

THE EFFECTS OF COVID 19, THE ENERGY CRISIS AND THE RUSSIAN-UKRAINEAN WAR ON THE REAL ESTATE MARKET IN ROMANIA

Elena HLACIUC

Stefan cel Mare University of Suceava, 720229, Romania
elena.hlaciuc@usm.ro

Abstract

The outbreak of the COVID-19 pandemic has dealt a heavy blow to global economic and social development, and the Russian invasion of Ukraine in 2022 has returned Europe to a state of unprecedented economic uncertainty. The aim of this research is to assess the repercussions of the crises resulting from the COVID-19 pandemic, the energy crisis and the war in Ukraine on the real estate market in the North-East of Romania. In order to achieve the aim of the research, we adopted an interdisciplinary approach, which allowed us to combine elements from the social sciences, including accounting and statistical-mathematical methods. Sources of information include both relevant scientific literature on the topic under investigation, but also quantitative analysis based on data from the National Institute of Statistics. The results of the study revealed that the real estate sector did not react in the same way as other sectors of the national economy during periods of health, energy and military crises, but more than that, it also maintained itself in terms of demand and sales prices. These results can be explained by the fact that many families from Ukraine have relocated to the North-East region of Romania, practically fleeing the conflict zones in Ukraine.

Keywords: *the real estate market in North-East Romania; Statistical data; Real estate indicators; COVID-19 pandemic; energy crisis; Russian Ukrainian war*

JEL Classification: *M41*

I. INTRODUCTION

The economic development of countries, regions and therefore of entities operating in the market occurs only when the balance of forces between favorable and unfavorable economic conditions is superior to the first category. Globalization, ease of access to investment capital, high financial liquidity and low interest rates, which used to be factors of a functioning market mechanism, have become increasingly unpredictable in recent years. As a result, with the advent of the economic crises, triggered by the COVID-19 pandemic, followed by the energy and military crises, the housing market has lost some of its potential that it had before. Thus, in the following, we will attempt a brief description of the effects of the three types of crises on the Romanian real estate market.

Therefore, as a result of the COVID-19 pandemic which spread at a rapid pace and which made its mark on the whole of humanity in the first part of 2020, the immediate effects were a dramatic drop in commercial activities, disruption of global supply chains, causing discouragement of demand, and blocking some sectors of activity in the economy of each country which led to the establishment of a strong recession, thus also affecting the real estate market, although not as much as other sectors of activity. Socoliuc (2020) analyzes the implications of the COVID-19 pandemic on the role of corporate governance and the identification of the most important management priorities and courses of action in ensuring business continuity and sustainability. According to the author, during the pandemic, companies had to strengthen their operational strategies based on stress testing and adapt their communication strategies with relevant stakeholders on measures taken and future action plans. The author also concludes that the entities affected by the pandemic crisis need to monitor their financial situation and undertake strategies on the basis of revised plans for the continuation of the business, and last but not least, a rethinking of governance being needed according to the identified priorities.

In this regard, in a study focusing on the role of information asymmetry on the behavior of young and educated consumers in Romania during the COVID-19 event period, Socoliuc et al. (2022) identified a model for quantifying information asymmetry between producer and consumer, as well as a method to identify a different typology of information asymmetry depending on the characteristics of food products, showing that in times of pandemic crisis people have been more careful about what they consume, the information asymmetry being a decisive factor in changing and adapting consumer behavior and in the development of the food industry.

In addition, the Russian-Ukrainian war, which is according to Boubaker et al. (2023) the most important conflict in Europe since World War II and which followed the devastation caused by the COVID-19 pandemic, has dashed hopes of a global economic recovery.

In the same context, Ellingsund (2023) is investigating whether the European energy crisis in 2022 is based on Russian manipulation of natural gas exports to Europe. Thus, the author argues that energy is the perfect tool to exert pressure on state actors as war and hybrid threats posed by Russia become more frequent, as many states are in a relationship with energy suppliers that make them vulnerable to manipulation and extortion. Also in this context, the war in Ukraine is considered to have had a substantial impact, leading to a substantial increase in imports of energy raw materials as a result of stockpiling efforts and the need to protect against further disruptions in the energy market (Rokicki et al., 2023).

