increased housing prices due to increasing pressure on housing needs from many COVID-19 restrictions (Mohammed et al., 2021; Gamber et al., 2021). However, some differences could be observed in the location of the purchased housing. In some countries, more housing was purchased in city centers, while in others, more popular were housing on their outskirts (see: Delgado & Katafuchi, 2020; Ramani & Bloom, 2021). Moreover, the positive impact of the pandemic was not visible everywhere. Literature studies conducted by Mohammed et al. (2021) showed that in some regions of Italy, Australia, Great Britain, the United States, Russia, Canada, and others, there was a steady decline in housing prices during the pandemic, which did not encourage new investments. Remarkable differences were also recorded concerning the prices of various types of dwellings. For example, in Sweden, villas (single-family housing) were more expensive than ever. Annual price changes were 7% higher for apartments and 13% for villas (Andrén, 2022).

In the context of the primary real estate market, one of the most important indirect effects of the pandemic was the increase in demand for new premises, visible also in Poland. Data on LDB show that the share of dwellings sold on the primary market in Poland has increased – their share in the first quarter of 2019 was nearly 38% of all dwellings sold (transactions on the secondary market prevailed), and in the fourth quarter of 2022 this share was already close to 54% (LDB, 2023). The additional demand during pandemic was dictated by, i.a., the need for privacy and the comfort of working and learning remotely (Kocur-Bera, 2022). Therefore, high prices could encourage developers to implement new projects. However, the pandemic changed buyers’ needs, which also could affect the products offered by developers starting investments during the pandemic.

In connection with the above, two research goals have been set in this article:

1. Determining the impact of the pandemic on real estate development activity in the Polish housing market.

2. Analyzing, on the example of Łódź, whether the pandemic contributed to changes in developers' offers and level of sale, especially in the context of single-family investments.

The author hypothesizes that the impact of the pandemic on the increase in the popularity (sale) of single-family housing in development investments was short-term. In order to achieve the set goals and verify the hypothesis, the desk research method was used. Both publicly available statistical data and information collected by the author from real estate portals and websites of individual developers were analyzed.

### Literature review

Buyers' preferences, understood as the attractiveness of a given good for a specific person, influence the choice of the type of dwelling and some of its features that allow the space to be adapted to these needs (Jansen et al., 2011). Buyers want to buy dwellings in specific locations with a specific usable area, functional layout, appropriate amenities, etc. Therefore, before creating a concept for a development project, users' needs should be analyzed (Dąbrowski & Kirejczyk, 2001).

Theory of housing adjustment shows that people evaluate their place of residence regarding their ability to meet their needs. If the condition or functionality of the dwelling no longer meets the needs of residents, it is very likely that they will want to change them, adapting their choice to current needs (Morris & Winter, 1975). Therefore, there are specific "triggers" – e.g. divorce, birth of a child, which can cause a change in housing preferences (Pagani et al., 2021). In recent years, the COVID-19 pandemic could be such a trigger.

The first case of the SARS-CoV-2 virus was recorded in December 2019 in the Chinese city of Wuhan (WHO, 2019). Unfortunately, due to the internationalization of many branches of life, it quickly spread throughout the world. The governments of individual countries have taken various measures to limit the spread of the virus, i.e. lockdown, quarantine, or home isolation.

Limiting contacts resulted from the fear of meeting with other people, possibly infected with the coronavirus (in public transport, shops, and public places, but also elevators in multi-family buildings), economic recession (some lost their jobs, and their income became uncertain) and changes of lifestyle (Muhyi & Adianto, 2021). Since we spent whole days at home with whole families, it soon turned out that the last places of residence needed to be bigger, functional, and properly located. For example, research conducted in Naples showed that 52% of respondents lived in apartment buildings were dissatisfied with an access of their dwellings to outdoor spaces. 33% of them were dissatisfied with their living space in terms of opportu-

nities to meet recreational needs, and over 23% found their dwellings unsuitable as a workplace (De Toro et al., 2021).

Small, low-standard living spaces increase the risk of depression among residents due to discomfort, especially in large households (cf. Muhyi & Adianto, 2021; Kocur-Bera, 2022). It has contributed to the change in buyers' preferences – suddenly, other features that have been paid attention to so far have become attractive or desired. Before the pandemic, market analysts claimed that the value/price of real estate was influenced by location, location, and location again (cf. de Meirleir, 2012; Kiel & Zabel, 2008). Before the pandemic, over 60% of respondents in Poland did not consider the proximity of green areas as an essential element of choosing a dwelling. During the pandemic, this factor has gained importance. More than 80% of respondents indicated the distance from green areas as an essential element (Stankowska & Stankowska-Mazur, 2022). Some studies have shown that people's preference to avoid high-density regions has led to a shift in where they buy their homes (cf. Cheung et al., 2021; Ahrend et al., 2022). It was facilitated by developing telework and online services related to developing ICT networks.

