

The Bucharest University of Economic Studies  
The Faculty of Accounting and Management Information Technology  
Romanian Society of Economic and Financial Analysis (RSEFA)

**Valuation of real estate investments**  
Evolution and importance for business

Scientific Symposium

**Bucharest**  
December 2015

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Theoretical and Applied Economics  
Volume XXII (2015), Special Issue, Winter

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## Preface

Real estate properties and the building sector have represented key elements for the economic development of Romania in some periods. The economic crisis has been most reflected in the evolution of the real estate markets, which crashed at the end of 2008. The passing years have been marked by bankruptcy of many real estate developers, but also high decreases in prices. The survivors were those which manage to make the real estate sector more attractive, through innovative steps.

This set of papers present useful elements from the real estate market, on the evolution of the market both at the European Union level, but also for Romania, with economic and legal aspects on green buildings, accounting and fiscal regulations impact on properties, establishing the rent and valuation of real estate properties, but also requirements of companies for the educational sector on the competencies of graduates on real estate markets. Moreover, there are presented and analyzed a series of aspects of restructuring of companies in Romania, but also legal changes on evaluating the needed information for assessing the financial position and return.

The papers are useful both for students from the master programs and for specialists from entities that interact with the real estate market: valuers, investors, fiscal inspectors, credit officers.

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## **An analysis of the evolutions of real estate market and purchasing power within the European Union**

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**Abstract.** *The paper analyzes the influence of the purchasing power on the evolution of the real estate market in the EU countries, based on the developments of GDP per capita, purchasing power parities, House Price Index and production in construction in period 2008-2013 in the EU countries. The research reveals that the evolution of GDP per capita significantly influences the evolution of House Price Index, and the price index at his turn influences the evolution of production in construction. Finally, is made a grouping of EU countries into four categories and are discussed the prospects of Real Estate market developments in the EU countries.*

**Keywords:** Real Estate Market, purchasing power, House Price Index, production in construction.

**JEL Classification:** R31, R32.

## 1. Introduction

Profitable investments can be made at any time, both in times of crisis and the real estate peak periods, as they were in periods of 2006 - 2007. An old investor market, experienced, knows that property price increases inevitable, just a matter of time. Those who lose get to this point because of unwise decisions. In the long term, prices of real estate have always increased. In the long term, real estate has proven to be one of the most stable in terms of investment. But it's true that sometimes you better invest in a property or another, which makes the difference in profit. Loss is defined as someone investing in a property in peak period and wishes or is forced by circumstances to make an exit in a time when prices were low (Case and Wachter, 2005: pp. 197-211).

The financial crisis was a real awakening to the understanding that we still live with cyclical capitalist crises. Simultaneously, it has given the opportunity to examine the role of nation-states in relation to real estate markets at level of cities, regions, national and international relations (Șipos, 2012: pp. 20-33). This theme reflects upon the reality of political and institutional power at a time of financial crises like this one and examines contemporary urban theories that have long left out capitalist crises and minimized the role of national economies in the framework of globalization (Fujita, 2011: pp. 265-271). Liquidity in real estate markets is variable over time. Therefore, indices of changes in market value that are based on asset transaction prices will systematically reflect inter-temporal differences in the ease of selling a property (Fisher et al., 2003: pp. 269-303).

The indicator used at European level to track the developments in housing prices is called the House Price Index (HPI). He summarizes, based on a methodology of Eurostat, the evolution of acquired property prices, both new and existing ones, regardless of the destination and the previous owners (Eurostat, 2014). The European HPI is calculated based on all HPI nationwide using an aggregation based on weighted average GDP of the countries concerned to values expressed in purchasing power parity standard. Besides this important indicator, real estate market can be illustrated by another indicator named production in construction which can include the total of the construction sector or only building construction and civil engineering.

Based on these indicators, further is made an analysis of the influence of the purchasing power of the citizens of EU countries on the evolution of the real estate market prices. This analysis consider the evolutions of GDP per capita, purchasing power parities, House Price Index and production in construction in the period 2008 - 2013 in the EU countries.

## 2. The interdependences between purchasing power, House Price Index and Production in construction within the EU

The analysis of interdependences between purchasing power, House Price Index (HPI) and production in construction in the EU countries is structured on three research hypotheses:

- Hypothesis 1: purchasing power, quantified both by GDP per capita and by purchasing power parities, significantly influences the House Price Index;
- Hypothesis 2: purchasing power significantly influences the production in construction;
- Hypothesis 3: the House Price Index significantly influences the evolution of production in constructions.

To analyze these three research hypothesis was considered annual data of all indicators for the period 2008 - 2013 for 28 EU countries. Were excluded periods for which data were not available. The source of data used in this research is Eurostat.

Regarding the Hypothesis 1, were conducted two ways of analysis. The purchasing power is quantified in first stage by GDP/capita and in the second stage by purchasing power parities (PPPs). The correlation between GDP/capita and HPI is reflected by the following table:

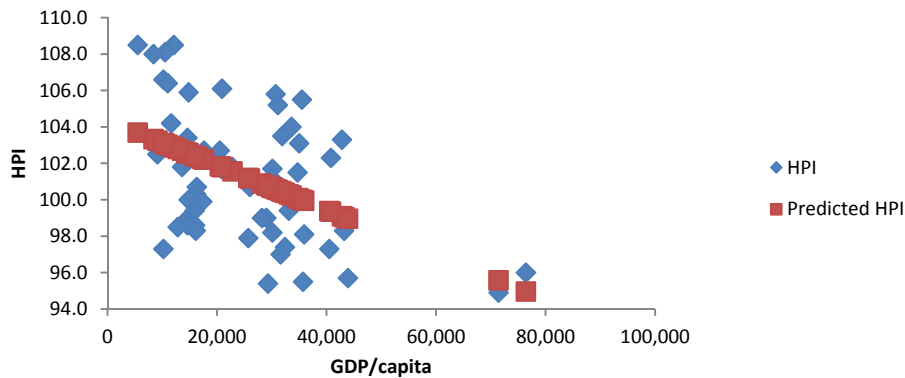
**Table 1.** *The influence of GDP/capita on HPI within EU*

<i>Regression Statistics</i>					
Multiple R	0,47633				
R Square	0,22689				
Adjusted R Square	0,212303				
Standard Error	3,242895				
Observations	55*				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	163,5745	163,5745	15,55428	0,000237
Residual	53	557,3673	10,51636		
Total	54	720,9418			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	104,3676	0,910442	114,634	3,48E-65	
GDP/capita	-0,00012	3,12E-05	-3,94389	0,000237	

\* The reduced number of observations is caused by the unavailability of HPI data in many EU countries.

Based on data provided by Eurostat.

The correlation between GDP/capita and HPI can be also reflected with the following chart:

**Chart 1.** *The correlation between GDP/capita and HPI within EU*

Based on data provided by Eurostat.

It can be observed a significant correlation between GDP/capita and HPI, which shows that there is a strong influence of purchasing power on evolution of real estate prices. It is very interesting to note that the correlation is negative which means that falling prices of real estates in the period 2008-2013 are more pronounced in the EU countries with higher purchasing power.

This situation is mainly due to high gaps between prices of real estate within the EU. Prices of properties in developing countries are much higher than prices in less developed countries of the EU. As a result, the price trend is different between these two groups of countries. The fall was greater in countries with higher prices of real estates and in countries with lower prices of real estates, the fall was lower.

The correlation between purchasing power parities (PPPs) and HPI is reflected by the following results:

**Table 2.** *The influence of PPPs on HPI within EU*

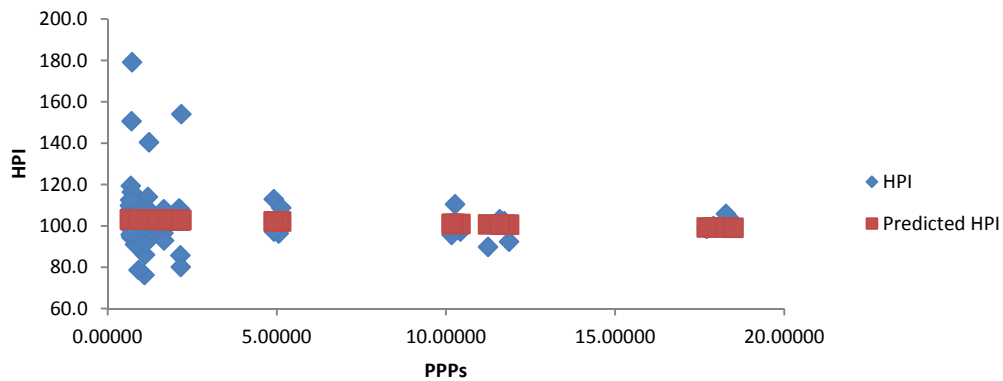
Regression Statistics						
Multiple R	0,070349					
R Square	0,004949					
Adjusted R Square	-0,0052					
Standard Error	13,66217					
Observations	100					
ANOVA		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression		1	90,97762	90,97762	0,487411	0,486738
Residual		98	18292,17	186,6548		
Total		99	18383,15			
		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept		103,3638	1,626994	63,53056	1,89E-81	
PPPs		-0,22805	0,326645	-0,69815	0,486738	

Based on data provided by Eurostat.



The correlation between PPPs and HPI can be also reflected with the following chart:

**Chart 2.** *The correlation between PPPs and HPI within EU*



Based on data provided by Eurostat.

Regarding the purchasing power parities, the influence on HPI is very low. In this case, it cannot be revealed a significant relationship between the purchasing power of the citizens of a country and the evolution of the real estate market prices.

After analyzing these correlations it can be said that the Hypothesis 1 is only partially confirmed.

The Hypothesis 2 which assumes that purchasing power significantly influences the production in construction is analyzed through the correlation between GDP/capita and Production in construction (annual data, adjusted by working days, provided by Eurostat). The correlation between GDP/capita and Production in construction is reflected by the following results:

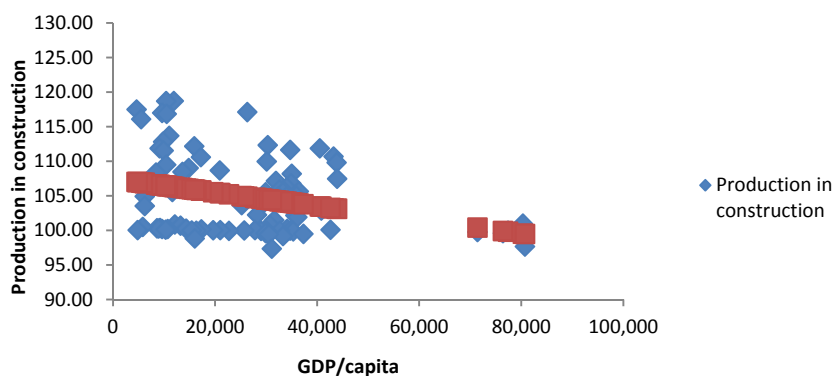
**Table 3.** *The influence of GDP/capita on Production in construction within EU*

<i>Regression Statistics</i>						
Multiple R	0,296243					
R Square	0,08776					
Adjusted R Square	0,0769					
Standard Error	5,487391					
Observations	86					
ANOVA		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression		1	243,3318	243,3318	8,081036	0,005614
Residual		84	2529,363	30,11146		
Total		85	2772,694			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>		
Intercept	107,4757	1,096797	97,99047	2,2E-88		
GDP/capita	-9,9E-05	3,48E-05	-2,84272	0,005614		

Based on data provided by Eurostat.

The correlation between GDP/capita and Production in construction can be also reflected with the following chart:

**Chart 3.** *The correlation between GDP/capita and Production in construction within EU*



Based on data provided by Eurostat.

It can be observed that the influence of GDP/capita on Production in construction is similar to the influence seen in the case of HPI. Here is also a negative correlation, but slightly weaker than in the first case. Similar with the HPI situation, we can see that falling of production in construction on the period 2008 – 2013 is more pronounced in the EU countries with higher purchasing power. In the EU countries with lower purchasing power, the fall was lower.

After analyzing the correlation between GDP/capita and Production in construction it can be said that the Hypothesis 2 is confirmed.

The Hypothesis 3 which assumes that the House Price Index significantly influences the evolution of production in constructions is analyzed by correlation between HPI and Production in construction within EU in the period 2008-2013:

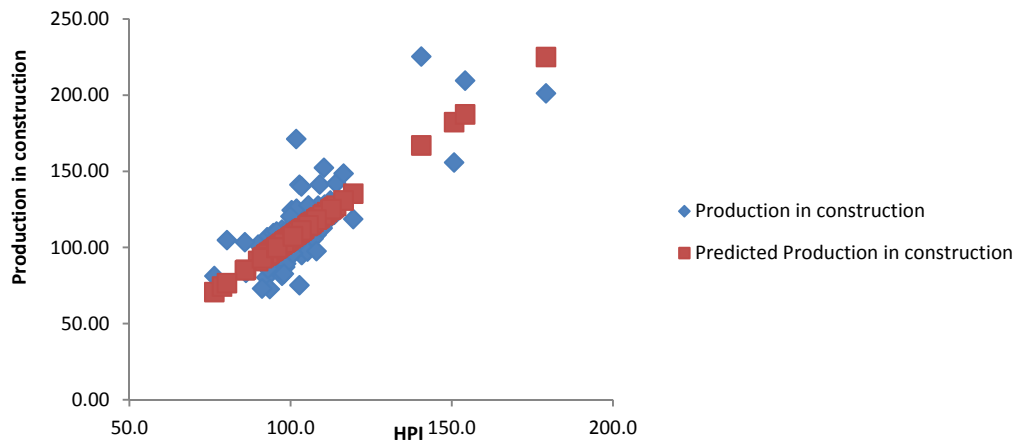
**Table 4.** *The influence of HPI on Production in construction within EU*

<i>Regression Statistics</i>					
Multiple R	0,80075				
R Square	0,6412				
Adjusted R Square	0,637539				
Standard Error	15,36701				
Observations	100				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	41356,68	41356,68	175,1326	1,54E-23
Residual	98	23142,2	236,1449		
Total	99	64498,89			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
Intercept	-43,6507	11,7462	-3,71616	0,000337	
HPI	1,499902	0,113339	13,23377	1,54E-23	

Based on data provided by Eurostat.

The correlation between HPI and Production in construction can be also reflected with the following chart:

**Chart 4.** *The correlation between HPI and Production in construction within EU*



Based on data provided by Eurostat.

In this case, it can be seen a very strong and positive relationship between HPI and Production in construction. Multiple R from the Table 4 has a very high value, which shows that the volume of construction in the EU has heavily depended on the evolution of property prices. In countries where the HPI greatly decreased after the crisis also registered significant decreases in the volume of constructions.

After analyzing the correlation between HPI and Production in construction it can be said that the Hypothesis 3 is strongly confirmed.

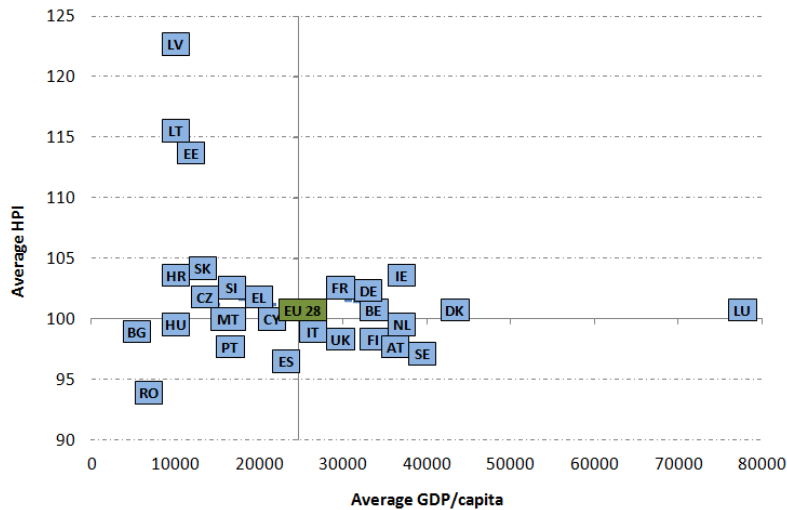
In these conditions, after analyzing these three research hypotheses it can be observed that purchasing power given by GDP/capita significantly influences House Prices Index, which, at his turn, has a very strong influence on Production in constructions.

### 3. Grouping of the EU countries according to purchasing power, House Price Index and Production in construction

In the final part of the work is made a grouping of the EU countries according to purchasing power given by GDP/capita, respectively, HPI and Production in construction. The data used for this grouping represent arithmetic averages for each of these three indicators for each country over the period 2008-2013.

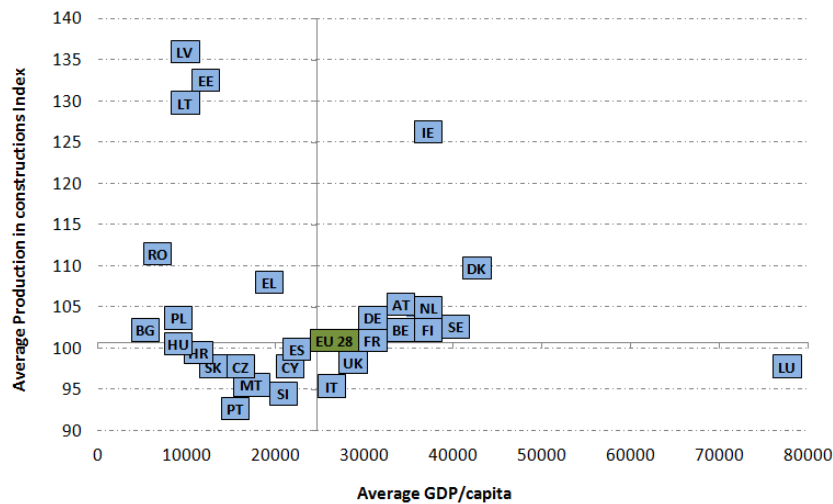
The results of grouping can be synthetically presented in the charts 5 and 6:

**Chart 5.** Grouping the EU countries according to purchasing power (GDP/capita) and House Price Index\*



\*For Poland the HPI data are unavailable for entire period of 2008 - 2013  
Based on data provided by Eurostat.

**Chart 6.** Grouping the EU countries according to purchasing power (GDP/capita) and Production in constructions



Based on data provided by Eurostat.

Looking to charts 5 and 6 can made a grouping of the EU countries. The centre of this grouping is given by the EU averages for the period 2008 - 2013: 24680 Euro/inhabitant for GDP/capita; 100.08% for House Prices Index and 100.76% for Production in construction Index. The resulted groups of countries are as follows:

- Group 1: Low purchasing power and High HPI and high Production in construction Index: Latvia, Estonia, and Lithuania;

- Group 2: Low purchasing power and moderate or low HPI and Production in construction Index: East European Countries, Malta, Cyprus, Greece, Spain, and Portugal;
- Group 3: developed countries (high purchasing power) with moderate high HPI and Production in construction Index: Ireland, France, Germany, Belgium, Denmark, and Luxembourg;
- Group 4: developed countries (high purchasing power) with low average HPI and moderate Production in construction Index: Italy, UK, Austria, Netherlands, Finland, and Sweden.

The group 1 is very distinctive in the entire EU because of very high average HPI and Production in construction Index in the period 2008-2013. The Baltic countries practically haven't been touched by the housing crisis. Both prices and volume of constructions increased significantly from year to year in the analyzed period.

The group 2 is the "normal" group of the Eastern European countries, excepting Baltic countries, which add Malta, Cyprus, Greece, Spain and Portugal. Here are the countries with low or moderate purchasing power and low or moderate HPI and Production in construction Index. To note the very poor position of Romania regarding the HPI corroborated to a pretty good position of Production in construction Index.

The group 3 contains the developed countries (high purchasing power) with over EU average values of HPI and Production in construction Index. Basically, the values of HPI and Production in construction Index are pretty close to EU 28 averages.

The group 4 is given by the developed countries, with high purchasing power but with low performance of real estate markets (noticeable the poor situations especially for Italy and the UK).

#### **4. Conclusions**

The real estate crisis has affected all European countries. Notably however, the very good position of Baltic countries with very high average HPI and Production in construction Index. The average values of EU 28 for HPI and Production in construction Index show a stagnating prices and volume of constructions in the period 2008 - 2013. Most EU countries had moderate performance of real estate markets. However, it should be noted that developed countries were strongly affected by the housing crisis. A possible cause is the huge gaps in prices on the real estate markets between developed countries and countries with low purchasing power (Anghel and Şipoş, 2012: pp. 1-14).

Analyzing that three research hypotheses presented in the paper, it can be observed that in the EU countries, the purchasing power significantly influences House Prices Index, which, at his turn, have a very strong influence on Production in constructions. The real estate market in Europe could unlock only after one or

two years, the most pessimistic analysts say, while the developers hope more optimistic that at the end of this year to show signs of recovery in sales and prices. Most still expect the price stagnation, their calculations based mainly on developments in the last period.

However in Europe, there are currently strong demand from players such as pension funds and insurance companies, all targeting similar products, namely high quality properties established markets. But opportunities are rare and some investors are prepared to look beyond the main markets. Such transactions are office markets of London, Paris, Frankfurt and Hamburg, here is the center of interest in cross-border investors. This trend is beginning to expand in the UK, but also in cities in Central Europe, such as Prague and Warsaw.

There is also an activity of companies taking advantage of current market conditions, negotiating and making deals. Some German open-end funds out assets for sale, and a number of real estate companies continue to restructure their portfolios, bringing some assets on the market. It remains to be seen how and when banks and government entities will put considerable active market in Europe. A number of high value portfolio offers have recently been completed, giving signals in order to improve the perception of the market and the business alike.

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- \* \* \* Eurostat, 2014.

## **Determination of market rent for the application of the direct capitalization approach in assessing the real estate investment**

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**Abstract.** *This article is meant to make several specifications with respect to the correct estimate of the effective market rent, that is the starting point for determining the net exploitation income, respectively the financial indicator found in the numerator of the income capitalization formula (the other indicator, found at the formula denominator, being the capitalization rate).*

**Keywords:** market rent, effective net rent, facilities to the rent, contractual rent.

**JEL Classification:** M40, R00.

## **1. Introduction**

In approaching the value of a real estate investment through the income, the most important matter is to credibly determine the market rent level. The current practice of taking over from different public data sources, a level of the market rent from an interval of contractual or requested rents and using it as a representation of a market rent is not appropriate, out of at least two reasons, respectively: (a) the real estate investment subject of the assessment has some features that can be substantially different from the features of comparable real estate investments; and (b) in the current practice, the real estate investors grant many facilities in order to attract and maintain the tenants, which makes the effective rent to be different from the displayed rent.

The authors try to describe and argue the need of taking into account these two reasons.

## **2. Approaching the Value of A Real Estate Investment Through the Income**

For the assessment of a commercial real estate property, the approach agreed by the market investors is the income approach. Within this approach, the method of the direct capitalization is applicable in order to assess the real estate investments with a unique tenant, as well as the free investments, while the DCF approach is more appropriate for the assessment of the real estate investments occupied by several tenants. The explanation for applying one of these two assessment methods in the two different hypostasis consists in the need of quantifying with a higher precision the type of the income used for the assessment through the income, i.e. the net exploitation income (NEI), and, respectively, the cash flow net before the debt service.

This article is meant to make several specifications with respect to the correct estimate of the effective market rent, that is the starting point for determining the NEI, respectively the financial indicator found in the numerator of the income capitalization formula (the other indicator, found at the formula denominator, being the capitalization rate).

We noticed there were two definitions of the market rent, one theoretical and rather abstract, given in the International Valuation Standards (IVS) and another more concrete definition, contained in the works published by the Appraisal Institute (AI), oriented towards the professional practice of the correct quantification of this indicator, as the effective market rent.