Others studies are focused on identifying innovative solutions to reduce the negative effects of the energy crisis on Romanian economic operators (Cosmulescu, 2022). For instance, Grosu et al., (2022) considers that the increase in energy costs has had a significant impact on the performance and sustainability of most economic operators, with the excessive increase in energy and raw material prices representing the main risks to the short-term development of the operational activity of companies. The authors identified a profile of electricity consumers and proposed measures for government decision-makers and regulators.

Therefore, we consider that the COVID - 19 pandemic, the energy crisis, as well as the war between Russia and Ukraine have generated economic instability that has affected the price of real estate in Romania.

The aim of the paper is to make an in-depth analysis of the real estate market in Romania, i.e. in the north-eastern part of the country, taking into account the most relevant indicators that can be taken into account when assessing the impact of the economic crises caused by COVID 19, the energy crisis or the war at our borders in Ukraine. Thus, the research aims to obtain relevant data and useful information, both qualitative and quantitative that will allow us to understand the prospects of the real estate market in North-Eastern Romania.

The specific objectives we aim to achieve are:

- to carry out a literature review in order to analyze the Romanian real estate market, its scope and peculiarities, its specific priorities and constraints, which make it different from the real estate markets in the European Union;

- to assess the impact of the economic crises on the real estate market of the North-East of Romania by analyzing the main economic and financial indicators used to assess the financial situation of economic entities in this sector and region;

The results of this research revealed that the real estate sector was not affected by the COVID-19 health crisis, the energy crisis and the Russian-Ukrainian dispute like the other sectors of activity of the national economy, the analysis which was carried out for the period of 2019-2023, highlighting the fact that most transactions at the national level were carried out in Bucharest, Timis and Brasov, the real estate market being maintained both in terms of demand and sales prices. An explanation for these results could also be the fact that the real estate industry is specific to the fact that it is based on medium-term contracts, as well as the relocation of families from Ukraine from conflict-affected areas and the purchase of properties in Romania.

II. LITERATURE REVIEW

Bălăcescu and Tănăsioiu (2009) state that instability, limited demand and high risk aversion and price sensitivity were the characteristics of the Romanian real estate market in 2009, while global financial tensions and the attitude of banks that have frozen lending were the determining factors.

In Anghel and Poenaru's (2014) study, which examined the variables influencing real estate market participants' purchase decisions, they explain how buyers behave in this situation, conducting an analysis covering the years 1990–2014 and offering relevant responses to questions that real estate professionals ask themselves. The authors conclude that the birth rate, changes in the family and household, namely female employment and age are the main criteria determining purchase. The study also highlights that the supply of new housing was not sufficient in the period 1990-2000 in relation to the number of the population that would reach maturity. In Romania, in 70% of cases, the authors state that a person or couple decides to buy a house between the ages of 26 and 35. Therefore, the lack of credit products for the population contributed to the 2000-2008 boom.

In this context, the research undertaken by Enachescu and Bănică (2019) on the analysis and correlation of statistical data in order to determine the links that contributed to the dynamics of the real estate market in Romania in the period 2009-2018, revealed that with the annual increase in the number of transactions, the price obtained for the properties increased fluctuating. However, the authors find that the dynamics of transactions in 2018 fell below pre-crisis values. One of the hypotheses being also determined by the major discrepancy between the markets in Bucharest, Ilfov or Cluj and the rest of Romania in terms of the distribution of FDI flows.

Moreover, Roșca and Șipoș-Gug (2021), which focused on the analysis of monthly data for Romania from April 2009 to September 2016, showed a negative relationship between prices and transactions and found that incomes have a positive relationship with the number of transactions and a negative one with housing prices. The authors also conclude that marriages, divorces and births are related to changes in house prices and the number of transactions in the Romanian housing market, and long-term trends may be important in assessing the future of the housing market. The crisis caused by the COVID-19 pandemic, which affected the entire world including

Romania, has had economic, political, biological and social consequences. Therefore, any crisis on the scale of that generated by the COVID-19 pandemic also affects the real estate sector, which represents a major challenge for the proper revitalization of many sectors and for the return to a normal phase of most trade within the economy (Munteanu & Crețoiu, 2021).