However, apart from location features, each dwelling has unique physical attributes, such as area, building age, number of rooms, private outdoor space, etc. Moreover, these attributes have become important in the era of the pandemic. According to the research by Kocur-Bera (2022, in terms of location, the proximity of green areas, a short distance from healthcare facilities and external recreational facilities, and dispersed development (neighborhood of single-family houses) became more critical. As for the internal attributes, the following gained in importance: access to broadband Internet, the number of rooms, the presence of additional rooms that could be adapted for other purposes, but also issues related to quality, e.g. the energy efficiency of solutions or sound insulation (Kocur-Bera, 2022). Therefore, single-family houses with their yard, apartments with gardens or terraces, and access to open space, also due to larger areas, have gained popularity (cf. Muhyi & Adianto, 2021; Rynio, 2021; Guglielminetti et al., 2021). In multi-family buildings, balconies and terraces have gained importance as a place of relaxation and an escape from the household (Gür, 2022).

However, the increase in the popularity of single-family houses was observed only in some places. For example, research conducted in South Korea showed that people living in a multi-story condominium had no fears about living in the city and did not consider moving out. In turn, people living in low-rise condominiums were more afraid of living in the city and were more willing to move to the outskirts or even outside the city, so it was not a ubiquitous trend. That is since in South Korea, multi-story condominiums are usually located in "planned", gated estates with entry control, so the fear of strangers is lower in them than in tenement houses, usually "open", which may increase the residents' fear of uncontrolled contacts with unknown (Kang et al., 2021).

Research shows that the demand for single-family homes grew faster during the pandemic and, combined with limited supply, led to a significant appreciation of single-family home prices, regardless of location. According to Office of the

Comptroller of the Currency (OCC), in the U.S. demand for single-family homes may decrease after the pandemic but will still be more vital than pre-pandemic levels (OCC, 2022). Some developers have started to read the needs of consumers by offering a new standard concept of housing – housing that can meet the needs of working from home, learning from home, healthy air exchange, enough lighting, enough space, and an open-concept home (Rahadi et al., 2021).

It seems that the pandemic, as some “shock”, has influenced people’s purchasing preferences and, thus, the level of sales and the type of residential real estate they are more willing to purchase. It may also have influenced the investment decisions of some entities. The problem, however, is that the pandemic has passed, but its effects, along with the consequences of the war in Ukraine (both successive events have accumulated several negative phenomena, e.g. raising inflation, increases in debt, budget deficit or energy prices – Lepczyński & Pisarewicz, 2022) also affect the standard of living of the population and real estate development activity, although it seems to be in a different way.

### **Research methods**

In order to achieve the goal and verify the research hypothesis, the desk research method, otherwise known as the analysis of existing data, was used in this article. It uses data from various sources, e.g. interviews, observations, personal documents, and photographs, but also data available in an electronic version (Borowska-Beszta et al., 2017). From a general point of view, this kind of data is beneficial because it allows a better understanding of the historical context of a given issue. In addition, if they are collected reliably and comparably, it is possible to conduct further research and compare them. At the same time, which is also essential, they usually do not generate any costs. The Internet is increasingly becoming a virtual channel for collecting secondary data (Szpunar, 2009). Also, in this study, the data was obtained from real estate portals such as [rynekpierwotny.pl](http://rynekpierwotny.pl), [noweinwestycje.pl](http://noweinwestycje.pl), [korter.pl](http://korter.pl), [wybierzdewelopera.pl](http://wybierzdewelopera.pl), [gratka.pl](http://gratka.pl), as well as from the websites of individual developers. Data has been collected over the last few years. The last study was conducted in December 2022. Finally, data for the years 2018–2022 were included in the analysis.

The study was conducted on the example of the city of Łódź for several reasons. Firstly, it is the city best recognized by the author in previous publications (cf. Antczak, 2012; Antczak-Stępniaak, 2020, 2022). Secondly, in 2021 in Łódź, the highest share of single-family housing among the six largest Polish cities was observed (in Łódź, nearly 10% of apartments were commissioned in single-family buildings, while in other cities this share was 3–8%). This specific feature is also confirmed by the author’s earlier research (Antczak, 2012).

The study was conducted in four stages:

- first, based on statistical data of the Local Data Bank situation on the primary residential real estate market was analyzed (in Łódź),
- then, the number of investments on sale in Łódź, broken down into multi-family and single-family housing, was examined (based on own data),
- concerning single-family housing, investment commencement and completion dates were identified, which were to help determine whether the level of sales was changing,
- finally, based on the starting dates, single-family investments were divided according to the level of sale.

Since the real estate development activity is quite diverse, and the data was collected from various sources, it was necessary to make several critical assumptions. Firstly, multi-stage investments in which there were still dwellings for sale were treated as one investment (e.g. stages 2 and 3 were counted only once). Secondly, if various forms of development were implemented within one investment, they were referred to as “mixed development”. It should be noted here that sometimes it was difficult to determine the type of development – on the developers’ websites, there were entries “multi-family development in terraced houses”. As a rule, terraced houses are a form of single-family housing. In addition, sometimes, there were investments in terraced houses that had a common back wall. Considering that there were two apartments in each of these buildings, there was a problem with whether it should be treated as single-family or multi-family housing. However, because these buildings had access and entrances from two sides, they were treated as single-family terraced houses. A similar problem arose in the case of the so-called *czworak*. Thus, if 3–4 flats were in the investment with one common entrance, it was treated as a multi-family housing development. If each apartment had a separate entrance, it was treated as a single-family semi-detached building.