In other words, according to the IVS, the real estate evaluator relies on a theoretical definition of the market rent (also called economic rent), and, according to the AI, the evaluator relies on a definition of the effective market rent that is, as a matter of fact, the starting point for calculating the NEI converted to the value of the real estate property by the technique of the direct capitalization.

In IVS 2014, the market rent is defined as being *„The estimated amount for which a right on the real estate property could be rented, on the assessment date, between a determined landlord and a determined tenant, with appropriate renting clauses, in an objective transaction, according to an appropriate marketing in which the parties acted with full knowledge of the facts, with prudence and without any constraint”* (ANEVAR, 2014).

The Appraisal Institute drew up an additional and more concrete definition of the market rent, also including the comparison elements based on which it is established: *„The most probable rent that a real estate property can obtain on a free competition market and reflecting all the conditions and restriction of the rent agreement, including the allowed uses, the restrictions of use, the obligations of bearing the expenses, the term of the rent, the granted facilities, the options of extension and purchase, as well as the arrangements for the tenant”* (Appraisal Institute, 2013)

A conclusion with practical involvement for the evaluator can be arisen from the above definition, respectively that, in determining the market rent, it is absolutely necessary to take into account (i.e. to reduce) any renting facilities, as the exemptions from the rent payment, usually at the initial rent, the allocations for the movement, the excessive arrangements made for the tenant, etc.

But the effective market rent cannot be obtained from any publishing, being an own estimated of the authorized evaluator on the most probable rent that could be obtained by a landlord/tenant, provided that the conditions specified in its definition should be satisfied. The estimate of the effective market rent is a laborious analysis process, carried out according to a procedure similar to that used to determine, by the market approach, the market value of a real estate property, i.e. by sequentially correcting the sale prices of the comparable real estate properties, depending on the differences existing between their features (called the „comparison elements”) and those of the subject real estate property/investment.

The substantiation of the level of the effective market rent should represent a distinct and consistent chapter of the approach by the income, included in any

assessment report. From the procedural point of view, the evaluator draws up a grid with all the contracting rents of the real estate properties selected as comparable, with all the elements of comparison and all the corrections related to each comparison element applicable to all the contracting rents of the comparables, also adding the explanation of the corrections made. In case that the evaluator does not rely on sufficient data to be able to credibly estimate the level of the effective market rent, he may have recourse to a specialized company in the field of the real estate property analysis, to supply to him such an indication. Unfortunately, some evaluators, by an extreme simplification, reduce such a laborious analysis to an expression like: „the real estate brokerage agencies informed us (eventually by a notice attached to the assessment report) that, in the area X where the subject real estate property is localized, the rents practiced are about 12 and 15 euro/sqm; subsequently, from reasons of prudence, we have selected as appropriate a market rent of 12 euro/sqm”.

Such a method of presenting the market rent is deficient and without credibility, as it eludes precisely the analysis of the influences that the differences between the features of the subject real estate property (also called elements of comparison) and those of the comparables they have on the levels of the contracting rents, selected for the comparison.

The comparison elements taken into account for determining the market rent are:

1. the methods of distributing the exploitation expenses between the landlord and the tenant, provided in the clauses of this renting agreement;
2. the existing market conditions on the date of signing the agreements of the comparables rents;
3. the restrictions related to the tenant's eligibility or the restrictions on the development right of the real estate investment;
4. the tenant's type, respectively the type of property – individual, private company, state entity;
5. term of the renting agreement;
6. position (distance and transport connections);

the physical features of the real estate property, respectively the rented area, the height, the interior finishing works, the space compartmenting, the age and condition of the building, etc., the interior and exterior arrangements (for example, surface and/or underground parking spaces);

7. insured utilities;
8. the facilities granted by the landlord for renting or for re-renting;
9. the non real estate elements attached to the real estate property.

Of course the list of the comparison elements is not complete, the evaluator being allowed making the appropriate corrections for the influence of other factors that can make the level of the unit rents be different, as a particular landscape, the emblematic nature of a building, the toxic substances released from the neighbourhood, the fame of the area, etc.

The calculation of the effective market rent, by considering the deductions of the facilities granted to the tenants is done by applying several calculation techniques, both depending on the duration and periodicity, during the term of the renting agreement, the granting of the facilities (for example, an exemption of two months from the rent payment, at the beginning of every year from the five year of a renting agreement), and the application or non application of the updating process.

The simplest calculation consists in calculating an arithmetic average of the effective market rent. For example, let us suppose that the level of the market rent before the correction for the facilities granted in a renting agreement, with a term of three years, is of 10 euro/sqm/month, and the rented space is of 500 sqm. A clause of this agreement provides that, in the first three initial months of the agreement, the tenant is exempt from the rent payment and the arrangements supported by the landlord for this space amount to 15.000 euro.

Subsequently, the effective market rent shall be naturally lower than 10 euro/month.

The total nominal potential rent before deducting the facilities is:

$$10 \text{ euro/month} \times 12 \text{ months} \times 3 \text{ years} \times 500 \text{ sqm} = 180,000 \text{ euro}$$

$$\text{The value of the facilities granted} = (10 \text{ euro/sqm/month} \times 3 \text{ months}) \times 500 \text{ sqm} + 15,000 \text{ euro} = 30,000 \text{ euro}$$

The monthly effective average rent is:

$$(180,000 \text{ euro} - 30,000 \text{ euro}) / 500 \text{ sqm} / 36 \text{ months} = 8.33 \text{ euro, so with about 1.7 euro lower than the market rent before the deduction of the facilities granted to the tenant.}$$

This effective monthly market rent, of 8.33euro, is the starting point for determining the potential gross income and then the exploitation net income.

### **3. Conclusion**

In order to assess the value of the effective market rent, it is necessary to take into account a series of elements for the market rent correction, so that we should have an accurate value as a starting point for the application of the income-based approaches, otherwise there is a risk of obtaining erroneous values in the appraisal report.

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## Determinants of the real estate market: the Romanian case

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**Abstract.** *Real estate represents a significant portion of most people's wealth, and this is especially true for many homeowners everywhere in the world. The size and scale of the real estate market make it an attractive and lucrative sector for many investors. This paper aim at presenting the main determinants of the real estate market in Romania such as demographics, interest rates of financing instruments, the economy (measured by economic indicators such as the GDP, employment data, manufacturing activity, the prices of goods), government policies/subsidies legislation that can have a sizable impact on property demand and price, real estate investment opportunities, depth and sophistication of capital markets, investor protection and legal framework, administrative burdens and regulatory limitations, and socio-cultural and political environment.*

**Keywords:** Real estate market, Romania, Government policies.

**JEL Classification:** D53, E3, E44, E58, G01, R21, R31.

## Introduction

Real estate represents a significant portion of most people's wealth. The size and scale of the real estate market make it an attractive and lucrative sector for many investors. This paper aims at presenting the main determinants of the real estate market in Romania such as:

- demographics, interest rates of financing instruments, the economy (measured by macroeconomic indicators such as the GDP, employment data, manufacturing activity, the prices of goods);
- government policies/subsidies legislation that can have a sizable impact on property demand and price;
- real estate investment opportunities, depth and sophistication of capital markets, investor protection and legal framework, administrative burdens and regulatory limitations, and
- Socio-cultural and political environment.

We will focus on Macroeconomic Factors and Real Estate Market. Assuming that prices of assets react sensitively to economic news, Chen, Roll and Ross (1986) test the influence of a set of economic “state variables” on the US stock market returns using a version of the Fama-MacBeth technique. To perform their analysis, they choose many factors such as inflation, treasury-bill, long-term government bonds, industrial production, low-grade bonds, equally weighted equities, value weighted equities, consumption and oil prices. According to Deutsche Bank Research (2008, p. 23) the major macro indicators for the real estate market are Gross Domestic Product (GDP) growth trend, GDP per capita, population, median age, population growth, financial market development, legal system and average inflation. Besides, Ducoulombier (2007) mentions other sources of systematic risk as Employment, Interest rates and unexpected inflation. The latter examples, with the enumeration of many influencing factors, show how macroeconomics field is complex.

In general, when macroeconomists try to figure out the set of influential macro variables, they almost all agree on the use or on a variant of GDP, interest rate, tax rates, real wage and rate of employment. Going even further, the research from Liow et al. (2006, p 301) analyze macroeconomics influences on worldwide property market and finds that GDP, inflation and interest rate are the most relevant macroeconomic indicators to examine.

Factors Analysis that influence the housing market and house prices:

- Economic growth. Romania's economic growth was relatively modest in 2012 (+0.7 percent), markedly below potential and lower than the 2011 real GDP growth of 2.2 percent. This result was largely ascribed to the high dependence

of economic growth on exports, structural funds and agricultural output developments.

- In 2013, GDP growth stood at 3.5 percent based on the same constant elements. In first Q 2014 GDP growth was 3.8 percent. More recently, as of the first four month of 2014, S&P increased the rating to “investment grade”.
- *The projections for the year ahead are above EU average.* The GDP dynamics sustainability is reflected by the key macroeconomic indicators remaining below the alert threshold in the European Commission’s Scoreboard for the surveillance of macroeconomic imbalances.

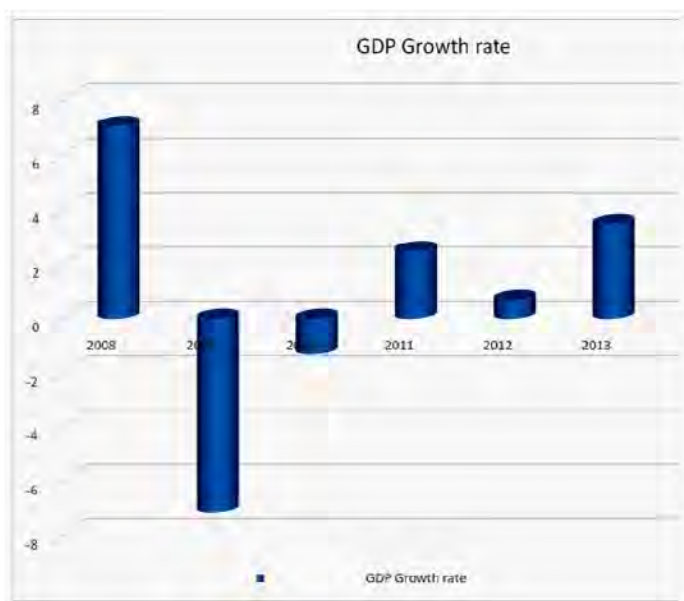
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**Figure 1.** GDP growth rate between 2008 and 2013



Factors Analysis that influence the housing market and house prices:

- Demand for housing is dependent upon income. With higher economic growth and rising incomes people will be able to spend more on houses; this will increase demand and push up prices. In fact, demand for housing is often noted to be income elastic (luxury good); rising incomes leading to a bigger % of income being spent on houses. Similarly in a recession, falling incomes will mean people can't afford to buy and those who lose their job may fall behind in their mortgage payments and end up with their home repossess.
- The 2009-2010 contraction of the Romanian economy was one of the deepest and longest lasting in Europe. The austerity measures introduced in mid-2010 additionally suppressed domestic demand and caused more than 1% contraction of GDP for the year as a whole. Wage cuts in the public sector and a 5 percentage points VAT increase resulted in a 4% decline of net real wages and private consumption. The reason behind these measures was the fear of fiscal un-sustainability in line with the IMF-led programme put in place in May 2009. This aimed at curtailing the budget deficit to GDP ratio by improving the fiscal balance and taking GDP contraction as a side effect. It is quite natural, that lower public demand leads to lower GDP and therefore more fiscal austerity is necessary to achieve the deficit/GDP target.
- As a result of the fiscal measures, private and public investment activity remained very much suppressed in 2010; gross fixed capital formation fell by about 15% after a similar contraction rate in the previous year. But stock building increased considerably compensating the effect on gross capital formation, thus the latter had a largely neutral effect on GDP growth. Investments in buildings remained at a very low level, residential construction and the issuance of building permits continued to decline.

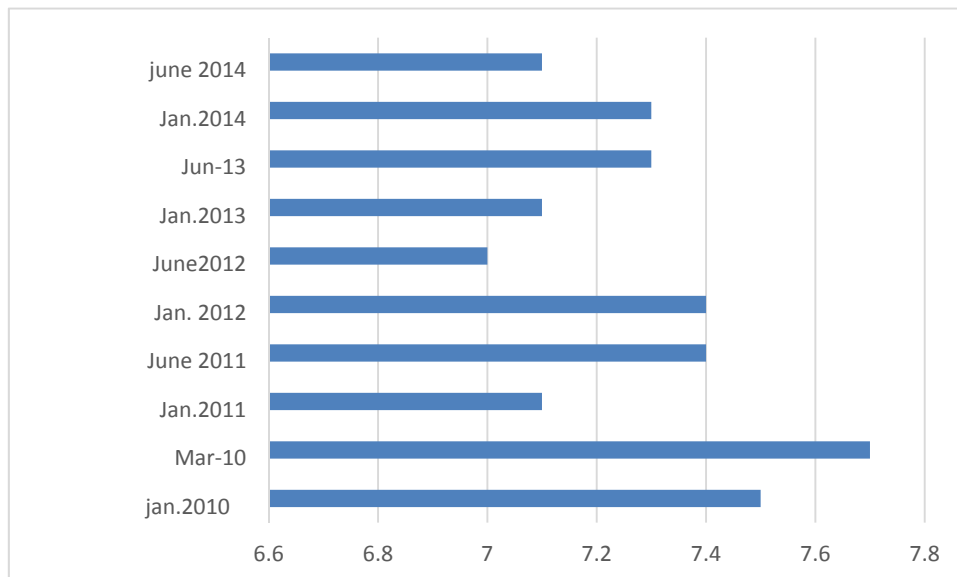
Factors Analysis that influence the housing market and house prices:

- Unemployment. Related to economic growth is unemployment.
- The average annual unemployment rate continued to stay below the average EU values in 2014 (7 percent versus 10.5 percent in the EU), down against 2011 (7.4 percent). The downward trend reported throughout 2013 saw a reversal in the first months of 2014 (unemployment rate rose to 7.5 percent in Feb 2014), but the European Commission's forecast envisages the drop of this indicator to 6.9 percent at end-2014. The long-term unemployment rate (over 12 months) remained virtually unchanged in 2014 (3.2 percent versus 3.1 percent in 2011).
- Structural developments raise concerns: against the backdrop of the aging population process, the labor force participation rate is further low. The employment rate of the population aged 20-64 was 63.8 percent in 2013.



- This rate, albeit on the rise against the preceding year (62.8 percent), is markedly below the EU average (68.5 percent) and far below the domestic target of the Europe 2020 Strategy (70 percent).
- The employment rate among young people aged 15-24 remains low (23.9 percent), below the EU average (32.9 percent), one of the lowest readings among the EU-10 countries.
- Clearly when unemployment is rising, less people will be able to afford a house. But, even the fear of unemployment may discourage people from entering the property market.

**Figure 2.** GDP Unemployment rate 2010-2014 in Romania



Factors Analysis that influence the housing market and house prices:

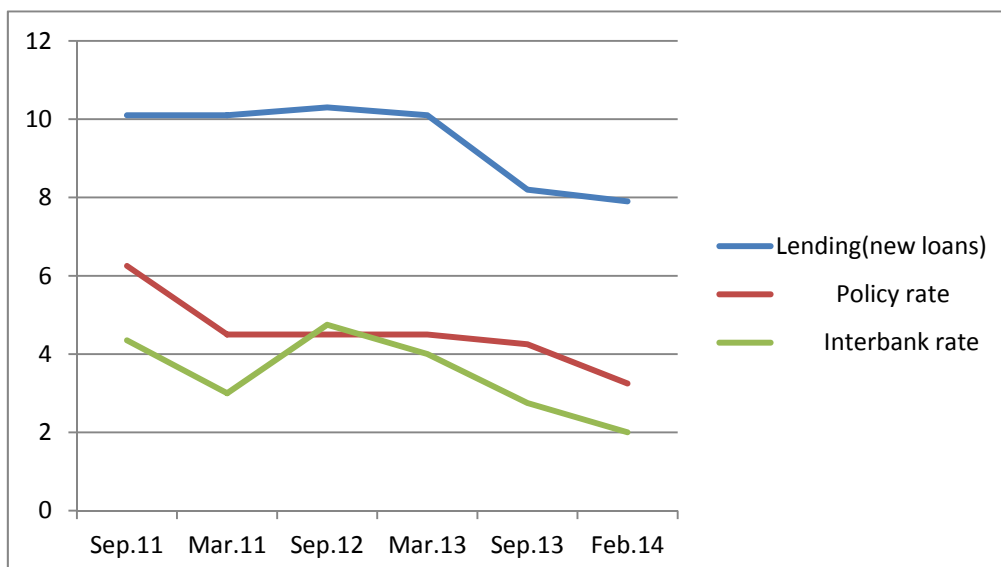
**Interest rates.** Interest rates affect the cost of monthly mortgage payments. A period of high interest rates will increase cost of mortgage payments and will cause lower demand for buying a house. High interest rates make renting relatively more attractive to buying. Interest rates have a bigger effect if homeowners have large variable mortgages.

**NBR** the easing cycle during September 2013 to February 2014, lowering the policy rate by a cumulative 100 basis points to 3.5 percent. Reflecting this decline, average interest rates on new loans reached historical lows at end-2013. In addition, in January the NBR reduced the high minimum reserve requirements (MRRs) by three and two percentage points for leu (12%) - and foreign exchange denominated liabilities (18%), respectively, with a view to gradually bring the MRRs closer to levels maintained by the European Central Bank and prevailing in

most other EU countries. These decisions were taken with both headline and core inflation expected to remain within the NBR's comfort zone throughout the projection horizon amid a still sizeable negative output gap and subdued credit. However, the reduction in the MRRs exacerbated the excess liquidity situation as the recent emerging market turmoil did not leave the Romanian financial markets unscathed creating pressures on the leu. The NBR intervened to support the leu resulting in the elimination of excess liquidity and an increase in interbank rates to levels above the policy rate, now diminished.

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**Figure 3.** Bank rates 2010-2014



Factors Analysis that influence the housing market and house prices:

*Consumer confidence.* Confidence is important for determining whether people want to take the risk of taking out a mortgage. In particular expectations towards the housing market is important; if people fear house prices could fall, people will defer buying.

*Mortgage availability.* In the boom years of 1996-2006, many banks were very keen to lend mortgages. They allowed people to borrow large income multiples (e.g. five times income). Also banks required very low deposits (e.g. 100% mortgages). This ease of getting a mortgage meant that demand for housing increased as more people were now able to buy. However, since the credit crunch of 2007, banks and building societies struggled to raise funds for lending on the money markets. Therefore, they have tightened their lending criteria requiring a bigger deposit to buy a house. This has reduced the availability of mortgages and demand has fallen.

Mortgage-backed loans make up the majority of banks' loan portfolio (67 percent of total loans to companies and households, equivalent to lei 147.4 billion in June 2013). Lending based on such collateral was more widely resorted to by non-financial corporations (72 percent of banks' corporate loans); as for household financing, mortgage-backed loans accounted for 60 percent in June 2014.

Considering the large share of mortgage-backed loans in the bank portfolio, the related collateral needs to remain at an adequate level so as to counter the risk of a downturn in real-estate asset prices.

The recent correction in housing prices has caused a reduction in the collateral coverage of real-estate loans to households (LTV-loan to value ratio rose from about 78 percent in December 2011 to 85 percent in June 2013). Turning to corporate loans, the LTV worsened over the same period from 79 percent to nearly 90 percent.

The LTV ratio proved an important element of debt servicing, which calls on credit institutions to maintain it at prudent levels. According to banks, loans to households (both mortgage-backed consumer loans and real-estate loans) overdue for more than 90 days usually posted larger differences between the LTV ratio at the loan origination date and the current LTV level (May 2013), possibly also as a result of non-performing loan concentration in the period that saw the sharpest house price corrections.

The ratio of house prices to earnings influences the demand.

As house prices rise relative to income, you would expect less people to be able to afford. For example, in the 2007 boom, the ratio of house prices to income rose to

5. At this level, house prices were expensive, and we saw a correction with house prices falling. House prices may have fallen further, but interest rates were low and supply of housing limited. Another way of looking at the affordability of housing is to look at the % of take home pay that is spent on mortgages. This takes into account both house prices, but mainly interest rates and the cost of monthly mortgage payments.

Supply. When the property market collapses, the market is left with a fundamental oversupply. Vacancy rates increase and therefore with supply greater than demand, prices fell (Romanian prices fall 50%).

The value of real estate transactions concluded in Romania last year amounted to some 380 million euro, which is more than the 340 million euro reported in 2012. The capital city Bucharest accounted for half of that sum, the rest being distributed among the cities of Timisoara, Sibiu, Brasov and Pitesti. The real estate market was dominated by office space transactions, which accounted for almost 160 million euros, which is 47% of the total amount, followed by retail schemes, with 116 million euro and 34% of the total amount. A number of real estate transactions, albeit fewer, were also carried out on the industrial and hotel market, including land intended for real estate development which exceeded 40 million euro.

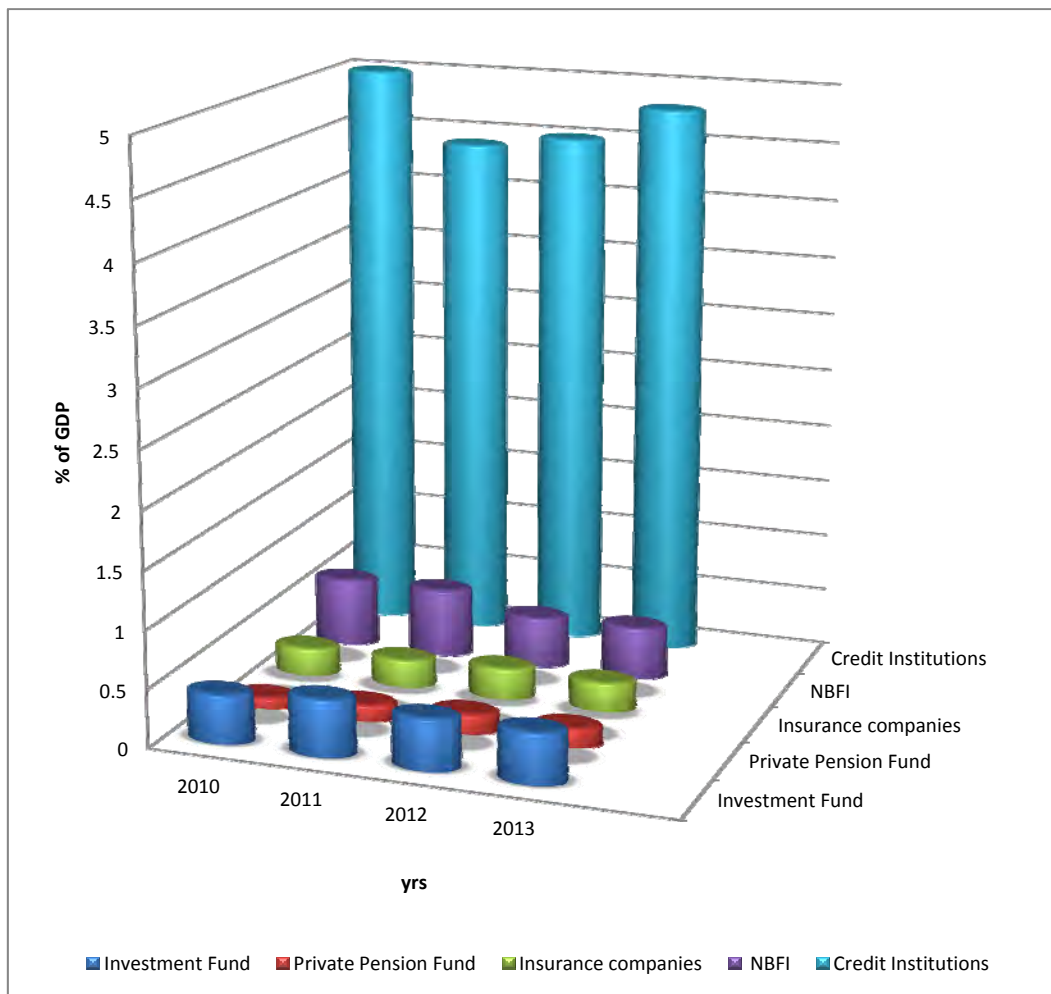
As for the residential real estate market, the prices of apartments in Romania's biggest cities have decreased by around 55% since March 2008, when the market peaked, according to the website imobiliare.ro. While a square meter used to cost 2,058 euro on average before recession, it has now dropped to 986 euro.