Thus, the real estate market was no exception, even if it was one of the least affected markets. Despite the COVID-19 pandemic, in Romania, Crețu et al. (2021) state that sellers' claims returned to an upward trajectory in the latter part of 2020, and are currently up 2.2% more than in early 2020, with demand higher in the second half of the year.

We can therefore see that the housing market has been marked in recent years by unexpected events. In this context, the research conducted by Grigore and Bîznă (2023) examines the evolution of the construction sector before, during and after the COVID 19 pandemic, i.e. for the period 2015-2022, analyzing how construction companies managed their businesses threatened by this context. The results of the research revealed that the construction sector was not as severely affected as other business sectors, managing to align with the imposed restrictions and increase construction of more buildings compared to the 2015-2019 period. Another hypothesis considered by the authors concerned the correlation between the contribution of construction to GDP formation and the net investment of the state in this sector, the authors finding that the two indicators taken into analysis oscillate directly proportional, therefore if investment increases, the number of buildings built increases and if it decreases, construction decreases or stagnates. Therefore, before, during and after the COVID 19 pandemic, the investment budget allocated to construction increased, with the highest volume being allocated in 2022 that was an important and indispensable factor in the development of this sector, which has managed to grow and contribute an increasing share to GDP year on year.

The Russian-Ukrainian conflict following the Covid-19 pandemic marked the end of 2022 and continues to deepen Europe's socio-economic fragility (Ilie et al., 2022) and implicitly of Romania. Also, the authors mentioned above, conducted a sociological survey between 30.06.2022-05.07.2022 in Craiova, Romania, which targeted a number of 272 respondents, the results showing that the surveyed people have reduced purchases of real estate / cars in order to reduce costs, this option being chosen by 21.3% of them. Nikolić (2023) addressed the current crisis, the Russian-Ukrainian war and the events in the energy market and states that the European Union faced enormous challenges due to disrupted peace, energy uncertainty, social insecurity, the threat of business, inflation and the gap between supply and demand.

III. RESEARCH METHODOLOGY

In order to achieve the research goal, we adopted an interdisciplinary approach, which allowed us to combine elements from the social sciences, including accounting, but also statistical-mathematical methods. The sources of information include both relevant scientific literature on the researched topic and data from the National Institute of Statistics.

The main purpose of this paper is to analyze the impact of the recent economic crises on the Romanian real estate market and we will focus on the statistical analyses of the recent years but we will also highlight which are the most used economic and financial indicators when talking about assessing the impact of economic crises on the real estate sector. We will also analyze liquidity, solvency and risk indicators, taking from the literature the calculation methodology and interpretations from an economic and financial point of view.

IV. RESULTS AND DISCUSSION

Housing is one of the basic needs of the population, and access to it is an important factor in maintaining and improving the quality of life, as well as an essential component of society (see NSI, 2023). The objective of housing statistics is to assess the housing situation and its evolution, both in terms of new dwellings and existing housing stock.

We present in Table 1 the housing situation on December 31, 2022, both as existing, entries and exits of dwellings and implicit rooms, with the specification that housing has maintained its upward slope of recent years, with a number of 9,655.7 thousand dwellings at the end of 2022 and an increase of 0.7% compared to the end of 2021.

Table 1. Balance sheet of the housing fund, as of December 31, 2022

Name of Indicators	Housing	Rooms	Living area
Existing at the beginning of the year	9.587.153	26.505.406	465.767.531
Admissions - TOTAL:	74.187	229.706	4.700.076
- new constructions	73.338	227.880	4.656.140
- change from premises with another destination	849	1.826	43.936
Exits - TOTAL:	5.655	15.552	280.612

Name of Indicators	Housing	Rooms	Living area
- change from residence to space with another destination	875	2.269	48.554
- by demolition	4.780	13.283	232.058
Existing at the end of the year	9.655.685	26.719.560	470.186.995

Source: own processing based on data provided by INS, 2023

Given that the largest number of dwellings built were pre-1989, which had a much smaller floor area than those built post-1989, we propose to show the structure of the housing stock by dwelling rooms and habitable floor area at the end of 2021 compared to the end of 2022.

