

## URBAN REAL ESTATE CADASTER OF IASI BETWEEN PAST AND PRESENT. STATISTICAL ANALYSIS OF PRICE TREND

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**Abstract:** *In a global economy built housing preservation and valorization is vitally important as long as requirements are met resistance and comfort. But while evolution of modern technology sometimes requires technical solutions that can preserve the existing housing stock and we have to accept modern conceptions of architects with innovative solutions that make the first human energy savings and comfort without compromising strength requirements. Therefore, newly constructed buildings are situated throughout the top real estate transactions and prices, although they have experienced a continuous decline in recent years, remains high relative to the financial possibilities of a regular citizen.*

*The real estate market can be defined as the interaction between persons (individuals or companies) that change property rights against other assets such as cash. This market is defined based on the type of property, the potential to produce income, location and investors characteristics. The real estate market has experienced a downward trend in recent years due to the global financial crisis with a stagnation tendency. Thus, was noted that property values have continued to decrease in recent years in Romania, but in a slower tempo. One of the consequences of the national economy general decline can be assimilate with continues degradation of housing built quality and quantity. This is due, primarily, by the impossibility of individuals persons or companies to maintain a high quality standard.*

*The purpose of this paper is to present a statistical analysis of the evolution of prices for urban real estate market of Iasi and in particular to highlight the differences between the acquisition prices for old and new buildings. Thus we present the evolution of prices for the years 2012 - 2013 the apartments of 1 to 4 rooms for proper both those built recently and those built decades ago. This analysis will be divided into districts and present developments and highlight the differences in average prices in these areas between the two types of property.*

**Keywords:** *urban real estate cadaster, statistical analysis, prices evolution*

### 1. Introduction

Real estate market has experienced a sharp decline in the world economy due to the successive crises of recent years. This led to slippage and paradoxes in this world in which supply and demand plays an essential role in regulating these imbalances. This calls for

further investigation of the factors that may influence these imbalances to control the consequences that may occur AEST importance of global economy segment.

In a global economy built housing preservation and valorization is vitally important as long as requirements are met resistance and comfort. But while evolution of modern technology sometimes requires technical solutions that can preserve the existing housing stock and we have to accept modern conceptions of architects with innovative solutions that make the first human energy savings and comfort without compromising strength requirements. Therefore, newly constructed buildings are situated throughout the top real estate transactions and prices, although they have experienced a continuous decline in recent years, remains high relative to the financial possibilities of a regular citizen.

The current global trend in the cadastre field is that of ultimately making a 4D cadastre (Faith Do et al. 2011).

This approach is the result of the fact that the cadastre records are linked to the real estate dynamics. At the same time, there is the necessity of answering various queries, in which time is one of the parameters, one characteristic of the estate being important at a certain moment. This type of recordings deals with the so called “dynamic objects” which change some of their characteristics in time. This kind of interpretation refers however to the data which are to be stored on a medium and long run since there are not the necessary conditions for developing a 4D system, yet. Actually, including time as a parameter into GIS in cadastre recordings is done partially in the case of real estate transactions, for instance. The basic idea is, though, to take into account all temporal aspects, if possible, in order to be able to get evolutionary queries regarding trends (for instance a statistic analysis of the evolution of real estate value in a certain period, and eventually making a prediction based on recorded data).

In the Romanian context, this trend leads to the problem that ANCPI has in plan to solve in a few years that is constructing a data base in which information about the value of real estate transactions will be stored.

## **2. Additions**

### ***Ways of establishing the market value of housing***

The evaluation of a real estate is a complex process (Licurici G. 2012, Timbus R. 2012, Petcu-Lovin D. R. 2011) that takes into account a very large number of factors because its dynamics changes sometimes through means that cannot necessarily be predicted nor stopped. Thus, standardized ways of evaluation have been developed, that can comprise this dynamics and achieve a level of price estimation very close to the real one.

The evaluation of a housing real property is done through two methods that are recommended by the evaluation standards as follows:

1. Direct comparisons on the market
2. Probable income capitalization (efficiency).

***Evaluation through direct market comparisons.*** This comparative approach takes into consideration the sales of similar or fungible properties and the information about the market, and estimates the value through comparison processes. Usually, the evaluated property is compared to the sales of similar properties traded on an open market (Padure D. 2013, Cardei M. 2011). The quotes and the selling offers are also considered. The number of

transactions in this category is extremely small considering the minimum number of offers; the real estate market being severely constrained by the buyers' capacity of absorption.