#### Financing options of the real estate sector

- In the structure of the Romanian financial system, the main direct inter-sectorial dependencies are *the exposures to the banking sector and the funds raised from banks*.
- At end-2012, *investment funds, NBFIs and insurance companies* had the most significant exposures to credit institutions.
- At the same time, *credit institutions held a considerable share in the funds raised by NBFIs*, whereas the banking sector had a relatively limited contribution to the resources of the other financial sectors.
- The number of insurance companies, financial investment services companies and NBFIs recorded in the General Register went down, whereas the number of investment funds increased.
- The insurance sector strengthened in 2012, but the average profitability ratio remained in negative territory.

- Besides investments in government securities, the privately-managed pension funds opted for investing mainly in bank deposits.
- Foreign direct investment and external bank loans, both of which have been drivers for growth in the real estate market.
- In the period to 2011, Romania received €55.1bn in foreign direct investment from which construction/real estate (10.7%)

**Figure 4.** Structure of the Financial System (assets as a share in GDP) %



Source: NBR, FSA, Table 1.

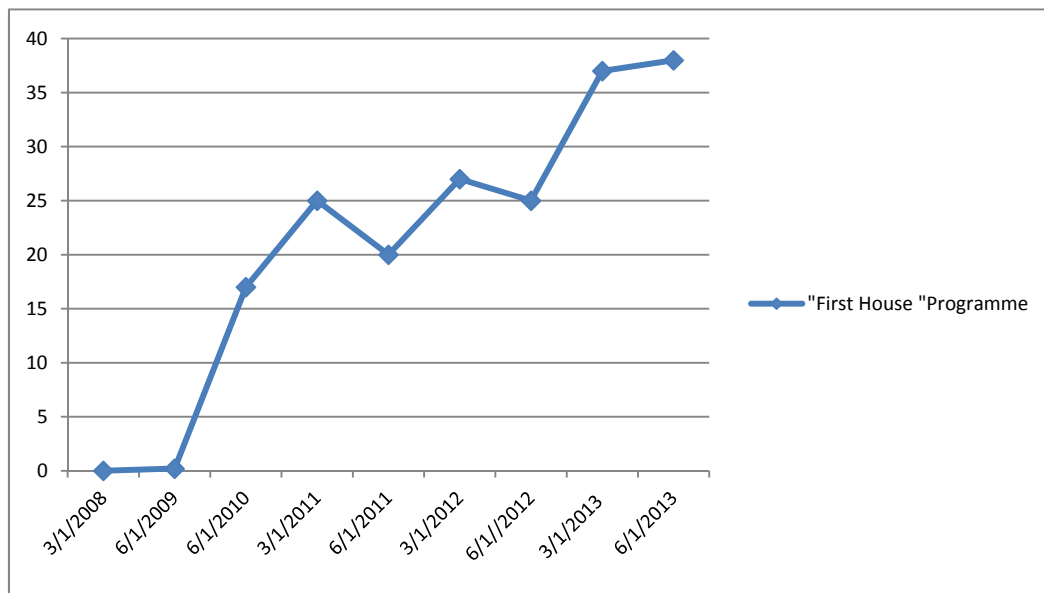
The Program entitled “The First Home”, launched in 2009, has so far played an important role on the residential real estate market. The program targets persons who do not own a home and wish to acquire one that does not exceed 50 square meters. Loans are given under that program at low interest rates (2-2.5%) over BUBOR (local interbank market rate) at 3 months while the down payment does not exceed 5% of the total value of the apartment. Since the launch of the program, the value of financing has reached 3.5 billion euro, with over 110,000 people benefiting from guarantees on home purchases from the National Fund of Guaranteeing Credits for Small and Medium-sized Businesses.

Loan Values, since 2013, is expressed in local currency

The guarantees provided by the guarantee funds with a view to supporting the lending activity witnessed an upward trend, due to both the continuation of the “First House” program and the rise in the guarantees provided under other government programs. Accordingly, at end-May 2014, the total guarantees assumed by these entities accounted for 9 percent of credit to non-government, up 2 percentage points compared with 2013 Q2.

Without such a funding program, the real estate market would have collapsed.

**Figure 5.** *Firs House Program*



### Real estate market demand analysis

- Considering the entire real estate market, the commercial sector has recorded a positive evolution, being sustained by foreign market players, while the residential segment, being exclusively dependent on the domestic demand, did not witness an obvious improvement.
- However, the perspectives of the real estate market have improved, based on macroeconomic events (performance of GDP, inflation, rates, ratings improved), proved by strong prospecting activities and consolidation of the portfolios owned by foreign investors and developers.

Demand for offices will continue to remain active during 2014, the perspective of a future improvement being encouraging. Although the level of take-up will slightly increase, the amount of vacant offices will increase as a result of the relocations of tenants that are likely to produce additional vacant spaces. Generally the headline rent for class A offices in Bucharest fluctuated between Euro 16-18/sq m/month, while for centrally-located class B offices, the rents varied between Euro 12-14/sq m/month.

Investment transactions have concentrated on the office segment similar with previous years, the second best performing sector being the retail market. The transactions recorded in 2013 mainly aimed to consolidate the portfolios owned by the foreign investment funds in Romania. The most active investment fund, New Europe Property Investments acquired Lake View office building In Bucharest (Euro 61.7 Million) and Severin Shopping Center in Drobeta Turnu-Severin, maintaining the strategy of consolidation on office and retail segments. Yields for new modern properties maintained stable, generally fluctuating between 8.25-8.50% for class A office buildings, between 8.0-8.75% for shopping centers and between 10-10.5% for industrial/logistic schemes. Lack of financing affects both the development and investment activities. The main capital inflows are generated by foreign market players that succeeded in attracting finance from sources other than banking finance.

### Residential market

Development activity during the first part of 2013 concentrated almost exclusively on the apartment segment located within small scale residential compounds. The characteristics of properties are adapted to the price expectations of the potential clients; thus the sale prices should not exceed the maximum limit (Euro 67.000) imposed by the "First House" program. Local residential market remained dependent on the banking finance; as a consequence the sale price is the main decision factor under the condition of a more impoverished demand. His situation

could potentially change during 2014, if the governmental program will be exclusively focused on acquisition of new developed properties. The sale prices on new apartment segment will maintain constant, while the sale prices on old apartment segment will record a decrease tendency.

On other segments of the residential market the development activity is very limited; the availability of apartments completed during the boom period of the market is high while the sale rhythm is unsatisfactory significantly contrasting with the expectations of developers and financing banks.

On the offer side, small scale developments will continue to dominate this segment being quoted prices comparable with those currently recorded. On street retail segment is marked by high availability of properties as a result of the incapacity of tenants to financially sustain the lease contracts. Although the interest of tenants remained constant, the continuous flux of tenants securing and vacating spaces generate a high degree of uncertainty on this segment. The most active tenants remained the proximity shops (supermarkets) that take the advantages of the changes in the consumption behavior. Under these circumstances, the superior limit of the rents quoted for 2012 has obviously decreased as the owners are eager to retain the tenants that encounter difficulties on their specific market (40-60 Euro/sq m-Center, 18-30 Euro-Secondary, 8-12 Euro-Peripheral). Local land market recorded an evident increase in the number of transactions generated by the attractive offer, both in terms of asking prices and granted urban planning indicators. Under the conditions of a less liquid market, the potential purchasers are speculating this disequilibrium putting pressure on prices and adopting an aggressive attitude on negotiation. The acquisition of plots at lower prices compared to 2011 and 2012 was stimulated also by the policy of banks that aim to rapidly dispose the foreclosure

Portfolios. A better equilibrium between prices, urban indicators and location has stimulated the transactions during 2013. Urban indicators by themselves do not automatically result in an added value and indirectly in a price increase. As a consequence, demand focused on plots proper for office developments, as well as for residential developments, especially for small scale projects. Among the most important transactions, should be noticed those concluded in the northern Bucharest by Skanska for office development (Green Court project) and by companies owned by Ioannis Papalekas also in view of office development.

## Conclusions

Besides the determinants that we analyzed might be investigated other too, with their Romanian specificities for example:



### Typical Finance Mix

- Tax Design.
- Economic Rationale.
- Land Ownership.
- Governance Scales.
- Planning.

### Sector Preference

- Risks.
- Rewards.
- Partnerships.
- Legal Issues.
- Procurement.
- Policy Drivers.
- Barriers.

We focused on Macro events (Determinants) that have been investigated in this paper (GDP, Rates, Inflation, Ratings, Financing options for real estate, income, state programs for residential etc.) that steadily improved starting with 2012 with a significant impact on the real estate market.

All segments of the real estate market (Commercial, Retail, Investment and Land) have entered the positive area, one exception i.e. the residential segment, being exclusively dependent on the domestic demand.

These performances paved the way for switching more and more from dependence of the bank loans, following the poor development of the capital market, unlike other countries in Europe, to innovative forms of Real Estate Investment (both equity and debt types) like:

- Direct Real Estate, Pooled Investments in Direct Real Estate, Listed Real Estate Securities (REITs), REIT Preferred Stock as Equity forms and
- Style of Return, Real Estate Securities, REIT Preferred Stock as Debt forms.

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## **Educational system orientation to requirements of real estate business environment. Accents and limits in intercultural communication**

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**Abstract.** *The main drivers of globalization are the multinational corporations. In this context, the higher education system must adapt its curricula to the requirements of global real estate business environment and multinational corporations in order to enable graduates to acquire desired skills. This paper highlights the importance of acquiring trans-cultural and trans-disciplinary skills by bringing forefront the complex issue of intercultural communication. Transversal skills tend to become increasingly important, so in a global real estate business environment acquiring communication skills and overcoming barriers to intercultural communication are key aspects in acquiring important positions in real estate multinational corporations.*

**Keywords:** global real estate business environment, transversal skills, intercultural communication.

**JEL Classification:** A23, I25.

## **1. Introduction**

The economy globalization is a dual process, being in the same time both a result of the increasing activities of multinational companies and also a cause of their more powerful worldwide affirmation. The emergence and development of multinational corporations in Romania had radically changed the nature of competition. In Romania it is estimated that currently 40% of all companies are companies with foreign capital participation.

While we are facing the emphasis on economy globalization marked by the increasing number of multinational companies and cultural diversity within these companies, the need of communication between people from different cultures is becoming more evident. Ignoring or not accepting the cultural identity specific features may cause barriers in intercultural communication, with negative effects on employee efficiency or even on multinational companies' financial results.

It is appreciated that, at managerial level, more than two thirds of the managers' time is consumed in verbal communication. Although for a company that aims to development while the cultural and communication diversity are advantages, in the same time they can cause difficulties in the convergence process.

Aiming to improve the communication between people of different cultures an individual approach for improving communication is needed. This involves understanding the others behaviour, paying attention in decoding both sent and received messages, sending a clear feedback and awaiting feedback from others, and also an additional effort from managers in order to know the employees and thereof behavioural characteristics.

As these issues become more obvious, real estate multinational companies are becoming increasingly interested in the subject of intercultural communication. In this context, in the process of recruitment and selection of new employees in real estate multinational companies transversal skills of potential employees are more and more appreciated, focusing on communication skills, knowledge of several languages, skills for teamwork and proactive behaviour.

## **2. Real estate higher education orientation for competency based education**

The penetration of real estate multinational corporations in Romania led to radical changes in the labour market and therefore the need to reconfigure the Romanian higher educational system in terms of its orientation towards real estate business environment demands (Şipoş et al., 2012: pp. 725-734). This meant setting up a competency-based education.

Competency-based education is a process reorienting the educational system from focusing on teacher towards focusing on what students should know to be able to face not only labour market but also life in general (focus on student and/or focus on the labour market) (Arguelles and Gonczi, 2000: pp. 15-17). Competency-based education focuses on outcomes (competencies) that are related to labour market needs as defined by employers and the profession obtained after graduation.

In the context of the European Qualifications Framework (2008), competency is described in terms of responsibility and autonomy and it is the demonstrated ability to select, combine and use appropriate knowledge, skills and other acquisitions (values and attitudes) to successfully solve a certain type of work or learning situations and for professional or personal development in terms effectiveness and efficiency.

In “The Key Competences for Lifelong Learning – A European Framework” (2007) the competencies are defined as “a combination of knowledge, skills and attitudes appropriate to the context. Key competencies are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment”.

In the above mentioned document there are identified eight key competencies of graduates:

- 1) Communication in the mother tongue;
- 2) Communication in foreign languages;
- 3) Mathematical competence and basic competencies in science and technology;
- 4) Digital competence;
- 5) Learning to learn;
- 6) Social and civic competencies;
- 7) Sense of initiative and entrepreneurship;
- 8) Cultural awareness and expression.

The transversal nature of these key competencies determines their high importance. Acquiring these key competencies ensure employability and social cohesion and increases the degree of adaptability to change and integration of graduates in the social environment.

The competencies are divided into two categories: professional competencies and transversal competencies. The professional competencies mean the proven ability to select, combine and use appropriate knowledge, skills and other acquisitions (values and attitudes) to successfully solve a certain type of work or learning situations, regarding profession, under effectiveness and efficiency conditions.

The transversal competencies are those capacities that transcend a particular area, or a study program and have a trans-disciplinary nature. They refer to teamwork skills, oral and written communication skills in their mother language or in a foreign language, the recognition and respect for diversity and multiculturalism, information and communication technology - ICT, problem solving and decision making, learning autonomy, initiative and entrepreneurship, openness to lifelong learning, the respect and development of professional values and ethics.

Reconfiguring the Romanian higher educational system consists of switching its orientation from focusing on teacher towards focusing on student and labour market needs in terms of future employees' qualifications, skills and knowledge.

According to the Methodology of the National Framework Qualifications in Higher Education, the Romanian higher educational system is set on three levels:

- Undergraduate studies corresponding to level 6 of qualification in European Qualifications Framework (EQF);
- Master studies meet level 7 of qualification in EQF;
- Doctoral studies corresponding to level 8 of qualification in EQF.

In Romania currently training competencies in real estate field is achieved through master study programs or doctoral studies. Such master study programs in real estate are held at Academy of Economic Sciences Bucharest and West University of Timisoara (Faculty of Economics and Business Administration) and there is interest in developing such master programs in real estate field also in two other large universities with tradition: in Iasi and Cluj.

The Master in “Real Estate Assessment and Administration” from West University of Timisoara provides an optimum equilibrium between academic theory and the valuation practice, under the license of ARACIS (Romanian Agency for Quality in the Higher Education). For students, this master program represents a main source of knowledge and a major opportunity to further develop a solid career. This master program aims to create and maintain a strong link between university and business environment. In that respect, in 2009 it was perfected an Agreement between Faculty of Economics and Business Administration and National Association of Romanian Valuers (ANEVAR) that states a long-term collaboration in real estate training based on curricula of this master program (Şipoş et al., 2009: pp. 1-7).

Currently, the curriculum of the master program organized by Faculty of Economics and Business Administration, West University of Timisoara, is configured focusing on professional competencies acquired by graduates, giving it a lower weight to transversal competencies. This master program graduates can practice as real estate expert appraiser, real estate manager, real estate developer, real estate transactions agent or real estate consultant.

In a globalized real estate business environment, practicing these professions at a performance level involves holding competencies as interactive communication, interpersonal communication, working in a multidisciplinary teamwork, professional development, so a plurality of transversal competencies. Thus, in the approach of reconfiguring the master program curriculum in order to focus the educational process on student and real estate labour market needs, granting a higher importance for transversal competencies acquired by graduates will be considered.

In case of practicing in multinational real estate companies one of the professions set above, besides competencies related to communication and speaking of one or more languages of international circulation, the possession of academic or professional experience in the respective country, gained through study abroad scholarships or by internships in a company in that country is well appreciated. Generally, speaking the multinational company's language and any kind of relationship with native speakers of the language in question is a strength point for getting a job in that company.

As the number of multinational real estate companies is growing and the world becomes more interconnected, problems of communication between people from different cultures are becoming more common. Intercultural communication issues arising in the real estate organization can generate serious difficulties in the operation of the company and achieving its goals, and therefore this is an issue that deserves the attention of specialists.

Think about the following situation: the employees of an U.S. firm perform in Europe a real estate valuation for a Chinese company. How can we manage this complex situation? First of all it is a cultural issue that requires understanding of cultural features and overcoming intercultural barriers.

### **3. Main visions in intercultural communication today**

Starting from the Latin etymology of the terms "communicare, communicatio", communication concept may be defined briefly as transfer and exchange messages and information. Also, there must be considered the differentiation between verbal and nonverbal communication, because, along with the language (spoken or written) there are other factors to be taken into account in the process of communication, for example: graphics, images, mimics and gestures to name just a few elements of broader communicative context, which, in turn, are strongly cultural influenced.

Defining the concept of culture, namely conceptual tandem of culture and civilization Helen Spencer-Oatey extends the concept by introducing additional

factors apart from values and, at the same time, a description of the functions that “culture” performs: “Culture is a fuzzy set of attitudes, beliefs, behavioural norms, and basic assumptions and values that are shared by a group of people, and that influence each member's behaviour and his/her interpretations of the “meaning” of other people's behaviour.” (Spencer-Oatey, 2000: pp. 4-5). The concept itself is found in everyday life in different phrases: “arts and culture”, „gastronomical culture“, „organizational culture” etc. Also to another level of comprehension of culture leads the fact that, according to Stephan Dahl (Dahl, 2000), people who share organizational culture are the same who define it at the same time.

Often the first connotation of the concept of culture is that in which the cultural sciences is subsumed in the concept of high culture: arts, education and formation, literature. However, for the current stage of studying and understanding the issues of cultural comprehension as part of academic training, the exploitation of the concept of culture in permanent relationship with the concept of civilization is required: elements of everyday life, their conduct, language and use of language, forms and conventions of communication, family, food habits and culinary culture, clothing, attitude towards work, leisure structure etc.

Cultural researcher Geert Hofstede talks about the first degree culture, including academic training, literature, art and the second degree culture that he calls "mental software" which refers to an extension of the concept, which leads to the social anthropology. Also, for complex understanding of the term, it is necessary to consider the concept of "subjective culture" in the sense that Triandis defined it, as “characteristic way to perceive social environment" (Hofstede, 1997).

The management consultants Trompenaar and Hampden-Turner (being on conceptual line developed by cultural researcher G. Hofstede) after 10 years of research and interviewing over 40.000 managers in about 40 countries, had cumulated the research results in vision known as "the seven dimensions of culture", which includes a combination of behavioural and cultural paradigms designed to provide face to face diverse cultural elements that could constitute communication barriers, especially in specialized and business communication, explaining the preferences of each type of culture identified for one kind or another of value orientation (Trompenaar and Hampden-Turner, 1997).

***Universalism versus particularism*** – typical universalist cultures: USA, Canada, the UK /typical particularist cultures includes China, Russia, Eastern Europe States, and Latin-America: characteristic for universalist cultures is the high importance people get to rules, laws, values, obligations; rules come before relationships. Working with people from universalist cultures means one have to be consistent and keep an objective attitude to make objective decisions. Particularist cultures set relationships and circumstances before rules. The



circumstances dictate the rules, which change with every circumstance and often depend on who's involved. The working strategies with people from this type of cultures should highlight strategies and rules to be followed.

***Communitarism versus individualism:*** typical communitarist cultures: Africa, Japan, Latin-America; typical individualist cultures: USA, Canada, the UK, Scandinavia, Australia, New Zealand, Switzerland. For communitarist cultures the group is more important than the individual, because it provides safety and help (but requests for loyalty). People who are part of an individualist culture generally believe in the importance to make your own choices, in personal freedom and achievement.

***Neutral versus emotional*** – people from neutral cultures believe that it is vital to control emotions; their actions are influenced by reason not by emotions and they try not to reveal feelings and emotions in professional circumstances. Working with people from this type of cultures presumes an effective emotion management and a balance between body language and attitude. In emotional cultures it is accepted to be spontaneous and to show emotions – working with people from those cultures should focus on the importance to manage emotions and conflicts and to build trust in relationship with other individuals. Typical neutral cultures are: the UK, the USA, Finland, Sweden and Germany - emotional cultures include Latin-America, Poland, Italy, Spain and France.

***Specific versus diffuse*** (of how far get people involved): typical specific cultures believe that it is important to keep personal lives and work separate – you can work with people without having a good relationship; typical diffuse cultures see an indestructible connection between work and personal life: good relationships are vital for good work. Typical diffuse cultures are in: Argentina, Russia, India, China, on the other hand, typical specific cultures involves: Switzerland, Germany, Netherlands, US, the UK, Scandinavia.

***Achievement versus ascription*** refers to the perspective which people have on status: in achievement orientated cultures, the performance is important, recognized and rewarded; people from this cultures believe that you are what you do. In ascription orientated cultures the power and social position have the main importance– these are the frames for certain types of behaviour. Typical achievement cultures are the US, Scandinavia, Australia, Canada and ascription cultures include: Japan and Saudi-Arabia, but also Italy and Spain.

***Sequential time versus synchronous time*** refers to time management – sequential-time cultures set high value on schedules, planning and punctuality. At the same time, characteristic for synchronous-time cultures is a flexible view on plans and schedules and also the work on several projects simultaneously. Typical

sequential-time cultures are: China, Russia, Mexico and synchronous-time cultures are: the UK, the US, Canada.

***Internal direction versus outer direction*** – or how people are related to their environment: people from cultures with internal direction believe that they can control nature and environment to achieve their own goals – including the work with institutions, teams and organizations. People from outer-direction cultures believe that environment and nature controls them. Typical internal-direction cultures are: Israel, the US, the UK, Australia, New-Zeeland and typical outer-direction cultures are: China, Russia and Saudi - Arabia.

But what defines information transmission? The language interaction is made in a certain social context, in a certain situational context, in a mix of behavioural typologies (a blend of behavioural typology) from which it results a set of socio-cultural determined attitudes towards communication partner and/or peers.

The socio-culturally determined attitudes (in communication) differ in a more or less degree from individual to individual (greetings, thanksgiving formulas and their collateral conventions), speeches, opening or censorship - especially in emergencies, attitude toward taboos, etc.).

All these aspects are subsumed in Els Oksaar theory to the concept of cultural. Cultural knowledge and circumstances of their implementation, including the translation features, with an informational core and collateral elements defining for communication entity are the prerequisites for a coherent and functional communication.

#### **4. Conclusion**

Communication is the most important process of manager-employee interaction in multinational real estate companies and is therefore very important for it to be effective. Speaking about intercultural communication, the barriers posed by it are not limited to problems usually encountered by managers in their interaction with their employees. Communication between manager and employee is often inefficient and communication between cultures can be difficult due to the obvious differences of language, but also due to less obvious differences in body language and social conventions.

In order to improve the communication between people of different cultures, an individual approach to communication improvement is needed. This involves granting sufficient time to understand the behaviour of others, giving special attention to decoding both sent and received messages, sending a clear feedback

and awaiting feedback from others, and submission of additional effort from managers to know their employees and their behavioural characteristics.

