

PROTECTION FROM INFLATION BY INVESTING IN REAL ESTATES, ALBANIAN CASE

Dorina KRIPA¹, Alban KORBI²

¹Faculty of Economy, University of Tirana, Tirana, Albania, dorinakripa@feut.edu.al

²Faculty of Economy, University of Tirana, Tirana, Albania, albankorbi@feut.edu.al

Abstract: Nowadays investing in Real Estates is one of the main investing alternatives. It has spread fast in all the international markets, and has evolved in other indirect tools of investing, based on the investors' demands and a country's economic situation. Investing in Real Estates has become an attractive alternative because it offers protection from Inflation and also diversification. Therefore, the increase in these assets' prices, and the increase in Inflation at the same time, provides the investor with high rate of returns from his portfolio. Even the periodic income from the rent, reflects the changes in Inflation. As a result, reviewing the literature, we conclude that Real Estates are protective in inflationist periods. The income from Real Estates tends to increase faster in inflationist environments, allowing the investor to keep real rates of returns. Real Estates have always behaved different from bonds, options and stocks. Real Estates have their particular life cycle, which is distinguished by the boom and bust periods, in particular The Commercial Real Estate in the 80' and The Residential Real Estate in the 2008 crisis. Usually Real Estates have a low correlation with other classes of assets. This makes investors invest more in Real Estates, and now it is normal for an investor with passive or active strategy to own more than one Real Estate for profit intentions. This topic has been chosen in order to understand in details the relationship between Real Estates and Inflation in Albania. To explain this relationship, it has been used the model of a linear regression. It has been identified The House Price Index (a representative of Real Estates in Albania) as a dependent variable and Inflation as an independent variable. From this model, we conclude that there is a positive and linear relationship between The Price Index and Inflation. In conclusion, if the economy has Inflation and the GDP Deflator increases by 1 %, then The House Price Index increases by 1.39, meaning that The Index covers the increase in Inflation and there will be a real increase in the market by 0.39.

Key words: Real Estate, Inflation, Linear Regression

JEL Classification Codes: R21, E31, C2

1. INTRODUCTION

The impact of Inflation on the Real Estates value is generally considered as one of the main long term financial concerns for investors, since in certain periods investors are exposed differently to their investment. It is important for investors to understand how to invest their money in such a way to guarantee their wealth and to preserve the purchasing power. One of the main alternatives all individuals should seriously consider in inflationary periods is to invest in houses. Houses are generally seen as a good asset when it comes to inflation, as the rising costs of these assets in line with the increase of the inflation rate ensures high returns for investors in their portfolios. In addition, real estate returns are directly linked with rents paid by tenants. Some lease agreements include provisions for rent indexation to inflation. In other cases, rental rates increase whenever the lease period expires. Generally, the real estate incomes tend to grow faster in inflationary environments, allowing an investor to preserve the real returns.

Previous studies have emphasized the idea that Inflation is a factor with important impact in Real Estates prices. Usually the Real Estates have demonstrated a low correlation with the other classes of assets. For this reason, they compose a very efficient tool for the portfolio diversification. This encourages investors to invest much more in real estate and it is now very common for an investor with passive or active strategy to include more than one real estate in his portfolio for profit purposes.

The main objective of this working paper is the determination of the relation that exists between the Inflation and the Real Estates investments in Albania and the developing of an assessment model on the correlation between them.

The paper is organized as follows: In the first section it will be presented the literature review, in the second section it will be presented the methodology of the study and the processing of the quantitative data based on the linear regression model, while the conclusions and the discussions of this study will be presented in the last section.

2. LITERATURE REVIEW

Real Estates as an investing alternative

When we refer to the Real Estates, we should not take into consideration the investment in Real Estate used for housing. However, there are various investing alternatives in Real Estates that enable investors to gain high rate of returns and provide opportunities to diversify their investments portfolio. Nowadays the investment in Real Estates is among the main alternatives of investing. This alternative of investment is expanded fast in international markets, including also other indirect methods according to the investors' requests and the economic conditions of each country. Actually investors use also other indirects alternatives of investment in real estate, such as:

- ✓ Real estate indexes, such as NCREIF, which offer capital gains from the differences in index price.
- ✓ Real Estate Investment Trust REITs. The productivity of investments in stocks of REITs consists on dividend income and capital gains.
- ✓ Mortgage bonds, which offer periodic fixed earnings or capital gains from the differences in price.