*Evaluation through capitalization of probable income (efficiency).* This method consists in estimating the value of a real property in relation to the incomes that it can bring in a period of time. This method is based on the fungibility principle that shows the income flow which produces the highest degree of recuperation and fructification, corresponding to a certain risk level, and which leads to the determination of the most probable value of the variable.

The incomes and expenditures were estimated considering common criteria for both the appraised property and the ones used for comparison:

1. The market expectations regarding the selling price, the ownership and taxation period are similar.
2. The financing conditions and the market conditions that influence comparable properties are similar, adjustments not being necessary.
3. In order to estimate the general capitalization rate, we selected properties which, together with the appraised property, comply with the requirements of the method.
4. For comparable properties, the net income from use was determined starting from the incomes and the expenditures registered by each property in similar market conditions.
5. The main elements used to apply this method are: potential annual rent (potential gross income) and the capitalization rate of net incomes available for the owner.

*The capitalization rate was estimated for three comparable properties for which the registered incomes and expenditures of each property were determined, in similar usage conditions.*

### **3. Results and Discussion**

The table below summarizes the evolution of average prices in central areas, middle and peripheral of Iasi city between the second semester of 2012 and the two semesters of 2013.

Table 1. Apartment’s prices in Iasi

Zone	Period	2012/sem II/ rooms no.				2013/sem I/ rooms no.				2013/sem II/ rooms no.			
		1	2	3	4	1	2	3	4	1	2	3	4
Ultracentral	Price medium - new buildings	1090	1075	1045	940	1090	1075	1045	940	1085	1070	1040	935
	Price medium - old buildings	1050	1023	958	878	1050	1018	948	878	1045	1015	940	875
Median - Pacurari	Price medium - new buildings	965	950	910	890	965	950	910	890	960	950	910	890
	Price medium - old buildings	920	900	878	793	915	895	875	790	910	890	870	785
Median Copou	Price medium - new buildings	1100	1090	1080	1045	1100	1090	1080	1045	1095	1085	1075	1040
	Price medium - old buildings	1070	985	935	863	1045	985	935	865	1035	985	933	860
Median Tatarasi	Price medium - new buildings	965	960	915	905	955	940	900	895	955	940	895	880
	Price medium - old buildings	765	725	685	658	760	725	683	658	760	710	678	655
Periferic - Nicolina	Price medium - new buildings	918	918	880	873	918	918	880	873	910	900	870	858
	Price medium - old buildings	900	865	810	785	900	865	810	768	900	865	810	765

In Figures 1 and 2 are presented developments apartment prices with one to 4 rooms in the new buildings or old ones, on the second semester of 2012.