Growing international activity of real estate companies involves new requirements for those who participate in cross-cultural activities. They must deal with issues such as the interpretation of the actions and attitudes of individuals or organizations that operate in a context different from that with which they have become accustomed.

Therefore, in an interconnected world the educational process has to be reconfigured. The curriculum of real estate master programs has to be focused on student and real estate labour market needs, granting a higher importance for transversal competencies acquired by graduates and intercultural communication is a “must have” transversal competency for real estate specialists.

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## **Importance of competencies of real estate graduates in employers' perception**

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**Abstract.** *Employers have different views about the adequacy of competencies acquired by the graduates in the educational process. This paper proposes an analysis based on two main factors important in the hiring decision: formative dimension, focusing on skills and educational level of graduates and competency dimension, focusing on competencies and practical experience of graduates. Also, the paper will explore whether the reputation of the university and of the graduated studies are important in employers' vision. A particular importance in the eyes of employers has the transversal competencies such as autonomy, social interaction, personal development, capacity to lead.*

**Keywords:** system of competencies, graduates, real estate education, employers' perception.

**JEL Classification:** A23, I25, J24.

## 1. Introduction

This paper is part of a research project that aims to increase the competitiveness of human resources by providing higher education at master level related to labour market needs in the present context of European Union regulations. Graduation of a master program – in particularly in the economic analysis and valuation of assets and businesses – have to be based on professional and transversal knowledge offered by universities, which opens the door to different professions. The master qualification, if it is correlated with the skills required by employers, is offering major job opportunities.

The project analyzes the domain-specific knowledge, competencies and skills, based on problems discussed and formalized by different organizations and European conferences as following: The Qualifications in Higher Education developed by the Bologna working group on qualifications frameworks, February 2005, published by the Ministry of Science, Technology and Innovation of Denmark; the Communication from the Commission of European Communities to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, New Skills for New Jobs, SEC (2008 3058), Brussels, 16/12/2008; the Recommendation of the European Parliament and the European Council on the Establishment of the European Qualifications Framework for Lifelong Learning, Official Journal of the European Union, 06.05.2008; Communication of the Conference of European Ministers responsible for Higher Education, the Bologna Process 2020 - The European Higher Education Area in the New Decade.

Many studies show that the “traditional” education focuses most on cognitive and professional competency development and is not able to produce multi-skilled, flexible and adaptable graduates (Hodges, Burchell, 2003: pp. 20). In these conditions, the quality of the education system and connection to current European requirements are based on competencies and knowledge that are designed and applied in the academic qualification mainly at master’s level. Existence of uniform competency system for the same domain helps to create a common language with favourable effect on national and European progress. As is shown in the Romanian official documents (National Qualifications Authority, 2011) in September 2011 Romania has successfully finalized all steps recommended by the Council of Europe for the implementation of the framework for qualifications for higher education. In this context, is very opportune to analyze the importance of competencies of real estate graduates in employers' perception (Şipoş and Buglea, 2011: pp. 1-9).

The main issues about the employers' expectations from graduates of master programs in the area of economic analysis and valuation of assets and businesses

are mainly referring to: the level of satisfaction of employers on the quality of skills and competencies of master graduates; the importance of certain knowledge, competencies and skills that graduates should have; education level best to fill vacancies in companies; most important challenges facing companies employing graduates; ways of increasing the employability of graduates.

## **2. Which are the competencies, knowledge and skills that can increase the employability?**

The competencies, knowledge and skills for the graduates of the economic analysis and valuation of assets and businesses area are defined in our research project based on “Layout for creating the competencies system at master level” elaborated according with students’ and employers’ opinion. This layout contents a number of four main components of competency system.

The first component is *knowledge*, based on two directions. First direction is the proficiency in the area of specialization given by: knowing the methodological and practical program of specific area of study; the appropriate use of specific language in communicating with different professional backgrounds; advanced description of a specific language training on the concepts, principles and approaches to economic analysis and property valuation; knowing of the general characteristics of the objectives and scope of economic analysis and valuation of properties; identifying relevant information sources; describing the theoretical and methodological base of analysis and diagnostic valuation; describing the valuation hypothesis; knowing the concepts and techniques of forecasting; updating with new developments in valuation techniques; knowing the valuation approaches and specific methods; knowing the management methods and techniques necessary to carry out the valuation missions.

The second direction refers to using the knowledge to explain and interpret new situations in wider contexts with associated areas of study based on correlation of specific theoretical knowledge and their interpretation to solve complex situations encountered in economic practice; verifying and selecting the information sources that are relevant and credible for economic analysis and valuation purposes; using the statistical methods and economic analysis tools; identifying and discussing the system of indicators used in the analysis and valuation diagnosis; integrated approach to gain knowledge to explain the valuation and interpretation of different scenarios; explaining the content and appropriateness of appraisal methods; improved knowledge management to explain and interpret complex situations specific to teamwork.

The second component is *the skills* divided on three sub-components. The first sub-component refers to using the conceptual and methodological system to solve new theoretical and practical problems, based on using of specific tools for analysis and valuation; processing information to create databases for valuation purposes; applying specific diagnostic procedures to identify the causes; interpreting of the indicator system; applying specific techniques and elaborating the valuation scenarios from a given situation under incomplete information; selecting appropriate appraisal methods to a given situation, in order to estimate value; applying knowledge management to coordinate and control the work of the valuation and business consulting team.

The second sub-component of skills refers to pertinent using of criteria and appraisal methods valuating the assets and businesses, based on critical evaluation and application adapted for appraisal concepts, principles and specific approaches to economic analysis and valuation of properties; selection and application of relevant criteria for the analysis of the database to elaborate diagnosis and valuation scenarios; a critical evaluation of the results of the diagnosis, synthesis and conclusions; grounding scenarios appropriate for the valuation process using complex analysis criteria; using different methods of valuation and critical analyzing of these methods to reconcile the results; making relevant judgments in analysis and valuation of properties.

The third sub-component of skills consists in elaborating professional and/or research projects, using a wide variety of innovative quantitative and qualitative methods, based on valorisation of results achieved by applying their innovative methods of analysis and valuation supporting specialized opinions; making a study (questionnaire, interview, observation, document analysis) to establish a representative sample and data collection; the report of the diagnostic analysis and interpretation of diagnostic findings for innovative use in the appraisal process; construction of valuation scenarios for a project using innovative techniques and hypotheses; making a project by using at least two appraisal methods; elaborating a management project based on methods and techniques for effective coordination.

The third component of the competency system is *the professional competency*. This component is based on level descriptors of the structural elements of professional competencies, as the capacity to use advanced concepts, principles and practical approaches based on economic analysis and property valuation. The minimum requirement for this task is making an essay on the concepts, principles and approaches of analysis and economic valuation practice; the capability to collect and select the relevant and reliable information about valuated asset or business. The minimum requirement for this task is presentation of information



sources and how to collect relevant information for appraisals and diagnosis; the capacity to elaborate a diagnostic of appraisal. The minimum requirement for this task is making a report of economic analysis and diagnosis; the ability to operate with specific techniques and assumptions and the capacity to make a scenario-based valuation. The minimum requirement for this task is argumentation in a case study of the relevant appraisal scenarios, from diagnosis conclusions; the ability to estimate and express a valuating opinion. The minimum requirement for this task is estimating and motivated sustaining of estimated value by at least one of the appraisal methods; the capability of managing and monitoring the valuation process and the ability to offer assessing consultancy. The minimum requirement for this task is exposing the potential solutions for a decision on the general development of the valuation process and preparation of a draft valuation.

Finally, the fourth component of the competency system is *the transversal (soft) competency*, based on three main level descriptors of transversal competences, as execution of complex professional tasks in terms of autonomy and professional independence. This descriptor quantifies the capacity of graduates to apply the doctrine and professional ethics in the execution of complex, interdisciplinary tasks. the minimum requirements for this task are to demonstrate the ability to deal with some hypothetical situations and professional ethics and to demonstrate the capability to collect information and to discern between important and less important information; assuming the business management roles/functions of professional groups or institutions. This descriptor requires communication skills, teamwork abilities and capacity to take the leader role. the minimum requirements for this task are to elaborate a specific project responsibly assuming the role of member or leader a multidisciplinary team and to demonstrate the capability to find alternative solutions or backup; self learning, diagnose training needs analysis of their reflective professional activities. This descriptor assumes the capacity of self evaluation and diagnosis of need for continuous training to adapt to dynamic social context. The minimum requirements for this task are developing and supporting the arguments to the application of personal professional development plan, demonstrating the ability to deal with the uncertainty of future events and controlling the determinants of a complex and dynamic environment.

### **3. The most important competencies, knowledge and skills in employers' perception**

As we can see in previous studies, the demographic differences between the countries or regions are underlined by social and economic disparities. However, the content of business related courses is remarkably similar in most of business schools with similar core modules (Andrews J., Higson H., 2008: pp. 412). In this context, it is crucial to know the expectations of labour market about the

competencies, knowledge and skills that master graduates should have in the field of economic analysis and valuation of assets or businesses. This will essentially contribute to improving the universities curricula.

The population which has to be investigated consists mainly in companies in the areas of economic consulting, economic analysis and valuation of assets or businesses, services or financial transactions from all Romanian regions. Type of recommended sample: random, two-staged, with stratification in the first stage, depending on the company and the region investigated, nationally representative. Selection of persons: most indicated are diverse responsible persons as CEO, financial director, financial manager or HR manager of companies.

Importance of competencies, knowledge and skills in the recruitment process is dual appreciated by Romanian employers. In this respect, the adequacy of competencies, knowledge and skills acquired in the traditional educational process to the specific professional activities are considered that are not fitting enough to the job requirements. This first general indicator of business positioning in relation to the characteristics of the formation indicates a significant segment perceiving low level outputs adequacy of education to the needs and expectations of the business environment. The structural determinants of companies as geographical area, company profile, type of ownership, number of employees and turnover do not seem to influence heavily the general opinion. We find, however, a higher proportion of those who consider less appropriate skills among specific profession in the companies with majority of foreign capital and large companies (over 250 employees) or those with turnover of more than one hundred thousand Euros.

It seems that employers' opinion is that in the recruitment process matters more the education of candidate (skills acquired and qualification) against its practical experience. Reputation of formative institutions is a secondary factor in the decision to employ. Data analysis indicates two main dimensions of the factors important in the hiring decision: The *formative component*, focusing on skills and educational level of candidates and *competency component* focusing on experience and reputation of the university is evenly distributed (according to managers, the university reputation explains in an equal manner the education and skills of the applicant). There are many factors that significantly discriminate managers' opinion. We note, however, differences between regions as well as the differences between large and small companies, large companies valuing in a greater degree the graduates' competencies. Competence assessment is more easily associated with the initiation of rewarding activities than with recruitment activities. This activity is more used in foreign capital or large companies comparing to local private capital or small companies.

Most appropriate in the educational portfolio of a potential employee are two categories of *professional competencies*. The first category involving knowledge, understanding and using specific language for explanation, interpretation and application, transfer and problem solving; the second category includes critical reflection and constructive creativity and innovation. In a more individualized register for a graduate master studies in the field of economic analysis and valuation of assets and businesses are important, according to the respondents, primarily the ability to use computational tools to interpret indicators of economic and financial analysis and to collect and select the relevant and reliable data.

Slightly less important are competencies to carry out inspections that require technical expertise or operating with diagnosis valuation assumptions and techniques. Overall, professional competencies are very important for a master graduate in order to succeed to employ. Managers of small companies as number of employees or turnover and managers of companies in business consulting services and financial transactions believes in an even higher proportion than others that the professional competencies should be included in the educational portfolio of a master graduate.

A very important component of formation of graduates is *transversal (named also "cross" or "soft") competencies*. All competencies with transversal dimensions as autonomy, social interaction, personal development and capacity to lead are assessed relatively similar by all employers as very important for the profile of a potential employee graduating master studies. In the specific case of the graduates of master studies in economic analysis and valuation of assets and businesses the transversal skills are most frequently indicated as a "must have" in the educational portfolio. Very important are ability *to communicate, to relate, to work in teams and taking the lead role*. In this regard there are practically no differences between perceptions of employers from different categories of companies.

Importance of soft skills is very high in opinion of employers, most of them considering it crucial for a master study program. Just as in the case of professional competencies assessment, small business managers as number of employees or turnover and managers in business of consulting services and financial transactions believes in a higher proportion than others that the transversal competencies must be included in the educational portfolio of a master graduate. Employers surveyed are among those who usually employ qualified human resources with master studies. The data indicate no significant differences between general economic companies and companies specialized in business consulting services or financial transactions. In contrast, average employment in companies in the developed regions is significantly higher than in other regions. Also employing graduates of master in foreign capital companies is much higher

developed than in other companies. Large companies (over 250 employees) and those with a turnover of over 1 million employed, on average, significantly more master graduates than small companies (under 10 employees) and those with a small turnover. They were hired, according to employers, based on transversal competences as networking and communication ability and less for self-evaluation and diagnosis training.

### **Conclusions**

Based on the studies on Romanian labour market the most important professional competencies that led to the employment of master graduates are collecting and selecting relevant information, ability to relate procedures and interdisciplinary knowledge and capacity to use advanced calculation and interpretation instruments. Less important for the decision to employ are professional competencies as performing technical inspections and estimates that require technical expertise, proposing and implementing new approaches and techniques for valuing assets/businesses.

Incidence of employment for master graduates in fields related to the economic analysis and valuation of assets and business is around one third of total institutions investigated and around three thirds of institutions that have employed at least one economic master graduate in the last two years. The companies that have employed graduates of master in areas related to the economic analysis and valuation of assets and businesses hired an average number of four graduates in the last two years. Even in this case, the data do not indicate significant differences between general economic companies and specialized business in consulting services and financial transactions. In contrast, average employment in companies from developed regions is significantly higher than in less developed regions. Also employing degree of real estate graduates in foreign companies is much higher than local companies. Large companies (over 250 employees) have employed significantly more master graduates than small companies (under 10 employees) and those with a small turnover.

Further education as training at work or postgraduate studies is very important according to the employers' perception, without significant differences between different categories of companies. However, only slightly more than a fifth of employers have a contract with an educational institution for practical training of employees. A significant number of cooperation agreements between companies and educational institutions are registered in the case of private companies with foreign capital, in the companies with over 250 employee and those with an annual turnover of over 1 million Euros. And finally, is very important to underline the particular importance in employers' perception of the transversal

competencies such as autonomy, social interaction and continuous personal development, capacity to activate in team-works and to lead teams.

### Acknowledgements

This paper was supported by the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/86/1.2/S/53849 „Applying a system of competencies coherent with the European system at master level in the field of economic analysis and valuation of assets and business”, coordinated by the Babes-Bolyai University of Cluj-Napoca, Romania and a preliminary version was presented to The 8th Annual ERES Education Seminar, Helsinki-Espoo, Finland, December 2012.

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- \*\*\* Recommendation of the European Parliament and the European Council on the Establishment of the European Qualifications Framework for Lifelong Learning, Official Journal of the European Union, Official Journal C 111, 6.5.2008 [http://europa.eu/legislation\\_summaries/internal\\_market/living\\_and\\_working\\_in\\_the\\_internal\\_market/c11104\\_en.htm](http://europa.eu/legislation_summaries/internal_market/living_and_working_in_the_internal_market/c11104_en.htm), accessed Nov. 2012

## **Economic – legislative issues regarding the energetic performance of green buildings**

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**Abstract.** *By 2020, at the European level, the energy consumption for the existing buildings should be reduced with 20%. This objective can be achieved through the implementation of innovative solutions in the construction area. Sustainable Development Strategy of Romania provides that in addition to the rehabilitation of existing buildings to pay attention to the design and construction of new buildings with low energy consumption, or almost zero (nZEB - Nearly Zero Energy Building). The purpose of this paper is to analyze the energy performance of apartments in different energy classes, starting with the legislation in force and continuing with the presentation of the monthly and yearly energy savings based on mathematical calculations, in the case of an apartment.*

**Keywords:** Energetic performance, legislation, nZEB, energetic certification, green buildings

**JEL Classification:** K19, R30.

## Introduction

In the 21st year of the century XXI, we face not only the 3S – overeating, lack of exercise and strain (Cretu and Ciobotar, 2014), but also a natural resource crisis - oil, coal, natural gas, crisis that could lead and emphasize not only the tensions between states, but also the more and more obvious gap between their different development degrees.

At the European level, the objectives regarding the energetic performance are:

- By year 2020, the reduction of the energy consumption with 20% for the existing buildings;
- The newly built buildings will have a consumption close to zero (for administrative buildings starting with 1st of January 2019, for the rest of the buildings – 1 January 2021);
- by 2050 the reduction of CO<sub>2</sub> emissions with 80-85% is targeted, through the implementation of the sustainable development principles

The National Strategy for the Sustainable Development of Romania provides on medium and long term 2020-2030 the significant closeness of our country.

National Strategy for Sustainable Development of Romania 2020-2030 medium and long term approximates the country's significant level of sustainable development indicators in member countries of the European Union.

By 2013, Romania had to ensure the modernization of cogeneration systems (Law 159/2013 – simultaneous production of thermic and electric energy with the same appliance, the last one being the afterproduct) and urban heating and rehabilitate at least 25% of the fund for buildings with multiple levels. The result of these actions are:

- important energy savings;
- reduction of utilities invoices due to reduced energy consumption;
- decrease of carbon dioxide emissions.

For year 2020 is targeted an increase in the percentage of rehabilitation from 25% to 35% of the multiple levels building fund, commercial and administrative and for year 2030 the target is 40%.

The Sustainable Development Strategy of Romania provides on medium and long term that besides the rehabilitation of the existing buildings to pay a special attention to the projection and construction of new buildings, with low energetic consumption, precisely 15-50 Kwh/mp/year or even buildings with consumption close to zero (nZEB – nearly Zero Energy Building).



Under this circumstances, the aim of this paper is to identify the efficient and transparent economic-legislative analysis tools for the energetic performance of buildings, regardless of the environment (urban or rural) and of the elements that underlie the evaluation of an existing or new building.

## 1. The Romanian legislation regarding the energetic performance of the buildings

The necessity to reduce the energy consumption in Romania and worldwide appears primarily due to the reduction of natural resources (oil, coal, natural gas), but also due to the price boost for these resources in the last 10-15 years. The petroleum price (Broughton, 2006) has increased starting with year 2000 with 196%, that of the coal with 28%, that of the natural gas with 117% and that of the electricity with 18%.

Romania, as a member of EU, Romania, has adapted its intern legislation according to the EU directives. In the following table we will present the legislation in force regarding the energetic performance of the buildings in Romania:

**Table 1.** *The legislation in Romania regarding the energetic performance of the buildings*

LAW NUMBER/ORDER	METHODOLOGY
The law no. 159/2013 which amends and completes the Law no. 372/2005 regarding the energetic performance of a building	Order no. 157/2007 updated in august 2011 regarding the Calculation methodology for the energetic performance of the buildings
	Order no. 691/1459/288/2007 regarding the approval of the Methodological Norms regarding the energetic performance of the buildings
	Order no. 1590/2012 regarding the calculation of the thermo-energetic performances for the construction elements of the buildings
OUG 18/2008 regarding the energetic performance growth for the blocks of flats	OUG 63/2012 amends OUG 18/2009 regarding the energetic performance growth of for the blocks of flats
	Order no. 163/2009 approves the Methodological Norms of OUG 18/2009
OUG 69/2010 Thermic rehabilitation of the living buildings financed by bank loans with government guarantee with further amendments	Law 76/2011 for the amendment of OUG 69/2010
	HG 736/2010 for the approval of the Methodological Norms of OUG 69/2010

**Source:** legal bases

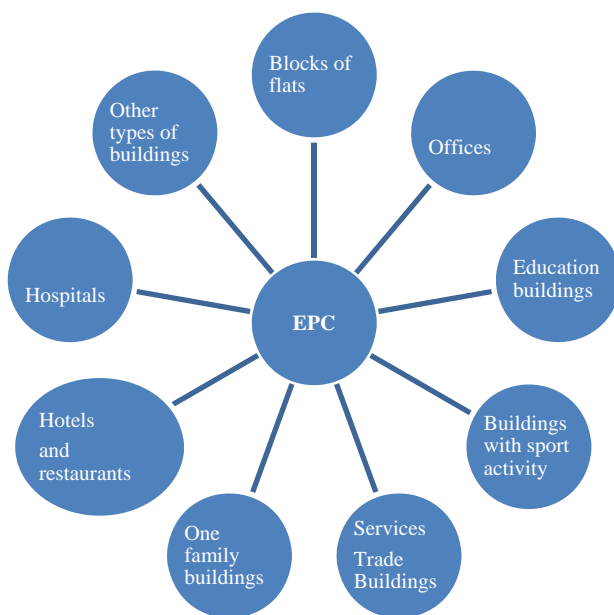
Further we will briefly present the representative elements of these regulatory documents.

### 1.1. Law 159/2013 which modifies and completes Law no. 372/2005 regarding the energetic performance of a building

This law applies to the theoretical issues regarding the energetic audit of the buildings, represented by the energetic performance certificate (EPC), stating which is the validity of this certificate, whom is this document assigned to, for which buildings this methodology is not applicable, which are the distinctive elements of the calculation methodology, which are the indexes of energetic

performance of a building. The first step in order to acquire the EPC for a building is represented by the energetic audit, specific procedure for collecting data regarding the energetic consumption of the building based on the thermic and energetic analysis of the building. On this occasion, the elements that lead to energy consumption reduction become identifiable and quantifiable based on costs and investment recovery duration. The energetic performance certificate is the document issued according to the calculation methodology through which the energetic performance of the audited building is determined, emphasizing the energy consumption in the building and the possible solutions to significantly reduce consumption. The EPC's validity is 10 years, except the buildings which are under major renovation. The EPC can be acquired by new or existing buildings, according to Figure 1:

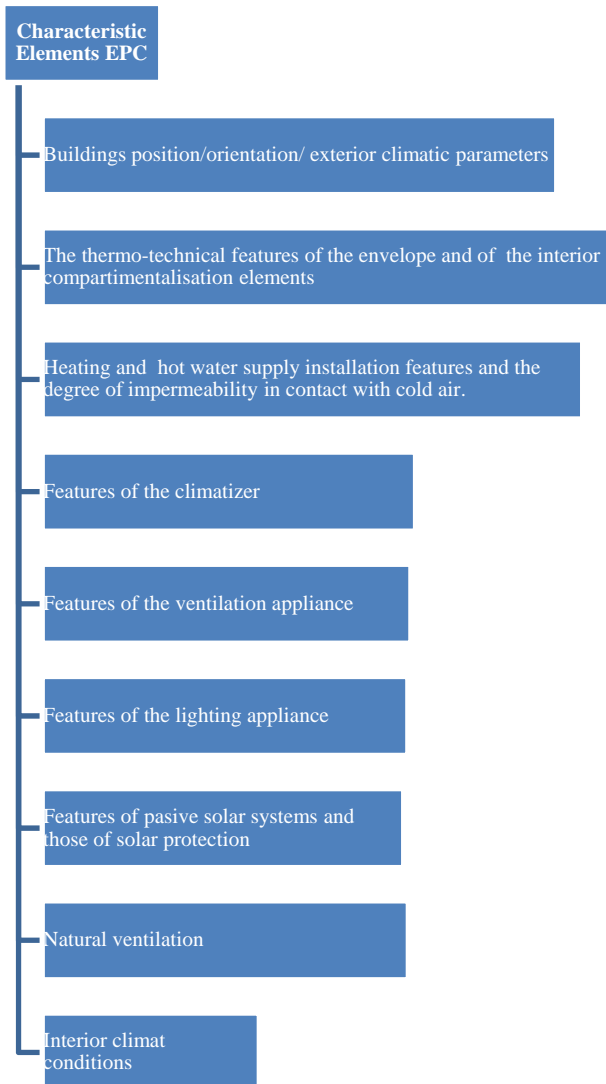
**Figure 1.** Buildings that can receive Energetic Performance Certificate (EPC)



**Source:** own adjustment.

Is considered major renovation, the work performed at enveloping the building and/or at its technical systems, provided that the cost are exceeded in proportion of 25% of the building's tax value, except the land. Can not receive an EPC, the buildings with an usable area smaller than 50 sqm, the buildings used for less than 4 months per year, temporary buildings that are used for periods up to 2 years, religious buildings and protected buildings and monuments.

