Factorial Analysis of Albanian Housing Market

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Abstract: Housing market and housing price dynamics are very important to the economy. About 65% of households in the western world and 85% of Albania's own private apartment. The market of residential estates is very complex and influenced by many factors, some of which are hard to be measured. Such factors include handling of taxes and remittances. The analysis of such factors becomes more complicated by the interference of temporary trends during the period that some explanatory variables have at their disposal. This generates an important identification problem, which prevents the accurate evaluation of long-term changes in the housing prices. The data used in this study are extracted from reports of Bank of Albania, INSTAT, IMF and newspaper "Celes" as well as from surveys to individual purchasers, investors and developers. Through the model it is analyzed the development of residential estates' market compared to the historical trend of housing prices and to the theoretical determinant. The econometric model used is a generalized multiple regression equation. The model allows us to see the dynamic interaction between the housing prices and the variables selected according to hypotheses on the very complex economic structure associated with this market.

Keywords: housing market; price of housing; factors affecting housing prices; analysis of regression

JEL Classification: R2, P2

1. Introduction

Housing is the most important component of the wealth of a family (about 33% in USA). In USA and other developed countries the building of the new residences occupies a very important part of PBB. In Albania the building sector occupies about 12% of PBB. Real estate is a necessary benefit, because people have to live somewhere, the investment on housing is an important private individual investment. Some studies have discovered that the changing of the prices on the housing market has a greater influence on the economy than the changing of the prices on the share market (IMF, Debelle).

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The inventory and structure of real estate owned by the Albanian population have undergone significant changes over the time. Throughout a century the real estate ownership rate in Albania has almost tripled. During the Zog Kingdom ruling, it has been legalized the right to own real estates and confirmed the property papers issued by the Ottoman authorities. With the passing of time, the establishment of the communist regime brought about the adoption of the Agrarian Reform, which altered many property relations. With the agrarian reform, real estate were first taken from their legitimate owners and then distributed to the mass population with no compensation at all for the expropriated owners. Soon, this agrarian reform gave place to such transformations as collectivism and industrialization after the Soviet model, which transformations were again followed by alterations in the property rate.

In the early nineties, for the purpose of settling a market economy, a number of significant reforms were adopted, such as the land reform, the privatization of dwelling houses and apartments and the privatization of former state factory buildings. Albania had been one of the most socialized countries and elements of private estates were almost missing. Accordingly, privatization was to be considered not only a transformation of property rights, but mainly a way of restoring negated rights for half a century. In socialism most Albanians had been poor and owned no financial asset. Therefore, the property transfer –included state property, was made free of charge.

The privatization of dwelling estates occurred at a time when public property prevailed in the market. During socialism, dwelling houses and apartments in Albania had been a property of the state with occupiers paying for a symbolic rent. The housing situation in Albania was really dreadful with only 219 residential units for 1000 inhabitants owned in Albania in the 1990, far away from the average of former communist countries. What happened in Albania was a 90% privatization of the residential market, which offered new owners the opportunity to sell their private estates and employ the received funds as total or partial price paid for new residences, thus making the foundations for the building of a primary and secondary residential market.

The construction sector in Albania is one of the main sectors of the Albanian economy undergoing the greatest increase over the last 20 years. A great number of construction companies have been established, especially in the last decade, which have placed substantial free financial resources in the hands of the population and employed a significant number of workers. The best expression of this development is the fact that an important part of the Albanian GDP is provided by the construction sector. In 1996, the construction sector made only 4.9% of the GDP, whereas in 2013 such a rate increased to 13% of the GDP. A considerable number of construction companies operate in the construction sector, which make

an average circulation of over 1.5 billion EUR per year. The fall of the communist regime resulted in a powerful movement from rural to urban areas of the population, urged even by the uncertainty of the securities and the availability of free lands, which lands were mainly used to build informal residential buildings.

Furthermore, a half million $/per year remittances gave an incentive to the construction sector, although land and construction development at this point was totally informal. In Albania, after the nineties approximately 270.000 informal buildings worth of a 3 billion $ investment have been constructed. The last decade was a period of innovation and market expansion to such an extent, that was never seen before. The market is dependent on the policies of reform housing sector such as fiscal policies, financial and real estate market. The housing market has a series of distinctive traits and common to a great extent with other sectors of the real estate market (offices, shops, garages etc).