Table 2. The structure of the housing fund, living rooms, living area and the main derived indicators

Indicator	31.12.2021	31.12.2022	Evolution index (2022/2021*100)
Number of homes (thousands)	9587,2	9655,7	100,7
Number of living rooms (thousands)	26505,4	26719,6	100,8
The living area in square meters	465	470	101,1
Average number of rooms per home	2,8	2,8	100
Living area in sqm on:			
A home	48,5	48,7	100,4
A room	17,5	17,6	100,6

Source: own processing based on data provided by INS, 2023

Thanks to the real estate developers and the specific regulations on occupancy standards for one person, we can see that the habitable area increased in 2022 by 1.01% for both one- and two-bedroom dwellings.

In view of the subject of this paper, we propose to analyze the housing market in Romania's main development regions by form of ownership at December 31, 2022.

Table 3. Total number of dwellings by development regions and forms of ownership, as of December 31, 2022

	Total			Majority state ownership			Majority private ownership		
	Housing	Rooms	Living area	Housing	Rooms	Living area	Housing	Rooms	Living area
	number	number	square meter	number	number	square meter	number	number	square meter
T o t a l	9.655.685	26.719.560	470.186.995	119.562	216.771	4.147.994	9.536.123	26.502.789	466.039.001
North- East	1.541.261	4.286.273	73.478.045	18.017	34.220	671.034	1.523.244	4.252.053	72.807.011
South- East	1.157.588	3.369.554	55.296.876	16.906	29.422	510.869	1.140.682	3.340.132	54.786.007
South- Muntenia	1.388.129	4.100.418	64.380.859	12.288	21.962	406.782	1.375.841	4.078.456	63.974.077
South-West Oltenia	984.429	2.919.027	44.716.420	10.797	19.762	351.109	973.632	2.899.265	44.365.311
West	877.306	2.353.248	45.116.408	15.648	26.188	475.520	861.658	2.327.060	44.640.888
North-West	1.236.657	3.203.949	61.030.806	15.075	26.550	518.443	1.221.582	3.177.399	60.512.363
Center	1.128.605	2.874.101	55.046.417	20.850	39.720	844.872	1.107.755	2.834.381	54.201.545
Bucharest-Ilfov	1.341.710	3.612.990	71.121.164	9.981	18.947	369.365	1.331.729	3.594.043	70.751.799

Source: own processing based on data provided by INS, 2023

From Table 3 we can deduce the following information:

- at the end of 2022, the highest number of dwellings was recorded in the Northeast region, with a share of 15.96% of all dwellings;

- the existing housing stock at the end of 2022 has improved in terms of housing conditions;

- there is a low number of state-owned housing due to the large number of privatizations since 1990.

To get closer to the subject of the paper, we also propose an analysis on the North-East development region, and in the case study part we will deepen this analysis by applying an econometric model on the main economic and financial indicators that can assess the impact of economic crises on the housing market.

Table 4. Number of homes in the North-East development region, as of December 31, 2022

	Total			Majority state ownership			Majority private ownership		
	Housing	Rooms	Living area	Housing	Rooms	Living area	Housing	Rooms	Living area
	number	number	square meter	number	number	square meter	number	number	square meter
Noth-East	1.541.261	4.286.273	73.478.045	18.017	34.220	671.034	1.523.244	4.252.053	72.807.011
Bacău	286.856	774.408	12.988.794	3.750	7.445	138.028	283.106	766.963	12.850.766
Botoșani	183.250	501.279	8.420.219	2.584	5.421	107.466	180.666	495.858	8.312.753
Iași	375.324	991.610	17.331.558	4.233	7.523	151.677	371.091	984.087	17.179.881
Neamț	232.055	724.782	12.833.942	2.407	4.171	98.023	229.648	720.611	12.735.919
Suceava	285.270	820.166	14.693.663	3.707	7.124	133.401	281.563	813.042	14.560.262
Vaslui	178.506	474.028	7.209.869	1.336	2.536	42.439	177.170	471.492	7.167.430