The distinctive features taken into consideration for the building audit in order to acquire the EPC are presented in Figure 2.

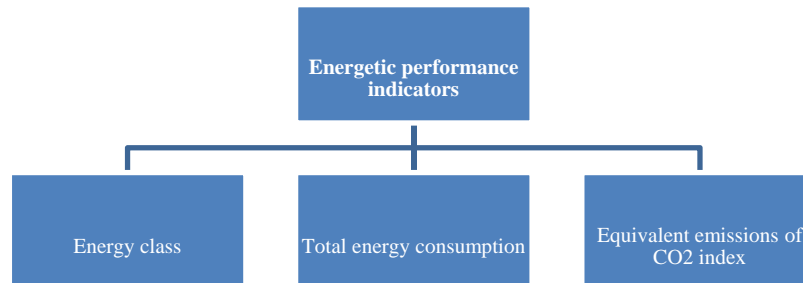
**Figure 2.** *Distinctive elements*

**Source:** own adjustment.

### **The Energetic Performance Certificate (EPC)**

Indoor climate conditions also relate to other relevant elements such as the natural lighting, the electricity produced through cogeneration, active solar systems, heating/cooling station.

Energy performance indicators of a building are exposed in the following figure:

**Figure 3.** Energy performance indicators of a building

**Source:** own readjustment.

In order to determine the energetic class the analysed building is compared with a reference building in terms of energy, heating, air conditioning, ventilation, lighting facilities, waste water preparation, based on economic calculations. Depending on the acquired score, the building is situated within a scale of energetic classification, with 7 energetic performance classes. Class A is rated as the most energetically efficient, with a consumption under 125 Kwh/sqm/year, and class G is considered as having the highest energetic consumption, over 820 Kwh/sqm/year.

The total specific energy consumption refers to the whole energetic consumption of the audited building.

Equivalent emissions of CO<sub>2</sub> index can be determined using the program AllEnergy® V6.0 2012, by the formula:

$$Eco_2 = \sum(Qfi * fco_2, i + \sum Wh * fco_2, i) - \sum(Qex, i * fco_2ex, i)$$

where  $fco_2$  represents the emission factor established according to standard mathematical tables. CO<sub>2</sub> emission is calculated similar to the primary energy, using an adequate transformation factor.

CO<sub>2</sub> emission can also be determined using the following formula:

$$Eco_2 = Qfhi * fh,co_2 + Qfwl * fw,co_2 + Wil * fi,co_2$$

where:

Qfhi – the energy absorbed for heating, fuel natural gas;

Qfwl – the energy used for hot water preparation;

Wil – the energy consumed for lighting, electricity;

$fw,co_2 = 0,205$  emission factor natural gas;

$fi,co_2 = 0,09$  emission factor electricity.

Equivalent emissions of CO<sub>2</sub> index:

$$Ico_2 = E co_2 / A inc$$

The energetic performance certificate is the efficient and transparent analysis instrument for the real energetic performance (Bene, 2014) of the building/audited buildings unit, whose aim is to inform, make aware and motivate the users, decisional authorities and real estate and construction market participants. EPC has 2 pages, contains recommendations for reducing costs, for improving the energy performance of the apartment / building and an appendix with data related to the analysed asset. There are 2 types of CPE: for buildings or single family homes and for apartments. These are different, more precisely EPC for apartments does not have on the first page informations about the building it refers to and the second page does not contain the table related to the reference building. EPC for a building contains also these information about the reference building.

In Romania there are certified buildings within the energetic class A, respective B, according to the data provided by RoGBC in 2013 and emphasized in the following table:

**Table 2. Certified buildings in ROMANIA**

PLACE	NAME	ENERGETIC CLASS	
1	București	Residential compound Rezidenz	A
2	Ilfov	Residential compound Cosmopolis	B
3	Ilfov	Residential compound Greenfield Residence	B
4	București	Office building Europa House	A
5	Timișoara	Business Center City Business Center	A
6	Arad	Restaurant KFC	A
7	Urtați	Factory Procter&Gamble	A
8	Rm. Vâlcea	Commercial center River Plaza Mall	B
9	Cluj	School campus Transilvania College	A

**Source:** RoGBC, Romania's Greenest Buildings, 2013.

### **1.2. OUG 63/2012 for the amendment and addendum of OUG 18/2009 regarding the energetic performance growth of the blocks of flats**

This order refers to the housing built according to projections elaborated during the period 1950-1990.

The buildings from the category of the historic monuments, houses and blocks of flats located in the historical center are not subject of this order.

The types of workover jobs eligible for this order are:

- Thermic rehabilitation of the envelope, the thermic isolation of the opaque part of the block's frontage, balcony/loggia closure with thermo-insulating carpentry, heat insulating of the platform over the basement;
- thermic rehabilitation of the heating system;
- the installation of some alternative systems for energy production from renewable sources: thermic, electric solar panels, heating pump and/or heating stations on biomass;

- other types of jobs, respective platform/framing roof restoration and rainwater collection system, frontage repair, installation of equipment for measuring individual consumption of energy, interior finish restoration in areas of intervention, the rehabilitation of the ventilation channels from apartments, reconnection works to the central heating system, if the case, the restoration of protection sidewalks in order to eliminate the leakage in the block's infrastructure.

## 2. Measuring systems for buildings' sustainability

Regardless of the system's name, of the country that implemented it, the measuring systems of the buildings' sustainability support performance in key fields, with impact on public health and environment:

- Sustainable development of emplacements;
- Saving water resources by recycling waste water and using it on site;
- Cutting down CO<sub>2</sub> emissions;
- Choosing materials used in constructions;
- Increasing the quality of the environment inside buildings and the occupants' health;

Each system establishes performance levels depending on the carefully selected requirements system, based on a score. The most popular systems worldwide are BREEAM and LEED, as shown under Table 2.

The British system has 10 analysis criteria, that is: building management, the health and welfare of the buildings' occupants, the energy performance of the building, transportation, water, materials used, waste, land use and ecology, pollution level and innovation degree and 6 performance level as follows: exceptional, excellent, very good, good and satisfactory while the LEED system is only based on 2 criteria, that is: new buildings and major rehabilitations and exploitation and maintenance, each with 5 criteria analysed on the basis of a score and 4 certification requirements: platinum, gold, silver and certified.

In Romania, there are 14 BREEAM certified buildings, 7 LEED certified and a few more other developing constructions. According to Fuest and McAllister, 2011, for all market players involved, but mainly for final users, there is a large agreement with regard to obtaining certain theoretical benefits from having a green building certificate. This goes from an upgraded comfort of the working and living environment to cut-down administration costs due to the efficiency of the systems in these buildings (BENE, 2014).

**Table 3.** *Systems for measuring Building's sustainability at a global level*

CURRENT NO.	COUNTRY	NAME OF THE SYSTEM
1	Great Britain	BREEAM – Building Research Establishment Environmental Assessment Method
2	USA	LEED – Leadership in Energy and Environmental Design ENERGY STAR
3	Germany	DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen
4	France	HQE – Haute Qualité Environnementale
5	Switzerland	MINERGIE
6	Australia	GREEN STAR NABERS – National Australian Building Environmental Rating System
7	Japan	CASBEE – Comprehensive Assessment Sustainable Building Environmental Efficiency

Source: Bene I, ANEVAR – Long life training seminar D36, page 7

During the past years, the challenge of building green has occurred also in Romania. As per Table 4, there are already buildings certified according to the BREEAM and LEED sustainability measuring systems, but also other developing constructions, under various execution stages.

**Table 4.** *Green buildings in Romania*

CITY	NAME OF THE BUILDING	FINAL CERTIFICATE	SCORING (%)	
<b>BREEAM SYSTEM</b>				
1	Bucharest	Crystal Tower	Excellent	75,6
2	Bucharest	West Gate Park	Excellent	
3	Bucharest	UniCredit Tower	Very Good	63,05
4	Bucharest	Swan Bussiness Park	Very Good	64,23
5	Bucharest	Euro Tower	Very Good	55,31
6	Bucharest	Olympia Tower	Very Good	
7	Bucharest	Victoria Center	Very Good	
8	Bucharest	Floreasca Business Park	Very Good	
9	Bucharest	Lakeview	Very Good	
10	Bucharest	BOB	Very Good	
11	Bucharest	Astoria Business Center	Very Good	55,85
12	Bucharest	Novo Park	Very Good	
13	Bucharest	Sun Place Offices	Good	45,34
14	Ploiești	Ploiești West Park	Very Good	60,36
<b>LEED SYSTEM</b>				
1	Cluj- Jucu	Former Nokia plant	Gold for new construction	
2	Cluj	Amera Tower	Gold for EBOM*	
3	Cluj	PMV Business	Good for EBOM	
4	Bucharest	City gate North Tower	Gold for EBOM	
5	Bucharest	Sky Tower	Silver for Core &Shell	
6	Bucharest	Ana Tower	Pre-certificate Gold	
7	Bucharest	AFI Park 2	Pre-certificate Gold	

\* EBOM - Existing Buildings Operation & Maintenance.

Source: [www.greenbooklive.com](http://www.greenbooklive.com)

Buildings under construction based on a BREEAM system are located in Bucharest, Floreasca Park for excellent certification and in Brasov, Coresi Brasov, Very good certificate.

Based on the LEED system, the following buildings are in certification process: City Gate South, Global City Business Park, Tiriac Tower, Green Court, AFI Park 1 and Iulius Mall Suceava, Cluj Napoca, Iași and Timișoara.

### 3. Case Study - Energy efficiency in green buildings

The case study concerns the energy consumption of three different classes apartments energy performance, namely:

- An apartment having an energy performance certificate, type B;
- An apartment having an energy performance certificate, type A;
- An apartment classified as Green Mortgage.

Depending on the annual energy consumptions for heating, lighting, ventilation, air-conditioning, domestic hot water established by calculations, a building can be situated on a scale from 1 to 7, called energy performance class. Class A is characterized by the lowest energy consumption – below 125 Kwh/square meter/year, while class G is characterized by a high level of energy consumption – above 820 Kwh/square meter/year.

**Table 5.** Costs and efficient ways for saving energy

<b>Economic coordinates</b>	<b>Units</b>	<b>B</b>	<b>A</b>	<b>Green Mortgage</b>
<b>Construction parameters</b>				
Increase percentage (%) in construction cost from green measures	%	0	5	15
Construction cost/sqm	Euro/sqm	600	630	690
Additional construction cost from green measures	Euro/sqm	0	30	90
<b>Total additional construction cost from green measures for home</b>	<b>Euro/sqm</b>	<b>0</b>	<b>2.100</b>	<b>6.300</b>
<b>Energy consumption</b>				
Energy consumption for Heating	Kwh/sqm/year	117	70	50
Energy consumption for Domestic Hot Water	Kwh/sqm/year	35	15	15
Energy consumption for Air Conditioning (Cooling)	Kwh/sqm/year	35	20	10
Energy consumption for Ventilation	Kwh/sqm/year	10	5	5
Energy consumption for Lighting	Kwh/sqm/year	49	40	10
Total energy consumption for 70 sqm apartment	Kwh/sqm/year	246	150	90
<b>Cost of energy</b>				
Average price of electricity	Euro/kwh	0,12	0,12	0,12
Average price of Gas – with Value Added Tax	Euro/kwh	0,04	0,04	0,04
Annual cost for Heating energy	Euro/sqm/year	4,68	2,80	2,00
Annual cost for Domestic Hot Water	Euro/sqm/year	1,40	0,60	0,60
Annual cost with Air Conditioning	Euro/sqm/year	4,20	2,40	1,20
Annual cost for Ventilation	Euro/sqm/year	1,20	0,60	0,60
Annual cost for Lighting	Euro/sqm/year	5,88	4,80	1,20
Annual cost of Energy	Euro/sqm/year	17,36	11,20	5,60
Annual cost of energy for 70 sqm apartment	Euro	1.215,2	784,0	392,0
Average Monthly cost of energy for 70 sqm apartment	Euro	101,27	65,33	32,67
<b>Energy cost sparing</b>				
Average Monthly energy savings relative to „B” apartment	Euro	0	35,93	68,60

**Source:** RoGBC/ Green Mortgage Comparison, appendix II – adjustment.



According to the data under Table 5 supplied by the Green Building Council in Romania – RoGBC, we can calculate a series of sparing on the energy consumptions, for all 3 situations, with the greatest benefit registered for the Green Building classified apartment. Monthly, there is a saving of 68.60 Euro for the Green Building apartment and 35.93 Euro for the A type energy performance certificate as compared to the B type apartment.

### Conclusions

The need to live green has occurred also in Romania. Living green does not only mean ecologic, healthy food but also living in ecologic houses where the energy consumption is as low as possible or close to nothing, where the construction materials must be raw (unprocessed), the domestic water is cleaned and re-used in the internal circuit of the establishment.

The case study has illustrated the comparative analysis of the monthly and annual exploitation costs of a 70 square meters apartment, under different evaluations based on the Energy Performance Certificate, that is of type A the least consuming and type B, but also for a Green Mortgage certified apartment. The result consisted of significant monthly costs for the last category as compared to the apartment under class B.

Buyers of these houses will benefit on a long-term basis of substantial sparing resulted from utility costs cut-downs as it is a well-known fact that Romania is expected to liberalize the energy markets latest by the end of 2017, which will stand as a separate topic of a future study.

### Acknowledgements

The hereby survey has been carried out based on the support of the National Association of Assessors in Romania through the long-life training seminar SPIC D 36, on the information supplied by the Council of Green Buildings in Romania, Steven Borncamp – CEO RoGBC with the occasion of the Conference held at the Academy of Economic Studies in Bucharest on the 4<sup>th</sup> of December, 2014.

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## **Is the real estate market in Romania ready for the appraisal of green assets?**

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**Abstract.** *Green buildings have recently entered the real estate market. The admission of these buildings to the real estate market in Romania constitutes a true challenge for real estate assessors. In the constructions field, these innovative solutions are transposed by regulations that require the use of sustainable construction materials and engineering projects, renewable energy and water supply source, etc. Identifying sustainable elements of a building represents a challenge for any sustainability measuring system. Green assets performance is analysed by the present study by means of two building sustainability measuring systems, the BREEAM and the LEED respectively, which are based on a range of durable parameters.*

**Keywords:** Real Estate Market, green assets performance, innovative solutions, green buildings, green fields, sustainable measure systems

**JEL Classification:** Q01, A13.

## Introduction

Nowadays, more than ever, decreasing the noxious impact of economic activities on the environment has become a global topic of humankind. The goal of the present study is to find innovative alternatives that could lead to decreasing this aggression on the environment. During the last two decades, assets such as green buildings and green fields have become more and more important from an environmental, social and economic point of view. Constructions with green characteristics have recently penetrated the real estate market.

The infiltration of these buildings on the real estate market in Romania will give rise to a new challenge for the real estate assessors from everywhere. In the constructions field, these innovative solutions are translated by rules that enforce the use of projects with durable buildings and construction materials, regenerating sources of energy and water supply, etc. The goal of the hereby study is to identify the key elements within the evaluation process in order to acknowledge the constructions' sustainable features.

### 1. Quo vadis? The sustainable future of green assets

“Our joint future” is the Brundtland Commission's report which, early in 1987, by coming up with the concept of sustainable development (“the development that pursues answering the current generation's needs without compromising the chances of the future generations to satisfy their own needs”) was drawing attention on the humankind's negative impact on the environment.

The durable development concept has penetrated all fields of activity, therefore also the constructions' field. Efforts are oriented towards sustainable, environmentally friendly constructions by:

- Using sustainable construction materials;
- Innovative construction technologies;
- Avant-garde design.

At European level, the laws in force regarding the energetic performance of the buildings (European Instruction 2010/31 UE) have as a general goal:

- Cutting down with 20% the energy consumption of the existing buildings by 2020;
- All new built constructions to be ZEB facilities for:
  - Public administration buildings starting with January 1st, 2019;
  - The rest of the buildings starting with January 1st, 2021.
- Cutting down the CO<sub>2</sub> emissions with 80-95% by 2050, compared to 1990.

At a national level, there activate:

- The Law 159/2013 regarding the energetic performance of the buildings;

- The Law 76/2011 regarding the heating rehabilitation of habitation constructions by bank loans with subsidized interest;
- OUG 18/2009 with regard to increasing the energetic performance of habitation buildings.

A green building (Bene, 2013) is a building located on a piece of land, designed, built, used, modernized and then used again in such a way that it is environmentally friendly and in the same time it ensures the efficient utilization of the natural resources available on site or nearby. The goals of green buildings are shown in the below picture:

**Picture 1.** *The goals of green buildings*



**Source:** personal contribution.

Green becomes a colour capable of selling products (Bran and collaborators, 2013); it ensures the access on new markets, attracts loyal and responsible employees, stimulates innovation and successful business.

## 2. Systems of measuring the buildings' sustainability:

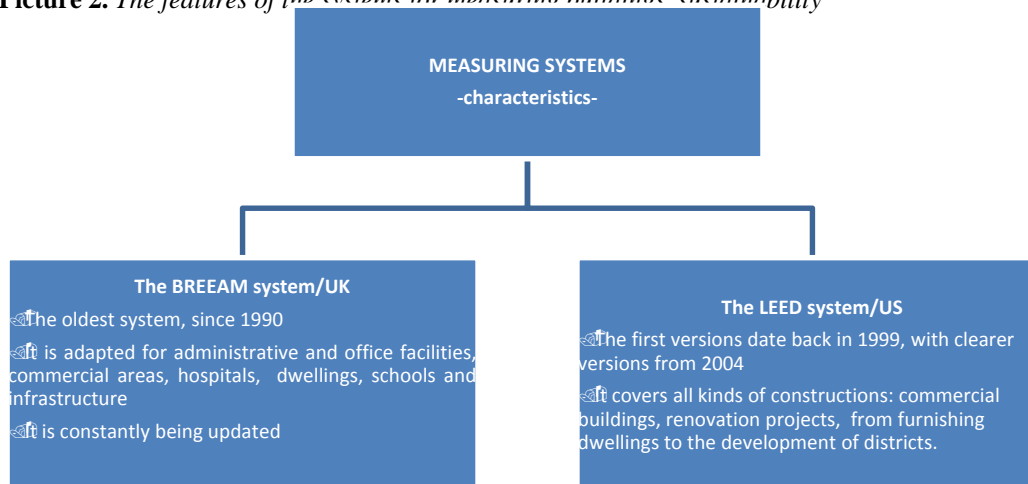
There are various systems for measuring the buildings' sustainability at a global level:

- BREEAM - an English certification system - Research Establishment Environmental Assessment Method;
- LEED-an American certification system - Leadership in Energy and Environmental Design;
- The advanced systems in the northern countries, systems that are very well organized from a technical and legislation point of view which results into the fact that they are efficient on a local level, but relatively difficult to implement in countries with a different specific;
- Systems that come from adapting the SB Tool (of Canadian origin), a highly flexible and versatile instrument (Grecea et al., 2011) which give the possibility of adapting it to local conditions (adopted in the Mediterranean countries: Portugal, Italy - „Protocolo Itaca”);
- HQE – the French system;
- DGNB - the German certification system - Deutsche Gesellschaft fur Nachhaltiges Bauen, the latest and the most complete system, with great adapting capability, starting from clearly defined and well grouped parameters (Grecea et al., 2011).

In Romania there are in use 2 systems for measuring the sustainability (Picture 2):

- The BREEAM system, developed by Great Britain;
- The LEED system, developed by USA.

The greatest challenges in developing sustainable buildings in Romania relates to the perception existing on the market with regard to the green building concept. Part of the market expects green hi-tech buildings, sensational, with photovoltaic panels on the front side and green terraces, but most of the times these characteristics are not economically sustainable. Another prejudgement is that a sustainable building is much more expensive. On one hand, the execution costs may vary depending on the moment of making the decision to build in a sustainable manner; on the other hand, the design and certification costs represent a very low percentage of maximum 1% from the value of the project.

**Picture 2.** *The features of the systems for measuring buildings' sustainability*

**Source:** [www.breeam.org](http://www.breeam.org), [www.leed.net](http://www.leed.net)

BREEAM (Building Research Establishment Environmental Assessment Method) has been established in 1990 and it is the British system of evaluating buildings. It has been and it is still used for certifying new real estate constructions and new urban development projects, as well as for purposes of elaborating instructions for those already functional. Depending on the construction type and the purpose of the real estate utilization (allotment or building), this is assessed with a score that will place into 10 categories.

The points scored are later converted into percentages which, in their turn are multiplied depending on the importance of each category and on the type of property assessed for classification. The points scored in each category are then summed up and the result is a score that can be situated among the following 6 categories:

- < 30% - not certified;
- 30-44% - acceptable;
- 45-54% - good;
- 55-69% - very good;
- 70-84% - excellent;
- 85% - remarkable.

Most of the points can be scored within the energy category (22), while the least points come from the water category (6). The biggest advantage of this evaluation system is represented by the fact that it can be globally used, all over the world, due to its capability of adapting to weather conditions in each country as well as to the legal system governing that country respectively.

Established in 1994, the LEED classification system represents a multi-disciplinary system for classifying buildings and it is the best instrument for promoting the durable design and development of constructions. This has been created by the non-profit organization USGBC (US Green Building Council). The organization has been established in 1993 and it presently attracts members from all areas of activity which are connected to the constructions field, including developers and governmental agencies.

USGBC's (US Green Building Council) main goal resides in promoting new ways of design, construction, utilization and operating buildings so that it minimizes the environmental impact. We can say that such an ecological method of real estate development stands as the foundation of current techniques in the constructions field.

Despite the fact that in Romania building's certification mainly addresses the projects for office facilities, the established criteria can be put into practice for a lot more of other types of constructions. This way, one set can certify new buildings (LEED for new buildings), another one only the interior spaces (LEED for interior spaces of the commercial buildings), education facilities (LEED for education premises), hospitals (LEED for health and care facilities) or habitation areas (LEED for residences).

Certified buildings or areas sustainably developed can score 100+10 bonus points for various innovative ideas.

Depending on the scored points, a project can be awarded one of the 4 available certifications:

- 40-49 points – certified project;
- 50-59 points – Silver level of certification;
- 60-69 points – Gold level of certification;
- 80 or more points scored – Platinum level of certification.

The comparative analysis of the two systems for measuring the sustainability of buildings is briefly shown under Table 1 below:

**Table 1.** Comparative analysis of the systems for measuring the sustainability of buildings

BREEAM			LEED		
Parameters	Maximum values	Evaluation score	Parameters	Maximum values	Level
Energy	22 credits	70% = Excellent, 58% = Very good, 48% = Good, 36% = Passed	Sustainable sites	22 points	40-49 p = Certification 50-59 p = Silver; 60-79 p = Gold, 80 and above = Platinum.
Transport	8 credits		Water	15 points	
Pollution	10 credits		Energy and atmosphere	38 points	
Materials	14 credits		Materials and resources	16 points	
Water	10 credits		Quality of the	21 points	



BREEAM			LEED		
Parameters	Maximum values	Evaluation score	Parameters	Maximum values	Level
			indoor environment		
Land utilization and ecology	12 credits		Innovation and process		
Health	14 credits				
Management	10 credits				

**Source:** adapted from Grecea et al., 2011: 30, 32.

### 3. Identification of key elements for certifying a green building in Romania

The economic benefits of green buildings are easy to be noticed if one calculates the costs for the entire life cycle of such a building by comparison to a conventional building. The evaluation of these costs is done by the Consultant in Green Building Certification during the design stage. Starting with July 19<sup>th</sup>, 2013 in Romania there came into force Law no. 159/2013 regarding the indispensability of the energetic certificate.