Real estates have always acted differently from shares, bonds and other assets. Real estate has its own life cycle, which is characterized by boom and bust periods, especially referring to the commercial properties in the '80s and residential properties in 2008 crisis. Therefore they usually demonstrate a low correlation with other asset classes. For this reason they are a very efficient tool for portfolio diversification. This encourages investors to invest much more in real estate and it is now very common for an investor with passive or active strategy to own more than one real estate for profit purposes.

The relation between real estate and inflation should always be considered when developing assessment models for real estate. The income productivity of the real estate and its ability for diversification will directly depend on inflation. In addition, actual and future inflation rates are an important determinant in investor's decision to invest or not in real estate.

The relation between the Real Estates and Inflation is not a new practice in the economic environment and it goes in line to the economic conditions of a country. Before understanding this relation, it is important to identify the factors that have impact on each of the two elements.

The main factors with impact on the inflationary pressures or trends to the Real Estates are related with the financing alternatives of the Real Estates and the income produced by them. In more specific terms:

- ✓ the income from rent,
- ✓ the Real Estates value,
- ✓ the demand for renting,
- ✓ the financing method of the Real Estate investment

On the other hand, the factors that affect the investment in Real Estates are mainly based on the investing environment and the market. The factors that characterize Real Estate investments are:

- ✓ property decentralized market,
- ✓ complex and diversified market,
- ✓ lack of market efficiency,
- ✓ high level of intermediation,
- ✓ location,
- ✓ low correlation with the other assets

The Real Estate – Inflation Relation

Based on the existing Literature Review regarding the relation between real estate investment and inflation, we can state that most of the studies have concluded that Real Estates offer a very satisfying diversification, since they not only decrease the risk level but also are used as a hedge against Inflation's fluctuations. The studies have been mostly focused on two directions: 1 - First they have analyzed the correlation between the Real Estates and other classes of assets during years and also 2 – Second, the way in which Real Estates protect the portfolio from the value fluctuations.

Earlier studies have shown that there is a low correlation between the Real Estates and the other classes of assets. Burn and Epley (1982) studied the rate of return of REITs for the period 1970-1979 and found a low correlation between them and bonds and stocks rate of returns. On the other hand, they concluded Equity REITs contribute better in diversification compared to hybrid REITs. Zerbst and Cambon (1984) studied the Private Real Estates rates of return and found that their rate of return is negatively correlated to the rate of return of common stocks, therefore providing considerable benefits from diversification.

Other studies, such as those of Sirmans (1987), were mostly focused on the evidence of real estate ability to hedge inflation when including such assets in investment portfolios. They concluded the Real Estates are a better hedge against both expected and unexpected inflation compared to the hedge offered by common stock or the corporate or governmental bonds.

Although there are some other studies that have inconsistent conclusions with those mentioned above, the literature seems to approve the fact that the returns of Real Estates investments have a low correlation with stocks and bonds. Therefore we can state that these assets offer both portfolio diversification and risk reduction at satisfying levels. In addition most of the studies regarding inflation have achieved the same conclusion: the Real Estates protect the portfolio from value fluctuations caused by Inflation.

There is wide evidence developed by researchers over years on the relation between Real Estates and Inflation. The general conclusion of the researchers is that the Real Estates offer good protection against Inflation. Fama and Schwert (1977) were the first to discover a strong relation between the rates of return from the residential properties and the expected changes in Inflation

during the period 1953-1971. Other researchers concluded the same findings, such as: Hartzell, Heckman and Miles 1987; Brueggerman, Chen and Thibodeau 1984, since property returns and Inflation are historically correlated. The obvious justification for that is the fact that the investor can renegotiate the nominal cash flow from the investment in Real Estates, such as rent or the selling price, which means that the investor has the possibility to adjust its nominal cash flow with the increase in the general level of prices.

