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INFLUENCING FACTORS ON HOUSING PRICES IN ROMANIA

Gheorghe MOROSAN
"Ştefan cel Mare" University of Suceava, Romania
morosang59@gmail.com

Iulian CONDRATOV
"Ştefan cel Mare" University of Suceava, Romania
iuliancondratov@usm.ro

Liliana FILIPCIUC
"Ştefan cel Mare" University of Suceava, Romania
filipciucliliana@gmail.com

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Abstract:
The paper aims to show how the price of housing is influenced by the volume of credit granted to the population for the purchase of housing and the size of the population's income. With the help of the SPSS computer program, a statistical model is created that will quantify the size of the impact of the factors shown above on the price of housing. A database was used to create the statistical model. The data was collected from the interactive database of the NBR, on the INS website, the statistical databases section, using also the information provided by www.imobiliare.ro. transformed by logarithm. The independent variables were shifted from the 6-month dependent variable. In conclusion, the price of housing is influenced by the size of the population's income and, according to the results obtained, it is the strongest influencing factor. And the volume of credit granted to households for housing influences the price of goods on the real estate market, a rather small influence.

Key words: housing price, household income, real estate credit, real estate market, residential market

JEL classification: G00, G21, G51, G59

1. INTRODUCTION

Starting from the idea that the need to own a home is an indispensable element of daily life, we will study the factors that influence its price on the real estate market.

The purpose of the research is to study the influence of two major factors in the economy, loans to households for the purchase/construction of housing and income, on the mechanism of price formation in the residential real estate sector.

The proposed hypothesis starts from two statements which can be presented as follows:

1. the price of housing is influenced by the demand component (the demand component was considered the volume of credit granted to the population for the purchase of housing);

2. the price of housing is influenced by the size of the population's income.

The research is materialized by creating a statistical model that will quantify the size of the impact of the factors shown above on the price of housing.

The first hypothesis has the following reasoning: mortgage / real estate loans finance the purchase of a home, which means that with the increase in housing lending, demand increases, the supply failing to meet the needs of consumers to the same extent, which causes rising prices. Banking is almost the only source of financing for the real estate sector, due to the lack of alternative ways of financing.

The second hypothesis refers to the fact that the price of housing is influenced by the increase in the population's income, and is based on the idea that those who want to buy a home will have the opportunity and will be willing to offer and accept a higher price for the house to be purchased.

The objectives of the paper are:

• Presentation of the Romanian real estate market and its evolution;
• Presentation of the evolution of the mortgage loan in Romania;
• Analysis of the results of the statistical model and their interpretation.

The importance of research stems from the fact that the purchase of a home, the real estate sector in any country, are important factors in economic development, being areas of the economy very sensitive to economic developments.

In the second chapter, called "*Real estate market in Romania*" this market is described and characterized, structured on its 2 components: residential real estate market and commercial real estate market, and its evolution during 2014-2019.

The third chapter, entitled "*Real estate loan in Romania*" analyzed the evolution of credit for the construction and modernization of housing during the years 2014-2019. Here you will find information regarding the role and trends of mortgage lending in the Romanian economy.

Chapter 4, entitled "*Database - Analysis and results*", focuses on the information presented above, which is the theoretical basis for the study. Starting from the idea outlined in the previous chapters, a statistical model was developed that demonstrated the veracity of the proposed hypothesis.

To create the statistical model, a database was created, presented in the Annex. Since the data used were of different sizes (hundreds, thousands, billions), it was concluded that the best solution for their analysis is to transform them by logarithm.

After several data processing, the most relevant statistical model constructed is the one in which the independent variables must be shifted from the dependent variable by 6 months.

2. THE REAL ESTATE MARKET IN ROMANIA

The real estate market, the housing construction sector, is an important segment in the economy of any country.

The notion of real estate market can be defined as "the totality of transactions involving property or use rights over land and buildings. Real estate transaction means the permanent or temporary transfer of a right from one side to the other in exchange for a reward that is usually a sum of money. [1]

The characteristics of this market are presented below:

Table no.1 The characteristics of the real estate market in 2019

Housing (no)	**Rooms (**no)	**Surface (**m^2)	**Rooms / house**	**Living space**	
				On a room (m^2)	**On a house** (m^2)
9.092.963	24.858.411	434.017.196	2,7	17,5	47,7

Source: INS, Fondul de locuințe 2018

The qualitative characteristics are the following:
• the market consists mainly of houses built in the period before 1989;
• 95.7% of market participants are owners of a residential space;
• the main source of market financing is bank credit.

The real estate market is the only market in Romania that does not have a distinct supervisory and regulatory authority, unlike other markets, such as: the banking market, the insurance market or the capital market.

According to the data provided by INS, the real estate market of Romania includes, at the end of 2019, a number of 9,092,963 dwellings, increasing by 61,646 dwellings (+ 0.7%), compared to 2018, the urban environment holding a share of 55% of total. The average annual growth of the housing fund in the period 2014-2019 was 57,000 homes per year.

The population of Romania at the beginning of 2019 is 19,414,458 inhabitants. If we relate the number of the population to the number of existing dwellings, it results that for every 2 citizens there is one dwelling.