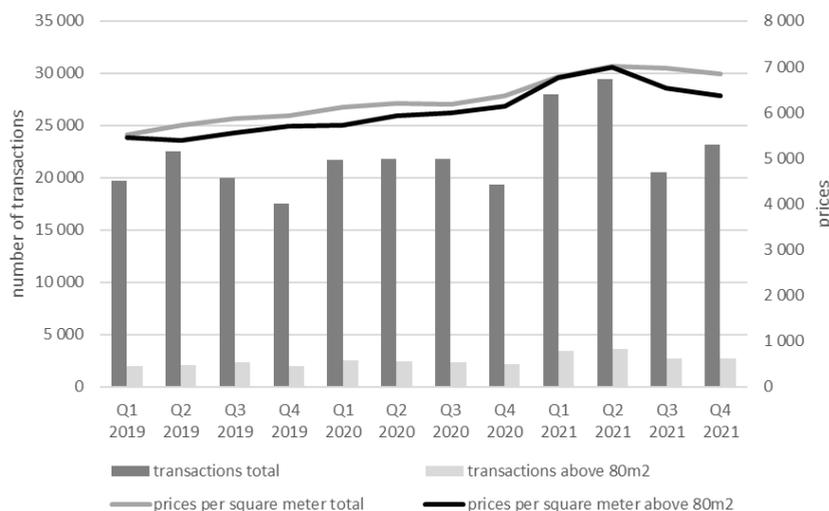
## Results

### Diagnosis of the conditions for the growth of real estate development activity in Łódź in 2019–2022

In Poland, the government used numerous restrictions because of pandemic. On March 12, 2020 the Minister of Health introduced a state of epidemic threat. On March 13, 2020, the first restrictions on economic activity were introduced, including the limitation of the functioning of shopping malls, restaurants could only deliver takeaway food, gyms, swimming pools, libraries, and many other facilities were closed (Związek Przedsiębiorczości i Pracodawców, 2021). On the night of March 15/16, Poland’s borders were closed entirely. On March 16, educational institutions and universities were closed, what reduced the demand for rental dwellings. In addition, in the following days, the principle of social distancing was announced, and

access to recreation places and green areas was limited (Duszyński et al., 2020). Many enterprises and institutions have switched to remote work mode at this time. From March 24 to April 11, a movement was restricted to living, health, and professional purposes (Związek Przedsiębiorczości i Pracodawców, 2021). From April 20, restrictions began to be slowly lifted, starting with stores, but many employers decided to stay in remote mode for another year or possibly switch to hybrid mode.

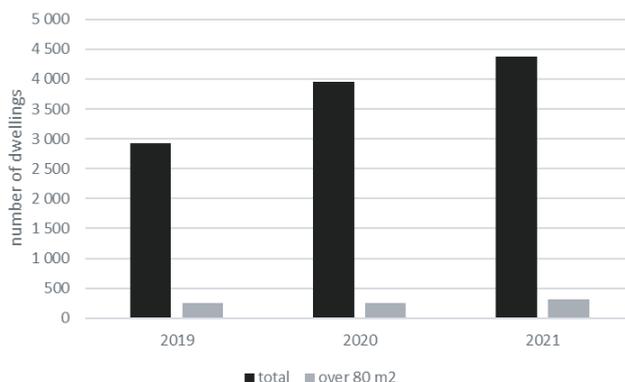
The restrictions related to the outbreak of the COVID-19 pandemic have contributed to the problems of many enterprises and households. In order to stimulate the economy to function after the lockdown, interest rates were lowered from 1.5 to 1% in March 2020 and to 0.1% in the following two months. This level was maintained until October 2021. It increased demand for dwellings, because more people gain the ability to obtain a loan. Despite high prices in the housing market, people in Poland decided to buy a new dwelling (Figure 1). They were often single-family houses, or at least developer apartments on the ground floor with their gardens or on the other floor, but with a large terrace.



**Figure 1.** Number of transactions and prices per m<sup>2</sup> on the primary market (total and for units over 80 m<sup>2</sup>) in Poland

Source: Author's own study based on LDB.

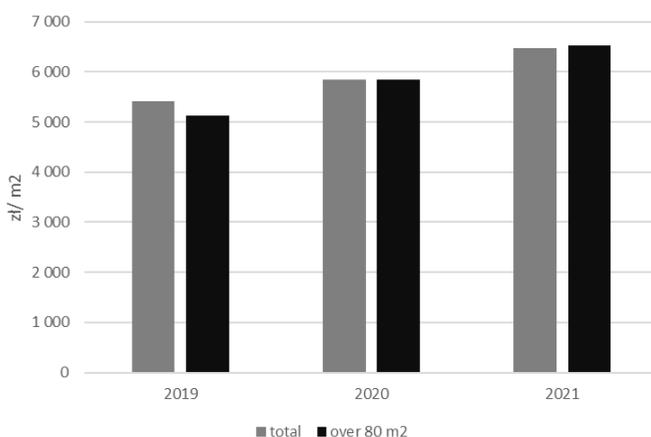
The data presented in Figure 1 confirm the increase in home prices on the primary market in Poland until Q2 2021. It encouraged developers to implement new projects. The price of dwellings with an area of more than 80 m<sup>2</sup> increased significantly (to the level of the average on the primary market), indicating great interest in this type of flats/single-family houses. The following quarters, were characterized by a decline in sales.



