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APARTMENT RENTAL MARKET IN RZESZÓW AND LUBLIN AT THE TURN OF 2021-2022

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ABSTRACT

The paper presents the impact of market characteristics on the rental rate of apartments and compares the levels of the offered rental rate in two selected cities: Rzeszów and Lublin. The analyses were conducted before and during Russia's aggression against Ukraine, based on residential rental offers. Data on the offer of residential premises for rent, posted on online portals in the period from November 2021, to April 2022, was used. The analyses showed an increase in rental prices in March 2022, mainly in Rzeszów, and similar correlations of the impact of characteristics on the market rental rate in both cities in relation to the area of the unit, the number of rooms, the location on the floor, the condition of the flat and the age of the building.

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1. Introduction

The property rental market is a dynamically developing market area in Poland, especially in large cities (Bryx, 2006). The purchase of properties in order to benefit from rent is one form of investment in the property market. The owner earns a fixed income on a monthly basis in the form of rent paid by the tenant. The behavior that takes place in the rental market is influenced by, among other things, economic crises, a decrease in household creditworthiness, migration processes or an increase in uncertainty in the labor market (Mach, 2018;Foryś, 2016).

The rental market is constantly changing, with changes in the duration of leases, properties on offer and the emergence of new tenant groups. In addition, there is a constant increase in the number of properties for rent, which has a significant impact on meeting the housing needs of the population (Kokot, 2019).

The actors that operate in the real estate market both serve and develop it. Market participants have been divided by Bryx (2006) into four groups: entities that operate on the market, entities that determine supply, entities that announce demand and other participants. We can categorize these actors into the following groups: investors, tenants, those who provide capital, developers and those who specialize in real estate (Ostrowska et al., 2015). Investors are one of the most intrusive groups in the real estate market. There are a number of criteria for dividing them, e.g. domestic investors place their money or shares on the domestic market, while foreign investors enter the international property market with their capital. Investors who purchase rights to real estate are called direct investors, investors who purchase shares, certificates and securities are called indirect investors, while investments in so-called special purpose vehicles are purchased by semi-direct investors. In the real estate market, we also have to deal with the division of investors into natural persons, i.e. those who satisfy their own housing needs or collect additional income from, e.g. renting real estate, companies that have a very large amount of capital and institutional investors are both legal institutions and public institutions. A final, but equally important, division of investors is the reason for acquiring real estate, among which we can distinguish: users, owners, shareholders and speculators (Ostrowska et al., 2015).

Tenants are also participants in the real estate market. Although probably most do not realize it, when looking for property for both long-term and short-term rental, they are an important and influential player in the property market (Ostrowska et al., 2015).Under a lease agreement, the lessor undertakes to hand over the property to the lessee for a specified or unspecified period of time, while the lessee undertakes to pay the agreed consideration - rent. The rent paid by the lessee to the lessor may be in the form of money or other consideration agreed on by the parties. The lease agreement between the parties may be terminated by termination of one of the parties or by expiry of the period for which it was concluded (Journal of Laws 2020.0.1740 i.e. - Civil Code Act of 23 April 1964). The lessor and the lessee are the parties to the lease agreement, which may be both natural and legal persons as well as organizational units. Under a lease agreement, the lessee has the right to use the apartment, although this does not entitle the lessee to sublet or derive benefits from it (Doliwa, 2014). Currently, Polish regulations define four types of lease agreements on the real estate market:

- traditional lease,
- occasional lease,
- institutional tenancy without transition to ownership,
- institutional tenancy with access to ownership.

The presented research of the local residential real estate market concerns occasional lease, carried out on the basis of the Act of 21 June 2001 on the protection of tenants' rights, the housing stock of municipalities and amendments to the Civil Code (Journal of Laws of 2022, Item 172, 975). The object of the occasional tenancy may include only premises which are intended for residential purposes. The lessor party in an occasional lease may be a natural person, a legal person and an organizational unit. The lessor party does not necessarily have to be the owner of the dwelling; it may be another person to whom the owner has provided the right of possession of the property. The duration of the occasional tenancy agreement must be specified, albeit not longer than 10 years. The agreement must be signed in writing under pain of nullity. The agreement may take a special form, such as a notarial deed, although it is important that all subsequent amendments to the agreement - if any were needed - be certified with a notarial signature. The occasional tenancy agreement requires the inclusion of the necessary elements, which are: a declaration by the tenant in the form of a notarial deed that he or she is subject to enforcement, an indication of the premises where the tenant will be able to live in the event of enforcement, and a certificate from the owner of the indicated premises that the tenant agrees to live there, which, if required by the landlord, must also be notarized (Mróz, 2016).

The main cost of renting a flat is the rent. It is a mandatory element of a lease agreement. The manner in which the rent is settled may be either in the form of money or other consideration agreed by the parties in the lease agreement. In addition to the rent, the costs that the tenant incurs are the costs associated with the use of the premises. Such charges include, for example, administrative rent, billing for utilities (e.g. electricity, gas) and digital media (e.g. television or internet). The income for the landlord, on the other hand, is the rent as specified in the agreement between the parties, the landlord and the tenant. The security deposit, which is often paid to the landlord by the tenant, is refundable in nature and therefore is not recognized as revenue, nor are additional costs, such as service charges, which are paid by the tenant and are therefore not taxed (Górski, 2013).

In general, real estate, as an asset and, more broadly, as a commodity, is characterized by a number of features of both a physical, economic and institutional-legal nature. These characteristics of real estate make it different from other economic goods (Gaca, 2017; Kucharska-Stasiak, 2010).