The reality shows that, although living conditions improve from year to year, the vast majority of homes were built during the socialist period, which indicates that the housing stock is outdated.

With the year 2008, the investments in this sector decreased suddenly, and the effect was to reduce the number of completed houses in the following years. This fact suggests the following conclusions:

• the effects of the crisis have profoundly affected the real estate market, not even 11 years being enough for it to return, at least, to the level it experienced in 2008;

• the number of authorizations issued in the pre-crisis period indicates that the potential for demand is much higher than in 2019.

The dynamics of the evolution of authorizations is presented in the following graph.

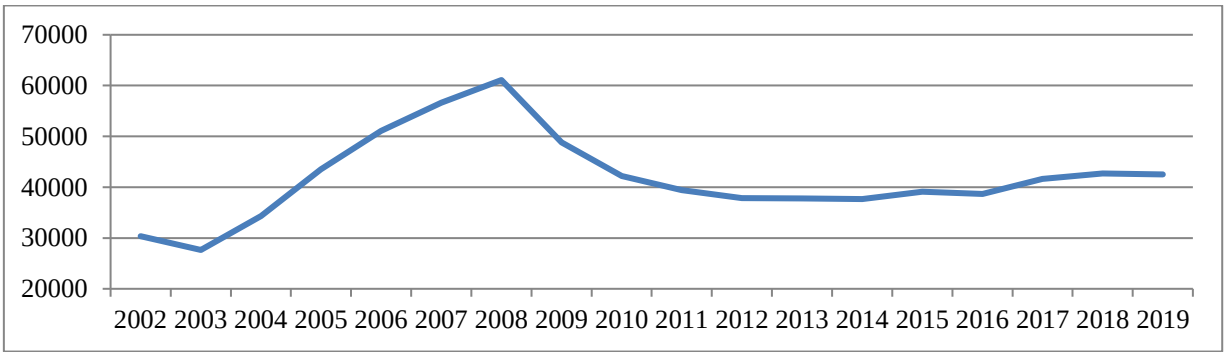

Chart no.1 Building permits issued for residential buildings

Source: developed based on data provided by INS, www.insse.ro accessed on 20.05.2020

The real estate market consists of two main components: the residential real estate market and the commercial real estate market.

In the real estate market, the residential market plays the main role this category giving direction to the evolution of the real estate market.

According to the periodical publication of the NIS "Housing Fund", the balance of the housing fund in Romania for the period 2014-2019 is presented in the following table.

Table no.2. The evolution of the housing fund of Romania in the period 2014-2019

Explanations	2014	2015	2016	2017	2018	2019
Existing at the beginning of the year	8.799.832	8.840.595	8.882.090	8.929.167	8.976.794	9.031.317
Inputs:	-	47.252	52.560	54.748	60.839	68.515
- - new constructions and additions to existing ones	44.984	46.984	52.206	53.347	59.713	67.488
- - change of spaces with another destination	-	268	354	1.401	1.126	1.027
Existing at the end of the year	8.840.595	8.882.090	8.929.167	8.976.794	9.031.317	9.092.963
Housing from own funds (including loans) of PF	-	44.100	49.404	48.790	51.237	56.017

Source: Housing fund years 2015 - 2019, www.insse.ro accessed on 20.05.2020

Starting with 2014, the year when the economy recovered from the shock of the crisis, an upward trend in residential property prices has emerged. In 2016, the price of residential real estate continues the upward trend, registering an annual increase of 7.3%.

In 2018, the evolution of prices is similar to previous years "but with a considerably decreased growth rate at national level (2.7 percent average annual growth in real terms in June 2018, compared to the same period of the previous year)." [2]

In 2019, the prices on the residential real estate market, for the first time starting with 2014, registered a negative average real annual rate, respectively -0.3%. In addition, the number of transactions in June 2019 decreased by 29% in annual terms.

In 2020, a continuation of the previous year's trend is forecast. However, due to the unpredictability of the global situation in connection with the new COVID-19 pandemic, it is not possible to anticipate price developments.

The following graph shows the evolution of prices on the residential real estate market.

Chart no.2. Evolution of prices on the residential real estate market

Source: https://www.imobiliare.ro/indicele-imobiliare-ro accessed 20.04.2020

With the decentralization of the economy, a period in which the financing of housing construction was mainly from public funds, since 1994 (according to INS) the main source of financing for the real estate sector was mainly private funds.

The following graph shows the financing structure, depending on the sector from which the funding comes, for the period 2013-2018.