**Figure 2.** Number of transactions on the primary market (total and for units over 80 m<sup>2</sup>) in Łódź

Source: Author's own study based on LDB.

Similarly to the literature, changes in the level of dwelling sales on the primary market in Poland's largest cities due to the pandemic show some variation. In Wrocław, for example, in 2020, there was a sharp decline in sales. However, in Łódź, there was a constant, although slight, increase in sales of developer dwellings. According to LDB data (Figure 2), concerning dwellings with an area of over 80 m<sup>2</sup> (this includes both houses and large dwellings in multi-family buildings), in Łódź in 2020, there was a slight decline in sales of this type of real estate, while in 2021 developers again increased sales in this category (in 2019 – 260 dwellings, in 2020 – 248, and in 2021 – 307).

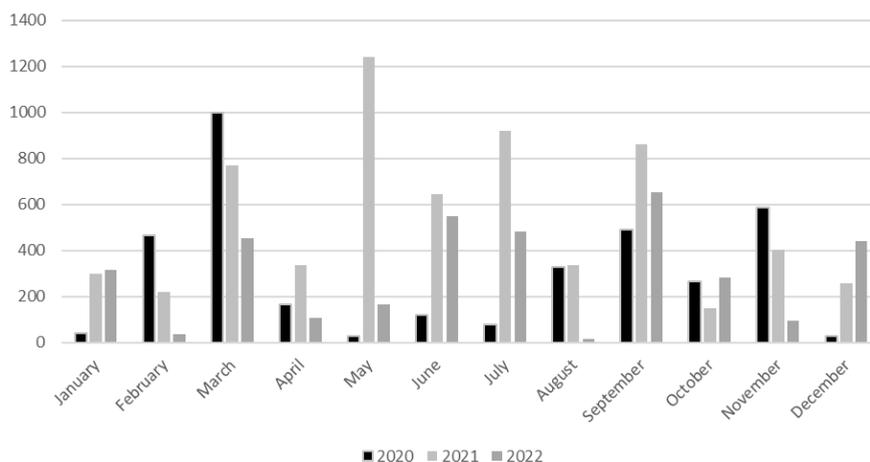


**Figure 3.** Prices per m<sup>2</sup> on the primary market (total and for units with the area over 80 m<sup>2</sup>) in Łódź

Source: Author's own study based on LDB.

Price increases also were recorded in many Polish cities. Interestingly, in some cases (Łódź, Kraków, Warsaw, Gdańsk), the prices of developer dwellings with an area of over 80 m<sup>2</sup> exceeded the average prices on the primary market. For example, in Łódź in 2021 the average price per m<sup>2</sup> in total on the primary market was PLN 6,473 (Figure 3), and for large dwellings over 80 m<sup>2</sup> – PLN 6,519 (an increase of 26% compared to 2019).

Sales levels could also influence the number of dwellings launched by developers (Figure 4).



**Figure 4.** Number of dwellings started by developers in Łódź in 2020–2022

Source: Author's own study based on LDB.

The data of the Central Statistical Office clearly show that in 2021, the number of dwellings started by developers in Łódź increased. However, in the following year, a decrease was observed (Figure 4), which could be caused by administrative restrictions caused by the outbreak of the pandemic. Unfortunately, the Central Statistical Office statistics do not allow examining this issue concerning the type of development.

Taking into account that in 2021, the largest share of single-family dwellings was completed in Łódź compared to other large Polish cities, as well as a small but still an increase in sales of dwellings with an area above 80 m<sup>2</sup>, with a simultaneous increase in their prices to higher than the average on the primary market, it is worth taking a closer look at the popularity of single-family housing in recent years. During the pandemic, reduced interest rates enabled the purchase of dwellings following the new preferences. Their increase, however, contributed to another change in preferences (depending on lower purchasing opportunities), because people can no longer afford to buy as large properties as before. So, the question arises whether it was not a momentary “inspired” by the possibilities of buying a dwelling at low external costs.

**Sales level of single-family houses in developer investments in Łódź – own research**

Own research conducted on investments in Łódź allowed obtaining an answer to the above-mentioned question.