The aim of this study is to present the impact of market characteristics on the rental rate of flats and to compare the amount of the offered rental rate in two selected cities: Rzeszów and Lublin. The thesis addresses the issue of indicating the dependence of market characteristics, such as: the location of the property in the city, the area, the number of rooms, the storey, the condition of the flat and the age of the building, on the amount of the rental rate on the basis of the rental offer of flats in the indicated cities and

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refers to changes in rental rates in connection with the geopolitical situation and the influx of refugees from Ukraine, in connection with the outbreak of war in Ukraine. A geographical perspective is important when studying rental housing, since acute housing problems (e.g., low affordability, high rent burden) generally depend on local contexts that need localized investigations (Bogdon & Can, 1997; Sharma & Samarin, 2022). At present, information on the volume of housing rented on the private market remains largely unguessed. This is a result of the lack of inclusion of this sector in official public statistics (Nowak, 2021).

2. Material and methods

Achieving the stated aim of the study required the creation of a database and a collection of information using the direct observation method. For the purposes of this study, a database was compiled based on offer data for residential premises for rent in the analyzed cities. In the course of the analyses, a database was created comprising 500 offers for residential premises for rent, the offer data of which was collected on the basis of advertisements of the otodom.pl, rzeszów-nieruchomości-online.pl and lublin-nieruchomości.online.pl portals from November 2021 to April 2022. Only offers of premises for long-term rental were collated in the database. According to Groeger (2019), we distinguish between short-term and long-term rentals in Poland, with short-term rentals being a popular form targeted at tourists and construction crews. One key advantage of online data is their reduced cost, the high number of observations available and their high coverage and granularity when compared with standard survey data (Chapelle & Eyméoud, 2022).

Properties with complete information in the advertisement or with the possibility of obtaining complete information through direct contact with the bidders were accepted for the analyses. In addition, the analysis did not take into account room space or the rental of the room itself. The data included the location in terms of district and street, the number of rooms, the area of the premises, the offer price and the market rental rate, the location in terms of the number of storeys in the building, the type of heating, whether or not there is a balcony, terrace or garden, the type and year of construction of the building and the standard of the property.

The information was collected and then aggregated by Pieszko for her master's thesis entitled Analysis of the rental market for flats in the cities of Rzeszów and Lublin, written under the direction of Maria Hełdak at the Institute of Spatial Management of the University of Life Sciences in Wrocław (Pieszko, 2022).

The following research questions were formulated in the course of the research:

1. Do the residential rental markets in Rzeszów and Lublin differ in terms of the impact of market characteristics on market rental rates?
2. Does the area of the dwelling have an impact on the rental rate per 1 m^2?
3. Are there any noticeable changes in the rental rates per 1 m^2 after 24 February 2022.

On the basis of the research collected, thorough analyses were carried out using statistical methods and a comparative method. The analyses compare the rental market behaviour of flats in Rzeszów and Lublin. In order to determine the dependence of the market rent rate per 1 m^2 on selected market characteristics of dwellings, a correlation model was applied and presented in graphs for the analyzed cities of Rzeszów and Lublin. The observations, which were conducted for six months, also made it possible to capture changes caused by the influx of refugees from Ukraine after 24 February 2022. Data on housing stock in cities was obtained from the Statistisc Poland, Local Data Base for the period 2015-2020 (Statistisc Poland).

The spatial scope of the study covers the provincial cities located in the eastern and south-eastern parts of Poland - Lublin and Rzeszów (Figure 1).

Fig. 1. Location of the cities of Lublin and Rzeszów against the background of Poland and neighboring countries. *Source*: Authors, based on geoportal.gov.pl

The city of Rzeszów is located in the south-eastern part of Poland, in the PodkarpackieVoivodeship, which it is the capital of. The city area is approximately 129 km^2. Rzeszów is home to local and regional authorities, as well as governmental and judicial institutions. Academic, economic, cultural and recreational centres are thriving in Rzeszów, which is in the centre of south-eastern Poland. The aviation industry, IT, construction and chemical sectors are strong here. Another distinctive feature of Rzeszów is the Rzeszów - Jasionka International Airport, which serves both passenger and military flights and has the second longest runway in Poland. Important transport routes, the A4 motorway and the E-30 railway cargo line, providing a connection from west to east, intersect in the area of Rzeszów. Rzeszów is made up of 33 housing estates (Development strategy for the city of Rzeszów until 2025, 2015). There are 2 public universities in Rzeszów (Rzeszów University of Technology and the University of Rzeszów) and 5 non-public universities (University of Information Technology and Management, WSPiARzeszów University, University of Engineering and Economics, a branch of Collegium Humanum of the Main School of Management and the Higher Theological Seminary.

Lublin, located in the eastern part of Poland in the Lublin Voivodeship, is a provincial city similarly to Rzesów. Lublin's area is approximately 147 km^2. The city is an economic and academic centre. It has an airport in Świdnik, 10 km from the centre. An asset of the city is its very close proximity to Poland's eastern border with Ukraine. The city is divided into 27 auxiliary units - districts (Lublin City Status Report 2022, 2023). State higher education institutions include: Maria Curie-Skłodowska University, Medical University, Lublin University of Technology, the John Paul II Catholic University of Lublin, University of Life Sciences in Lublin, as well as non-public universities: Higher School of Economics and Innovation in Lublin, The University College of Enterprise and Administration in Lublin, Higher School of Social Sciences in LublinUniversity of Vincent Pol in Lublin.