2. The Methodology and Model

This work makes an analysis on the performance of real estate market and residential market in Albania. The residential market is a very complex one, with many influential factors, some of which are difficult to be measured, for example those related to taxes and remittances. In preparing this work we have employed a wide literature, which consists in texts and works of local and foreign authors and studies of national and regional character.

Analyzing the role of various factors is made more complicated with the temporary tendencies of some explanatory variables. This results in a significant identification problem, which prevents us from appropriately evaluating the effects on long-term price. The data on housing market performance have been collected through recent information on fiscal and legislative reforms, through interviews to employees of Real Estate Registration Office, real estate agencies, Informal Buildings and Urbanization Agency (ALUIZNI) and to constructors, also from documents of Bank of Albania, reports of international agencies, newspapers and information form Statistic Data Institute (INSTAT), IMF and newspaper “Celesi”. This stage includes the formation of a database aimed at information identification and evaluation.

The model we have employed is an effort to analyze the development of residential estates in comparison with the historical trend of residential prices, as well as in comparison with the theoretical issues by utilizing evident data. This is an econometric model, a generalized multiple regression equation, where house prices are a function of the following factors: inflation, GBP, interest rate of credit and deposits, remittances, construction permits, construction Cost Index. The models

allows for considering the dynamic interaction between the housing prices and the variables selected over the complex economic structure of real estate market.

3. The Development of the Housing Market in Albania

3.1. The Development of the Housing Market until 1990

There are three basic periods of the development of the real estate sector in Albania.

Before 1944, best buildings during this period, are those of one floor and 2-3 floor buildings. Most pre-war housing was "self-build". From Table 1 we observe that by the year 1945 housing stock consisted of 215 thousand apartments.

Table 1. Housing stock since 1945

Year	Stock of housing	Specific weight
- 1945	215,000	27,3%
1945-1960	80,000	10,1%
1961-1980	230,000	29,29%
1981-1990	140,000	17,8%
after 1990	120,000	15,2%
Total	785,000	100,00

Sourse IMF

1944 - 1990, This period is characterized by buildings, which are prone to altitude and their composition was based on "rational urbanization" relative spaces provided as urban green areas. In Albania since 1944-1990 are built around 457,300 living apartments. Production during the communist era was at a rate of 10,000 units per year. In this period of housing the apartments were built by the state. About 75,000 apartments (IMF) are built with volunteer work combined with technical assistance from the state. These apartments were not private property, but were considered for personal use and not a commodity that can be traded. In urban areas, state provided housing for most of population. Houses built in this period were of a low quality. These flats were given in a symbolic value rental use. In the years 1970-1990, in Albania there were built around 2/3 of the current stock compared to about 40% which were built in Estonia, Poland, Slovakia, Hungary. (Hegedus).Since the year 1990, there have been built about 15% of houses, but we must point out that here we do not include the illegally built houses, which were built during these years and are estimated to be about 270.000 buildings in the whole country.

3.2. The Development of Housing Market after 1990

In Albania the first elements of real estate market were created from 1990s up to 1997. The privatization of the houses was completed based on Law No. 7652 in year 1992.

According to this law, no one was forced to become owner of the apartment, but they would remain tenants, having to face a threefold increase of housing rental fee. Apartments consisting of two rooms and a kitchen, built up to December 31, 1965 and houses, consisting of one room and a kitchen, built up to December 31, 1970, were given free of charge ownership to the tenants.

Within a year Albania carried out the housing privatization (about 98% of the existing stock), this way it became the country which accomplished the privatization quicker than all the other countries of Central and Eastern Europe (Hegedus). Unlike reform strategies to privatize dwellings that were followed in the former communist countries such as Bosnia and Herzegovina where were carried out with coupon privatization, or Bulgaria, Romania, Serbia and Montenegro where were privatized with low prices and privatization in Russia with 50% of the price apartment, in Albania the strategy followed for the privatization of housing, because to high inflation and lack of financial possibilities in Albanian families, the privatization was accomplished ”free” or almost free. (Tsenkova).