Further implications are noticed in the literature review regarding the variables that represent the Real Estates which are considered: the return from REITs, or rent; or those related to the Inflation and its components, where the expected and unexpected Inflation have been determined. These studies suggest that if the Real Estate is included in a portfolio, the Inflation risk of the new portfolio is much lower than the Inflation of the original one. This means that the inclusion of the Real Estate in the portfolio not only improves the risk/return outline of the portfolio, but also increases the level of its protection against Inflation. So, Brueggeman (1984) has identified that Real Estates offer a better protection against expected Inflation, but not against unexpected Inflation. Hartzell (1987) found that a well-diversified portfolio of Real Estate ensures a complete hedge against expected and unexpected Inflation during the high Inflation period 1973-1983.

Studies on the relation Real Estate – Inflation are conducted also in the last years. Brad Case and Susan M. Wachter (2011) suggest that Inflation sensitivity of different types of Real Estates is different. This is because different Real Estates offer different lease terms, whereas the last offer the main protection against Inflation. We can compare hotels which offer rents on daily basis, so rents are adjusted on daily basis in response on inflation; with the rental apartments on the other hand, which offer 12 months leases, and as a result their rents are adjusted annually.

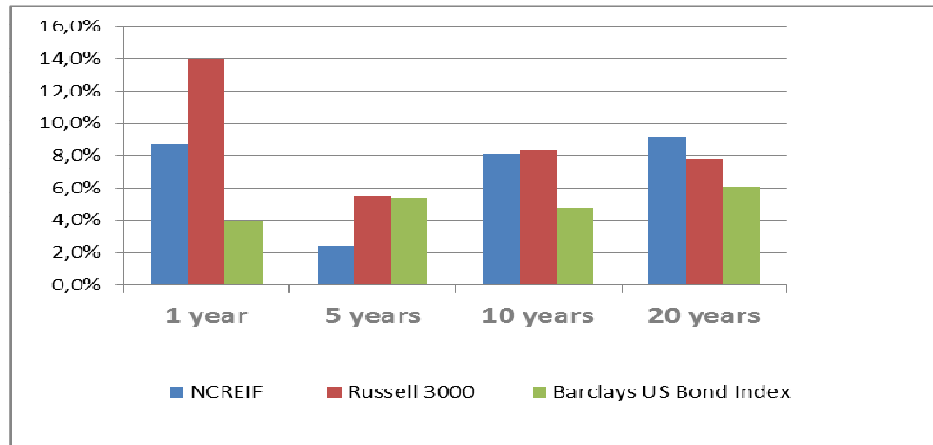
According to Susan M. Wachter & Richard B. Worley (2011) it is stated that there is a very sensitive relation between Inflation and the different types of Real Estates. Authors argue that the protection from Inflation through investing in different types of Real Estates is based on the process of adjusting rents according to the Inflation changes. Properties are characterized by important changes in the rent provisions which provide an increase in their sensitivity to Inflation. Regarding offices and apartments, the fact that rents are fixed during the total duration of the contract, is softened by the fact that the contracts conditions are usually short, making possible for the owners of the properties to adjust the rents in response to Inflation. This means that rents can be almost always adjusted in response to the changes in inflation.

Ralls (2010) argue that in instable and price fluctuation periods, it is very important for investors to invest in a diversified portfolio composed by different assets, whose performance will protect them from inflationary periods. Investors should analyze how different assets have performed during the periods of Deflation and Inflation for investment purposes. A good alternative of investment is the inclusion of Real Estates in the portfolio during the long inflationary periods, aiming to decrease the risk and to ensure a specific return over Inflation without having to achieve the highest possible correlation with the Inflation changes.