The population of the city of Rzeszów at the end of 2022 was 197,568, while the population of the city of Lublin was 311,526 (Statistisc Poland). Since 2015, the population in Lublin has been steadily declining, with only the year 2019 showing an increase. In contrast, the population in the city of Rzeszów has been on the rise between 2015 to 2022. The increase in the population in the city of Rzeszów is due to, among other things, the expansion of the city's boundaries by the addition of surrounding towns and, more recently, to its strategic location near the border with Ukraine. According to official data (Statistisc Poland), the population in Lublinhas been decreasing by an average of 357 people per year for over 6 years, while in Rzeszów, it has been increasing by approximately 1,790 people.

Meanwhile, according to data from the Union of Polish Metropolises, there were 301,422 people in the capital city of Podkarpacie (Rzeszów)as of 1 April 2022. This figure was determined using an innovative geotrapping method, which combines information from mobile devices with PESEL numbers. On this basis, it was determined that, in April 2022, 105 000 Ukrainians lived in Rzeszów and a further approximately 50 000 in the Rzeszów metropolitan area (UniaMetropoliiPolskich, 2022).

3. Results

3.1. Housing stock

The housing stock in Rzeszów and Lublin is growing steadily, with a much faster rate of growth in Rzeszów. Over the last 5 years (2016-2020), 15 610 apartments were commissioned in Reszów and 11 873 apartments in Lublin. During the period 2015-2020, the number of dwellings in the first city grew by an average of 2602, whereas in the later, an average growth of 1979 dwellings was noted (Table 1).

The metric area per inhabitant of the analyzed cities in the analyzed years was higher in Rzeszów (Figure 2). This is related to the fact that dwellings in Rzeszów are much larger than in Lublin. The largest difference in metric area per person occurred in 2020.

Table 1

Housing stock in Rzeszów and Lublin 2015 - 2020

Year	Rzeszów				Lublin			
	Flats	Increase in number of flats in 1 year	Chambers	Usable area of dwellings $[m^2]$	Flats	increase in number of flats in in 1 year	Chambers	Usable floor area of dwellings $[m^2]$
2015	73 740	-	272 998	4 932 061	147 314	-	527 138	8 842 939
2016	76 621	2 881	282 371	5 116 606	149 506	2 192	533 914	8 982 470
2017	79 329	2 708	290 960	5 291 120	152 118	2 612	542 000	9 140 844
2018	81 596	2 267	298 638	5 444 069	154 926	2 808	550 730	9 311 853
2019	85 592	3 996	311 674	5 719 385	157 147	2 221	557 543	9 455 671
2020	89 350	3 758	323 320	5 954 442	159 187	2040	563 859	9 580 552

Source: own study based on Statistisc Poland, Local Data Bank, May 2023.

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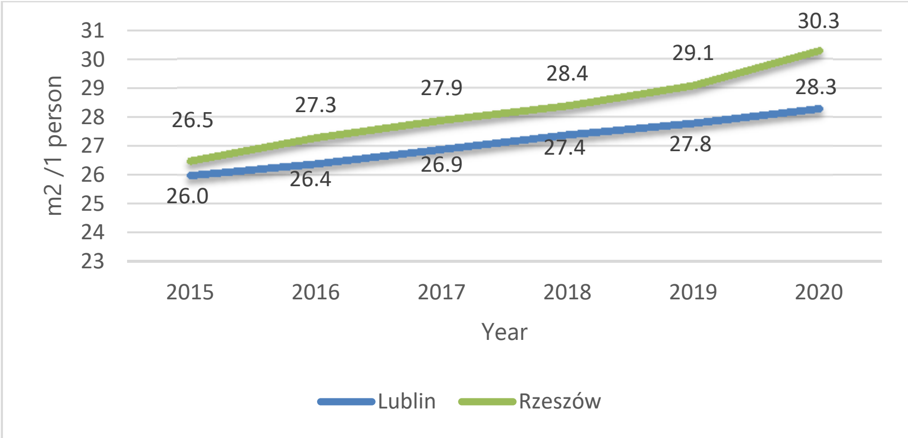

Fig. 2. Average floor area of dwelling per person in Rzeszów and Lublin 2015-2020. *Source*: Authors based on Statistisc Poland, Local Data Bank, May 2022

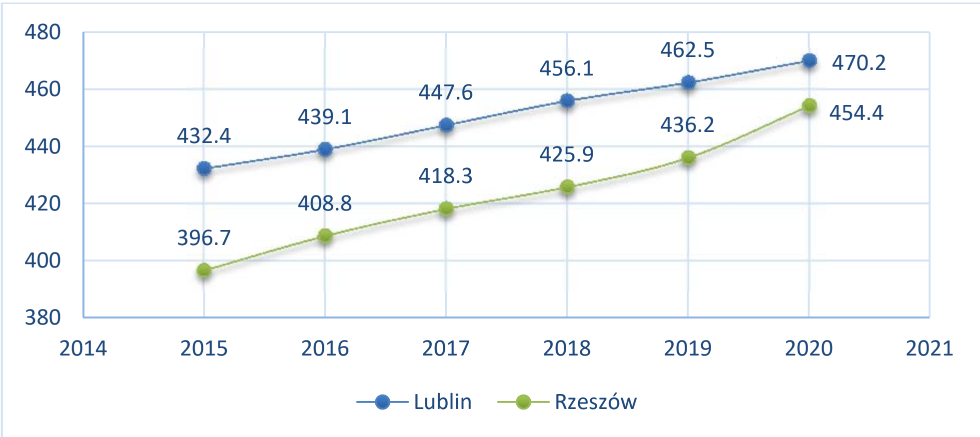

Fig.3. Housing units per 1,000 inhabitants in Rzeszów and Lublin 2015-2020. *Source:* Authors (2022) based on Statistisc Poland, Local Data Bank, May 2022