**Table 1.** Building structure in developer investments on sale in Łódź

|                              | 2018 (April) | 2019 (April) | 2020 (August) | 2021 (June) | 2022 (August) | 2022 (December) |
|------------------------------|--------------|--------------|---------------|-------------|---------------|-----------------|
| Multi-family                 | 86           | 118          | 108           | 104         | 124           | 127             |
| Share                        | 80%          | 85%          | 80%           | 81%         | 73.4%         | 70.5%           |
| Single-family                | 21           | 21           | 26            | 25          | 45            | 53              |
| Share                        | 20%          | 15%          | 19%           | 19%         | 26.6%         | 29.5%           |
| Mixed                        | 0            | 0            | 1             | 0           | 0             | 0               |
| Total                        | 107          | 139          | 135           | 129         | 169           | 180             |
| Total share                  | 100%         | 100%         | 100%          | 100%        | 100%          | 100%            |
| Type of single family houses |              |              |               |             |               |                 |
| Detached                     | 2            | 2            | 2             | 2           | 2             | 5               |
| Semi-detached                | 5            | 6            | 12            | 12          | 24            | 27              |
| Terraced                     | 12           | 11           | 10            | 9           | 13            | 16              |
| Mixed                        | 2            | 2            | 4             | 2           | 6             | 5               |

Source: Author's own study based on real estate portals and websites of individual developers.

Several important conclusions can be drawn from the data presented in Table 1. Firstly, the number of investments on sale in 2018–2020 grew. It was caused by the raising demand in last few years (since 2015) generated by people purchasing dwellings to satisfy their needs and by investors. In 2021, there was a slight decrease in the number of investments in sales, which was caused by the COVID-19 pandemic just discussed in the article. The lack of adequate space to live, work and study and good credit conditions (0.1% interest rates) increased dwelling sales at that time. Investments visible on real estate portals for years have disappeared from the offers. Also, new investments sold very quickly, even those that were under construction. Due to the large areas and gardens, single-family houses were eagerly bought. It encouraged developers to carry out further investments in this development. In August 2022, there were already 45 such facilities on sale (an increase of 45% compared to the previous year) and 53 in December. It accounted for nearly 30% of all dwellings on sale in Łódź. First, the number of investments in semi-detached and terraced houses (sometimes two-unit houses) increased.

Further research was carried out only concerning single-family housing (53 projects). Regarding four small investments in December 2022, information was not found on their start or commissioning dates. Therefore, they are not included in the lists below. In addition, in some cases, only information on the date of completion of the investment was available, while the author estimated the date of commencement.

**Table 2.** The number of investments on sale in December 2022 by their start and commissioning dates

| Start year       | Number of investments | Year of completion | Number of investments |
|------------------|-----------------------|--------------------|-----------------------|
| 2019 and earlier | 8                     | 2021 and earlier   | 8                     |
| 2020             | 7                     | 2022               | 17                    |
| 2021             | 18                    | 2023               | 19                    |
| 2022             | 16                    | 2024               | 5                     |
| Total            | 49                    |                    | 49                    |

Source: Author's own study.

Tables 1 and 2 show that a change in buyer preferences could dictate the number of decisions to implement single-family investments during the COVID-19 pandemic. The problem, however, is that the development process is time-consuming, and the preferences that buyers have at the moment of making an investment decision do not necessarily have to be in line with those that the developer will find at the time of starting the sale of the investment, and even more so when the building is commissioned. Many developers decided to provide single-family houses, seeing it as an opportunity for a quick sale. However, the pandemic has ended with increased inflation and interest rates associated with increased housing prices. Meanwhile, many of these projects are only now being commissioned or will be in the next year.

Most investments currently on sale are of a minor scalar nature – up to 10 houses. There were 17 such projects. Some are multi-stage, and subsequent stages only include a small number of houses. Multi-stage is a good form because the developer can wait for the decision to start the next stage until the economic situation improves. Moreover, it seems that at the moment, this is not the right time for the sale of single-family houses, which developers “choked” during the pandemic, seeing in them the opportunity to achieve above-average profits.

**Table 3.** Number of single-family investments on sale in August 2022, broken down by sales level and start time

| Construction start time | Sales level 75–100% | Sales level 50–74% | Sales level 25–49% | Sales level below 25% |
|-------------------------|---------------------|--------------------|--------------------|-----------------------|
| Before pandemic         | 6                   | 0                  | 1                  | 1*                    |
| 2020–2021               | 8                   | 6                  | 4                  | 7                     |
| In 2022                 | 0                   | 0                  | 5                  | 10                    |

\* there are reservations, but the author does not treat them as a sale. In several cases, it was difficult to estimate the level of sales – presenting information on the developer's website needed to be more transparent or allow for such activities.

Source: Author's own study.

A high level of sales characterizes single-family projects that were started before the pandemic. Projects that were launched at the beginning of the pandemic also were sold well. Some were purchased at the stage of a hole in the ground, thanks to favorable credit conditions. Therefore, 14 of these projects were sold out in more than 50%. Developers who started single-family investments in 2022 are in the worst situation. Not only because they are not commissioned but, above all, because high

prices and increased interest rates on loans currently limit the purchasing power. All these investments are characterized by a sale level below 50%, in most cases even below 25%. If the economic situation does not improve, these houses can wait for buyers for quite a long time, which will cause problems for developers.