The Real Estates prices depend on different factors including Inflation. In periods when the Demand for them is unstable (the endogene cycles within the Real Estates) that will affect in different ways in the Real Estates prices as well as in the rents. In particular, in case that the fluctuations in Demand are positive the trend will be in increasing the Real Estates prices, assets and rents, while a decrease in Demand would bring the opposite action. For example, the increase in Inflation as a result of big changes in the oil Demand will have a much different impact in the Real Estates rate of returns than if this increase comes from monetary or fiscal policies that a country applies. The rate of return on the asstes in Real Estates will increase when

the Demand for them increases and decrease when the Demand decreases. (Bhardwaj, Hamilton & Ameriks, 2011)

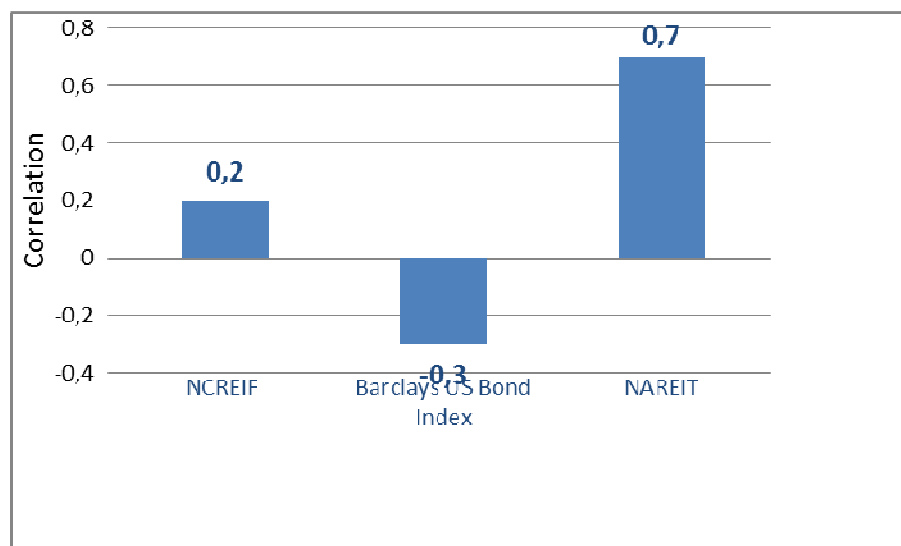
Let's refer to a specific real estate category: Private Real Estate. The index that represent this category is NCREIF. These assets offer better risk adjusted returns and diversification benefits compared to the public REITs (represented by FTSE NAREIT Equity REITs). These assets are safer for investors because revenue is generated from real estate financed with low debt ratio. On the other hand, REITs revenue are generated from property management, speculative actions, etc. NCREIF index includes individual asset with utilization rate (lease period) over 80%; properties are located in 20 major metropolitan areas of America, and are rented to reliable tenants. Financial leverage, when used, is usually under 40%. Due to their composition, these assets have historically generated a steady and reliable cash flow. These assets have shown a long-term favorable relationship with inflation, compared to stocks and bonds. They offer mainly income from rents, which are periodically adjusted to the consumer price index, protecting owners from increased costs, but also from some operating expenses such as maintenance, joint premises costs, etc. The last usually are charged to tenants. As seen in the chart below, NCREIF Index has shown very good performance against stock and bonds over the last 20 years.



Graph 1. The NCREIF Index Performance

Source: Russell Investments, 2013

These real estate are very productive for portfolio diversification due to geographical diversification they offer, and the unique return 's characteristics as well. This is also explained by the low correlation with US shares, represented by the Russell 3000 Index. While the correlation between US bonds, represented by the Barclays Aggregate Bond Index, and stock is -0,3; the public REITs correlation represented by NAREIT is 0.7 (Graph 2).



Graph 2. The Correlation with the Russell 3000 Index

Source: Russell Investments, 2013

The relationship Real Estate – Inflation in Albania

In our study, we will use House Price Index, presented in Graph 3, to represent the independent variable of real estate and its relation with inflation. The calculation of the house price index refers to the entire country and it is conducted by Albanian researchers (Kripa and Kufo, 2013). Due to the lack of continuous and sustainable information, the real estate market factors are not interlinked between them, making it difficult to develop a list or index of real estate prices. Some valuable efforts have been made by the Bank of Albania (which is based on the importance of immovable property used as collateral in commercial banks) in collaboration with INSTAT. These two national institutions have undertaken an observation at the real estate agencies and construction investors in national level, started from 2013.