Over the course of the analyses, it was also found that Rzeszów flats are, on average, larger than flats in Lublin, but their area has been decreasing since 2015. The reasons for this situation are the trends on the real estate market, the emerging 2+1 family model and the lower possibility of buying a flat on credit. The average area of a flat in 2020, according to Statistics Poland, was 60.20 m^2 in Lublin and 66.60 m^2 in Rzeszów.

In 2015, the difference in the number of dwellings between Lublin and Rzeszów was more than 35.7 dwellings per 1,000 inhabitants. The dynamic increase in the number of dwellings in Rzeszów meant that, in 2020, the difference was already only 15.8 dwellings per 1,000 inhabitants. On this basis, we can determine that, although the number of dwellings in the analyzed cities is increasing, the housing economy in Rzeszów is developing much faster and is approaching the average per thousand inhabitants in Lublin (Figure 3).

3.2. General characteristics of residential rental offers in the analyzed cities

The database that was collected in the analyzed cities consists of 500 offers of residential units for rent. There are 250 properties per city. The table below (Table 2) shows the number of rental offers available in each month, from November 2021 to April 2022.

Table 2

Summary of bid data observations from November 2021 to the end of April 2022

City	Number of flats offered for rent per month and year:					
	XI.2021	XII.2021	I.2022	II.2022	III.2022	IV.2022
Rzeszów	33	38	41	53	39	46
Lublin	29	40	46	50	40	45

Source: own study.

In the following months, from December 2021 to February 2022, the number of offers increased. The highest share of the number of offers was noticed in February (20.6%), to record a decrease in March 2022.

The reason for the decrease in the number of flats put up for rent was the influx of immigrants from across Poland's eastern border, Ukraine, which had been caused by Russia's aggression against Ukraine. Also, landlords were watching the developments in the local rental market before deciding to rent a flat. Due to the fact that the analyzed provincial cities are located closest to the border, the influx of refugees during this period reached huge proportions.

In the total number of observations, two-room flats make up the largest share of dwellings in both cities, (approximately 50 per cent). For the most part, two-room flats in recent construction are considered to have a living room with a kitchenette and a separate bedroom (Świerczyński & Tulkowska-Słyk, 2020). These flats are most popular with percentage of tenants, including students, who account for a high percentage of tenants (Mach Ł., 2018).

One-room and three-room flats offered for rent dominate in Rzeszów, although the number of so-called studio flats is only slightly lower in Lublin. Four-room flats and larger make up the lowest share of the database, at around 5.2% of observations.

The number of offers divided by the area of the dwellings shows that the largest group of dwellings for rent are those with a size in the range of 40.1 m^2-–50.0m^2, and in Lublin in particular, these flats account for the largest share of observations, with 76 out of 250 total offers (Figure 4). In Rzeszów, on the other hand, flats with a size of 30.1 m^2 - 40 m^2 and 60.1 m^2 - 70 m^2.

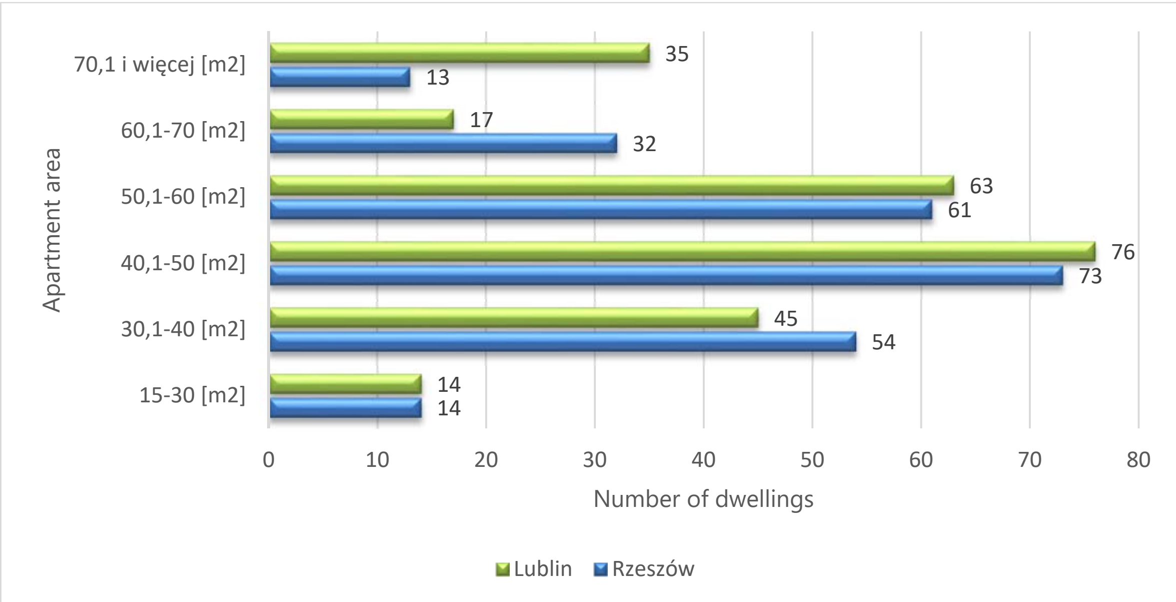

Fig. 4. Number of dwellings, by area of dwellings for rent in the cities of Rzeszów and Lublin between November 2021 and April 2022.*Source:* own study.