The certificate for energetic performance is made and issued by the energetic auditor for buildings based on the investor's, owner's or building administrator's request. Based on his certification granted by the Ministry of Regional Development and Public Administration, the energetic auditor has the right to carry the energetic audit for buildings or parts of the building, to draw up the energetic performance certificate and the energetic auditing report. According to the Minister of Regional Development and Public Administration's website, 1,387 energetic auditors have been certified before July 8<sup>th</sup>, 2013. Most of the energetic auditors have been certified in Bucharest with 403 persons and Timis county 128, Iași 65, Cluj 56, Constanța 57, Brașov 53, Dolj and Bihor counties with 40 auditors each. In Alba County 15 energetic auditors have been certified before July 8<sup>th</sup>, in Arad - 39, Argeș - 23, Bacău - 23, Bistrița-Năsăud - 11, Botoșani - 8, Brăila - 22, Buzău - 5, Călărași - 6, Caraș-Severin - 16, Covasna - 8, Dâmbovița - 10, Galați - 35, Giurgiu - 6, Gorj - 24, Harghita - 7, Hunedoara - 33, Ialomița - 3, Ilfov - 12, Maramureș - 15, Mehedinți - 13, Mureș - 22, Neamț - 22, Olt - 11, Prahova - 39, Sălaj - 6, Satu Mare - 19, Sibiu - 21, Suceava - 27, Teleorman - 9, Tulcea - 5, Vâlcea - 13, Vaslui - 9 and in Vrancea - 8.

The table below shows the main elements for certifying a building as a green building.

**Table 2.** *The main elements for certifying a green building in Romania*

1.	Location	<ul style="list-style-type: none"> <li>▪ Selecting a location in a high populated area with easy access to public transportation network</li> <li>▪ Protecting and extending the existing green areas;</li> <li>▪ Selecting native plants with a low consumption of water, fertilizers and pesticides.</li> </ul>
2.	Energetic efficiency	<p>Most of the green buildings need 40% less energy than conventional buildings. In order to reach this performance, the following methods are used:</p> <ul style="list-style-type: none"> <li>▪ Passive strategies such as: the shape and the cardinal orientation of the building, the use of natural light, passive solar systems;</li> <li>▪ The use of natural light that leads to a greater productivity of work and employees' comfort;</li> <li>▪ Installing automatic and efficient lighting systems;</li> <li>▪ Using efficient heating/AC systems together with a well insulated casing;</li> <li>▪ Using light coloured finishing;</li> <li>▪ The use of alternative, non-polluting energies for energy supply;</li> <li>▪ Optimizing the design from an energetic point of view by using calculation software for the energetic shaping of the building.</li> </ul>
3.	Efficiency in using the materials	<ul style="list-style-type: none"> <li>▪ Using recycling materials as much as possible;</li> <li>▪ Re-using materials both from the old building as well as from demolitions;</li> <li>▪ Using materials with low emissions of volatile substances that do not jeopardize health;</li> <li>▪ Using materials cut to pre-established sizes;</li> <li>▪ Using materials produced on a local level;</li> <li>▪ Creating an area for storing materials that will be recycled during construction and utilization.</li> </ul>
4.	Efficiency in using the water	<ul style="list-style-type: none"> <li>▪ Designing installations with the possibility of using potable water or the collected rain water for irrigations or toilets;</li> <li>▪ Reducing the quantity of water used by mounting on toilets, showers and sinks efficient devices for reducing the amount of water used on</li> <li>▪ Using systems for re-circulating warm water.</li> </ul>
5.	Occupants' health and safety	<ul style="list-style-type: none"> <li>▪ Using materials and indoor finishing with low emissions of volatile substances resulting into the improvement of the indoor environment;</li> <li>▪ Avoiding materials that contain landform.</li> <li>▪ Using an efficient ventilation system with heat recovery;</li> <li>▪ Using filters for ventilation systems.</li> </ul>

**Source:** our own presentation based on the information found on [www.valconsulting.info](http://www.valconsulting.info)

If in 2000, the market of green buildings was inexistent in Romania, in 2012, as per the report called the "greenest buildings in Romania" issued by the Green Building Council of Romania (RoGBC in short) together with NAI Romania, the real estate market of green buildings represented 5%.

One of the advantages of green buildings resides in drop down of the tax due by the owners of such buildings. The phrasing of the draft decision establishes the eligibility conditions, the principles of awarding the tax breakdown, such as:

- awarding based on the level of complying with the ecological rules so that the most efficient green buildings would benefit of the most substantial breakdowns for the taxes on buildings, over a longer period of time;
- restricting the grant of such breakdowns both by percentage - up to maximum 65% for basic breakdowns and up to 80% for fulfilling five supplementary sustainability requirements, as well as limiting it in time - 4 years.

The percentages for the breakdown of the taxes on buildings take into account the performances of the most utilized international certifications, as well as the level of compliance with the supplementary requirements with regard to using materials

of local origin, the emissions of solid particles of nitrogen oxide from heating plants, potable water consumption, the management of rain water, carrying out thermo graphic inspections.

Other advantages refer to the possibility of getting profitable loans for sustainable buildings, with energetic performance or the quick transaction of buildings that have a certificate of energetic performance. All these advantages will stand as topic for a future study.

#### 4. Case study

Assessment building owners can bring an additional valuation due to the existence of several elements of the income on the one hand and on the other side of their operational costs.

Generally the owners of such property are willing to invest more to obtain green building certificate, which implies additional costs of over 20% to achieve a built square meter. The effort is not in vain, because you get additional benefits when the time comes to rent the property which has superior characteristics common buildings.

The factors that influence the value of green buildings include specific market that in countries with a tradition of such buildings is better organized because market participants are more aware of the advantages of these buildings. The characteristics of these buildings are highlighted in trading prices that finally synthesizes elements of type vacancy rate, capitalization rate, operational costs.

As is known, in the assessment of any property through income-based approach, accurately estimating revenues and expenditures is critical. Thus, you need to focus on cost savings compared to conventional buildings. In general it is easy to show potential tenants through energy savings, improved comfort, high rates of renewal of contracts by recommendations of current or former tenants etc. All this leads to increased property value.

From the point of view of the owner of a green building is highlighted its value when sold, by obtaining a higher price per square meter compared to other non-certified buildings placed lead in the same area.

**Table 3.** Comparative analysis of indicators of green buildings and those uncertified

Indicators	Green Buildings	Common buildings
Potential gross income	Higher	Less
Grade vacancy	Less	Higher
Effective gross income	Higher	Less
Operational expenditure	Value lower utilities, lower maintenance costs	Higher utilities, higher maintenance costs
Net operating income	Major	Less
Capitalization Rate	Less	Major

**Source:** own conception.

The capitalization rates in the last two completed year (2012 and 2013) for modern buildings has remained relatively stable, fluctuating between 8.25 to 8.50% for Class A office space, and for Class B in secondary areas, with a high rental level between 9.0-9.5%, according to Nai Romania. For a building of 13,454 square meters requiring annual operating expenses of 617,000 euro approximate expenses with electricity, with gas and maintenance of air conditioning systems arrive at around 252,000 euros, representing 40.7% of total expenditure.

**Table 4.** *Level of expenditure*

Designation	Annual value for all surface euro	Annual value per square meter euro / sq.m.
Expenditure on electricity	153.701,82	11,42
Expenditure on gas	58.964,25	4,38
Service conditioning	38.932,58	2,89
<b>Amount</b>	<b>251.598,66</b>	<b>18,70</b>

**Source:** own conception.

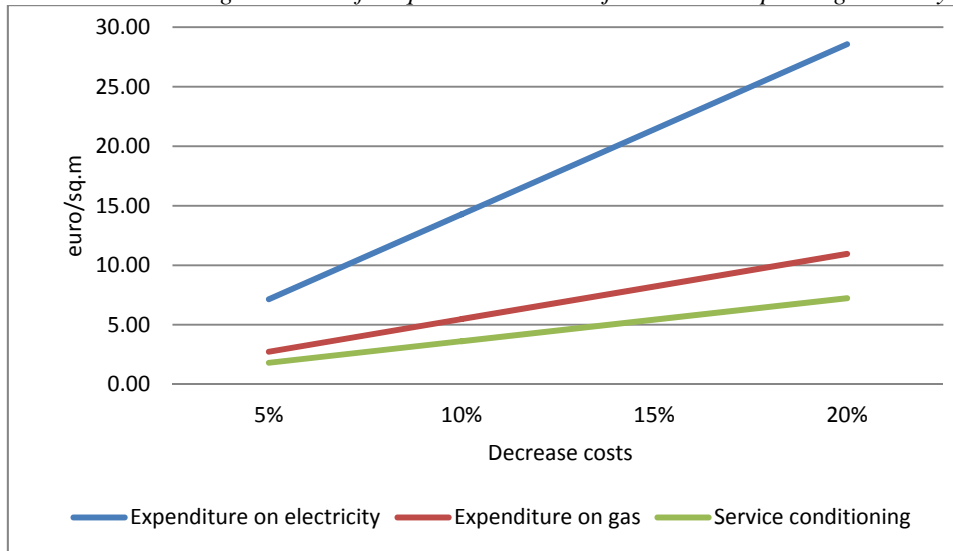
Starting from the fact that green buildings capitalization rate is lower than the one for ordinary buildings, to quantify the added value we will consider its level of 8%.

**Table 5.** *Determining value to the economy of expenditure*

Designation	Discount	Cost savings euro/ sq.m.	The added value euro/mp
Expenditure on electricity	5%	0,57	7,14
	10%	1,14	14,28
	15%	1,71	21,42
	20%	2,28	28,56
Expenditure on gas	5%	0,22	2,74
	10%	0,44	5,48
	15%	0,66	8,22
	20%	0,88	10,96
Service conditioning	5%	0,14	1,81
	10%	0,29	3,62
	15%	0,43	5,43
	20%	0,58	7,23
<b>Amount</b>	<b>5%</b>	<b>0,94</b>	<b>11,69</b>
	<b>10%</b>	<b>1,87</b>	<b>23,38</b>
	<b>15%</b>	<b>2,81</b>	<b>35,06</b>
	<b>20%</b>	<b>3,74</b>	<b>46,75</b>

**Source:** own conception.

We can see that reducing energy costs by 5%, generating savings of 0.57 euro/m<sup>2</sup> can turn into added value of 7.14 euro/m<sup>2</sup> at a capitalization rate of 8%.

**Picture 3.** Increasing the value of a square meter in conjunction with spending economy**Table 6.** The added value created by reducing operating expenditures

Reducing expenditures	Added value/euro
5%	157.249,16
10%	314.498,32
15%	471.747,48
20%	628.996,64

**Source:** own conception

The combined effect of reducing the three categories of operating expenses by 5% generates added value of 11.69 euro/m<sup>2</sup> making the whole property value of 13,454 m<sup>2</sup> to increase by 157,000 euros.

## Conclusions

Designing and building durable buildings that are energetically efficient has become a very popular subject during the past years. The owners of houses, office facilities and industrial areas are constantly looking for ways of decreasing the carbon imprint, the costs, the energy consumption and durable and sustainable methods in the constructions field satisfy all these needs. The goal of durable constructions resides in decreasing the carbon emissions by energetic efficiency, by efficiency in using materials, water and waste, etc. At an institutional level, investors and the most important real estate funds have established severe restrictions that require that all acquisitions should have a green certification and they seem to be very well informed regarding the relationship between the added value of the building and its ecological performance. The issuance of the energetic performance certificate will be done following an energetic audit based on clearly

set parameters, which are constantly changing due to innovative solutions. This certificate will stand as basis for the transactions on the real estate market, both for selling and for buying a building. Some perception changes can be equally noticed in the banking field where certain financial institutions have adopted concepts such as the "green mortgage" which offer financing under more profitable conditions for buildings with an increased level of energetic efficiency.

In conclusion, the market value of a square meter built for the green buildings tend to be larger than those uncertified from this point of view, the value increasing as the building, the way it was designed and built, manages to reduce costs operation, in particular utilities.

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## **The impacts of the regulatory framework on the evaluation of information necessary to the assessment of financial position and cost-effectiveness. Compared analysis: OMFP 3055/2009-OMFP 1802/2014**

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**Abstract.** *The relevance of the decisions of users of the enterprises' financial statements involves particular, rigorous reasonings, based on adequate information. This approach addresses the impact of the quality of financial information and provisions of the regulatory framework within the economic and financial analysis decisions are based on. In this context, there are provided examples of the impacts of the latest changes in the national regulatory framework on the enterprise's financial position and cost-effectiveness, while detecting the elements that affect the indicators' comparability and, consequently, the conclusions on the past and present of an enterprise, as well as the decisions on the future.*

**Keywords:** information, quality characteristics, regulatory framework, relevant decision.

**JEL Classification:** D57, D81, D92.

## Introduction

The change in the economic paradigm in a complex and dynamic environment, where determinants aggregate into systems that develop multiple interconditionalities, with unpredictable amplitude deviations, calls for a new attitude of all the stakeholders in an enterprise. A rational behavior of these stakeholders implies achieving certain objectives based on decisions that involve information. The main information sources in the economic and financial analysis of the enterprise are financial statements, which provide complex aspects, useful to a wide range of users:

- owners and potential investors in the enterprise's equity – are interested in the enterprise's capacity to develop profitable activities that adequately remunerate the risk taken, in the dividend policy of the enterprise, as well as in its capacity to pay them. The evolution of the value of securities is also an important benchmark in the investment decision;
- managers – are interested in the information provided by financial statements in order to assess the management viability, the enterprise's cost-effectiveness, as an expression of their capabilities and as an autofinancing source of the financial position, as well as to support and operationalise the strategic decisions to allocate and use capitals;
- personnel – is interested in the stability of the workplace, the activity level, the enterprise's development capacity, ensuring promoting conditions, professional opportunities, and superior remunerations;
- creditors (commercial and financial) – are interested in aspects regarding the liquidity and solvency of the enterprise, as a guarantee of the recovery of claims at maturity. At the same time, creditors can be interested in aspects concerning stability and the enterprise's activity tendency;
- customers – are interested in different aspects, from the continuity of activity, to the product quality, the capacity to develop the products and services portfolio, addressing shortcomings, payment deadlines etc.;
- State institutions – are interested in cost-effectiveness and financial position, which are sources of income, in different indicators aggregated at national level, allowing the assessment of national economy, tendencies, social welfare etc.

The reliability of the decisions of users of financial statements involves quality information that accurately presents the enterprise's cost-effectiveness and financial position. Financial position is defined by the economic resources of the enterprise, their financing sources, the entity's liquidity and solvency, as well as its capacity to adapt to the environment changes. They are assessed using the data presented in the balance sheet, as a component of the annual financial statements. The cost-effectiveness of the enterprise is its capacity to generate profit from using human, material and financial resources, which implies correlating revenues and expenses on different levels of interest, using the information provided by the profit and loss account, as a component of the annual financial statements.



The obligation to draw up financial statements, therefore reports, is based on both general, respectively fiscal and assessment reasons regarding the economy status, as well as on the need to inform third parties, in an environment where enterprises are considered components of open, interconnected and interdependent systems. We are mentioning two reservations in using financial statements for the analysis process: on one hand, the existence of certain practices and methods at global level, which affect the comparability of indicators in the analysis, and the legislative changes at national level, on the other hand. “The achievements made in the efforts to balance accounting harmonization on an international scale are meant to reduce the heterogeneity of the related practices. However, there are differences that have repercussions on the economic and financial analysis process, making difficult the comparative assessment of the enterprise’s performances, which is all the more necessary as the process of globalization amplifies” (Petcu, 2009a: p. 314). Defining the concepts and presenting the reporting principles and the method of acknowledgment and assessment are set in regulatory acts. At the same time, each enterprise should present its own adopted policies, procedures and methods in the explanatory notes of the financial statements. The changes in legislation generate impacts on the evaluation content and method, affecting the comparability of information and the significance of the indicators used in the economic and financial analysis. In this work, we will present the legislative changes and the influences they have on the information used in financial statements.

## **1. Research methodology**

The purpose of this approach is the presentation of the impact of the quality of financial information and provisions of the regulatory framework within the economic and financial analysis. The objective of the research is to illustrate the main influences generated by the recent related legislative changes in the analysis of financial position and cost-effectiveness, affecting the decisional process.

The research is exploratory, aiming at the study of the phenomenon, and explanatory, identifying and explaining the legislative changes that influence the financial position and performance. In this context, the used research methods aim at the qualitative side, being oriented on phenomenology and comprehension. The research has an interdisciplinary approach, which correlates paradigms specific to the economic and financial analysis to paradigms specific to accounting. Problems are documented, related legislative provisions are presented, characteristics are revealed, significances are understood and indicators are interpreted by supplementing the approach with interdependent causal reasonings.

## **2. Qualitative characteristics of information in financial statements – condition of the correct assessment of cost-effectiveness and financial position**

The relevance of the assessments regarding the financial position and cost-effectiveness depends both on the reasoning of the analyst and on the quality of the information used in the approach, reported in the enterprises' financial statements. The regulatory framework defines the fundamental qualitative characteristics, as well as the amplifying qualitative characteristics that ensure the utility of financial information.

The fundamental qualitative characteristics are:

- **relevance (R)** – it's the capacity to satisfy the objective information requirements of a beneficiary for the assessment of cost-effectiveness and past and present financial position, grounding of the strategic and operational decisions, confirmation of the accuracy of previous assessments and their adjustment, and forecast of future values. In this context, the information relevance pinpoints its value of confirmation, of expression of a status (inventory of goods) or of a flow (turnover) registered in the considered reporting period, as well as its predictive value, as a benchmark for budget estimates, in business plans or other managerial instruments, with the convergence of the two perspectives. If financial information is not relevant, the errors in the decisional process can have major consequences on the continuity of the enterprise's activity and the opportunity of investment in the enterprise.
- In most of the cases, the nature of information is sufficient in order to assess the relevance, according to the requests of the analysis and the objectives of the decision. Conditioned by time resources and available information, relevance can be attributed to a certain level of significance. The significance level also represents a necessary limit for the verifiability of the data accuracy in financial statements. This limit illustrates the level from which the omission or erroneous presentation of information can influence the decision. At the same time, the significance level emphasizes the timeliness to extend or reduce verifications. The significance level and timeliness can represent, in certain analyses, the balance between relevance and faithful representation. Usually, the analysis operates with indicators in their integrality, the breakdowns on certain levels, segments and periods of time being imposed by the characteristics of the domain, the analysis methodology and the objectives of the decision;
- **faithful representation (FR)** – it refers to the complete, neutral and precise character of information presentation. Actually, the exact representation circumscribes two qualitative characteristics of information: integrality (IN) and neutrality (NE). In the accounting approach, the information integrality refers both to the completeness of the reporting and to the manner of description: the nature of assets and transactions, their assessment at acquisition/production cost or fair

value, explanations. Certain omissions alter the information definitively, making accurate decisions impossible. In other cases, the timeliness of an action or conjuncture involves giving up the information integrality, unavailable in good time, the analysis being based on the available level at that moment. The information neutrality means that it is not influenced by altering factors, it doesn't represent selections and it is not provided through different subjective filters. Neutrality doesn't mean that information is not useful, but that it is not presented in a manner that allows persuasion or even manipulation, by determining a certain attitude and action of its beneficiary. Financial statements are not neutral if, by the manner of presenting the information, they induce reasonings regarding the financial performance and position that support desired decisions. Lack of errors and neutrality give credibility to information, and the conviction that they truly represent the status/phenomenon, or what they are expected to mean. However, it is necessary to mention that part of the information in financial statements are at risk of being less precise, of presenting less accurately the transactions and events they represent, because of certain inherent difficulties, which is why professional reasoning has a major role.

The amplifying qualitative characteristics of information used in the analysis necessary to adopting decisions are:

- comparability (CO) – this means examination in a simultaneous or successive process, in order to delimit certain similarities or differences. Comparability in the cost-effectiveness and financial position analysis involves gathering and processing information and allows the detection of tendencies in time or in relation to certain benchmarks: competitors, sectoral averages, budgeted values, their explanatory factors, while taking relevant decisions. The viability of the approach is ensured by the quality of financial information in so far as the assessment and presentation of the effects of the involved transactions and events are made in a consistent manner in time and in accordance with the legislative framework. The changes of accounting policies and referential framework and the existence of certain alternative treatments impact the data content and the comparability of financial information, while accordingly assessing the financial performance and financial position;
- verifiability (VE) – it is a process with successive stages of control over the correctness of the data included in the financial statements. A mechanical checking is made right at the time of data collection from the accounting systems in standard formats of financial statements, by the mandatory use of the application provided by ANAF, which signals the inadvertences between different indicators. Another control is made by the management or those in charge with governance, who assume by signature the financial statements. Censors are a filter between administrators and the general assembly of associates/shareholders and

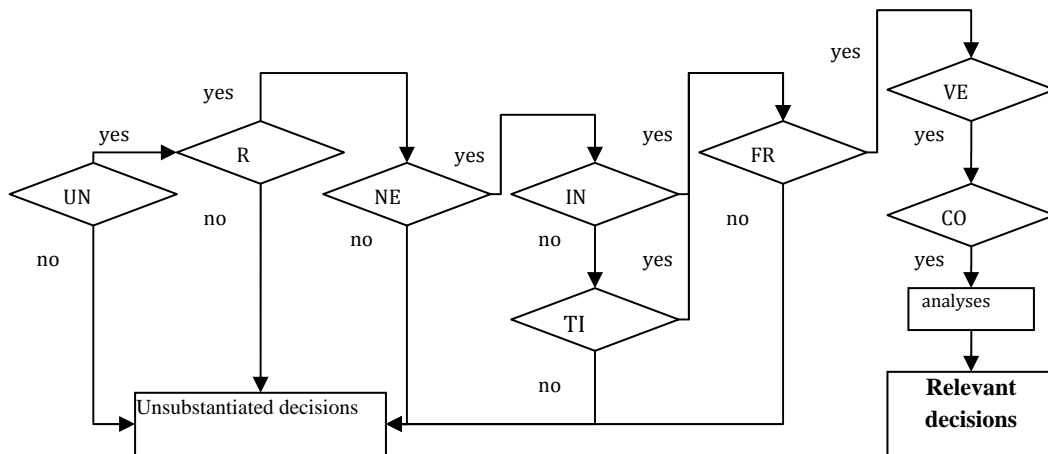
they have the responsibility to verify and certify financial statements submitted for approval. Another filter is represented by independent auditors who, after the undertaking missions, have the duty to give reasonable insurance regarding the fact that financial statements reflect, under all significant aspects, the accurate image of the entity, without significant misstatements generated by errors or fraud. Auditors are the interface between the entity, including management or governance, and the external users.

- **timeliness (TI)** – it refers to the availability of information in time. The cycle production – processing – transmission – reception – use of the information (decision) involves certain intervals of time, according to the characteristics of the activities /sectoral/punctual and the owned resources. Any delay in obtaining information may affect its relevance, with effects on the decisions. The arbitrage between the integrality and neutrality of information, on one hand, and its timeliness, on the other hand, involves an assessment of necessary costs. Ensuring a precise representation with very high costs may be substituted, under the pressure of time, by information based on estimates and approximations, subject to the increase of the error and misstatement risk. The decisions that trigger high risks should be based on substantiated analysis with a minimum of approximations and estimates. Economic processes are irreversible and with a high risk of differentiation because of the multitude of exogenous and endogenous factors that may intervene, even when they contain similar operations. This is why, when approximations and estimates are necessary, they must take into consideration diverse alternatives, diverse factors combinations and their effects on the entity. The information asymmetry generates different perceptions and decisions. “In conditions of information asymmetry it is interesting to follow the way of manipulating and its influences on the stakeholders through accounting information and financial statements” (Petcu, 2009b: p. 168).