Housing prices ranged $ 180-200 / m² this for existing assets, and with regard to new construction, they have a higher price of 250-300 $ / m². Naturally, this market was very rudimentary, due to very low purchasing power that characterized the Albanian families at the time, but also a lack of information and expertise. However, during this phase, the market did not have a great influence, because it was competitive with citizen investments in pyramid schemes. Throughout this period, prices witnessed a relatively small increase in more expensive regions, such as the block in Tirana where the price of housing was about $ 300 per square meter.

These were high prices for the time being, and the price level was not influenced even by the fact that these houses were bought at a very low price. We can simply mention the fact, that an apartment with a surface of 80 m² was privatized with a value of 24,000 ALL whereas it was sold in free market at the price of 1.4 million while the income of the population was very low. GDP per capita in 1994 was $ 823, so the price / income in the period when the price of an apartment in Tirana has averaged 35,700 ALL is estimated to be about 66, while the estimated average prices today this ratio is 27. The development of the real estate market in Albania differs from the increase of this market in the other countries of the region. In countries such as Hungary, Bulgaria and Montenegro, the boom was caused by the desire of people to buy second or third homes while in Albania, the demand is high

particularly for the main dwelling. Housing prices during this period have grown continuously. It is estimated that on average these prices to be increased by 10-15% per year. House prices have increased on average of $ 200 / m² in 1990, at $ 280 / m² in 1996, $ 370 / m² in 1999 to reach EUR 800 / m² in 2009.

During this period, house price growth has also come as a result of increased foreign currency exchange rate euro dollars in the years 1993 -1996. Housing prices expressed in local currency, while in the years 1997-2002 in dollars. While the entry of European euro currency in use in 2003, real estate prices began to be expressed in that currency. The exchange rate of euro reached 137.5 ALL and was higher than the exchange rate of the dollar, which depreciated by 30% referring to year 2000, thus affecting the growth of housing prices. This put in difficulty the operation of the real estate market, because Albanian family income are in local currency.

Theoretical conclusions define the factors that affect housing prices as follows:

- the income/per capita;
- the index of the cost of building;
- the number of the population;
- the inflation rate;
- the employment level in %;
- the average rate of the interest of the credit;
- the exchange rate USD/All;
- the exchange rate euro/All;
- the number of the building permissions;
- remittances.

The interest rate on deposit and loan interest rates are nominal rates, while the income per capita is the overall number of residents. It would be of interest to have data per capita income of the population aged 25 to 45 years, because it's the part of the population that has the highest level of investment in housing. Data on construction costs expressed in the form of construction cost index assuming that these costs change would be a qualitative variable in the extent of change in house prices, it is worth noting that we have not taken into account in these variables tax effect. Data on remittances are also at nominal value, it is thought that remittances have contributed to the growth of house prices in Albania, despite the lack of data at national level, how much of remittances are used as an investment in real estate.

Table 2. Factors affetings the housing market

Variables	GDP (mln $)	Inflation (%)	Population (mln)	Employment(%)	Deposit rate (%)	Loan rate (%)
1996	3013,218	17,4	3,14	59	16,7	23,96
1997	2196,224	42,1	3,12	57	27,8	43
1998	2727,745	8,7	3,07	58	22,2	25
1999	3434,402	-1	3,06	56,3	12,9	21,6
2000	3686,649	4,2	3,06	55,1	8,3	22,1
2001	4091,02	3,5	3,06	55,9	7,8	19,6
2002	4449,373	2,1	3,07	51,9	8,5	15,7
2003	5652,325	3,6	3,08	51	8,38	14,2
2004	7464,447	2,9	3,09	58,8	6,6	11,76
2005	8376,483	2	3,11	57,8	5,6	13,07
2006	9132,562	2,6	3,12	56	5,2	12,94
2007	10704,66	3,1	3,13	56,4	5,6	14,1
2008	12968,65	2,9	3,14	53,8	6,8	12,85
2009	12118,58	2,3	3,14	53,4	5,46	13,9
2010	11858,17	3,46	3,15	52,1	6,42	12,8
2011	12959,56	2,99	3,15	52,3	5,86	12,4
2012	13119,01	3	3,16	52,4	5,4	10,9