The average rental rate per 1 m^2 in Lublin, for all observations for the period from November 2021 to April 2022, reached a value of PLN 5.16 higher than in Rzeszów. In Rzeszów, the average rental rate per 1 m^2 amounted to PLN 38.99. The maximum market rent rate per 1 m^2 had a value of PLN 80.00 in Rzeszów, and PLN 77.55 in Lublin. The minimum unit rental rate, similarly to the average rental rate per 1 $m^2$is higher in Lublin - PLN 21.15, whereas in Rzeszów it is PLN 16.00. The difference between the minimum and maximum rental rate per m^2 in Rzeszów was as high as PLN 64.00, while in Lublin it was PLN 56.40 (Table 3).

Table 3

Statistical measures for the offer prices of rental flats in Lublin and Rzeszów in the period from November 2021 to April 2022

A statisticalmeasure:	City	
	Rzeszów [PLN]	Lublin [PLN]
Average rental rate per 1 m^2	38.99	45.15
Maximum rate per 1 m^2	80.00	77.55
Minimum rental rate per 1 m^2	16.00	21.15
Standard deviaton	10.73	12.44
Median	37.50	43.29

Source: own study.

The median representing the middle value of the unit rental rate (per 1 m^2) in the set of 250 observations for the city of Rzeszów determines that

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half of the dwellings had a rental rate lower than PLN 37.50. In Lublin, the median market rental rate per m^2 is PLN 43.29. On this basis, we can also determine that flats in Lublin are more expensive. Based on the standard deviation, we can see that the rental rate per 1 m^2 fluctuates closer to the median market unit rental rate in Rzeszów than in Lublin; in Rzeszów it is PLN 10.73 whereas in Lublin it is PLN 12.44.

Analyzing monthly rental rates, it may be noted that, on average, we will pay 1928 PLN for a residential unit for rent in Rzeszów, and 2290 PLN in Lublin, which is about 15% more than in the capital of the Podkarpackie Voivodeship. The maximum rate observed in the data from November 2021 to April 2022, was 8500 zł for rent in Rzeszów, despite the fact that the average monthly rental rate and the minimum rental rate were lower.

When analyzing rental rates in the cities, the more expensive dwellings are in Lublin, while the dwelling whose rental rate reached the highest value in the author's database is in Rzeszów. The monthly distribution of average rental rates in the surveyed cities is presented in the table below (Table 4).

Despite such a short period of analysis, it can be concluded that, from February 2022 onwards, an increase in average rental rates for residential units is clearly visible in Rzeszów. In Lublin, an increase has been observed since March 2022. In percentage terms, a higher increase in unit rental rates was recorded in Rzeszów - more than 16% between the months of January and February 2022. Fluctuations in average rental rates are related to the influx of Ukrainian citizens to Poland as a result of the geopolitical situation - Russia's aggression against Ukraine, and the close location of cities on the border with Ukraine.

Table 4

Summary of average rental rates in Rzeszów and Lublin from November 2021 to the end of April 2022

City	Average rental rate by month of listing (in PLN):					
	XI. 2021	XII. 2021	I. 2022	II. 2022	III. 2022	IV. 2022
Rzeszów	32.15	36.67	35.25	41.02	44.40	42.25
Lublin	43.03	40.24	46.07	41.60	48.05	50.02

Source: own study.

3.3. Influence of selected characteristics of the dwelling on the market rental rate

Areaof premises

The graph showing the correlation of the market unit rental rate (per $1m^2$) against the area of a dwelling in Lublin indicates that the larger the area of a dwelling, the lower the market rental rate. Flats with an area between 20 m^2 to 60m^2 are the most numerous group of observations and, in this range, the market rental rate has the highest values (Figure 5).

When analyzing the market rental rate per m^2 relative to the area of a dwelling in Rzeszów based on the scatter diagram, it can be seen that dwellings with the smallest areas achieve the highest market rates. Based on the trend line indicated on the chart, we observe a decrease in the market rental rate per m^2 as the area of the dwelling increases. Dwellings with larger areas are characterized by lower market rental rates per m^2, the exceptions being properties over 100 m^2, with an area between 128 m^2 and 168 m^2 whose offers had been added in February (Figure 6).

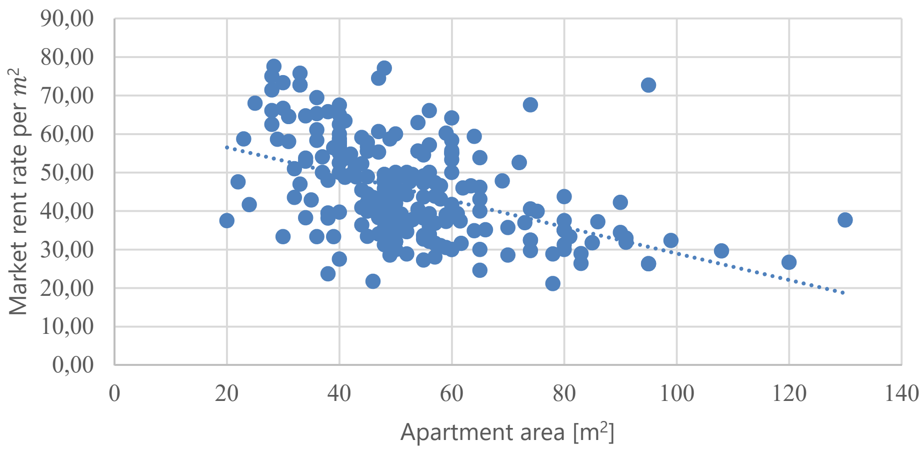

Fig.5. Correlation chart of the market rental rate per m^2 relative to the area of a residential unit in Lublin according to data from November 2021 to April 2022. *Source:* own study.