- **understandability (UN)** – it is an essential qualitative attribute of financial information. It requires that financial statements contain perfect intelligible information for all users. There is reciprocity in this conditioning. On one hand, users must have a minimum of knowledge that allows them to understand information precisely, to be able to assess their relevance and adequacy to faithful representation, and on the other hand, financial statements should present information detailed in the appendix notes, which are necessary to their correct perception. In addition to the general level of intelligibility of financial information, considered necessary and sufficient to all users, if the entity appreciates that it holds complex information with a higher degree of difficulty in understanding its content and significance, but with significant relevance in adopting decisions, then it should be included in the financial statements.

Qualitative characteristics represent a chain of conditionings and assessments of information in the decisional process.

**Figure 1.** Conditionings in the assessment of information used in the decisional process



Source: the authors.

### 3. Examples of legislative changes

#### 3.1. Accounting policies – changes in accounting policies

The main divergence regarding the change in accounting policies consists of its retroactive implementation according to OMFP 1802/2014 and not prospective according to OMFP 3055/2009, by registering the effects of this treatment based on the reported result. Consequently, tax liabilities related to the result change are also determined.

CHANGE	
Financial position	Cost-effectiveness
Equity (+/-)	Reported result (+/-)
Tax liabilities (+/-)	

The changes in accounting policies that trigger expenditure increases related to the previous periods will involve reported loss and, in case of distribution of the previous profit as dividends, the distribution of certain inappropriate amounts, creating a false image regarding the performance of the enterprise.

According to the nature of the asset affected, the change in accounting policies may involve an increase/decrease of fixed or current assets. In the structure of financial sources there also appears an increase/decrease of equity, based on the reported result, and a corresponding increase/decrease of current liabilities, based on tax liabilities. By correlating the variations induced in assets with those at the level of financial sources, working capital and the needs for working capital are

affected. The payment of the amounts due to owners and state budget decreases the treasury of the enterprise. On the contrary, overpaid amounts, which affected the treasury related to the previous period, are account receivable that will be corrected subsequently.

### 3.2. Commercial discounts

The development of commercial transactions between providers and customers involves granting certain discounts at the time of the invoicing or afterward, in order to stimulate sales, build customer loyalty, recover fixed capital in different goods, enter new markets and in case of change in varieties. Discounts are applied for non-compliance with the contractual requirements (quality defects), applied to price (rebate), for overtaking the agreed volume or if the partner has preferential status, applied to price (discount) and for the transactions carried out with a third party in a determined period of time (discount).

Legislative provisions applicable from 1.01.2015 provide for a distinct treatment of commercial discounts received for goods and services after invoicing:

#### a) commercial discounts for goods

As opposed to OMFP 3055, which provided that commercial discounts be distinctly emphasized in the account “Received commercial discounts”, OMFP 1802 stipulates a differentiated treatment: adjusting the acquisition cost of goods, if they are still in management, and decreasing expenses, if the goods are no longer in management.

STATUS	CHANGE	
	Financial position	Cost-effectiveness
Goods in stock	Current assets (-) Current liabilities (-)	
Goods that are no longer in management	Equity (+) Current liabilities (-)	Result of the year (+)

The intervened changes affect the financial position and the cost-effectiveness of the enterprise in a different manner. Thus, in the case of goods in stock, the rotation duration of an asset, expressed in days, will be diminished, while the needs for working capital and cost-effectiveness remain the same. In the case of goods that are no longer in management, the treatment is similar to that provided by OMFP 3055, with a change in the structure of sources, by increasing the result of the year on account of the decrease of expenses and the decrease of current liabilities to providers. Therefore, cost-effectiveness changes, as well as the value of the working capital and the needs for working capital.

#### b) commercial discounts for services

Commercial discounts related to services received after invoicing, irrespective of the period they refer to, affect the result of the year by decreasing expenses, with

the consequences outlined above, the treatment being similar to that provided by OMFP 3055.

CHANGE	
Financial position	Cost-effectiveness
Equity (+) Current liabilities (-)	Result (+)

### 3.3. Fixed assets

#### Intangible assets

The main legislative changes related to intangible assets and the effects on cost-effectiveness and financial position are:

- the intangible assets produced by the enterprise are recognized as intangible assets if the recognition criteria are fulfilled. If an element does not meet the recognition conditions of an intangible asset, the cost related to its acquisition/production is recognized as expense at the same time as it is supported. In this legislative context, intangible assets in progress are transferred in the result or assets, as the case may be, affecting cost-effectiveness entirely or progressively. Financial balance is not affected at any circumstances, because either the value of intangible assets and equity are modified simultaneously according to the result, either the balance sheet values remain the same, with the enframing related to the intangible assets.

Transfer of intangible assets in progress	Financial position	Cost-effectiveness
Intangible assets	Fixed assets (+ and - = ct.)	
Expenses	Fixed assets (-) Equity (-)	Result of the year (-)

- removal of the adjustments for the impairment of goodwill and correction of the value of the positive goodwill. By applying this treatment, expenses, income and cost-effectiveness of the enterprise are not affected anymore if adjustments are formed and repeated.

#### Financial assets

According to OMFP 1802, the difference of value between the value of received securities as a result of the consideration in kind and the undepreciated value of intangible assets is registered as income, affecting the cost-effectiveness of the enterprise, and not in "Other reserves", according to the provisions of OMFP 3055. Financial position is modified as compared to the previous period, by the recognition of tax liabilities related to income. Equity remains at the same level, presenting a change in their structure, between result and reserves. Therefore the cost-effectiveness of the enterprise changes.

CHANGE	
Financial position	Cost-effectiveness
Current liabilities (-)	Result (+)

### 3.4. Current assets

**Inventories** The main difference between the two legislative regulations is the treatment of borrowing costs attributable to assets with a long production cycle that are included in their production costs, in so far as they are related to the production period. OMFP 3055 provided this treatment as an option. The new provisions entail the registration of financial expenses related to credit and of the assets increase on the expense of income related to the costs of inventory products. Influences are moved on the cost-effectiveness from the period in which interest is registered, to the period in which products are sold, upon their withdrawal from management. During the asset production, the enterprise no longer has losses that affect equity.

		Financial position	Cost-effectiveness
OMFP 3055	At the interest record date	Equity (-)	Result (-)
	Upon delivery		
OMFP 1802	At the interest record date		Result (+ and - = ct.)
	Upon delivery	Equity (-)	Result (-)

### Customers

OMFP 1802 includes clarifications regarding the highlighting of programs for building customer loyalty and different treatments. The conditions for reflecting gift points as income in advance target the knowledge at any moment of the value of the gift points granted and honored, as well as of their dates of expiry. As opposed to OMFP 3055, there is a new treatment applicable supposing the above mentioned conditions are not fulfilled, or if other types of tickets, coupons etc. are granted, providing the registration of income in the current period and making a provision.

Because of the retreatment in the financial balance sheet of income registered in advance and of provisions as debts, the accounting treatment does not affect the indicators of financial balance, the working capital and the needs for working capital, and they remain at the same level, according to the chargeability of debts.

### Fund and bank accounts

OMFP 1802 differentiates deposits on terms shorter than three months. These can be included in cash and cash equivalents if they are owned in order to cover the need of cash on short term, and not for investment purposes. The provision does not affect the financial position of the enterprise, because it targets the net treasury indicator, which remains constant.



Cash advances are treated differently, affecting fund and bank accounts, in the case of advances granted to personnel, and different debtors, in the case of advances granted to third parties. Thus, there is a change in the value of the needs for non-operating working capital, treasury, as well as the rotation speed of account receivables. At the end of the financial year, advances granted to employees and non-settled are seen as other account receivables related to personnel, similarly affecting the financial balance indicators.

### **3.5. Provisions**

We are pointing out two aspects provided by the regulatory framework, which has an impact on cost-effectiveness and financial position.

A first aspect is related to the manner of assessment of provisions and the inclusion of the time value of money in the reasoning. Thus, if the effect of the time value of money is significant, the value of the provision is the updated value of the expenses estimated to be necessary to settle the obligation (OMFP1802). In this sense, there are expenses that will affect the financial statement of the enterprise.

OMFP 1802 introduces new categories of provisions (provisions for the end of employment contract, provisions regarding concession agreements, provisions for contracts for pecuniary interest) the formation and repetition of which involves expenses and income that will affect cost-effectiveness. The formation of provisions determines a decrease in the year result and equity, and an increase of the same size in provisions, which in their sense of debts, may affect within the financial balance sheet the debts with maturity longer than a year, in which case financial balance is not affected and the working capital remains unchanged, or the debts with maturity shorter than a year, in which case both the working capital and the needs for working capital decrease, treasury remaining the same.

### **3.6. Other aspects**

OMFP 1802 provides discretionary treatment regarding foreign account receivables. Therefore, while customer account receivables are assessed at the end of the month, at the end of the financial year respectively, advances granted for fixed assets, goods such as inventories and services are no longer an object of assessment. Thus, the correct and faithful image of financial position and cost-effectiveness is affected.

In the case of untaken annual leaves there are clarifications which enframe these potential obligations in debts or provisions, affecting the financial position of the enterprise.

As for the determination of the year result, extraordinary elements are removed, as they are considered to be other elements of exploitation and, consequently, the content of the indicators determined on the basis of the exploitation result changes.

As limits of the new order regarding the economic and financial analysis, we mention the fact that there is no more reference to the presentation of the exploitation result on functions, with a possibility to determine gross margin for sales, as an important indicator in assessing the efficiency of operational activity (according to explanatory note 4, provided by OMFP 3055) and neither to the obligation to calculate indicators of liquidity, risk, activity and profitability (according to explanatory note 9, provided by OMFP 3055).

## Conclusion

The effectiveness of investments and the evolution of enterprises substantially depend on the pertinence of the adopted decisions. For its part, the decisional process is significantly influenced by the quality of information in the analyses, their availability and capacity to allow the capturing of alternatives. The changes induced by the regulatory framework in the content of information presented in financial statements involve convergent processes of ensuring the comparability of the data in the analysis, the reformulation of conclusions and correction of decisions. The information asymmetry, which may lead to differences of interpretation at the users' level, may be decreased by detailing the information and explanations in financial statements. The existence of financial statements that most accurately present the activity of an enterprise, according to a given referential framework, is an unanswerable condition of adopting correct decisions.

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## Economic and financial performances within the scope of accounting and fiscal standards applicable to real estate transactions

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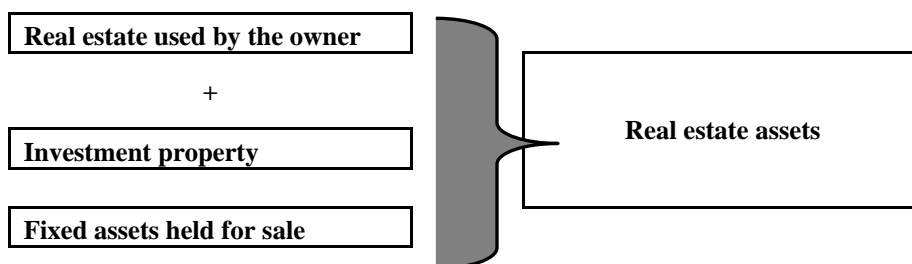
**Abstract.** *The characterization of the economic and financial performance of real estate transactions involves the processing of accounting information, within the scope of specific fiscal regulations. In this sense, information with a high degree of concentration are provided by the accounting mechanisms supported by the accounting balance sheet, the profit and loss account, the equity statements, and the explanatory notes. The accounting and fiscal buffer guide influences the performance highlighted in the financial and accounting statements. The assessment of the performance of real estate transactions takes into consideration complex aspects regarding economic and financial principles that include the decision to allocate capital according to the specific risk-cost-effectiveness arbitrage, on one hand, and the impact of the accounting and fiscal provisions, on the other hand. The concatenation of these aspects is the foundation of the investment reasoning, which has multiplying effects in the field of investment property on globalized markets.*

**Keywords:** real estate used by the owner, investment property, fixed assets held for sale.

**JEL Classification:** M41, K40.

## 1. Typology

Real estate market is a fragmented, decentralized and heterogeneous market, the object of which are real estate assets. According to the manner in which their holding generates extra value to the investors, real estate assets are structured into real estate, investment property, and fixed assets held for sale.



## 2. Accounting aspects

### I. Definitions

<b>Real estate used by the owner</b>	
Fixed assets are those assets that: - are held by an enterprise in order to be used in the production of goods or services, in order to be rented to third parties, or to be used for administrative purposes; - are likely to be used over several periods of time.	IAS 16; OMFP 1802/2014
<b>Investment property</b>	
Investment property is that property (land or building, or part of a building, or both) held by the owner or the lessee under a finance lease, in order to earn rentals or for capital appreciation or both, rather than held: - as real estate used by the owner (to be used in production or supply of goods and services or for administrative purposes) or - for sale in the ordinary course of business.	IAS 40; OMFP 1802/2014
<b>Fixed assets held for sale</b>	
Inventories are current assets: - held for sale in the ordinary course of business; - in the production process for sale in the ordinary course of business; or - raw materials, materials and other supplies that are consumed in the production process or for the provision of services.	IAS 2; OMFP 1802/2014
Inventories also include assets with a long production cycle that are for sale. In this case, inventories include the following real estate assets: - goods – include lands and buildings that are acquired in order to be sold as such; - finished goods – include housing estates created by entities whose main activity is to obtain and sell housing (including the land used to this end). If constructions are created for long-term exploitation by the entity that created them, they are fixed assets. - work in process - include housing estates in course of construction created by entities whose main activity is to obtain and sell housing (including the land used to this end).	OMFP 1802/2014
Fixed assets and assets included in groups and assets included in disposal groups classified as held for sale in accordance with IFRS 5, are entered in the account 311 "Fixed assets held for sale".	OMFP 1286/2012

## II. Assessment

### II.1 Initial assessment

#### a) Common rules

Upon entry into the entity, goods are assessed and entered into accounts at the entry value, which is established as follows:

- a) at acquisition cost – for goods procured for consideration;
- b) at production cost – for goods produced within the entity;
- c) at contribution value, established after the assessment – for goods representing share capital contribution;
- d) at fair value – for goods obtained free of charge or found in excess during inventorying.

The acquisition cost of goods includes the buying price, the import taxes and other taxes (except for those that the legal person can recover from fiscal authorities), transportation expenses, manipulation and other expenses that can be directly attributable to the acquisition of the respective goods.

Commercial discounts provided by the supplier and placed on the acquisition invoice reduce the acquisition cost of goods.

#### b) Differences regarding the accounting policies

<b>IAS 16</b>	<b>OMFP 1802/2014</b>
Commercial discounts received after invoicing, respectively granted after invoicing, irrespective of the period they refer to, are deducted from the acquisition cost.	Commercial discounts received after invoicing are treated differently, affecting the cost they refer to, if goods are still in management, or the expenses, if goods are no longer in management.
<b>IAS 2</b>	<b>OMFP 1802/2014</b>
In case of inventory acquisition on deferred settlement terms, when the agreement includes a financing element, that element is recognized as interest expense over the financing period.	Borrowing costs that are directly attributable to the acquisition, construction or production of an asset with a long production cycle are included in the cost of that asset. For example, in the borrowing costs there can be included the interest on capital borrowed to finance the acquisition, construction or production of an asset with a long production cycle, as well as the fees associated to these contracted borrowings. Borrowing costs can be included in the production costs of an asset with a long production cycle, if they are related to the production period.

### II.1 Subsequent assessment

<b>Real estate used by the owner</b>	
<b>Basic accounting treatment</b>	<b>Allowed alternative accounting treatment</b>
Fixed assets are stated at cost, less the related accumulated depreciation and any loss accumulated from depreciation.	Fixed assets are stated at the revalued value: fair value – subsequent accumulated depreciation – subsequent loss accumulated from depreciation.
<b>IAS 16</b>	<b>OMFP 1802/2014</b>
The depreciable amount shall be depreciated: cost – residual value.	The depreciable amount shall be depreciated: cost.
	If the revaluation result shows an increase as compared to the net accounting value, it is treated as follows: - as an increase of the revaluation reserve

Depreciation is calculated starting from the month in which the asset is available for use.	Depreciation is calculated starting from the month that follows the commissioning.	presented within the element "Capital and reserves", if there was no previous decrease recognized as an expense related to that asset; or - as an income that compensates the expense with the previously recognized decrease for that asset.
Depreciation must be interrupted when the residual value surpasses the net accounting value.	Depreciation is calculated until the full recovery of the entry value.	
OMFP 1802/2014: When there is change in the use of a fixed asset, in the sense that it is about to be improved in order to be sold at the time of the decision regarding the change in destination, the asset transfer is entered in the accounts at the undepreciated value of the asset, from the fixed assets category to the inventories category. If the fixed asset was revaluated at the same time with the asset reclassification, the related revaluation reserves account is closed.		

Investment property	
IAS 40	OMFP 1802/2014
Policies specific to investment property are applied.	Policies specific to fixed assets are applied.
The assessment of investment property implies the use of: - the cost model; - the fair value model, with changes in the value being recognized (income and expenses).	
For a transfer from investment property at fair value to real estate used by the owner or inventories, the property cost must be its fair value from the date of change in use, for subsequent accounting according to IAS 16 or IAS 2. For a transfer from owner-occupied property to investment property at fair value, an enterprise should apply IAS 16 up to the date of reclassification. Any difference arising between the carrying amount under IAS 16 at that date and the fair value is dealt with as a revaluation under IAS 16. For a transfer from inventories to investment property at fair value, any difference between the fair value of the real estate at that date and its previous carrying amount should be recognized in net profit or loss.	

Fixed assets held for sale	
IAS 2	OMFP 1802/2014
The net realizable value is the estimated selling price in the ordinary course of business, less the estimated cost of completion and the costs necessary to make the sale.	

### III. Exchange of assets

IAS 16, IAS 40	OMFP 1802/2014
If an asset is acquired in exchange for another asset, the asset assessment is made at fair value unless the exchange transaction lacks commercial substance or the fair value of neither the asset received nor the asset given up is reliably measurable.* One or more fixed assets may be acquired in exchange of a similar or non-similar asset (also called non-monetary transactions) or of a combination of similar and monetary assets. The cost of the new asset is represented by the fair value, except for the cases in which: ▪ the exchange transaction lacks commercial character or commercial substance; ▪ or the fair value of the asset received in exchange or of the asset given up cannot be reliably measurable.	It treats the asset exchange by two distinct transactions (two paid supplies of goods – according to the Tax code) that must be reflected in separate account entries, at the market value; after the asset exchange is entered in the account, a compensation of related obligations and receivables is made.

**Source:** Ghid de tinere a contabilitatii si de elaborare a situatiilor financiare individuale in conformitate cu IFRS – urile la societatile comerciale ale caror valori mobiliare sunt admise la tranzactionare pe o piata reglementata, Editura CECCAR, Bucuresti, 2013, p. 61.

## 2. Fiscal aspects

*There is no other category of goods the transaction of which involves fiscal particularities such as those of real estate. The significant value of real estate includes adequate taxes in the transaction process. Or, if the adequate fiscal particularities are not recognized, the result may be the payment of significant additional fiscal obligations that may considerably affect the financial status of the parties participating in the transaction.*

Category	Fiscal particularities
Real estate used by the owner, Investment property, Inventories	Corporation tax
	VAT
	Income tax
	Construction tax
	Building tax
	Field tax
	Specific authorization taxes

When calculating the income tax, there are particularities both regarding fiscal depreciation and gains or losses resulted from the sale or decommissioning (demolishing of buildings) of real estate, and investment property respectively. Thus, for the depreciable assets, depreciation deductions are determined without taking into consideration the accounting depreciation. The determination of fiscal depreciation in order to establish corporation tax is made by taking into consideration the entry fiscal value of the depreciable asset. Fiscal gain or loss resulted from the sale or decommissioning of this type of assets are identified in order to calculate corporation tax, as follows:

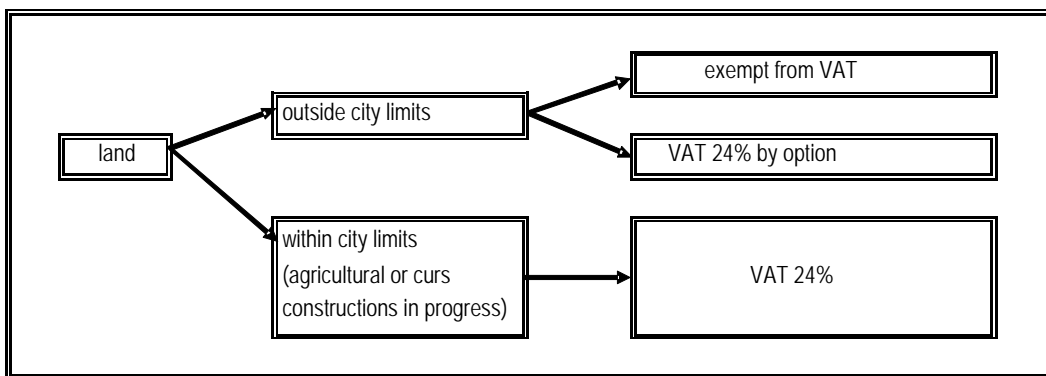
$$\text{Gain/loss} = \text{amounts resulted from recovery} - (\text{fiscal value} - \text{fiscal depreciation})$$

In order to determine the fiscal value of fields, respectively the undepreciated fiscal value in the case of buildings, there will also be taken into consideration the accounting revaluations made after January 1<sup>st</sup>, 2007, as well as the undepreciated part from the accounting revaluations made during January 1<sup>st</sup> 2004 – December 31<sup>st</sup>, 2006, highlighted on December 31<sup>st</sup>, 2006. There are not recovered through fiscal depreciation accounting revaluations made after January 1<sup>st</sup> 2004 for the depreciable fixed assets that have no fiscal value remained undepreciated at the revaluation date. However, starting from 01.05.2009, through the changes brought by the Emergency Ordinance 34/2009, reserves from revaluation of fixed assets, including lands, revaluated after January 1<sup>st</sup> 2004, which are deducted in calculating taxable profits through expenses on disposed and/or scrapped, will be subject of taxation at the time of fall management of these fixed assets, as the case may be.

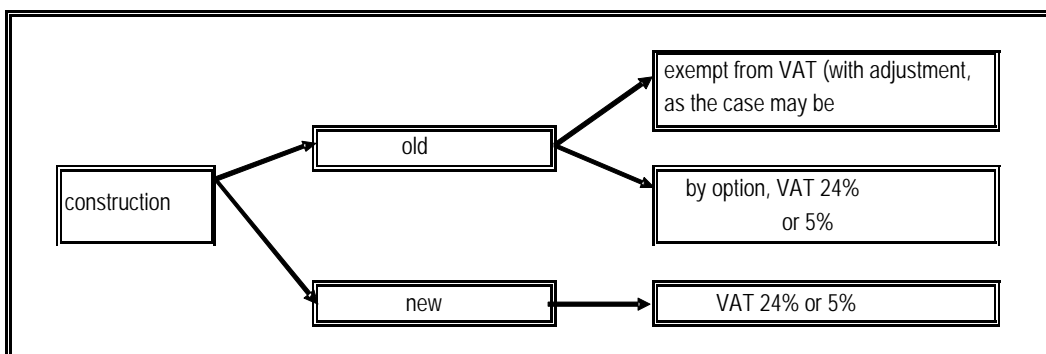
*As for VAT, fiscal particularities are discernible both for lands and buildings, being differentiated according to the nature of the selling taxable person.*

Thus, natural persons are not considered to carry on an economic activity within the scope of VAT when they collect income from selling private dwellings or other goods that are used by them for personal purposes. In the category of goods used for personal purposes there are included constructions and, as the case may be, the related land, owned by natural persons who used them as dwellings, including holiday homes, any other goods used for personal purpose by the natural person, as well as goods of any other nature legally inherited. The natural person, that hasn't become taxable person for other activities, is considered to carry on an economic activity from the operation of tangible or intangible goods, if they act as such, independently, and if that activity is carried on in order to obtain continuity income.