## Discussions and Conclusions

Real estate development activity in Poland has increased significantly since 2015. The dwellings were mainly built for sale, not only for people who wanted to satisfy their housing needs, but also for investors. Nevertheless, the essential function of the dwelling (whether we rent or own it) is to satisfy the needs such as sleeping, eating, security, or privacy. Depending on its size, structure of people, and income, each household may have different preferences regarding the area, layout, location, and neighborhood of the dream dwelling. Fashion can also influence preferences. Ultimately, many factors shape it, but preferences do not usually change overnight – unless people's life situation suddenly changes (death of a family member, divorce).

It should be noted, however, that even if the preferences of individual households change, it does not significantly translate into the products offered by the entities creating the supply. The outbreak of the COVID-19 pandemic has turned housing markets in many parts of the world upside down. Overnight, entire households switched to remote work or learning, which was difficult to reconcile, especially in small dwellings. Difficulties in household functioning partly prompted and partly forced them to look for other, more suitable places to live. Observing a sudden change in preferences, developers tried to follow the new trend. The problem, however, was that it took much work to determine how long the pandemic would last and what economic effects it would bring. Even more challenging to predict was the war in Ukraine, which harmed the economies of many countries, including Poland. Single-family houses sold very well during the pandemic and do not find buyers now due to high prices and harsh credit conditions. The period of their absorption is getting longer. Developers have frozen capital, which, with loans taken out, may, in the long term, give rise to the risk of debt growth and bankruptcy of smaller enterprises.

The studies cited in the literature review indicate a change in the preferences of home buyers due to the COVID-19 pandemic. Meanwhile, research conducted by the author indicates that the change in preferences only temporarily influenced the increase of popularity (sale) of single-family investments offered by developers. The capabilities of buyers are strongly dependent on the financial and general economic situation. The increase in interest rates resulted in a decrease in demand for large dwellings, which few people can afford anymore, and they are not an attractive investment for investors. The article, therefore, contributes to the theory of the real estate market. At the same time, it is essential information for practitioners creating real estate supply, because it shows that sales of single-family investments have dropped significantly, and those who started investing last year may already have a problem with their sale.

The conducted research has some limitations. Firstly, they show the situation in only one city. However, conducting similar analyzes for the entire country is impossible due to the difficult access to information. Public statistics are historical and do not include all necessary data. In addition, it is only sometimes possible to find all the necessary information on developers' websites. Nevertheless, the conclusions of the analysis are relatively straightforward. In Poland, the change in buyers' preferences related to buying more space, including single-family houses with their gardens, seems to be a "shock", which was cooled down by buyers' financial constraints.

## References

- Ahrend, R., Béтин, M., Caldas, M.P., Cournède, B., Diaz Ramirez, M., Pionnier, P.-A., Sanchez-Serra, D., Veneri, P., & Ziemann, V. (2022). Changes in the geography housing demand after the onset of COVID-19: First results from large metropolitan areas in 13 OECD countries. *OECD Economics Department Working Papers No. 1713*. doi:10.1787/9a99131f-en
- Andersson, M., Kopsch, F., & Palm, P. (2019). How cultural values are reflected on the housing market – direct effects and the cultural spillover. *International Journal of Housing Markets and Analysis*, 12(3). doi:10.1108/IJHMA-02-2018-0016
- Andrén, E. (2022). *Impact of Covid-19 on housing preferences in Sweden*. Master's Thesis. Sweden: Uppsala University.
- Antczak, A. (2012). Developers' Activity in Selected Cities of Poland – a Comparative Analysis. *Real Estate Management and Valuation*, 21(1), 59–68. doi:10.2478/remav-2013-0008
- Antczak-Stępnik, A. (2020). Location tendencies in developer investments in the residential market in Łódź. *Bulletin of Geography. Socio-economic Series*, 47(47), 133–144. doi:10.2478/bog-2020-0008
- Antczak-Stępnik, A. (2022). The role of real estate development activity in the re-urbanization of cities – a case study of Łódź, Poland. *Environmental & Socio-economic Studies*, 10(4), 59–70. doi:10.2478/environ-2022-0024
- Balemi, N., Füss, R., & Weigand, A. (2021). COVID-19's impact on real estate markets: Review and outlook. *Financial Markets and Portfolio Management*, 35(4). doi:10.1007/s11408-021-00384-6
- Batalha, M., Gonçalves, D., Peralta, S., & Pereira dos Santos, J. (2022). The virus that devastated tourism: The impact of covid-19 on the housing market. *Regional Science and Urban Economics*, 95, doi:10.1016/j.regsciurbeco.2022.103774
- Berridge, J.D. (1971). *The housing market and urban residential structure: a review*. Research Paper, 51. Center of Urban and Community Studies. University of Toronto.
- Bogołębska, J. (2019). Properties for sale in attractive holiday locations: The most important elements. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, 53(4), 7–20. doi:10.17951/h.2019.53.4.7-20
- Borowska-Beszta, B., Bartnikowska U., & Ćwirynkało K. (2017). Analiza wtórna jakościowych danych zastanych: przegląd założeń teoretycznych i aplikacji metodologicznych. *Jakościowe Badania Pedagogiczne*, 2(1), 5–24.
- Bunel, M., Gorohouna, S., L'Horty, Y., Petit, P., & Ris, C. (2019). Ethnic discrimination in the rental housing market: An experiment in New Caledonia. *International, Regional Science Review*, 42(1), doi:10.1177/0160017617739065
- Cheung, K.S., Yiu, Ch.Y., & Xiong, Ch. (2021). Housing market in the time of pandemic: A price gradient analysis from the COVID-19 epicentre in China. *Journal of Risk and Financial Management*, 14(3), doi:10.3390/jrfm14030108
- Dąbrowski, M., & Kirejczyk, K. (2001). *Inwestycje deweloperskie*. Warszawa: Twigger.