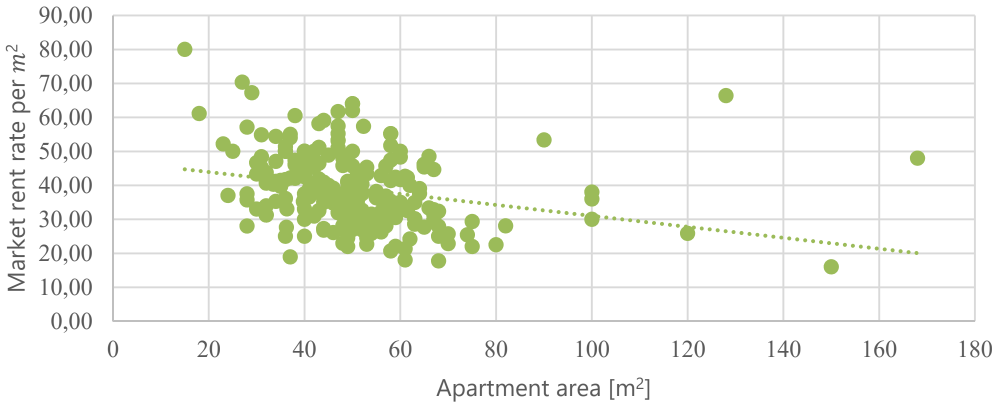

Fig. 6. A graph of the correlation of the market rental rate per m^2 relative to the area of a residential unit in Rzeszów according to data from November 2021 to April 2022. *Source:* own study.

The impact of the area of an apartment on the market rent rate for m^2 in the cities of Lublin and Rzeszów is similar, as the area increases, the rental rate decreases (with some exceptions in each of the analyzed cities, which are the norm when analyzing offer prices, as the market rental rate may be the subjective evaluation of a landlord in relation to a given property or it may be affected by other features increasing its value). Despite the deviations occurring, the trend is maintained.

Location of the dwelling in an urban area

In order to analyze the influence of the location characteristic on the market rent rate per m^2, a division of housing estates for the city of Rzeszów into three groups was adopted:

– neighborhoods/neighborhoods in the inner city - 1,
– neighborhoods/neighborhoods around the centre - 2,
– and the city's border districts/neighborhoods - 3.

In Lublin, the districts were divided into 3 zones. These are located in the following zones:

1. Śródmieście, Stare Miasto, Wieniawa, Za Cukrownią, Bronowice;
2. Czechów Południowy, Sławinek, Konstantynów, Rury, Czuby Północne, Dziesiąta, Kośminek, Kalinowszczyzna, Tatary;
3. Sławin, Czechów Północny, Ponikwoda, Felin, Czuby Południowe, Węglin Północny, Węglin Południowy, Wrotków.

Each zone was assigned specific cadastral districts and graphs showing correlations which were produced. In Lublin, the research carried out revealed a decrease in price as the flats' rental offers moved away from the city centre. The market rental rate per m^2 assumes the highest values in group 1 of the analyses, i.e. neighborhoods located in the very centre. In the districts located on the outskirts of the city, the average market rental rate is the lowest. The districts in the very centre of Lublin are characterized by a very high demand for residential units, and consequently, there is a large supply in these districts. In Rzeszów, it was noted that there is no impact of location on the market rental rate per 1 m^2 according to the division of housing estates in the centre and those distant from the centre. The average market rental rate there is only PLN 1 higher than in the other two groups. The high rent rate in the group of estates surrounding central estates is influenced by the location of university departments or easy access to other universities from this part of the city. Quick access to universities is one of the most important criteria for tenants among whom students are the majority (Mach, 2018). The analyzed neighborhoods of group two are intersected by major transport routes, facilitating both access to the city centre and also travel out of the city.

Number of rooms in dwelling

The research involved determining the relationship of the market rent rate per m^2 relation to the number of rooms in a dwelling in Lublin and Rzeszów. In accordance with the assumptions of the analyses, the set of observations was divided into one-room, two-room, three-room, four-room, five-room and six-room flats. One- and two-room flats are characterized by similar rates; as the number of rooms increases, the average rental rate per m^2 decreases. An exception is a six-room flat, whose value oscillates at the level of flats with fewer rooms. In the city of Rzeszów, the

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trend line indicates a decreasing tendency of the market rent rate with an increase in the number of rooms. The highest prices among the collected offers are achieved by one-room flats - studios. Two- and three-room flats in Rzeszów are at the most similar level according to the market rental rate per 1 m^2.

Floor location

Further research analyzed the impact of the location of the dwelling on the storey on the market rent rate. In Lublin, among the observations, dwellings were located on storeys from 0 to 11, in Rzeszów - from 0 to 19 storeys. In both cities, the highest number of observations was recorded between 0 and 3 storeys. The trend line indicates that the higher the location of the property on a storey, the higher the market rental rate. The highest market rental rate per 1 m^2 was achieved by flats located on the second and fourth storey, the lowest by a dwelling located on the ground floor of a residential building (Figure7, 8).