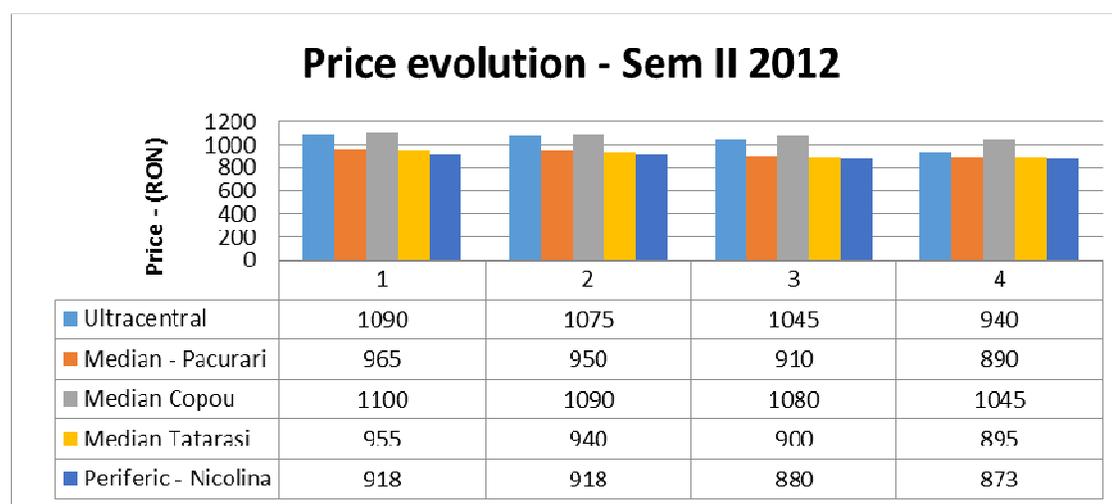


Fig. 1. Price evolution of central zone – new buildings

Thereby highlights the fact that on the second semester of 2012 the prices differences of these immobile are between minimum 10 euro and 190 euro in the suburbs in the median Tatarasi minimum. While the differences are between the maximum 100 euros and 237 euros

in the downtown. Downtown areas, median and peripheral Pacurari were at approximately the same maximum difference of 100 Euros between old and new prices of apartment's course in favor of us (Fig.1 and Fig. 2).

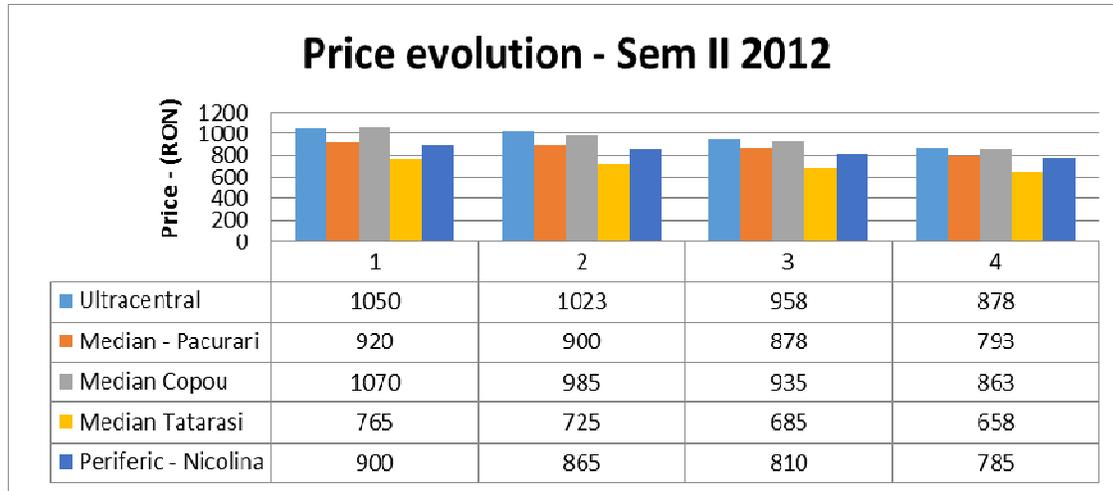


Fig. 2. Price evolution of central zone – old buildings

In figures 3 and 4 are presented the prices evolution apartment with one to 4 rooms in the new buildings or old ones, on the first semester of 2013.

In this interval we can see that the difference is 18 euros minimum for all peripheral areas while the maximum difference for the same area Tatarasi Median is 237 euros.