These efforts are a continuation of previous calculation of the house prices and rents index for Tirana (Financial Stability Report, 2014). Other studies have been conducted by real estate agencies in Albania, such as '93 INF agency, Century 21, etc. However, these studies are regionally based and don't give information on country level. Therefore they cannot be used to draw full information on price developments in the entire territory of Albania in continuous basis.

The data to build the house price index (Kripa and Kufo, 2013), were obtained from independent appraisers of a banking institution. It has been analyzed the price of a sample of 99 houses in the entire country by region. It has been calculated the average price in Euro as an average of the total price of the houses divided by the total area (in cases of more than one house). This price is multiplied by the specific weight of the total number of houses in population and therefore determining a new price index. The base year for the index was 2007, and its performance in percentage has been observed during the years.

House prices on annual basis are provided by independent appraisers. Only 1 of 5 prices we obtained from the appraisers has been included in the banking institution assessment, while the other 4 prices during the years are determined for the same object with the same characteristics according to the market conditions by the same appraiser. This index represents the demand in the housing market, which is influenced by: the global crisis, bank lending policies, the lack of

liquidity in construction sector, and the lack of liquidity of individuals. Therefore the trend of this index is considered as a normal market behavior.

3. METHODOLOGY AND EMPIRICAL ANALYSIS

For purposes of this working paper, a broad literature has been reviewed, which consist of papers and studies of many foreign and Albanian authors, including regional and national studies. Different authors reviewed the relationship that exists between Inflation and the Real Estates and the alternatives investors use for hedging.

In order to determine the relationship of the *House Price Index* and the Inflation in the economy, we have used the simple linear regression model. We have identified the House Price Index as a dependent variable and the Inflation rate as independent variable. The data obtained present time series for the period 2007-2013 on annual basis for Albania (the one year periodicity has been taken with the aim to increase the stability between the variables).

In order to identify the relationship between the above mentioned variables and the utility of this relationship, we have developed the model based on the analysis of the direction and coefficients of the relationship. This model can be used also for short term forecasts of the Inflation risk diversification by investing in Real Estates (the actual case: houses). Thus, the model is:

$$Y_t = b_0 + b_1 * X_t + \varepsilon_t \quad (1)$$

where Y_t = House Price Index (HPI)

X_t = Inflation (INF).

ε_t = the error term (that is not explained by the model)

The basic reason why we have not used the multiple variables regression model is not to overload the model with many parameters, and on the other hand, to directly explain the impact of Inflation in the house prices in Albania. Regarding the variables we state that:

The House Price Index (HPI): This variable is based on a previous study on the house prices in the territory of Albania (Kripa and Kufo, 2013), according to an analyzes of prices for a sample of 99 houses all around Albania divided by regions. The data for this index were obtained from independent real estate appraisers of a banking institution. The index has as basic year 2007, and its trend in percentage has been observed. Data of this index for the year 2013 is based on a market study of the author and the publications of the house prices per square meter in 5 representative areas of Tirana.