Source: own processing based on data provided by INS, 2023

From the data presented in Table 4, the following can be deduced:

- the county with the most dwellings is Iasi with 375,324 dwellings and a share of 24.35% of the total, followed by Bacau county, with 286,856 dwellings and a share of 18.61% in the total North-East development region;

- the fewest dwellings were registered in Vaslui county, with 178,506 at the end of 2022 and with a share of 11.58% in the total dwellings of the North East Region. The North-East development area is characterized by a harmonious combination of all forms of landform, 30% being mountains, 30% subcarpathian area and 40% being the plateau. This last form of relief occupies more than 70% of the surface in the counties of Botosani, Vaslui and Iasi (see [ADR, 2023](#)).

In addition to the analysis of the existing housing stock at the end of 2022 at national and regional level, we also aim to analyze the dynamics of housing sales in the period 2019-2023, in order to highlight the situation in which Romania went through the COVID 19 pandemic, then the crisis generated by the war in Ukraine and the energy crisis. We want to reflect in figures, whether the housing market has been affected during this period (see Figure 1).

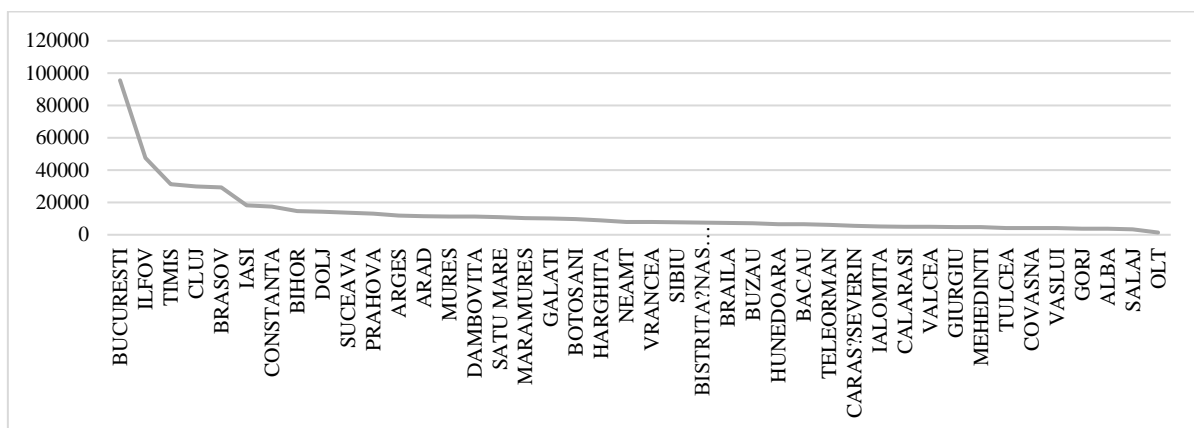


Figure 1. The number of transactions registered by ANCPPI in the period January-December 2019

Source: own processing based on information provided by ANCPPI, 2023

From the above data, it can be seen that most transactions were carried out in Bucharest, with 95,557 properties sold, representing 19.45% of the total of 540,180 transactions, followed by Ilfov, with 47,555, or 8.28% of total transactions, and Timiș with 31,328 transactions.

In 2019, the total number of homes sold nationwide was of 540,180. The highest number of homes sold was recorded in Bucharest, with 95,557 and with a share of 17.68% of the total number of homes. In the North-East region, Suceava, Bacau, Botosani, Vaslui, Iasi, and Neamt counties, a total of 60,068 dwellings were sold, with a share of 11.11% of total national sales. It can be seen that the North-East region did not exceed the sales that took place in Bucharest, considered the largest economic, industrial and educational center in our country.

Compared to 2019, 2020 increased in terms of real estate sales by 34.73%, with the largest increases recorded in Bucharest represented by 109,274 transactions, Ilfov with 54,333 transactions and Cluj with 36,764 transactions, but also decreases that were registered in Argeș, Bistrița Năsăud and Caraș-Severin.