Source Bank of Albania, IMF, INSTAT

Table 3. Factors affetings the housing market

Variables	Exhange rate dollar /lek	Exhange rate (euro/lek)	GDP/capita ($)	Number of building permits	Construction cost index (%)	Remittances (mln $)
1996	104,6	-	850	2178	67,8	550,9
1997	148,9	-	750	719	78,3	300,3
1998	151	-	820	1172	89,1	504,14
1999	138	-	910	981	96,8	407,2
2000	144	-	1090	1599	106,3	597,8
2001	143,4	-	1250	1384	113	699,3
2002	140,1	132,4	1320	906	114	733,57
2003	121,9	137,5	1580	900	117,1	888,748
2004	102,8	127,6	2030	885	120,7	1160,672
2005	99,9	124,2	2540	1750	122,3	1289,704
2006	98,1	123,1	2940	1491	123,7	1359,467

2007	90,4	123,6	3310	466	126,8	1468,02
2008	83,9	122,8	3850	1346	129	1495,038
2009	95	132,1	4030	1396	128,4	1318,476
2010	103,93	138,7	4040	1845	99,6	1156,021
2011	100,89	138,9	4050	1604	100,12	1161,784
2012	108,18	139,5	4090	447	100,7	1167,546

Source Bank of Albania, IMF, INSTAT

The data we used have to do with the average prices of the real residential wealth in some of our country's major cities, provided by published reports in the " Çelësi" from real estate agencies and from the surveys. Due to lack of data and greater accuracy, we have considered only the period from 2000-2009, when the information is complete and data from real estate agencies are more accurate. Before this period, the market was much more limited and much more informal.
Also, to avoid the effect of 1997-1998 and the events that caused a shock in the Albanian economy, being a rare occurrence and statistically significant impact on the model, we think it proper not to take it into consideration

Table 4. Average prices of residential apartments cities (000lek/square meters)

Cities	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Tirane	51	55	58	66	72	82,5	102	105	112	124	122	126	113
Durrës	53	60	61	65	71	80	86	89	96	110	108	112	100
Vlore	50	48	49	55	63	71,3	85	88	94	108	106	109	98
Elbasan	41	43	44	46	51	53	55	58	59	65	64	66	59
Shkodër	38	40	42	46	52	58	66	68	70	74	73	75	67
Fier	40	43	45	48	54	60	67	70	72	76	75	77	69
Berat	31	33	34	39	38	40,6	45,9	47,9	50	55	54	56	50
Lushnjë	26	38	39	42	45	46	47,6	52,3	54,8	60	59	61	55
Kavajë	41.5	43	45	50	56	62	69	72	74	78	77	79	71
Average	**41.2**	**44.7**	**46.3**	**50.7**	**55.7**	**61.4**	**69.2**	**72.2**	**75.7**	**83.3**	**82.0**	**84.4**	**75.9**
D.Stand.	**9.0**	**8.3**	**8.6**	**9.4**	**11.2**	**14.3**	**18.8**	**18.7**	**20.8**	**24.5**	**24.0**	**24.9**	**22.3**

Source Processing of the author on the basis of market research

By statistical processing of the data, we notice lots of differences between the 3 main cities (Tirana, Durres, Vlora) and other cities, which is verified by a standard deviation of price. In 2009, this deviation was 24.56, or roughly a quarter of the average price (table 4).

This is due to substantial price changes in major cities compared with prices of apartments in other cities. So housing prices, as seen vary depending on the size of the cities in which they are located, in general there is a positive relationship between the size of cities and housing prices, for example, average prices are higher in throughout years in Tirana, Durres, Vlora. If we to take a look at prices in smaller cities, we will notice that the highest price is in Kavaja and lowest price in the city of Berati. Also there is a price difference between the coastal cities compared to other cities. The high price levels are because of are economic factors in the large cities, but also a high demand for housing associated with large relative lack of land in these cities. While in terms of coastal towns we can say that the price increase reflects also the demand for second homes. To avoid impact on the standard deviation, the prices of major cities, which are about 2-3 times higher than those in small towns, we intended to analyze the standard deviation apart from that in major cities (Table 5). As seen from the data, the values are much more durable and there is low variability. Deviation is less than 9% for the 3 major cities and smaller than 10% for others (Table 6).