- Delgado, A., & Katafuchi, Y. (2020). COVID-19, state of emergency, and housing market. *MPRA Paper No. 102475*. Retrieved from [https://mpra.ub.uni-muenchen.de/102475/1/MPRA\\_paper\\_102456.pdf](https://mpra.ub.uni-muenchen.de/102475/1/MPRA_paper_102456.pdf)
- de Meirleir, M. (2012). *Location, Location, Location: A Plant Location and Site Selection Guide*. Routledge.
- De Toro, P., Nocca, F., & Buglione, F. (2021). Real Estate Market Responses to the COVID-19 Crisis: Which Prospects for the Metropolitan Area of Naples (Italy)? *Urban Science*, 5(23).  
**doi:10.3390/urbansci5010023**
- Duszyński, J., Afelt, A., Ochab-Marcinek, A., Owczuk, R., Pyrc, K., Rosińska, M., Rychard, A., & Smiatacz, T. (2020). Zrozumieć COVID-19. *Academia*, 4(64), **doi:10.24425/academiaPAN.2020.136169**
- Ellis, L. (2008). The housing meltdown: Why did it happen in the United States? *BIS Working Paper No. 259*. Basel: Bank for International Settlements.
- Feng, L., Lu, W., Hu, W., & Liu, K. (2010). Macroeconomic Factors and Housing Market Cycle: An empirical analysis using national and city level data in China. The Conference on Web Based Business Management. *Scientific Research*, 1088–1092.
- Francke, M., & Korevaar, M. (2021). Housing markets in a pandemic: Evidence from historical outbreaks. *Journal of Urban Economics*, 123, **doi:10.1016/j.jue.2021.103333**
- Gamber, W., Graham, J., & Yadav, A. (2021). Stuck at Home: Housing Demand During the COVID19 Pandemic. *Journal of Housing Economics*, 59, **doi:10.1016/j.jhe.2022.101908**
- Gołabeska, E. (2018). *Sieć ryzyka inwestycyjnego na rynku nieruchomości*. Białystok: Oficyna Wydawnicza Politechniki Białostockiej.
- Guglielminetti, E., Loberto, M., Zevi, G., & Zizza, R. (2021). Living on my own: the impact of the Covid-19 pandemic on housing preferences. *Questioni di Economia e Finanza Banca d'Italia*, 627.
- Gür, M. (2022). Post pandemic lifestyle changes and their interaction with resident behavior in housing and neighborhoods: Bursa, Turkey. *Journal of Housing and the Built Environment*, 37,  
**doi:10.1007/s10901-021-09897-y**
- Hromada, E. (2021). Impacts of COVID-19 on the Real Estate Market in the Czech Republic. *SHS Web of Conferences*, 91. **doi:10.1051/shsconf/20219101028**
- Hromada, E., Heralová, R.S., Cermáková, K., Piecha, M., & Kadeřábková, B. (2023). Impacts of Crisis on the Real Estate Market Depending on the Development of the Region. *Buildings* 13, 896.  
**doi:10.3390/buildings13040896**
- Hutchison, N., & Disberry, A. (2015). Market forces or institutional factors: what hinders housing development on brownfield land? *Journal of European Real Estate Research*, 8(3).  
**doi:10.1108/JERER-07-2015-0029**
- Jansen, S., Coolen, H.C.C.H., & Goetgeluk, R.W. (2011). *The Measurement and Analysis of Housing Preference and Choice*. London. Springer
- Jovanović-Milenković, M., Đurković, A., Vučetić, D., & Drašković, B. (2020). The Impact of COVID-19 Pandemic on the Real Estate Market Development Projects. *European Project Management Journal*, 10(1), 36–49. **doi:10.18485/epmj.2020.10.1.5**
- Kang, B.; Won, J., & Kim, E.J. (2021). COVID-19 Impact on Residential Preferences in the Early-Stage Outbreak in South Korea. *International Journal of Environmental Research and Public Health*, 18. **doi:10.3390/ijerph182111207**
- Kiel, K.A., & Zabel, J.E. (2008). Location, Location, Location: The 3L Approach to House Price Determination. *Journal of Housing Economics*, 17(2). **doi:10.1016/j.jhe.2007.12.002**
- Kocur-Bera, K. (2022). Impact of the COVID-19 Pandemic Era on Residential Property Features: Pilot Studies in Poland. *International Journal of Environmental Research and Public Health*, 19, 5665., **doi:10.3390/ijerph19095665**
- Krajnakova, E., Jegelaviciute, R., & Navickas, V. (2018). The Economic Factors Influence on Real Estate Market Development. *Journal of Interdisciplinary Research*, 8(2), 141–146.
- Laskowska, E., & Torgomyan, S. (2016). The Role of Government in the Housing Market. *Scientific Journal Warsaw University of Life Sciences –SGGW. Problems of World Agriculture*, 16(4), 205–212.
- Lepczyński, B., & Pisarewicz, P. (2022). The impact of war and pandemic crises on the sovereign creditworthiness and solvency. The position, role and decisions of international rating agen-