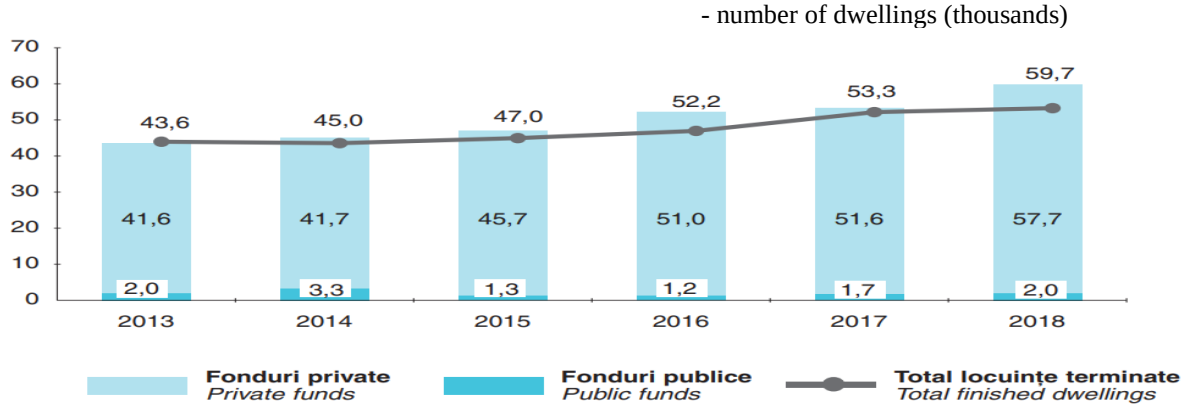

Chart no.3. Completed dwellings, by financing sources

Source: Statistical Yearbook of Romania 2019, page 240

According to the data provided by INS, private funds (consisting of bank loans and own sources of the population) have a share of 96.65% of the total funds allocated to the construction of new buildings in 2018, in which public funds have a share of only 3, 35%.

The tendency to be the owner of a residential space entered the consumerist behavior of the population, being a predominantly psychological need determined by the lack of knowledge necessary for proper management of financial resources and a strong imprint left by the centralized economy. This idea is also supported by statistics from developed European countries, statistics summarized in the following table.

As can be seen, in developed countries such as Germany, Sweden, Denmark, the situation of population distribution according to the status of the title for 2017 is as follows: the resident population renting a house has a significant share - Germany (48,6%), Sweden (34,8%), Denmark (37,8%); the population in possession of a home purchased on the basis of a mortgage loan - Sweden (52,2%) and Denmark (47,8%), and the difference - from own sources - Sweden (13%) and Denmark (14,4%).

Table no. 3. Distribution of the population according to the status of the title deed, 2017
-% -

Countries	Homeowner with mortgage or home loan	Homeowner without home loans	Tenant, rent at market price	Tenant, rent at a reduced or free price
Suedia	52,2	13,0	34,0	0,8
Danemarca	47,8	14,4	37,7	0,1
Germania	25,7	25,7	40,0	8,6
Romania	1,1	95,7	1,0	2,2

Source: https://ec.europa.eu/eurostat/statistics-explained/index.php/Housing_statistics#Tenure_status accessed on 12.02.2020

In Romania, however, 95.7% of the population owns a home without a mortgage, 3.2% are renting and only 1.1% own a home purchased through a mortgage.

These figures clearly indicate the model of life towards which the population is heading. In Romania, this tendency materializes in the idea of owning a property, which positively favors the development of the mortgage loan.

In developed countries, the tendency is to rent a house, as the cost of buying one is quite high, and if the population still decides to buy a house, in most cases, they resort to mortgages, being a quick and affordable solution.

Therefore, the Romanian real estate sector is one of the main branches to which banks prefer to direct their cash.

3. THE REAL ESTATE CREDIT MARKET IN ROMANIA

The real estate loan is an important part of the credit granted to households, which in turn represents an important segment of bank lending, with a volume of 81.2 billion lei, which represents 57.7% of total loans granted to households in 2019.

Since the emergence and development of housing lending, loans for this purpose has been known by various names, two of the most common are mortgage and real estate loan.

The definition of mortgages and real estate loans has been and continues to be a subject of controversy for specialists in the field, especially due to the lack of legislation that would accurately distinguish between a mortgage and a real estate loan.

A definition of real estate investment credit can be found in the NBR Regulation no. 17/2012 which defines it as “any loan granted to a person who cumulatively meets the following conditions: (i) is secured by a real estate mortgage and (ii) is granted for the purpose of acquiring or maintaining property rights over land and / or construction, realized or to be realized, either for the purpose of rehabilitation, modernization, consolidation or extension of a construction or for the viability of a land or exclusively for the purpose of repaying a loan for real estate investments. For the purpose of this regulation, real estate financial leasing granted to individuals is assimilated to the loan for real estate investments.”[3]

In the literature, “real estate loans' represent that category of loans granted by a bank to its customers, usually in the medium or long term, for the purchase, arrangement or repair of residential real estate, carried out either by investors or by promoters. “[4]

Instead, a definition for mortgage credit is found in Law no. 190/1999 on the mortgage loan for real estate investments. The definition is "the loan granted with the cumulative fulfillment of the following conditions:

1. is granted for the purpose of making real estate investments for residential or other non-residential use or for the purpose of repaying a mortgage loan for previously contracted real estate investments;

2. the granting of the loan is guaranteed at least with the mortgage on the real estate that is the object of the real estate investment for the financing of which the credit is granted, respectively with the mortgage on the real estate object of the real estate investment for the financing of which a mortgage loan for real estate investments to be funded in this way. "[5]

The main clarifications of the law and this definition refer to: the fact that the mortgage loan will be guaranteed with real estate mortgages on the building and land for which the loan is granted, while in the case of real estate loan there may be mortgages on other properties and, in order to attract funds required for the granting of mortgages, authorized financial institutions may issue bonds based on the portfolio of mortgages held, while in the case of real estate this is not provided.