Table 5. Average prices of residential apartments cities (000lek/square meters)

Cities	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Tiranë	51	55	58	66	72	82,5	102	105	112	124	122	126	113
Durrës	53	60	61	65	71	80	86	89	96	110	108	112	100
Vlorë	50	48	49	55	63	71,3	85	88	94	108	106	109	98
Average	**51.3**	**54.3**	**56**	**62**	**68.67**	**77.93**	**91**	**94**	**100.7**	**114**	**112**	**115.7**	103.7
Dev. Standard	**1.5**	**6.0**	**6.2**	**6.0**	**4.9**	**5.8**	**9.5**	**9.5**	**9.8**	**8.7**	**11.3**	**12.0**	**10.6**

Source Processing of the author on the basis of market research

Table 6. Average prices of residential apartments cities (000lek/square meters)

Cities	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Elbasan	41	43	44	46	51	53	55	58	59	65	64	66	59
Shkodër	38	40	42	46	52	58	66	68	70	74	73	75	67
Fier	40	43	45	48	54	60	67	70	72	76	75	77	69
Berat	31	33	34	39	38	40	45,9	47,9	50	55	54	56	50
Lushnjë	26	38	39	42	45	46	47,6	52,3	54,8	60	59	61	55
Kavajë	41,5	43	45	50	56	62	69	72	74	78	77	79	71
Average	**36.2**	**40**	**41.5**	**45.1**	**49.3**	**53.2**	**58.4**	**61.3**	**63.3**	**68**	67	69	61.8
Dev. Standard	**6.3**	**4**	**4.3**	**4.0**	**6.6**	**8.4**	**10.2**	**10.0**	**10.0**	**9.4**	**9.1**	**9.1**	**8.4**

Source Processing of the author on the basis of market research

In addition, there will be applied a model to determine whether the results do prove theoretical conclusions about the impact that variables in housing prices in Albanian market have. The depended variable considered is the average level of house prices in Albania. This variable is calculated as the average price of housing in some major cities of the country, and it is estimated that the average price is a good approximation of the market. Also the prices obtained for each city are average prices of housing, fact that should be kept in mind when interpreting the model. Details include a period of 10 years. Having in mind that the number of variables studied is relatively large, while the number of observations is small, it is difficult to build up a model with many variables. Statistically is preferred that the number of observations be at least 5 times the number of variables. However, the application of this model is done taking into account all the variables and afterwards eliminate those variables, which result according to the modeled irrelevant. GDP and per capita income are strongly related to each other. GDP growth also brings increased income per capita of the population, therefore, will only be used per capita income. From the processing of data with multiple regression model, the resulting regression equation as follows (Table 7).

Table 7. Analysis of regression

Predictor	Coef	Secoef	T	P	VIF
Constant	24,2	40,57	-1,3	0,265	
Remittances	0,01489	0,02552	2,58	0,591	59,564
Construction cost index	0,7608	0,3338	2,28	0,005	36,79
Inflazione	-0,5531	0,4669	-1,18	0,302	17,37
Population	157,3	116,8	1,35	0,249	14,712
Employment	-0,199	1,031	-0,19	0,856	4,527
Deposite rate	-0,5694	0,6312	-0,9	0,418	14,301
Exhange rate	-0,0404	0,2659	-0,15	0,887	30,259
Loan Rate	1,2237	0,9291	1,32	0,258	39,204
Permit construction	-0,017057	0,005663	-3,01	0,0247	1,731
Gdp/capita	0,002808	0,000197	1,43	0,0249	1,352