- cies. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, 56(5), 149–170. doi:10.17951/h.2022.56.5.149-170
- Liao, Y., Graff Zivin, J., & Panassie, Y. (2022). *How Hurricanes Sweep Up Housing Markets: Evidence from Florida*. Retrieved from <https://ssrn.com/abstract=4103049>; doi:10.2139/ssrn.4103049
- LDB. (2023). Retrieved from <https://bdل.stat.gov.pl/bdl/dane/podgrup/tablica>
- Makinde, O.O. (2013). Environmental Factors in Housing. *Journal of Environment and Earth Science*, 3(1), 86–98.
- McKibbin, W.J., & Stoeckel, A. (2010). The Global Financial Crisis: Causes and Consequences. *Asian Economic Papers*, 9(1), 54–86, doi: 10.1162/asep.2010.9.1.54
- Mohammed, J.K., Aliyu, A.A., Dzukogi, U.A., & Olawale, A.A. (2021). The Impact of COVID-19 on Housing Market: A Review of Emerging Literature. *International Journal of Real Estate Studies*, 15(2). doi:10.11113/intrest.v15n2.128
- Morris, E.W., & Winter, M. (1975). A Theory of Family Housing Adjustment. *Journal of Marriage and Family*, 37(1). doi:10.2307/351032
- Muhyi, M.M., & Adiarto, J. (2021). Literature Review: The Effects of Covid-19 Pandemic-Driven Home Behavior in Housing Preference. *Smart City*, 1(1). doi:10.56940/sc.v1.i1.2
- OCC. (2022). The Pandemic-Fueled Preference for Single-Family Homes May Endure. Office of the Comptroller of the Currency. *On Point. Economic and Policy Insight from the OCC*. January 25, 2022.
- Pagani, A., Fritz, L., Hansmann, R., Kaufmann, V., & Binder, C. (2021). How the first wave of COVID-19 in Switzerland affected residential preferences, *Cities & Health*. doi:10.1080/23748834.2021.1982231
- Rahadi, R.A., Rahmawati, D., Fitrianda, S., & Handayani, A.P. (2021). Millennials Residential Preferences in Indonesia during the COVID-10 Pandemic. *South East Asia Journal of Contemporary Business, Economics and Law*, 24(2), 43–53.
- Ramani, A., & Bloom, N. (2021). *The donut effect: How COVID-19 shapes real estate*. Stanford: Institute for Economic Policy Research.
- Rynio, D. (2021). The primary market in housing and apartment developments in Poland's six largest cities over the course of the COVID-19 pandemic. *Biblioteka Regionalisty. Regional Journal*, 21. doi:10.15611/br.2021.1.13
- Stankowska, A., & Stankowska-Mazur, I. (2022). The Third Wave of COVID-19 versus the Residential Preferences in Poland: An Assessment of Economic Factors and Psychological Determinants. *Sustainability*, 14, 1339. doi:10.3390/su14031339
- Szpunar, M. (2009). Internet w procesie gromadzenia danych o charakterze wtórnym. *Studia Medioznawcze*, 2(37), 139–149.
- Śmietana, K., & Zagórska, E. (2009). Deweloper jako profesjonalny uczestnik rynku nieruchomości. In H. Henzel (Ed.), *Strategie inwestowania na rynku nieruchomości* (pp. 160–166). Katowice: Wyd. AE.
- Thakor, A.V. (2015). The Financial Crisis of 2007–2009: Why Did It Happen and What Did We Learn? *Review of Corporate Finance Studies*, 4(2), 155–205. doi:10.1093/rcfs/cfv001
- Związek Przedsiębiorczości i Pracodawców. (2021). *Podsumowanie Lockdown-u w Polsce*. Warszawa. Retrieved from <https://zpp.net.pl/wp-content/uploads/2021/01/25.01.2021-Business-Paper-Podsumowanie-lockdownu-w-Polsce.pdf>
- Wei, F., & Zhao, L. (2022). The Effect of Flood Risk on Residential Land Prices. *Land*, 11, 1612. doi:10.3390/land11101612
- WHO. (2019). *Coronavirus disease 2019 (COVID-19). Situation Report – 94*. Retrieved from <https://apps.who.int/iris/handle/10665/331865>
- Zeng, S., & Yi, C. (2022). Impact of the COVID-19 pandemic on the housing market at the epicenter of the outbreak in China. *SN Business & Economics*, 2(6), 53. doi:10.1007/s43546-022-00225-2