Mortgages and real estate loans are often confused, as these two types of loans have many features in common, such as: the purpose for which they are granted, the need to guarantee the loan (mortgage), the amount of credit granted which is determined in both cases by income debtor.

In the Romanian banking offer, mortgages are included in the category of real estate loans and are known as "Loans for the construction, purchase or modernization of homes and holiday homes."

By the end of 2019, the demand for loans was growing, some of the stimulating factors of this trend being the increase of population incomes, price stability, economic stability and optimistic forecasts regarding the economic evolution in the future.

That is why the NBR is closely monitoring the evolution of lending in this sector, especially the level of exposure of the banking sector to the real estate market. In this sense, the NBR showed that in 2019, the exposure registers "a value of almost 91 billion lei (+6 percent compared to the same period of the previous year) and represented 67 percent of the total volume of exposures in the sector." [6]

During the years 2014-2019, real estate lending had an upward trend, a phenomenon largely due to the "First House" government program. This program has acted as a catalyst for housing lending. We can observe two important characteristics of the credit granted to households:

1. real estate loans granted in lei have a higher share than those granted in foreign currency, starting with 2014: “housing loans in lei thus acquired in 2018, for the first time, the highest share in total loans granted to the population” [7]

2. housing loans reached, at the end of 2019, as shown above, the largest share in total loans to households.

Table no.4. The volume of loans granted to the household in 2014 and 2019 -mill. lei-

Credit type / years	2014	2019
Loans granted for consumption	61.793,1	60.086,1
Loans granted for housing	50.677,7	81.175,0
Loans granted for other purposes	8.735,3	1.797,3
Total loans granted	**121.206,1**	**143.058,5**

Source: BNR, interactive database

The following graph shows the evolution of housing loans, starting with 2014.

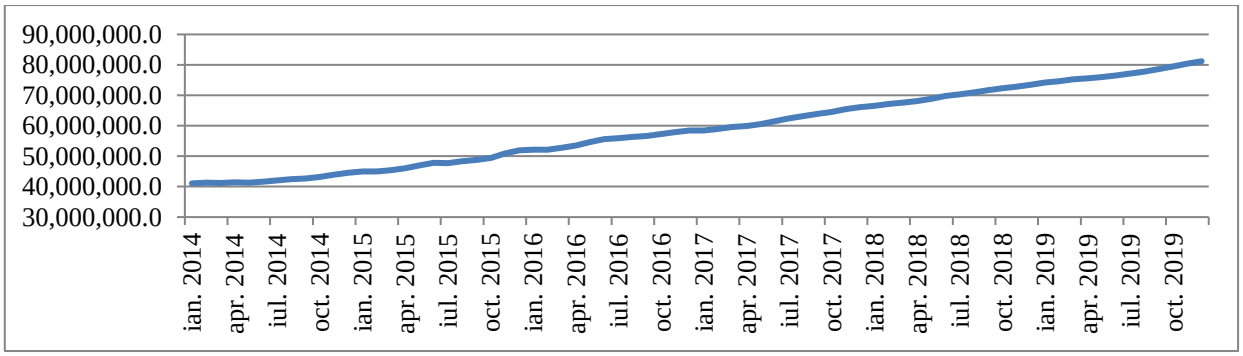

Chart no.4. Evolution of housing credit in the period 2014-2019

Source: BNR, interactive database

Since 2014, housing loans have recorded a "real increase of about 170 percent, double the rate recorded in December 2013." [8]

The low values of the average annual interest rates on home loans have had the effect of maintaining a steady increase in lending. The downward trend in the evolution of the monetary policy interest rate, in combination with the "First Home" program has managed to create easier access to credit.

4. DATABASE - ANALYSIS AND RESULTS

Therefore, 2 major factors were selected, which in our opinion influence the price of housing on the real estate market:

1. loans to households for housing and
2. income of the population.

In order to be able to assess each factor and its effect on housing price dynamics separately, a two-part hypothesis was proposed:

1. the price of housing is influenced by the demand component (the demand component was considered the volume of credit granted to the population for the purchase of housing);
2. the price of housing is influenced by the size of the population's income.

As we have shown above, the evolution of lending on the real estate market had an increasing dynamics for the period 2014-2019, which is an argument that demonstrates the proposed hypothesis, taking into account that prices on the real estate market also had an increasing trend.

Therefore, with the increase in the volume of housing loans, the volume of transactions in the real estate market also changed.

According to the data of the National Agency for Cadastre and Real Estate Advertising (ANCPI), at the beginning of 2014, 18.31% of the total sales made on the real estate market were mortgages. At the end of 2019, the structure of operations performed on the real estate market underwent changes, so that the share of mortgages reached 61.75%.

The following table shows the transactions performed on the real estate market during the years 2014-2019. It is noted that one of the important moments was in 2017, because starting this year, the share of mortgages in total transactions began to increase.