Price=24.2+0,0148remittances+0,7608constructionindex-0,5531inflazione+157,3population-0,199 emplyment-0,5694 deposite rate-0,0404 exhange rate+1,2237 loan rate-0,017 permit construction+0,0028 GDP/capita

S = 4,45088 R-Sq = 98,9% R-Sq(adj) = 96,1%

Table 8. Analysis of variance

Source	DF	SS	MS	F	P
Regression	10	6943,5	694,35	35,05	0,002
Residual Error	4	79,24	19,81		
total	14	70223			

Durbin-Watson statistic = 1,91120

The model has a high degree of approximation of $R^2 = 96.1\%$ as can be seen. This value indicates that 96.1% of the variation in prices shall be determined by linear combination of the above variables, with a deviation of 44%. Values of p (probability)> 0.05, show the weak importance of influence that some factors have.

Statistical indicator Durbin-Watson = 1.91120 is insufficient to explain the variation. It shows a high presence autocorrelation. It is noticed that the involving a relatively large number of variables, regardless of theoretical references, leads to a

fictitious increase of the coefficient of determination. We can than say that in such a situation, it is evident that the model suffers from multicollinearity, which means that the variables are correlated between them. The application of the model would recommend removing some of the variables, which become not so important in the impact that they practically have.

By statistical processing of data for the calculation of correlation coefficients, are obtained the following results (Table 9).

Table 9. Correlation between variables

Variables	GDP	Infl	Pop	Empl	D. rate	L. rate	E. rate	GDP/ capit	Con. permit	Price	Con.C.Ind	Rem
GDP	1	-0,52	0,98	0,37	-0,73	-0,67	-0,9	0,94	-0,31	0,99	0,96	0,81
Inflation		1	-0,5	-0,21	0,52	0,65	0,45	-0,4	0,13	-0,48	-0,55	-0,53
Population			1	0,43	-0,82	-0,69	-0,95	0,93	-0,29	0,99	0,96	0,9
Employment				1	-0,69	-0,28	-0,54	0,37	0,16	0,42	0,42	0,54
Dep.rate					1	0,61	0,83	-0,66	0,11	-0,82	-0,79	-0,93
Loan rate						1	0,82	-0,7	0,31	-0,66	-0,82	-0,8
Exchange rate							1	-0,92	0,24	-0,91	-0,95	-0,94
GDP/capita								1	-0,46	0,9	0,93	0,76
Construction permits									1	-0,37	-0,38	-0,13
Price										1	0,95	0,86
Construction Cost index											1	0,89
Remittances												1

Source author Processing

Having carefully observed the results we can say that:

The price of housing has a high positive correlation with GDP at 0.99 and per capita income. Both indications are strongly correlated between each other (0.94). Per capita income have a correlation coefficient of 0.90 related to the price of residential property. Increasing per capita income increases consumption and also increases the positive expectations.

In such situations, people are interested to invest in housing, whether in the form of investment, whether for use, by giving up the rent of apartments. Price correlation with the number of population is positive and has the value 0.99, because population growth will increase the demand for housing, thus increasing the price of housing.

Correlation with the exchange rate is negative at -0.91, meaning that homes become more expensive, when the domestic currency devalued. This has been very sensitive in the housing market, as purchases of real estate in Albania were only realized in foreign currencies. Until 2003 transactions are conducted in dollars, and after this year on the euro.

Housing prices also have a high positive correlation with the index of 0.95 cost because the prices of materials and wages are a determinant of costs and house prices. Changes broadcast material prices, are reflected in changes in house prices. Here it should be noted that the establishment of fiscal fixed costs has led to problems in the real construction costs in different societies.

A high positive correlation coefficient, as also confirmed theoretically, is between house prices and remittances at 0.86 because immigrants invest a good portion of their savings in housing. But it is difficult to provide information on the remittances that go for investment in housing.