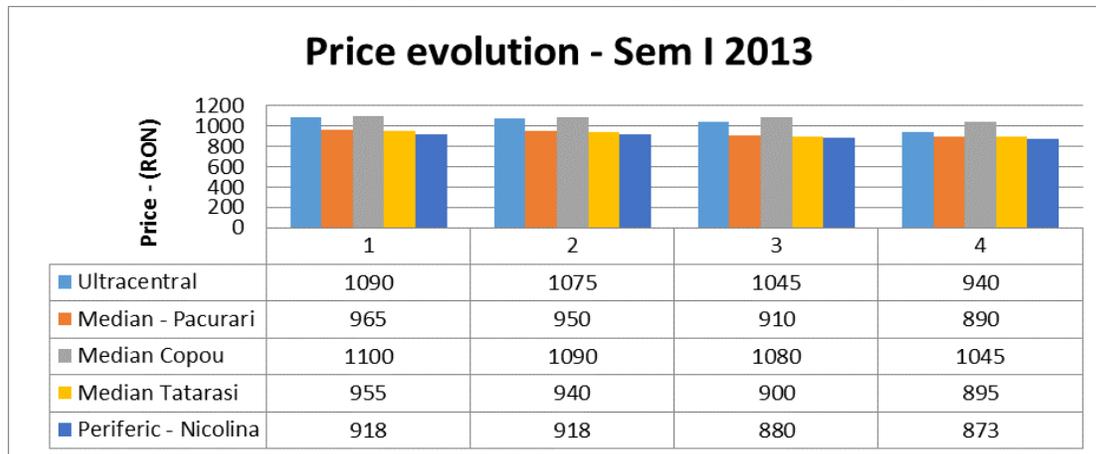


Fig. 3. Price evolution of central zone – new buildings

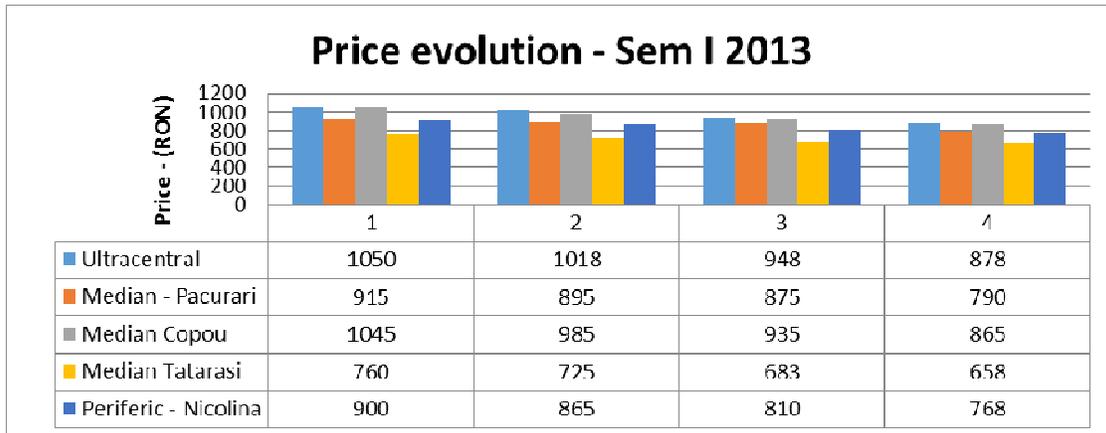


Fig. 4. Price evolution of central zone – old buildings

In figures 5 and 6 it can see the evolution of real estate prices in second semester of 2013.

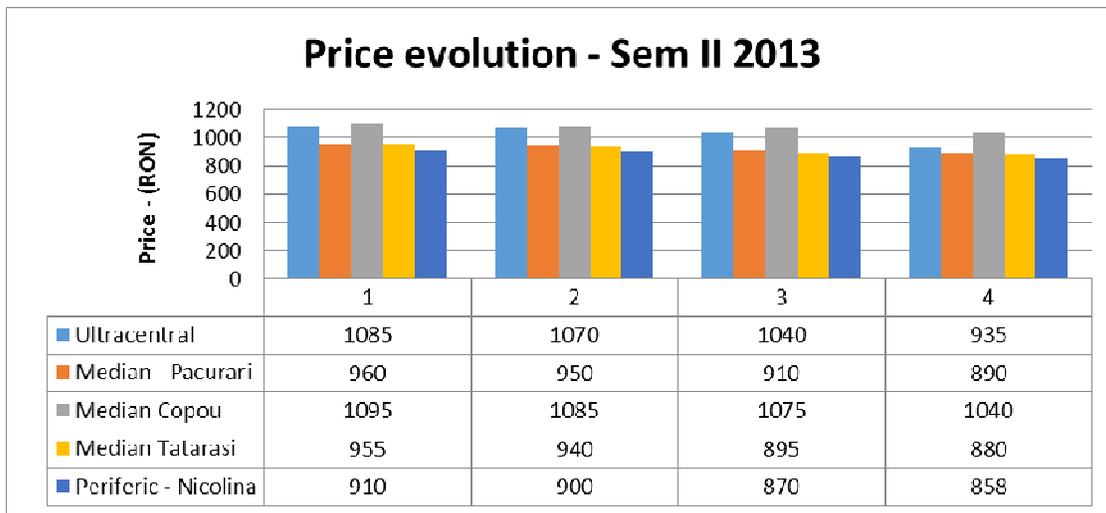


Fig. 5. Price evolution of central zone – new buildings

Slow downward trend is evident in this semester. The differences are between a minimum of 10 euro for peripheral zone but the maximum is only 230 euros for the same area Tatarasi Medan. For other areas, the minimum differences are between 40 and maximum of about 100 euros (Fig. 5 and Fig. 6).