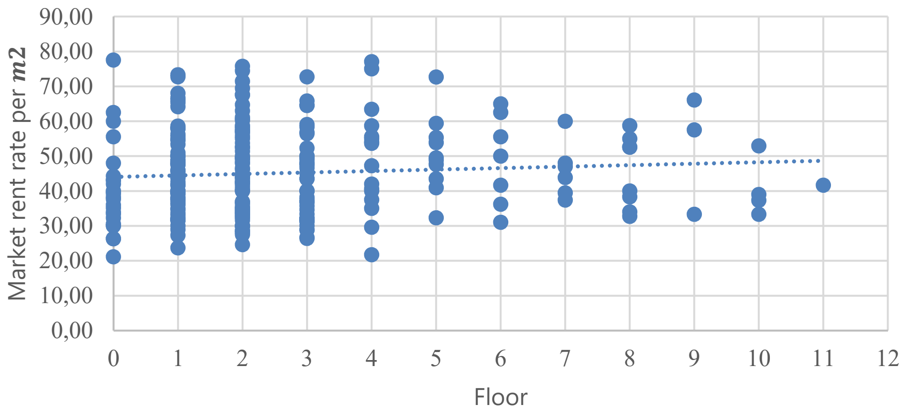

Fig.7. Correlation chart of the market rent rate per m^2 relation to the location of a residential unit on a building floor in Lublin according to data from November 2021 to April 2022.*Source:* own study.

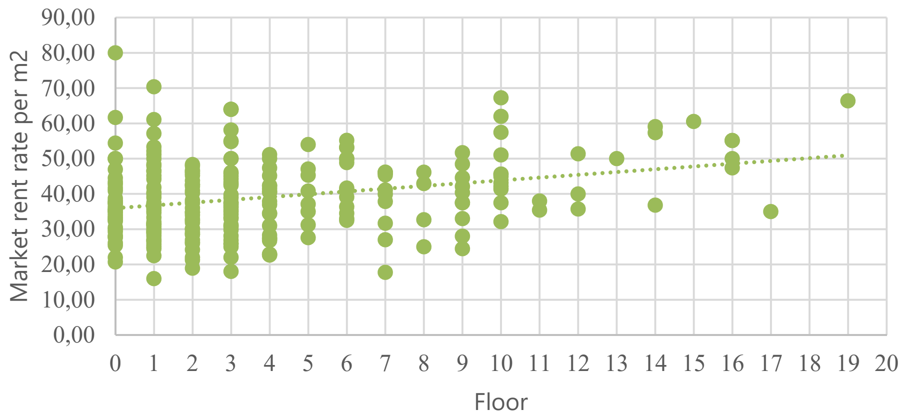

Fig8. Graph of the correlation of the market rent rate per m^2 relation to the location of a residential unit on a building floor in Rzeszów according to data from November 2021 to April 2022. *Source:* own study.

Age of the building in which the dwelling is located

In order to carry out the analyses, the set of offers was divided by type of construction into: new construction (buildings built after 2000), old construction (buildings built up to and including 2000). It was found that dwellings located in old construction achieve lower rates than dwellings in new construction. The average market rent rate in Lublin per 1 m^2 in new construction is PLN 49.00, while the average in old buildings is PLN 39.25. This characteristic has a significant impact on the market rental rate for m^2. In Rzeszów, a decrease in the market rental rate per m^2 by type of construction was also observed. Flats that are in new construction are more expensive than flats in old construction, on average by about PLN 9.10. The value of flats in new construction according to the average market rent per m^2 is PLN 41.04, in old buildings PLN 32.04.

4. Discussion

The analysis of the real estate rental market in the cities of Rzeszów and Lublin made it possible to solve the research problem, which was to present the influence of market features on the rental rate of flats and to compare the amount of the offered rental rate in the two selected cities: Rzeszów and Lublin. The study presents the dependence of market characteristics, such as: the location of the real estate in the city, the area, the number of rooms, the storey and the age of the building on the amount of the rental rate on the basis of the rental offer of flats in the indicated cities.

The realities of the housing market: the interplay of supply and demand, the purchasing power, will be defined by decisions concerning floor area, location and furnishings of a new dwelling for a long time (Gdakowicz et al., 2023).

In the course of the research, various research questions were formulated to address the research objective. One of them was to indicate whether the flat rental market in Rzeszów and Lublin differs in terms of the influence of market characteristics on market rental rates. Comparative analyses of individual market characteristics showed that characteristics such as area, number of rooms, location on the floor, standard of dwelling and age of building in which the dwelling is located do not differ in the indicated areas. The only feature that differed in the analyzed cities was location.

During the analysis of the impact of location on the market rent rate in Lublin, it was proved on the basis of the dependency graph that, with decreasing distance to the city centre, the market rent rate increases. The dependence on the distance of rental properties from the agglomeration center was also studied by Ruf in the Swiss market (2017). He confirmed that the greater the distance, the lower the fluidity of rental properties (Gdakowicz et al., 2023). In Rzeszów, a situation of minimal or even no dependence was observed in relation to distance from the city centre. The location may be influenced by various other factors causing the disproportion.

Within the districts of the centre of Lublin, there are main administrative units, universities, large-area retail and service outlets, cultural facilities and medical institutions. A large group of tenants are students, so it is this social group that determines the greatest demand for housing in this part of the city.