Some of the variables, which from the theoretical point of view are very important and affect the price of housing, do not result as such. For example, inflation has a negative correlation with the value -0.48 and in fact the link between inflation and housing prices is positive, the increase in inflation raises prices. From the theoretical point of view the impact of inflation in housing price oscillations is sensitive and two the explanations are:

First, derives from the nature of housing as a consumption good and as an investment. **Second,** houses frequently used by families as a way to protect their wealth from inflation and then the fact that their property purchase is often financed by a nominal loan, makes it even more satisfying this purpose. Impact of inflation, especially in the period of use shows that the effects of inflation on housing prices would be significantly in longer timeframes (and have available data for a short period of time). Uncertainty of investing in financial assets, in terms of higher inflation also contributes to attracting investment into real estate, as a savings towards long term (coefficient of correlation between the inflation rate and the deposit rate is 0.52. It can be said that inflation is immediate response to changes in economic conditions and changes in house prices only at the moment, that cost of residential property is an important ingredient in domestic consumption. But in terms of our country due to the high level of house prices against low wages and income, residential property cannot be an important component of the consumer. Finally, the relationship between bank lending, inflation and housing prices, it is often influenced by the use of property for the purpose of guarantee. An increase in house prices strengthens the capacity of the families to take loans, and variation in bank lending and easing of credit conditions associated with lower lending rates, will affect the demand and price of assets. The

correlation analysis shows that the correlation between inflation and the interest rate of the loan is high 0.62. A high rate of inflation and higher interest rates restrain the demand for housing. So, even though inflation is theoretically the most important among factors that affect the price of housing, its importance to the impact of changing of house prices, falls by giving space to other factors.

These contrast with the theoretical analysis occur due to multicollinearity, and is confirmed by the analysis of correlation coefficients. The interest rate on deposits, has a positive correlation coefficient with 0.83 exchange rate. A good part of the deposits in Albania is in foreign currency, because of the revenues in these currencies, that Albanian families provide from remittances. Loan rate is positively associated with a 0.82 correlation with the exchange rate, most of our country disbursed loans are in foreign currency 75% (Bank of Albania).
The exchange rate has a positive correlation coefficient with construction cost the with index value of 0.95. Most of purchases of construction materials and machinery are imported in the absence of their production in the country. Noting carefully the equation found in multiple regression model, we see that not all variables result important (judging by value of T and P). Then, are deviated some of the variables, although from theoretical point of view they are very important.
Will be considered only three of them, per capita income, and construction permits cost index (T and P values higher).

Table 10. Analysis of regression

Predictor	**Coef**	**Secoef**	**T**	**P**	**VIF**
Constant	38,21	14,27	-4,5	0,01	
Gdp/capita	0,03947	0,000337	1,17	0,266	1,263
Permit construction	-0,002483	0,003235	-0,77	0,459	1,357
Construction cost index	1,0473	0,1125	9,31	0	1,613

Table 11. Analysis of variance

Source	**DF**	**SS**	**MS**	**F**	**P**
Regression	3	6582,8	2194,3	54,86	0
Residual Error	11	440	40		
total	14	7022,8			

Regression equation in this case is (Table 10).

Price = 38.21 + 0.0395 GDP /capita - 0.00248 permit construction + 1.05 construction cost index

S = 6,32421 R-Sq = 93,7% R-Sq(adj) = 92,0%

Analysis of Variance(table 11)

Durbin-Watson statistic = 0,399857

Specifically, linear combination of all variables considered, explains 92% of variation of housing price, the rest is explained by errors. Statistical indicator Durbin-Watson = 0.399857 is satisfactory for explaining the variation. Based on regression equation, it can be concluded that the most important variable that has the greatest impact is the construction is the cost index (the value of T = 9.31 and P = 0.000). This is obvious, because of the increased cost, and the increased price of real estate. Costs of construction materials and level of real wages, constitute one of basic elements cost/m2 and eventually for price of a house.

Regression coefficients signs comply with economic logic, which in case means:

1. An increase with a unit cost index would increase by 1.05 unit price of assets, when all other variables remain constant.
2. An increase of one unit of building permits would reduce by 0.0248 unit price of assets, when all other variables remain constant.
3. An increase of one unit of GDP per capita would increase by 0.0395 unit price of assets, when all other variables remain constant. From the analysis it results that if we assume that the per capita income is 0 and lack of building permits, would have a price around 210 Euros or 38,000 ALL, that approximates more or less cost/m2 housing, plus about 104% construction cost index. The model defined as the main variable that affects the performance of house prices, construction cost index.