Table no.5. Transactions performed on the real estate market during 2014-2019

Years	Sales (transactions) thousand RON	Mortgages (thousand RON)	Share of mortgages in total sales (%)
2014	824.951	151.050	18,31
2015	890.168	185.381	20,83
2016	831.254	203.808	24,52
2017	627.802	254.405	40,52
2018	563.501	282.285	50,09
2019	540.180	333.561	61,75

Source: http://www.ancpi.ro/index.php/presa-3/statistici, own calculations

This change in the structure of transactions indicates that the population is increasingly opting for a mortgage. Therefore, mortgages play a role in shaping the price of housing, being at the intersection of the banking sector with real estate.

The following graph shows the parallel evolution of loans for housing and the number of mortgages, in the period 2014-2019.

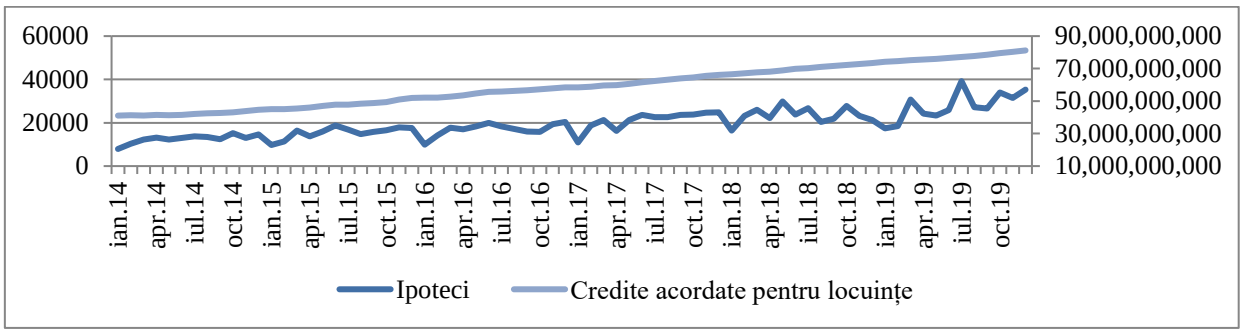

Chart no.5. Evolution of mortgages and home loans

Before presenting the relationship between household income and housing prices, it is important to clarify the phenomenon of accessibility.

Accessibility is the ability of a beneficiary to bear a cost. For the real estate sector, an affordable housing is one whose cost is bearable for the beneficiary. Accessibility can be calculated by two methods:

1. as a ratio between the average house price and the average family income;
2. as a share of resources distributed to finance housing expenses out of the total income of a family.

In Romania, accessibility is determined as a share of household expenses out of total family income. The reference level of accessibility for the real estate sector was 40% of the revenues obtained.

In the period 2014-2019, the percentage of the population that exceeds the limit of 40% is presented in the following table:

Table no.6. Share of persons whose housing expenditure exceeds 40% of income -% -

Years	2014	2015	2016	2017	2018	2019
România	16,2	15,9	14,4	12,3	10,3	8,6

Source: Eurostat, www.ec.europa.eu/eurostat

The data presented in the table above indicates that the share of people experiencing difficulties in getting financing for a house has decreased from 16.2% (in 2014) to 8.6% (in 2019). This result shows an improvement in living conditions amid an increase in total income and easier opportunities to access a real estate loan.

The income of the population is, indisputably, the most important factor that influences the housing price.

As the value of such a transaction is quite high, the real estate market has a small number of transactions compared to other markets, which makes the decision to purchase a durable good a long process.

If we analyze how the income of the population evolved during the years 2014-2019, it is good to refer to the average net monthly salary, because this indicator shows the average value that a person obtained monthly, after all his debts were deducted to the state. This evolution can be studied in the following graph:

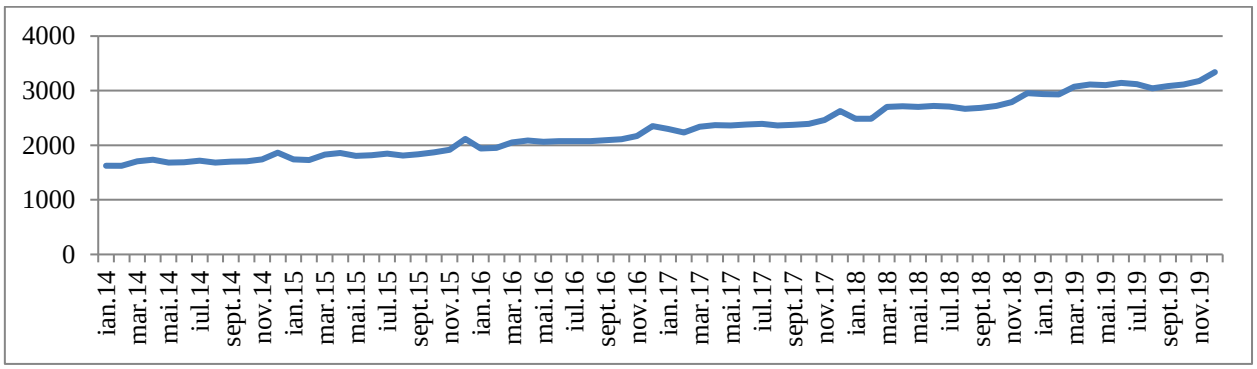

Chart no.6. Evolution of the average monthly net salary in the period 2014-2019

Source: developed based on data provided by INS, http://statistici.insse.ro:8077/

At the beginning of 2014, the value of the average monthly net salary was 1.625 lei, and at the end of 2019, it reached 3.340 lei. Therefore, in 6 years, the average net salary has doubled, which has inevitably led to increased consumption amid a stable economic environment. This has led to rising prices in the economy, including real estate prices.