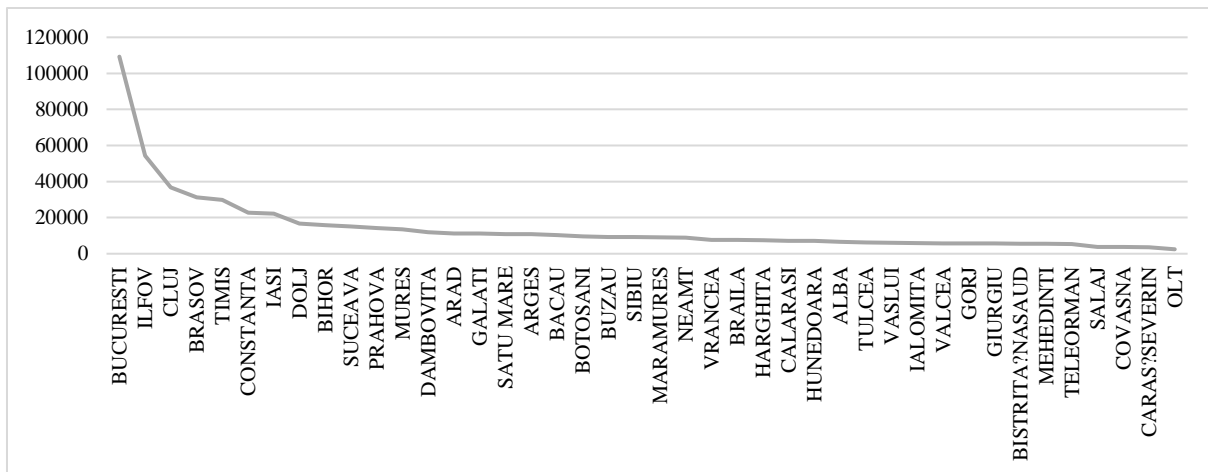


Figure 2. The number of transactions registered by ANCPI in the period January-December 2020
Source: own processing based on information provided by ANCPI, 2023

According to Figure 2, the total number of homes that were sold in 2020 was of 602,805, 10.38% higher than in 2019. In Bucharest, the number of transactions reached 109,274 homes, 12.55% more than in 2019. The COVID 19 pandemic led to a minor increase in economic real estate transactions, with most transactions being land and residential centers. In 2020, Romania recorded a GDP decrease of 3.9% and the state of emergency, as well as the restrictive measures caused a negative contribution of important sectors such as agriculture, industry and tourism. Despite the pandemic, the housing market has evolved.

With the information provided by ANCPI, the number of sales has increased in 2021, despite the difficult economic and health situation and the changed conceptions of the COVID 19 pandemic regarding personal housing. Having to stay indoors more than ever, it was counted that in Bucharest, the number of transactions increased by 13,415 sales, while Ilfov recorded a decrease of 9,779 units sold. In 2021, the third county was Brasov, with an increase of 7,161 homes sold. There is a permanent competition between the two counties, Brasov and Cluj, both being two highly industrialized counties and university centers.