In Rzeszów, the market rental rate per m^2 is at a very similar level in all individual zones of the city (groups of housing estates), both those in the city center as well as those distant from the main part of the city. On this basis, it can be concluded that not only the location in the central part of the city has the main influence on the market rent rate, but also other location factors, including: transport accessibility, the location of the university campus or the location of the economic activity zone.

The analysis providing an answer to the second research question posed, determining the impact of the area of a dwelling on the rent rate per 1 m^2shows that, in both analyzed cities, as the area of a dwelling increases, the market rent rate decreases. Flats with the smallest area, have the highest average market rent rate per 1 m^2 and, conversely, dwellings with the lowest rental rate are those above 80 m^2. It was also found that in the cities analyzed, one- and two-room flats are the most expensive. As the number of rooms increases, the market rental rate per 1 m^2 decreases. However, it may be noted that two-room flats in Lublin are at a slightly lower level of the market rent rate per 1 m^2 than studio flats, while in Rzeszów, two- and three-room flats are in a similar range of market rates.

The analyses also revealed a significant difference in average market rents $zł/m^2$ between new and old buildings. On average, flats in new buildings are 10 PLN more expensive than those in old buildings in the analyzed cities. It was found that the age of the construction has a significant impact on the market rent rate per m^2 in both Lublin and Rzeszów.

The last of the research questions was to determine whether the analyzed cities could expect to see changes in the rental rate per 1 m^2 after 24 February 2022. Based on the collected residential rental offers between November 2021 and April 2022, changes in the average residential rental rate after the indicated date can be clearly seen (Figure 9).

The influx of refugees from Ukraine has influenced a significant increase in average rents, with this having already been noticeable in Rzeszów since February, and in Lublin since March 2022. According to Szelągowska (2021), in the aftermath of the COVID 19 pandemic and the associated lockdown, housing policy poses a major challenge in both theory and practice. Needs for housing are increasing, as are citizens' expectations. This thought becomes even more relevant in the wake of recent events and the influx of refugees from Ukraine.

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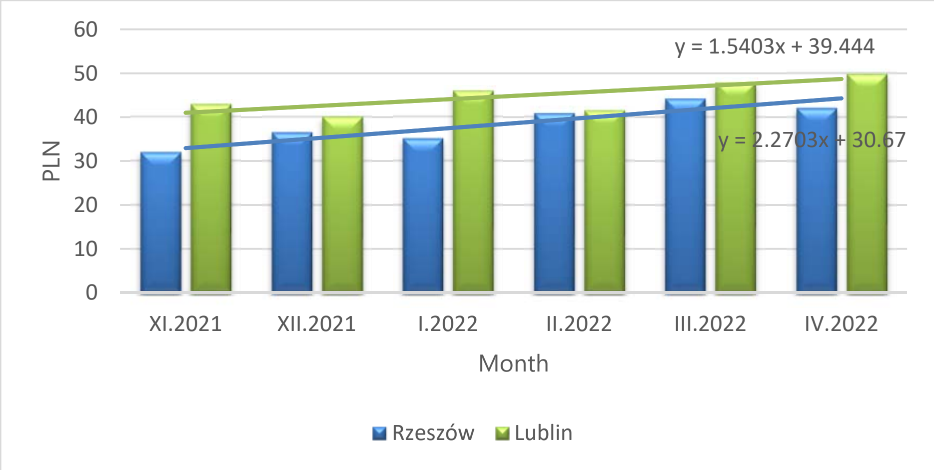

Fig. 9. Average rental rates for m^2 dwelling in Rzeszów and in Lublin according to data from November 2021 to April 2022. *Source:* own study.

According to Gilbert (2016), the strategy of promoting homeownership has not solved the housing problem anywhere in the world, and the presence of more than one billion renters suggests that rental housing is a necessary complement to homeownership. Many social groups, youth and migrants all benefit from rental housing. Military conflicts often generate refugee crises that affect the regions that people flee to and have spillover effects on other countries' housing markets (Trojanek & Głuszak, 2020). There is not enough research on this issue. Long-term studies have been conducted to date by such authors as Saiz (2007), Akbari and Aydede (2012), and recently Alhawarin et al. (2021) and Balkan et al., (2021), who studied Syrian refugee influxes to Jordan and Turkey.

5. Conclusions

The analyses carried out showed that the flat rental market in Rzeszów and Lublin generally does not differ in terms of the impact of market characteristics on market rental rates, the exception being the feature of location within the city.

The correlation chart indicated the impact of the area of the dwelling on the rental rate per 1 m^2 in the analyzed cities. As the area of a dwelling increases, the market rent rate in Rzeszów and Lublin decreases. This confirms the results of earlier studies and the generally known regularity that the larger the area of the property, the lower the unit price. The location of a dwelling on a floor has an impact on the rental rate per 1 m^2. Flats located on higher floors are more expensive.

The analysis revealed an increase in average rental rates in both Rzeszów and Lublin due to the influx of Ukrainian refugees into Poland after 24 February 2022. Rzeszów saw an increase in unit rent rates in February as compared to January of more than 16%. In the following months, an upward trend in the unit average rent of a flat was marked in both cities. Occasional rental in Poland is regulated by the market. Nowadays, it is critical to pay attention to rentership and related issues, such as rental affordability through a geographic lens. The war in Ukraine affects internal and external migration and has an impact on changes in the rental market.

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