The housing price index captures the price changes of all residential properties purchased by the population, both new and existing, regardless of end use and previous owners. Dwellings built on their own are excluded.

The house price index quantifies the change in residential house prices compared to a reference date (in our case, the reference date is 2015). The graph below shows the evolution of this index, starting with 2014 and until 2019.

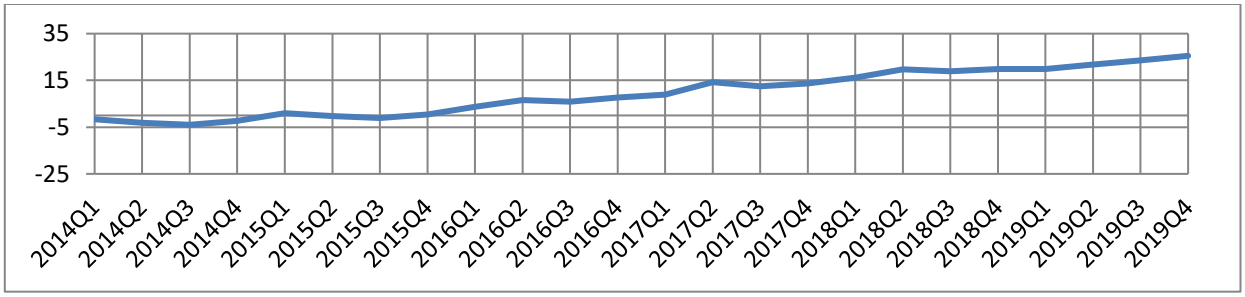

Chart no.7. Evolution of the housing price index in the period 2014-2019

Source: based on Eurostat data, Eurostat, www.ec.europa.eu/eurostat

If we were to overlap the evolution of the average net monthly salary with the evolution of the house price index, it will be obvious that they have the same trend, increase, there being an interdependent relationship between them.

In order to perform the analysis, it was necessary to identify and collect data from truthful sources.

The data selected were:

- Monthly average prices for usable m^2 of apartments;
- Y1 - Loans granted to households for housing;
- Y2 - Average monthly net salary.

The data were collected from the interactive database of the NBR [9], as well as from the INS website [10], the statistical databases section, using the information provided by www.imobiliare.ro [11] (the data are presented in the Annex).

The values of the indicators used in the analysis are available in monthly series, which allows a comprehensive analysis, using a large number of data points, favoring the accuracy of results and building conclusions appropriate to reality. All data are expressed in national currency - RON.

Because the data had various orders of size (hundreds, thousands, billions), it was concluded that the optimal solution to level the large gaps between values is to transform them by logarithm.

Another factor that played an important role in choosing the method was the moment when the independent variables manifest their impact on the dependent variable.

In other words, changing the volume of housing loans and / or increasing the average level of net wages will not have an immediate impact on house prices. Their influence will have a subsequent effect, ie what happened in the past influences the present and future.

Therefore, the decision was made to shift the independent variables by up to 6 months from the dependent variable, as shown in the following figure:

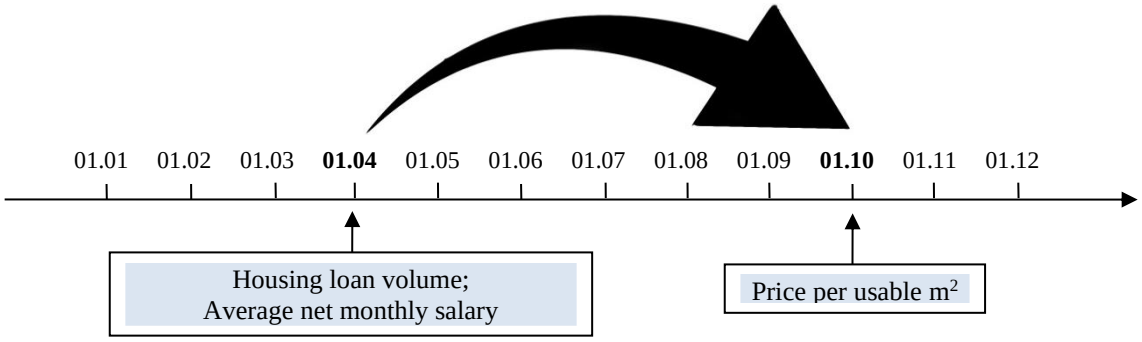

Figure no. 1. How independent variables influence the dependent variable

Thus, from several possible models to be applied, the model presented in Table no. 7 was selected for analysis, being considered optimal for the study.