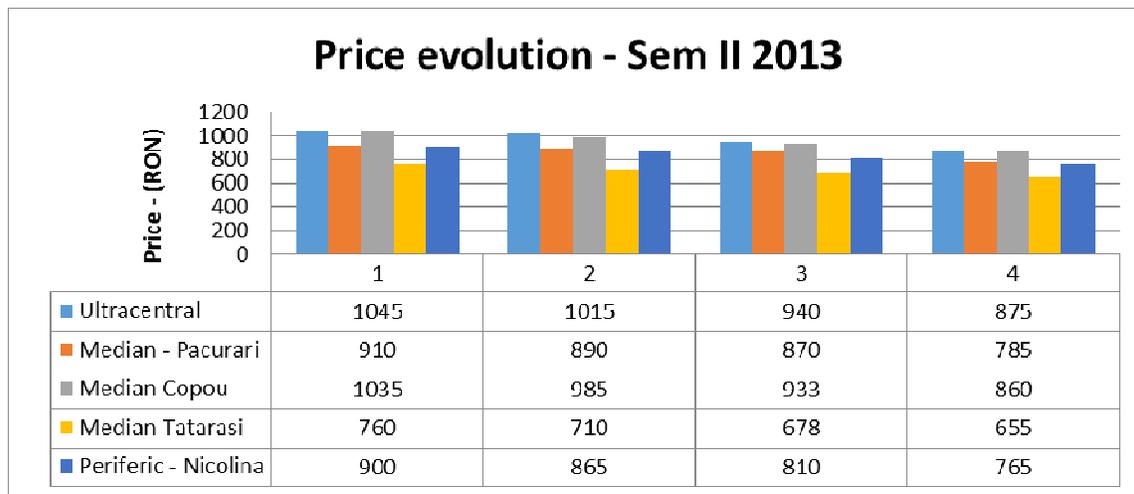


Fig. 6. Price evolution of central zone – old buildings

In conclusion we can say that for three semesters analyzed we found a slight decrease in all types of old buildings analyzed. These decreases are between 2 euros and 25 euros for two-room apartments in the downtown area or the three in the middle Tătărași that the one room in the median Copou in the second half of 2012 to the first semester of 2013. While the decrease in the first half of 2013 and the second semester of the same year range from a minimum of 2 euros for three-room apartment in the median Copou and max 15 euros for the 2 rooms Tatarasi median area.

In exchange for the new buildings are not spectacular declines. We can highlight only a slight decline in 2013 which is between a min of 5 euro for several categories of buildings and sites and a max of 18 euros for 2 bedroom apartments in the suburbs Nicolina. Note also that the second half of 2013 to the first semester of 2013 have a total stagnation for all types of apartments.

#### 4. Conclusions

This paper presents a statistical analysis of the evolution of prices for urban real estate market of Iasi and in particular to highlight the differences between the acquisition prices for old and new buildings during three consecutive semesters.

Thus is presented the evolution of prices for the years 2012 - 2013 the apartments of 1 to 4 rooms for proper both those built recently and those built decades ago. This analysis has been divided into districts and present developments and highlight the differences in average prices in these areas between the two types of property.

In the estimation of the average prices of various real estates, certain inherent errors may occur due to situations like:

- Differences between the documented situation and real life
- Use of different currency
- Elements that are not analyzed in the process of price estimation and their occurrence probability
- Significant variations connected to the non-analyzed elements

These errors can be minimized if one chooses methods and information which improve the quality of these data.

In conclusion we can say that the real urban estate market in Iasi city has experienced a continuous decline in recent years of stagnation but can highlight periods of real estate boom were maintained artificially by their artisans and does not represent the real values of this market as an artificial growth that proved bankrupted for some people.

## 5. References

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