The impact of incoe per capita is less about 3.95%. Impact of building permits is negative about 0.25%, thus having an almost insignificant effect, although the effect of a change in planning new assets has an impact on the entire real estate market. The above analysis shows that the balance of the housing market, affects the high demand that exists for residential spaces. In the past 10 years per capita income almost tripled, while the average price of housing has doubled. Almost the same thing happened and rental prices of apartments in major cities, but here the differences between the cities are larger.

The model has its limitations, though presented with acceptable parameters.

We should note that the accuracy of a model with a low number of observations, should be called into question. Available data in Albania belong to very short time

and it is very difficult to find more detailed data. On the other hand, and accuracy of the available data itself has its own problems. **First**, a portion of the data are incomplete surveys of the market, such as house prices. Using average prices may not be tightly fitting, due to the very large differences between cities. This is evident by a coefficient of variation of about 30%.**Second**, a piece of data, although obtained from official sources are often contradictory, such as GDP growth, and GDP itself in total. Building permits also do not have a stable and varies greatly from year to year, which increases the unpredictability. If per capita income there is a relatively stable trend and reliable predictions can be made, it can not be said for building permits, which are often subject to political decisions. There are other factors mentioned above, which affect the fluctuation of housing prices in Albania. However, their effects are very often on both sides of the market (demand / supply), give a total of a relatively small impact on price. The econometric model employed to evaluate the influence that macroeconomic variables have on the residential market is somewhat limited, although it is displayed in acceptable parameters. We will first consider that the accuracy of a model including a small number of observations should be queried. A small time sequence of 10-14 observation affects the analysis and leaves not much space for a highly confidential analysis.

The data available in Albania are highly short-termed and it is hard to find more detailed ones. The residential market is much decentralized and makes the ground for asymmetry of information. The model represents the price of real estates in the cities, for the reason that there are no available data for rural areas.

The accuracy of available data is also scarce. Some of the data are not complete observations of the market, as it is the case of residential prices. The use of average prices may not be as much appropriate due to immense difference between cities. Some data, although extracted from official sources are contradictory. Furthermore, some variables are not sustainable and vary from year to year, which enhances uncertainty and often leaves space for political or clientelist decisions. Finally, some factors affect the residential price fluctuation often on both sides of the market (demand/offer), thus creating a relatively low influence.

4. Summary and Conclusions

Housing wealth is an important part of the net assets of the private sector. Financial cycles affect housing prices and financial stability. Apartments have a high cost, compared with the average income of a family. The housing market is a decentralized market and creates an asymmetry of information. Information on prices and the housing market in our country is very difficult to ensure.

Market demand for housing is a function of changes in house prices, household income, the real rate loan, deposit interest rates, demographic developments and other factors related to the location of the apartment. The offer of housing depends on the profitability of construction sector and can be described as a function of the price of housing, construction workers' salaries and actual construction costs.

The period after the years 2000-2007 has been a period of real estate boom. Favorable economic situation, growth of income per capita (51% was the increase of per capita income in 2000 compared to 1997) and the sustainability of economic growth led to increased consumption. It is estimated that on average these prices be increased by 10-15% per year. House prices have risen from $ 280 / m² in 1996, $ 370 / m² in 1999 to reach EUR 800 / m² in 2009.

To determine the impact of factors in the housing market econometric model is used, which is a multiple regression equation, where housing prices are a function of all the factors that affect the cost such as inflation index, the number of population, the rate interest on deposits and loans, the exchange rate, the number of building permits and remittances. By applying this model, results that some of these variables are irrelevant, that is because of the correlation that these factors have between them.

On the basis of the regression equation confidence level is 92%, which means that the model explains about 92% of the variability of the house prices. If we assume that income and the number of building permits will be 0, then the price of housing will be 210 Euros or 38,000 ALL plus about 104% of the cost index. The impact of income per capita in the price of housing is about 3.95%, while the impact of building permits is very low, almost insignificant. This is because building permits have strong fluctuations and are often subject to political decisions or client.

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