Table no.7. Synthesis of the data analysis model

Dependent Variable: LOG(X) Sample: 2014M01 2019M12 Included observations: 72 Stopping criterion: p-value forwards/backwards = 0.5/0.5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOG(Y1-6)	**0.265387**	0.044468	5.968109	0.0000
LOG(Y2-6)	**81.23848**	32.72694	2.482312	0.0155
LOG(Y2)	**-81.15809**	32.85680	-2.470055	0.0160
R-squared	**0.962194**	Mean dependent var		6.975260
Adjusted R-squared	0.961098	S.D. dependent var		0.122813

Following the analysis of the dependent variable (monthly average of prices per usable m^2 of apartments), the following indicators were obtained:

• R-squared - the indicator aims to show in what proportion the independent variables (loans to households for housing and average monthly net salary) manage to explain the variation of the dependent variable (monthly average prices per usable m^2 of apartments). In the case of the model, this indicator takes the value of 0,962194, which indicates that the independent variables manage to explain 96% of the variation of the dependent variable;

• LOG (Y1-6) - the indicator measures the proportion with which a 1% increase in the independent variable Y1 (housing loans) that took place 6 months ago influenced the change in the dependent variable X (monthly average prices per usable m^2 of apartments). In the case of the model used, the value of this indicator is 0,265387, which indicates that a 1% increase in the volume of loans granted 6 months ago leads to a 0,265% increase in the price per m^2 of current apartments.

• LOG (Y2-6) - the indicator measures the proportion with which a 1% increase of the independent variable Y2 (average monthly net salary) that took place 6 months ago influenced the change of the dependent variable X (monthly average prices per m^2 useful of apartments). In the case of the model used, the value of this indicator is 81,23848, which indicates that a 1% increase in

the average salary 6 months ago will lead to an 81% increase in the current price per m^2 of apartments.

• LOG (Y2) - the indicator measures the proportion with which a 1% increase in the independent variable Y2 (average monthly net salary) influences the current change in the dependent variable X (monthly average prices per usable m2 of apartments).

In the case of the model used, the value of this indicator is -81,15809. As the moment of analysis of the average monthly net salary and the moment of analysis of the monthly average of prices per usable m^2 of apartments shift, the statistical representativeness of variable Y2 increases for variable X. That is, the relationship between the size of the analysis period and the representativeness of variable Y2 is direct. proportional.

The LOG indicator (Y2) shows the following phenomenon: the more the variable Y2 is shifted by X, the more its statistical representativeness increases.

This is because the decision to buy a home is not a spontaneous one, it requires a large amount of financial resources and time. Therefore, the time interval from the moment of the decision to buy a house until the moment of concluding the transaction must be taken into account when performing the analysis, as it distorts the results. When saving for the purpose of procuring a durable good, the level of the anticipated price to be paid for that good is at the time of the transaction (ie the future price) and not at the time of the decision (present price).

The salary received today will contribute to the formation of tomorrow's price. As previously mentioned, the salary has an active effect on house prices, and its influence is felt only after a period of time.

Summarizing the results obtained from the analysis performed, we can conclude the following aspects:

1. The hypothesis proposed in this case study, according to which the price of housing is influenced by the demand component (the demand component was considered the volume of credit granted to the population for housing) and by the size of the population's income, proved to be true, using statistical analysis models;

2. The price of housing is influenced by the size of the population's income and, according to the results obtained, this is the strongest factor that determines in which direction the price on the real estate market will evolve;

3. The volume of credit granted to the household for housing influences the price of goods on the real estate market. Although this influence is insignificant, amounting to 0.265%, according to the LOG indicator (Y1-6), this may change in the future.

It is important to note that in a market economy, all economic sectors are mutually influenced by each other and it is impossible to distinguish one part of the mechanism from another. Everything functions as an integrated organism and what happens in a sector will produce effects everywhere, the difference is only the extent of the manifestation of the consequences.

CONCLUSIONS

The paper aimed to demonstrate and quantify the influence that the income of the population and the volume of loans granted to households for housing, has on the price of housing on the Romanian real estate market.

This theoretical research allowed us to understand the behavior of the real estate market, as well as the trends of lending to the population by the banking sector, taking as a reference model the period 2014-2019.

Therefore, in the case of the mortgage credit market, an increasing evolution of the credit volume was outlined during the years 2014-2019, and one of the major factors that influenced this trend was the "First House" government program.

The real estate market, in the period 2014-2019, also evolved in growth. According to INS data, the annual growth of the housing fund in the period 2014-2019 was, on average, 57.000 homes

/ year. Therefore, the increase in housing supply has stimulated the growth of lending to the population, a phenomenon that has caused rising prices.

The content of the study presents the two factors selected as independent variables that influence the price on the real estate market, where we were convinced once again of the existence of an interdependence between these elements in the price formation process.

The last and most important stage in the elaboration of this paper was to make a model that would indicate, from a statistical point of view, the value of the influence of independent variables on the dependent one. The model generated 4 relevant indicators.