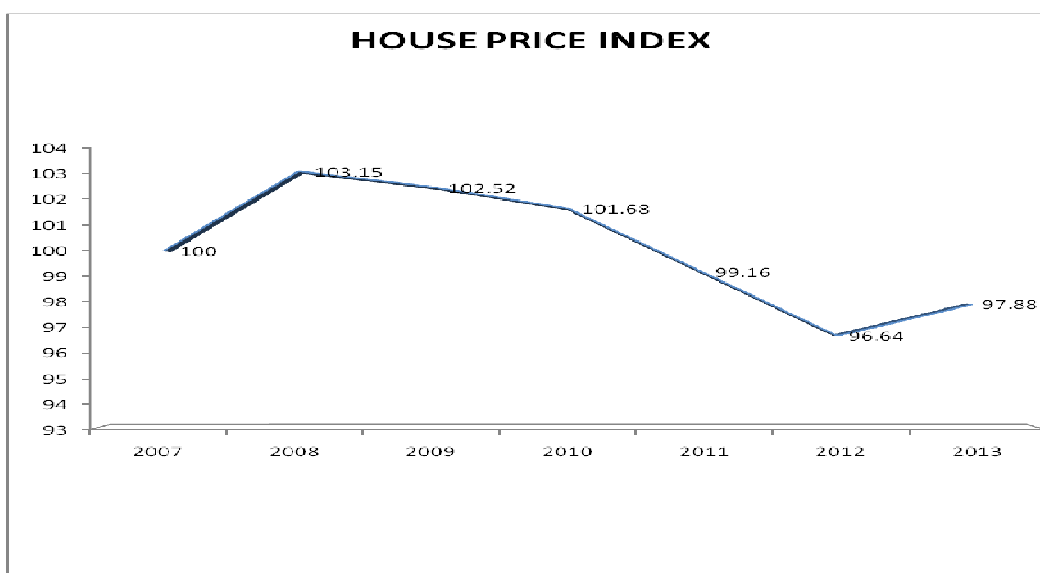
The inflation rate in the economy (INF): the data for this variable are based on the annual official publications of the World Bank. Regarding the Inflation, we have used the Deflator of the Gross Domestic Product, because the Inflation calculated for Albania from the Institute of Statistics is based on the Consume Index Price (so a basket of goods and services), therefore the Deflator of the Gross Domestic Product is a better indicator for inflation calculation purposes.

The empirical result

By analyzing the regressive relation between the dependent variable, the House Price Index, with the independent variable, the Inflation rate, using the program Eviews 7, we developed the model as shown below (Graph 4):

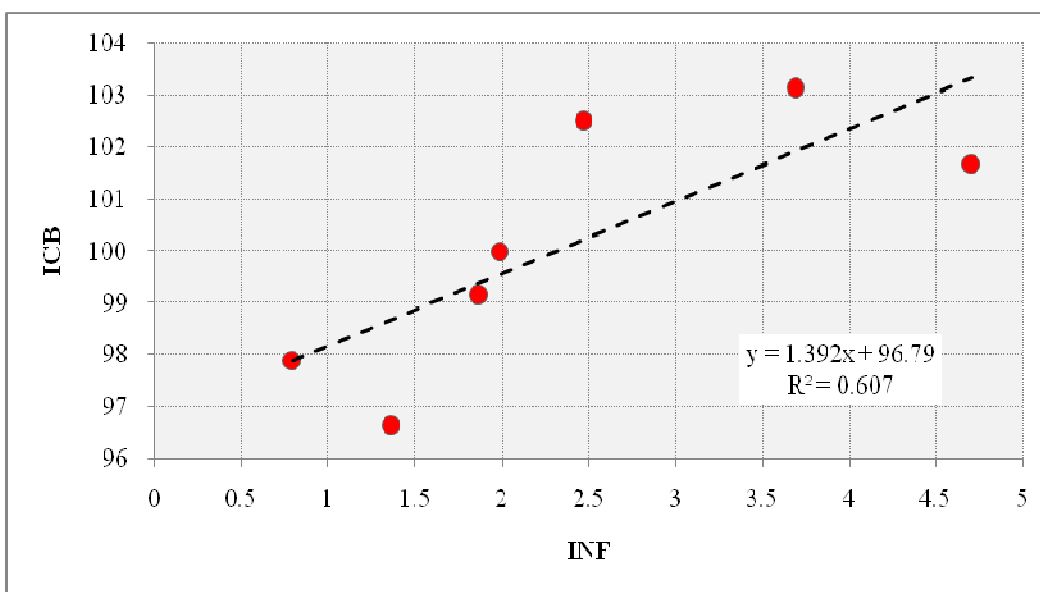
$$ICB = 96.79 + 1.3927 * INF$$

Based on this model we can see that the House Price Index has a positive relationship with the Inflation. This relation is also explained in the literature review emphasized above.