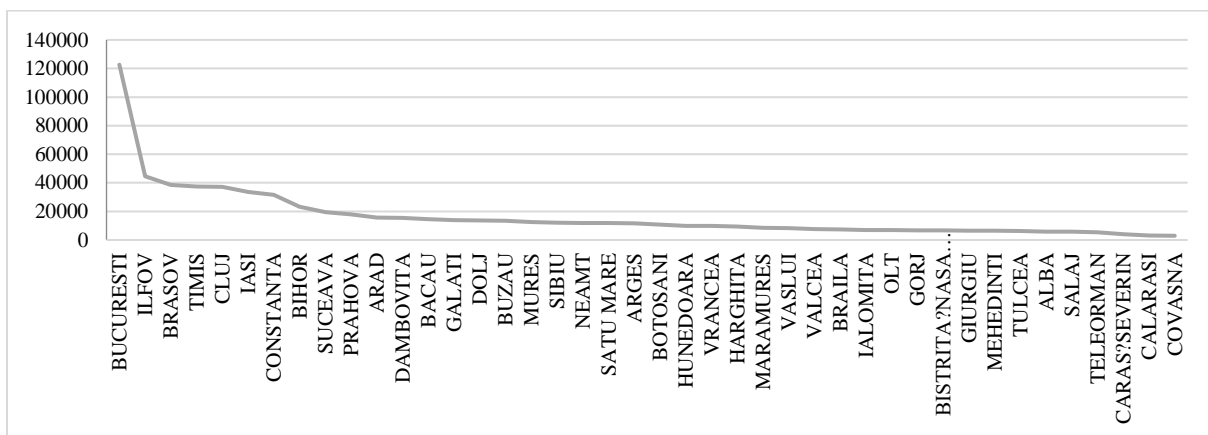


Figure 3. The number of transactions registered by ANCPI in the period January-December 2021
Source: own processing based on information provided by ANCPI, 2023

In 2021, a total of 698,756 transactions were recorded on the Romanian real estate market, 15.90% more than in 2020. The most transactions were recorded in Bucharest, these reaching 122,689 sales, with 12.27% more than in 2020. The North-East area quantified a number of 98,967 transactions, which represented 14.16% of all transactions, despite the fact that Iasi county was in the 6th place in terms of transactions, followed by Suceava county. The real estate market continued its rise in 2021, despite the economic uncertainties caused by the pandemic. Housing demand was concentrated on newly built homes, with a price per square meter of 1,550 euros. An advantage of the pandemic for the housing market was the low level of interest rates on loans and the announcement of the change in the threshold for the application of the reduced VAT rate for property purchases (Benea, 2021). Despite keeping their leading places, only Bucharest was the area with the increase in transactions in 2022, with 20,014 units. In the case of Ilfov county, compared to 2021, transactions decreased by 1,797 units, and in Brasov by 1,992 units. The energy crisis and the pressure generated by the war in Ukraine were also reflected in the situation of real estate sales on the Romanian real estate market.

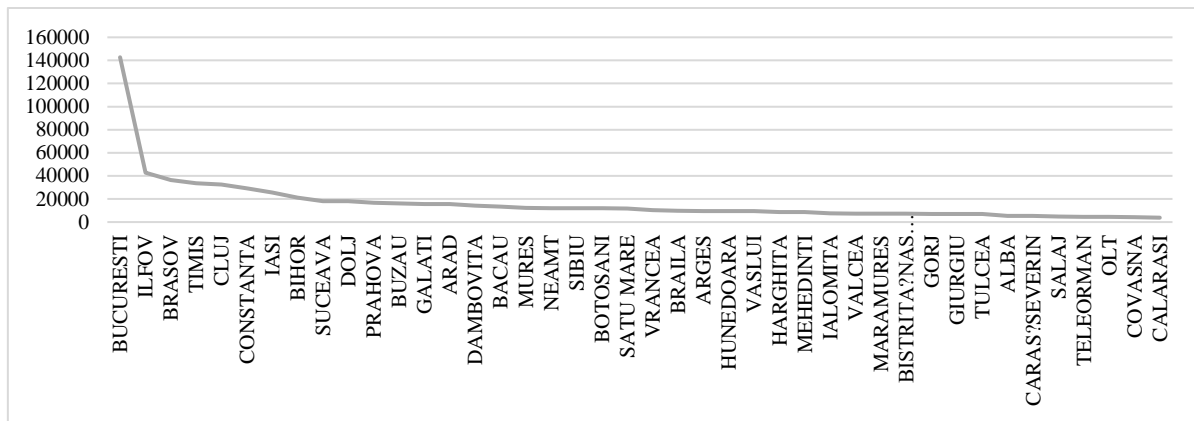


Figure 4. The number of transactions registered by ANCPI in the period January-December 2022
Source: own processing based on information provided by ANCPI, 2023

According to Figure 4, in the 2022 year, which was burdened by the economic crisis, either generated by rising prices or the war in Ukraine, the total number of transactions recorded was 700,273, higher than in 2021 by 0.002%.

In Bucharest, a number of 142,703 transactions were registered, more by 14.02%, and at the level of the North-East region, a number of 90,705 transactions, lower than in 2021 by 9.10%.

The year 2022 was probably the most marked year of uncertainty and unpredictability, due to the consequences of the pandemic, the war at the borders, the energy crisis and the increase in the cost of living. In large university centers, rents have increased, and properties have had even greater rental demand. Since the beginning of the war in Ukraine, prices have fallen.