Summarizing the results obtained, it was concluded that the built model has a high representativeness (96%), which denotes a strong interdependence between independent variables (volume of credit granted to the population for housing and average net monthly salary) and the dependent (average monthly prices for usable m^2 of apartments).

The constructed model allowed the identification of the exact value with which each variable influences the price. For the first variable, loans granted to households for housing (Y1), the value with which it influences the monthly average price per m^2 of apartments (X) is 0,265%. For the second variable, the average net monthly salary (Y2), the value with which it influences the monthly average prices per usable m2 of apartments (X) over 6 months is 81%.

The obtained results reveal the important role of the population's income on other factors in the process of price formation on the real estate market.

This is caused by the specifics of this market, having as focus the trading of durable goods, the marketing of which is a long process and requires large financial resources.

ENDNOTES

[1]http://www.consiliulconcurentei.ro/uploads/docs/items/bucket2/id2969/raport_piata_imobiliare_si_serv_conexe. pdf, accesat la 25.04.2020
[2]BNR, Raport de Stabilitate Financiară 2018, partea 2, pag 53
[3]BNR, Regulament nr. 17/2012, art. 3, lit. A
[4] Troacă V., Creditare. Conformare. Control, Ed. Tribuna Economică, București, 2009
[5] Legea nr. 190/1999 privind creditul ipotecar pentru investiții imobiliare, art. 2, lit. C
[6] BNR, Raportul de Stabilitate Financiară 2019, partea 2, pag. 53
[7] BNR, Raport anual 2018, pag. 83
[8]BNR, Raport anual 2014, pag. 54
[9] https://www.bnr.ro/Baza-de-date-interactiva-604.aspx
[10]http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table
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ANNEX: DATA USED FOR THE ANALYSIS MODEL

Date	Monthly average prices per usable m^2 of apartments	Loans granted to households for housing	Average net monthly salary	Date	Monthly average prices per usable m^2 of apartments	Loans granted to households for housing	Average net monthly salary
	euro/m^2	*RON*	*RON*		*euro/m^2*		*RON*
ian.14	903	41070682400	1625	**ian.17**	1064	58420823900	2300
feb.14	919	41292829000	1626	**feb.17**	1080	58935033600	2236
mar.14	938	41185801300	1706	**mar.17**	1092	59572152800	2342
apr.14	918	41452742200	1735	**apr.17**	1105	59867360200	2366
mai.14	921	41339380500	1682	**mai.17**	1114	60566264200	2363
iun.14	904	41597519000	1687	**iun.17**	1120	61544452400	2380
iul.14	906	42073837800	1719	**iul.17**	1141	62453519800	2391
aug.14	907	42446402000	1683	**aug.17**	1141	63216904300	2364
sept.14	912	42659309800	1698	**sept.17**	1163	63875929500	2376
oct.14	917	43168790500	1705	**oct.17**	1171	64568967400	2392
nov.14	921	43894775500	1743	**nov.17**	1169	65522204000	2464
dec.14	891	44595165700	1866	**dec.17**	1164	66155364500	2629
ian.15	910	44988903700	1740	**ian.18**	1172	66562607300	2484
feb.15	924	45005311100	1731	**feb.18**	1197	67145457700	2487
mar.15	936	45418299000	1829	**mar.18**	1200	67638345800	2704
apr.15	930	45994983300	1857	**apr.18**	1197	68141545800	2713
mai.15	928	47000375000	1806	**mai.18**	1115	68878442400	2704
iun.15	933	47836076300	1818	**iun.18**	1200	69824110800	2721

iul.15	944	47718037000	1849	**iul.18**	1212	70302744400	2708
aug.15	950	48325008500	1813	**aug.18**	1197	70963992600	2669
sept.15	964	48772694100	1833	**sept.18**	1220	71654298000	2688
oct.15	980	49427403500	1871	**oct.18**	1228	72320084000	2720
nov.15	964	50877579500	1918	**nov.18**	1242	72838645300	2792
dec.15	951	51953546700	2114	**dec.18**	1239	73484212600	2957
ian.16	971	52169097400	1943	**ian.19**	1229	74233403600	2936
feb.16	1015	52140340400	1950	**feb.19**	1233	74684412000	2933
mar.16	1013	52776862800	2051	**mar.19**	1237	75252500800	3075
apr.16	1016	53542256400	2086	**apr.19**	1228	75595894600	3115
mai.16	1002	54702212000	2063	**mai.19**	1223	75956373200	3101
iun.16	1020	55653623200	2078	**iun.19**	1216	76492991800	3142
iul.16	1035	55870007200	2078	**iul.19**	1249	77141070200	3119
aug.16	1028	56326155400	2076	**aug.19**	1264	77809533500	3044
sept.16	1045	56670462800	2094	**sept.19**	1272	78624998700	3082
oct.16	1042	57281769700	2108	**oct.19**	1296	79508530800	3116
nov.16	1044	57879649400	2172	**nov.19**	1320	80391070800	3179
dec.16	1050	58445566500	2354	**dec.19**	1341	81175042400	3340

Sursa: www.imobiliare.ro, BNR, INS