Graph 3. The Albanian House Price Index Performance

Source: Kripa, D., Kufo, A., Korbi, A. (2013) "Is there a bubble in the albanian housing market?"



Graph 4. The relation between The House Price Index and the Inflation

Source: Calculations of the authors

This model has a 61% level of determination (which means that 61% of the data of the dependent variable HPI are completely explained by the values of the independent variable INF). Although the explanation of the relation is not very high, it is worth to emphasize the statistical importance up to 5%. The model emphasizes the effect of Inflation particularly in the House Price Index. As it can be noticed, a 1% increase in inflation will result in an increase on the coefficient of The House Price Index by 1.3927. Obviously it can be stated that the Inflation and the house prices have a positive stable relation, but the level of change is different, the response of The House Price Index in the economy is bigger than the Inflation. This means that the elasticity level is higher than 1, so the Real Estates, in particular the housing properties, are a very good tool for diversification of the Inflation risk of the investors.

Since the model identifies a positive relation of these variables between each other, we can also refer to the correlation coefficient which is + 0.7795 and this coefficient is statistically important up to the level of 5%.

4. CONCLUSIONS

The incomes from Real Estates have the tendency to increase faster in inflationary periods, by providing the investor the opportunity to preserve high real rate of returns. So, the increase of these assets prices in line with the increase of the Inflation rate enables the investors to have higher rate of returns in their portfolios. The periodic incomes from rent reflect very fast the changes in Inflation as well. Therefore, the literatures review generally emphasis that the Real Estates are a protection tool in inflationary periods.

Further implications noticed in the literature review regarding the variables that represents the Real Estate can be: the return from REITs, or rent; or regarding the Inflation and its components: the expected and unexpected Inflation.

This working paper was based in previous calculations of The House Price Index in Albania, which has been derived from the appraisal analysis of the banking institutions and the appraisal experts of Real Estates for a sample of 99 houses in all the territory of Albania. The analysis covered a period from 2007 up to 2013, and we used the index as a dependent variable in our econometric analysis.

The Real Estate prices depend on different factors including Inflation as well. According to the empirical analyzes, it was noticed that The House Price Index is a variable with a positive and statistically important correlation with the Inflation. This relation is based on the logics emphasized also by the literature review. The conclusion of this study is that if the economy would have inflationary trends, which means the Deflator of GDP will increase by one percent, than The House Price Index will increase with the coefficient 1.39. This means that the index will cover the Inflation increase and it will also generate a real market increase by 0.39.

REFERENCES

1. Dougherty, C., *"Introduction to Econometrics"*, third edition, Oxford press, 2007.
2. Kripa, D., *"Cikël leksionesh: Drejtimi i Pasurive të Paluajtshme"*, 2013.
3. Brueggeman, W., Chen, A., Thibodeau, T., *"Real Estate Investments Funds: Performance and Portfolio Considerations"*, AREUEA Journal, 1984.
4. Fama, E. F., Schwert, G. W., *"Asset return and inflation"*, Journal of Financial Economics, Vol 5, 1977.
5. Hartzell, D., Hekman, J., Miles, M., *"Real Estate Returns and Inflation"*, AREUEA Journal, 15, 1987.
6. Bank of Albania, *"Financial Stability Report"*, 2013.
7. Bhardwaj, G., Hamilton, J., Ameriks, J., *"Hedging inflation: The role of expectations"*, Vanguard research, 2011.
8. Case, B., Wachter, S. M., *"Inflation and Real Estate Investments"*, University of Pennsylvania, Institute for Law & Economic Research, Paper No. 11-33, 2011.
9. FTI Consulting, *"A study on understanding supply constraints in the housing market"*, Report.
10. INSTAT, Publications, 2012.
11. Kripa, D., Kufo, A., Korbi, A., *"Is there a bubble in the albanian housing market?"*, 2013.
12. Ralls, B., *"Inflation or Deflation: Prepare for Either"*, Fidelity Investments, 2013.
13. World Bank, Publications