Compared to December 2019, the transactions recorded in 2022 increased by 15.65%, in the changes and events that characterized this activity. In the Bucharest area, they increased by 25.89%, above the general average recorded in the other counties.

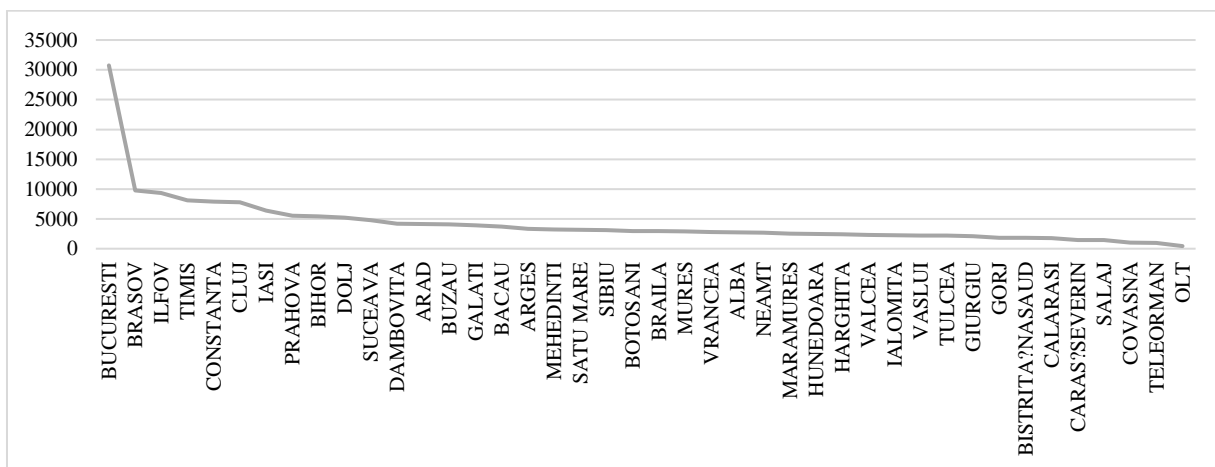


Figure 5. The number of transactions registered by ANCPI in the period January-April 2023
Source: own processing based on information provided by ANCPI, 2023

According to Figure 5, for the four months analyzed from the year 2023, respectively January, February, March, and April, the total number of transactions was 179,955. The most transactions were registered in Bucharest, namely 30744, and in the North-East Region there were recorded 22,755 transactions. The real estate market in 2023 will be further influenced by the increase in the number of rented properties, the technology and innovation will become deciding criteria in the process of purchasing a home.

V. CONCLUSION

This research aimed at a broad examination of the current situation and future directions of the housing market in the context of the economic crises of the last 5 years. Information on the real estate market in Romania by region of economic development, the number of transactions registered at the National Agency for Cadaster and Real Estate Publicity for a period of 5 years, i.e. 2019-2023 was taken, an analysis that helped us to conclude that most transactions at national level were carried out in Bucharest, Timis and Brasov.

The results of the present research reveal that the real estate sector did not react in the same way as the other sectors of the national economy, remaining stable both in terms of demand and sales prices, and for the year 2023 - taking into account international trends and customer behavior - the following forecasts can be made: house prices will decrease in the coming period, most intra-urban land prices will stagnate, apartment prices will remain constant, commercial space prices will not increase and office space prices will also stagnate. We believe that these results are also due to the specifics of the real estate market, based on medium and long-term loan agreements between developers and banks, as well as between developers and corporate and individual clients.

We also believe that the real estate market in Romania, and especially in the North-East of Romania, has developed favorably also due to the fact that many families from Ukraine, from areas affected by the conflict have relocated to Romania (especially in the North-Eastern counties) and have bought or rented houses in this part of the country.

The research may be useful for governmental actors who need to recalibrate their macroeconomic policies in the real estate sector, as well as for real estate developers, who need to rethink their investment policies in this sector, as the forecasts show a tightening of this market in 2023 and in the following years.

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