Synthesizing the provisions of the applicable legal framework, from the point of view of VAT application, selling a field is conditioned by the regime of that field (outside or within city limits), as follows:



The fiscal regime of VAT in case of constructions transactions is marked by the nature of the construction (old or new), as follows:





**Taxation of taxable income from the disposal of the use of immovable property** owned by natural persons is made differently, according to the number of lease contracts concluded by the owner within a year.

**Income tax from the transfer of real estate from the personal assets** is calculated according to the year of their acquisition by the owner.

**Payers of building and lands taxes** are any persons that own a building or a land in Romania, and the tax is calculated in a differentiated manner, according to the quality of natural or legal person of the owner.

For constructions owned by legal persons, provided in group 1 of The Catalogue regarding the fixed assets classification and useful lives, approved by Government Decision No. 2.139/2004, with subsequent amendments, (other than buildings for which tax on buildings is due by the tax payer or owner), **tax on construction** is due starting from January 1<sup>st</sup> 2014.

For each tax presented above we only mentioned by way of information some of the existent fiscal particularities, without providing details regarding other characteristics that affect tax burdens.

### 3. Financial performance and position

We are presenting the influences the accounting approaches regarding real estate assets generate on the financial performance and position.

Real estate used by the owner	Current result	Equity
Depreciation	It is constantly decreased, during the ordinary period of the asset functioning.	It is constantly decreased, during the ordinary period of the asset functioning
Interest	In case of interest capitalization, its value progressively affects the current result through depreciation, during the ordinary period of functioning. In case of distinct entry of the interest, it fully affects the result of the current financial year.	The differentiated affecting of the current result according to the interest recognition will generate different variations of equity.
Revaluation	If the revaluation result is an increase as compared to the net accounting value, it is treated as follows: - as an increase of the revaluation reserve presented within the element "Capital and reserves", if there was no previous decrease recognized as an expense related to that asset - as an income that compensates the expense with the previously recognized decrease for that asset.	If the revaluation results are: - an increase of the revaluation reserve, it will generate an immediate increase of equity, followed by their progressive decrease during the ordinary period of functioning, as depreciation expenses are entered; - income/expenses, they fully affect equity, during the financial year.

Investment property	Current result	Equity
Depreciation	It is constantly decreased, during the ordinary period of the asset functioning.	It is constantly decreased, during the ordinary period of the asset functioning.
Interest	Decrease of the result of the current financial year.	Decrease of equity.
Revaluation	The increase/decrease of value resulted from revaluation is treated as income/expense, affecting the result of the current financial year.	The change in the year result generates the corresponding variation of equity.

Inventories	Current result	Equity
Interest	In case of interest capitalization, its value progressively affects the current result through depreciation, during the ordinary period of functioning. In case of distinct entry of the interest, it fully affects the result of the current financial year.	The differentiated affecting of the current result according to the interest recognition will generate different variations of equity.
Subsequent assessment	The decrease of value resulted from subsequent revaluation is treated as expense, affecting the result of the current financial year.	The change in the year result generates the corresponding variation of equity.

The differentiated treatment of real estate as fixed assets and investment property on one hand, and inventories on the other hand, affects the indicators of the financial and material structure, and the liquidity and solvency indicators.

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- Ghid de tinere a contabilitatii si de elaborare a situatiilor financiare individuale in conformitate cu IFRS-urile la societatile comerciale ale caror valori mobiliare sunt admise la tranzactionare pe o piata reglementata, Editura CECCAR, Bucuresti, 2013, p. 61
- International accounting standards 2001
- Law No. 571/2003 regarding the Fiscal Code, as subsequently amended and supplemented
- Order No. 1286/2012 of the Minister of Public Finances approving the accounting regulations compliant with the International Financial Reporting Standards applicable to companies whose securities are admitted to trading on a regulated market
- Order No. 1802/2014 of the Minister of Public Finances for the approval of accounting regulations regarding the annual individual financial statements and the annual consolidated financial statements

## Green marketing strategies in real estate in Romania

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**Abstract.** *Green marketing concept was adopted by real estate industry, and emerged as environment protection became a 'fashionable' issue. In Romania, after a conceptual phase, concern for environment developed mainly after 2008, when Romanians and real estate companies embarked on raising interest for green buildings. Few Romanian investors understood the importance of applying green marketing strategies for business boosting, especially during and after an economic crisis.*

*Increasing interest of green marketing concept is related to involving foreign investors in development of Romania's real estate projects. Nowadays, they realize the importance of green marketing to highlight features of their green buildings.*

**Keywords:** green marketing, strategy, real estate, green consumer.

**JEL Classification:** M31, Q56, Q58, R33.

## Introduction

Development of green real estate projects nowadays, all over the world, stems from an increasing interest in environment issues, especially in environmental sustainability.

Some authors noticed that times have changed – a lot, and with them the rules of green marketing (Ottman, 2011: pp. 2-3). People enjoy a new *green lifestyle* and things such as preventing an increasing energetic consumption, taking care of health issues and children's health, are things which determined them to make a lot of 'sustainable' choices.

As in other areas, where the impact of green products and services is increasing, also in real estate, with help from new technologies appear new materials, friendlier with environment, which help us to build *green(er) buildings*.

Concept of *green marketing* was adopted by managers in real estate, as an opportunity for companies to develop new buildings which are less polluting for the environment and also efficient from point of view of energy consumption, according to the definition of *green building*.

The challenge for manufactures, builders, designers and consumers is to offer, according to their marketing strategy, a building which is 'green'/'clean'/'lightened'. Therefore, according to many studies, "some consumers have been willing to pay an up-front premium for energy-efficient, water-conserving washer" (Ginsberg and Bloom, 2004: pp. 79-80).

It was noticed, in this respect, that consumers tend to appreciate the fact using energy-saving appliances in one's home will be benefic for their budgets, having to pay less on energy bills (Ottman, 1998: pp. 52-55).

Investors in real estate should implement green marketing strategy for leading firms – because, in terms of strategy, they *need* differentiation. Three main strategies are proposed, which are generally applicable also in real estate (Ottman, 2006: pp. 22-36):

I. Consumer of green building/house value positioning – whose main focus *on* (re)designing a house so as to be different to the existing building market. Increasing attraction in green buildings has determinated also changes in activities relate with renovation and reconstruction but also alter radically new constructions and represent challenges for real estate area.

II. Calibration of consumer knowledge – new construction must be designed taking in consideration clients' expectations, and features of the green

building/house should have those characteristics, such as predicting energy use, sustainable elements being incorporated; in a word, green building must be with an eye to the future.

III. Credibility of green building claim – real estate company is expected to communicate **about green buildings** by highlighting *specific* features of green house like cost benefits, sustainable advantages, adapting communication to right real estate market segments, launching portfolio of projects in terms of sustainability thinking. If the marketing strategy pursues spreading green projects, it can use publishing, public speaking, social media and Facebook exposure.

In terms of marketing, Real Estate Company must to be able to design a successful *green* marketing strategy. *Stakeholders* involved in green projects must reveal the high cost which could be recovered in long term at least *is important* from a financial point of view.

Supporting their objectives, new national regulations related to green buildings and also with 2020 strategy are encouraging them to invest in this kind of buildings having in mind goals of energy performance, energy efficiency, renewable energy and construction externalities.

As regards *energy performance*, initiative was according with European legislation in this area, Energy Performance Directive No. 2010/31/UE. Directive is setting out obligations for public owned buildings but also for private owned new buildings regarding energy performance standard. It is important to point the fact this European directive is applicable also to buildings which support renovations.

*Energy efficiency* was another issue that was reveal by Energy Efficiency directive No.2012/27/EU.

*Renewable energy* also must be ‘fit in’ buildings according to Law No. 220/2008. *Construction waste* was stipulated in Romanian legislation by the Law 211/2011 according to Directive 2008/98/EC.

New legislation encourages real estate companies to reduce part of their costs, through fiscal facilities, an important issue in the currently complex framework of *reducing expenses*. An efficient Green marketing strategy offers solutions to achieve the competitive advantage on the market. Stakeholders management in a real estate development project is extremely important because the marketing

strategy should not avoid to communicate with them and maintaining them to invest or to support the project of a green building.

It is part of communication strategy to convince them that it is worth to develop a *green* building project. Even cost of materials, in the beginning, is high, because green technologies are expensive, applying green marketing strategies may bring them a pleasant surprise on long term, investing in sustainable buildings, if their costs will decrease and get organisational profit.

Spreading information about new green project and its advantages for investors and community, but also sustainability of *green* building, and finding the right communication channels through them, make the marketing strategy able to respond to their future expectations.

### Marketing strategy for green buildings in Romania

From the marketing point of view we have three important stages of developing marketing strategy (Kotler, 2002: pp. 144-146).

Also, for a successful sustainable building marketing strategy, Real Estate Company needs to pass through some important states, namely: *segmentation*, *targeting*, *positioning* and *differentiation*.

Segmentation must take in consideration the influence of macroenvironment at consumer level. In Romania, concept of *green marketing* developed later than in Western Europe, and similarly took place later in mentality of consumers.

First of all, segmentation must start from whatever *green consumer* of green buildings want? Real estate company marketing plan must find segments that from company's point of view are profitable from the potential customers the segments.

Real Estate Company must accomplish *targeting* through customisation of green buildings taking in consideration customer needs.

*Positioning* into green marketing strategy must reveal functional features of green building by offering information on the environmentally friendly characteristics of *green* building, such: energy efficiency, access to public transportation. Functional attributes of *green* building help a real estate development company to archive next level of the strategy, *differentiation*.

Marketing strategy should use *differentiation* to highlight what differentiates real estate company from its competition. Romanian market for sustainable buildings is still so young, and due to this engaging its resources into ‘green’ expansion helps the company to find its position in the market – which is quite a chance to make a profit, in Romania. Even though Romania is a poor country, in realistic (economic) terms, and Romanian ‘green’ sector is *very* modest, the fact is real estate companies should demonstrate the green buildings upper level of sustainability.

In Romanian it would be hard enough to find ‘green’ customers of such a building, in long-term, but it is the duty of marketing strategy to create a ‘green’ state of mind. Differentiation strategy must take in consideration globalization of the green real estate market and new competitors which are entering on the market. They are increasing the competition, coming with new green buildings solutions, materials and technologies but also help company to create its competitive advantage in the market.

A real estate company can indeed be differentiated on the green dimension, *but* only as far and as effective as it is essential to clearly communicate its green values and expand its green *dimension*. According to its marketing strategy, the company must get *its green* differentiation.

Developing a *green* strategy in real estate requires financial resources needed to turn at least part of profit into *green*, and then the commitment of stakeholders, especially of top management involved in a green building development project, which must come up to the expectations for high-performance in term of sustainable outputs.

***Being green*** in real estate is more or less a manageable process in long term, ***turning green*** is related to the *financial* component of this scheme but also with sustainability of the project which must be with an eye to the future.

From the green marketing point of view, during the past six years, in Romania number of green *projects* is on the increase, project among most important of which are the following: Floreasca Park, Hermes Business Campus, The Office Cluj, Willbrook Platinum, Liberty Technology Park (Cluj) and others projects, which ‘prove’ the benefits of green buildings by the investors, developers, architects, contractors.

### Marketing mix in real estate

Second stage of adapting green marketing strategy at the level of developing a real estate projects in Romania is the frame of green marketing mix – made out of green building, green pricing, green logistics, green promotion and green consumption. As is presented above, adapting green marketing strategy to the level of real estate development project is more related to issue of sustainability. Investors' philosophy about adopting a green marketing orientation strategy represents for a lot of businesses an opportunity but also a big challenge for them, because they saw business in the frame of sustainable development.

Implementing a green marketing strategy produces a lot of changes to the level of marketing mix strategy, related to the four P's; now, it is worth analyzing some of the changes which take place in all components of the mix.

**Green building strategies** are based on potential represented by this kind of buildings and about how it could bring competitive advantage for the company. Understanding concept of *green building* is the key issue for enabling developers to design what the beneficiary wants, whose main characteristics are: improved energy efficiency, good access to public transportation, building place selected to minimize damage to local environment, reuses existing materials, provides natural daylight, flexibility in the use of space, once one builds using green technologies that involve recycled materials or eco-friendly ones.

In Romanian real estate market demand for green buildings is segmented, according to the first phase of marketing strategy, in three different development projects and developers must choose between diverse types of buildings and adapt the project according with their marketing strategy. So, the main three types of projects are:

1. *office development projects*,
2. *shopping centre development*
3. *residential buildings projects*.

*Office development projects* are typical for Romanian foreign investors, and their customers are rather marginally attracted to *greenness* and being in want of an urban, 'industrial' type of entertainment, such as solar heating system, offices that can be easily customized – i.e., easily accessible by car or public transport. This kind of building could be turned into a marketing tool and help them having a good communication with clients in a green environment. We have in



Romania few successful projects like Europe House, a successful reconversion project, which is opening this market segment, Unicredit Tower, Victoria Center, Pertom City, Olimpia Business Center Cluj, RC Office Park Pitesti, Multinvest Business Center Târgu Mureș, Liberty Technology Park Cluj, Magheru One, Brașov Business Park, Bucharest Tower Center.

Objectives of such projects are not only attracting customers, or simply ecological, like reducing consumption and pollution, but must aim at offering opportunity to invest in a sustainable building, whose value will increase over the years. Investing in such green buildings is a form to rise value of one's investment.

*Shopping centre development projects* are the most extended projects of real estate in Romania. For Romanians, going shopping is a kind of entertaining activity. A lot of investors in real estate take advantage of it and built environmentally sustainable shopping centres. In Romania, *greenness* is not an attractive argument for consumers interesting in such places. Most of investors in green shopping centre are aware sustainability is not the most important thing for customers and sometimes is ignored, becoming just a marketing issue. According to Romanian Green Building Council Report (2014), in Romania are a lot of green shopping centre: AFI Park Bucharest, Sun Plaza, Iulius Mall Cluj, Iulius Mall Timisoara, Iulius Mall Suceava, Cora Hypermarket Bacau, Cora Hypermarket Constanta, Baumax Store in Ploiesti.

*Residential buildings projects* are related with features like building material with low transfer coefficient, energy efficient heating system, individual contracts for gas, electricity and water. A lot of projects involve small houses designed for families exactly in the very places where owners experiment *green living*. These projects are located near big cities and also in the metropolitan area of Bucharest.

Most important projects of residential green projects are: Amvic House, ARED Resindential Complex, Avalon Residence, Astra Doftana Pension, Brandusa House, Cartier German Rezidenz, Cartier Prima Oradea, Class Park Targoviste, Cosmopoli Residence, Copou Bellevue, Cubic Residence, Domenii Park, Ertec Residence, Europe Residence, Evocasa Optima, Evocasa Selecta, Evocasa Viva, Greenome, Moliere Residence, Militari Residence, Nora Residence, Nordia Residence.

Marketing strategy is different in this kind of projects because many of those projects are green houses where live people and need to assure a *healthier* environment. Consumers in this projects are interested more than in others categories presented before by the features related with eco friendly products, healthier house or costs reduction.

**Green logistics strategies** objectives are related more with the reverse channel and with post-selling behaviour.

**Green pricing strategies** must argue the fact green buildings/homes are more expensive than conventional buildings. Price level is explained by big budgets used in construction of green house, and it translates itself in green technologies, energetic performance, and energy efficiency. These values may improve performances and functions of green buildings, but green marketing should take all those facts into consideration. A lot of investors in real estate green projects see in that an opportunity to increase building value on the long term.

**Green promotion strategies** must reveal **green** building development projects **or** homes those characteristics that do not harm the natural environment, by means of:

- Explaining relation between green building and natural environment;
- Promoting a green lifestyle by living, working, shopping in a green building;
- Generating corporate image in terms of environmental responsibility for developers of real estate project.

In Romania, real estate companies face a number of pitfalls, *when* such a company is willing to actually *implement* its *green* market strategy, namely:

1. Need of Certification and Standardisation in the area of *green buildings*: although in Romania rules concerning green buildings *are* settled, regulation process for green buildings (e.g. Romanian bureaucracy in this field) is anything but – and this certainly must be made easier.
2. Customer Education: in last years, Romanian consumer became more friendly with the idea of *green building*. Education must insist in value green houses – and, naturally, in its benefits. Most *potential* costumers are not willing to pay more at the beginning, but the investment in a green house is a long term investment and its benefits are forthcoming in due time.
3. Stakeholders long-term commitment to green marketing strategies: Green buildings are investment at company level. Buildings require green technologies based on green raw materials.

4. Costs and profits of green buildings: investors in green houses must be aware of the fact they will receive *their* benefits in a long-term dynamics. Green houses require renewable and recyclable raw materials and are expensive.

## Conclusion

The main purpose of this paper is to reveal the importance of green *strategies* for real estate. Implementing those strategies is a problem of *education* with unavoidable effects on the market. Adopting green marketing strategies by Romanians real estate companies is related to: getting the competitive advantage by assuming Corporate Social Responsibility and obtaining a green Corporate Image; Government pressure related to concern for a sustainable development; the balance between costs and profits of real estate green projects, because investing in green buildings will bring profits in future, not immediately.

Effects generated are an increasing demand of *green buildings*. The good thing in Romania is the number of consumers which are concerned about climatic changes and others problems related is also increasing. From this perspective, consumers expect real estate companies will build their dreamhouse, which in the future will change their lifestyle into a *green* lifestyle. For Romania, that impact was significant by the entering on market of foreign real estate investors which developed a new generation of buildings. These changes are part of aftermath of the economic crisis, which changed also consumer mentality and became preoccupied with energetic efficiency of homes and offices.

Based on this example of foreign investors, such a change in peoples' mentality generated the concept of "green consumer" for green buildings. From economic and financial point of view, companies became more responsible for the manner in which they are making business, and willing to be more concerned about environment protection. Not all companies faced this problem to the same intensity of feeling, because they give to consumer some environment-friendly products for a *higher* price.

From this perspective, we proved adopting green marketing strategies related to the real estate companies in Romania are positive and could be one of the key factors that, in the future, will change Romania itself and impact will be significant, bringing sustainable development.

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## Integration of the economic and financial analysis in the audit of lands and buildings

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**Abstract.** *In this article we are aiming to approach a few aspects that raise the skepticism of the financial auditor in forming and expressing their opinion regarding lands and buildings, through instruments and reasonings specific to the economic and financial analysis. There are presented, by way of example, cases of accounting practice that generate significant distortions of financial statements, whether due to fraud or error, which influence the decision of the users of financial statements.*

**Keywords:** economic and financial analysis, audit, real estate, decision, professional reasoning.

**JEL Classification:** D04, D78.

## Introduction

Real estate is considered as one of the major investment opportunities together with gold and art, because of its long lifetime and the normal growth trend of value and profitability, subject to the politic and governmental interventions. Real estate includes lands and goods considered to be attached to them: buildings, special constructions, irrigation systems, canals etc. and it is characterized by concreteness, tangibility and sustainability.

Real estate is highlighted in the entities' financial statements in: fixed tangible assets – goods purchased or held for use; current assets – stocks – goods purchased or held for sale, and investment property – purchased or held for rent or capital appreciation. The decision to include real estate in one of the mentioned categories belongs to the entities' management and it can be subject to change according to their interests and strategic goals.

The benefits of real estate investments, with repercussions on the general growth level, determine the extent of the transactions on the characteristic market, being stimulated by its extension on wider and wider areas, which include states with different economic systems, and being restricted by the constraints imposed by the diversity of the regulations specific to each country, by the predictability degree, and by the reliability of information.

The relevant decision is based on pertinent information included in financial statements, which should represent precisely the property concerned and be verifiable, appropriate, intelligible and comparable. The necessity to facilitate access to the investment opportunities and control over their efficient use, under the conditions of globalization, triggered a continuous process of elaboration, implementation and development of unified regulations in the evaluation and financial accounting fields, with powerful standardized nature that allows the construction and interpretation of information included in the entities' financial statements, in compliance with a general framework. At the same time, the opportunity of the entities to elaborate their own accounting policies, the margin conferred to the treatment and procedure alternatives by the standards, the professional reasoning and the different approaching angles according to their own interests, error and even fraud, made it necessary to audit financial statements by external specialized professionals, in order for them to express their opinion on the fact that financial statements are fair views of financial position and performance. The development of holdings that own activity pools in different strategic sectors, the extension of the corporate approach of business and other phenomena associated with globalization processes triggered the deepening of standardizations within the companies, the development of internal audit together with the external financial audit, and the emergence of audit committees.

Generally, fixed assets account for a significant proportion of the assets of certain entities, especially those that produce goods. Within these assets, lands and buildings are fixed assets with significant value, and any decision regarding purchase, modification, modernization or renunciation imply financial efforts with major impact upon the entities' cash flows. The characteristics of these fixed assets related to measurement, presentation and reporting, destination and capitalization, in case of use, and gradual transmission of value on the costs of products or services, generate specific professional reasonings and different ways of approaching from the entities that are inspected by the financial auditor, thus certifying their validity.

The dynamism and amplification of the issue of the economic entities make it necessary to promote multidisciplinary researches, which allow the transition from specialized approaches of processes and phenomena to inclusive approaches, finalized in feasible solutions for the economic practice. Against this background, the use of the economic and financial analysis by the financial auditor allows the establishment of certain viable milestones in the substantiation of the audit process and of the opinion.

### **1. Methodology of the research**

The goal of the research is to highlight the role of the economic and financial analysis in approaching certain significant distortions at the level of transaction classes, accounts and presentations in financial statements.

The research is qualitative and it focuses on the interpretation of the observed reality. As a method of investigation, observation is an act of systematic follow-up and description of the studied conduct and situations, allowing the approach of different deviations from the applicable general reporting framework and their consequences on the substantiation of the decision of the users of information supplied by financial statements. Taking into consideration that the firm's issues are constantly manifesting intellectual creativity, heuristics was used in order to come across certain accurate examples of deviations from rules to deduce strategies with limited applicability. The drawing up of the paper imposed bibliographic documentation, as well as direct documentation of the empirical facts. The approach correlates the theoretic and methodological fundaments of the audit, accounting, and economic and financial analysis, with recourse to their specific instruments.

### **2. Economic and financial analysis in the audit of lands and buildings**

The audit mission aims to express an opinion according to which financial statements provide an accurate and fair image concerning the lands and buildings of the firm, in accordance with the applicable general framework of financial reporting. The auditor

identifies the significant distortions of the financial statements due to fraud or error. The primary goals of the auditor are to verify the recognition, evaluation, existence, belonging, and pledging/mortgage of lands and buildings.

The instruments specific to the economic and financial analysis which are used in the auditing activity of lands and buildings allow the understanding of the entity and of its environment, the identification of significant deviation risks, and the approach of certain aspects that are relevant to the formulation of an opinion. The analysis of the size and variation of the fixed tangible assets, of the degree of depreciation, renewal, productiveness, and depreciation expenditure may provide marks of a possible error or fraud.

At the same time, after the audit is carried out, there could be noticed significant distortions of the information included in the financial statements regarding lands and buildings, with an impact on the analysis indicators of the financial position and performance.

The adjustment of financial statements in accordance with the general reporting framework implies recommendations of the auditor based on professional reasoning, which may also include elements specific to the theoretic and methodological fundamentals of the analysis.

The presentation that follows shows several issues regarding recognition, measurement, presentation, accounting policy on the subject of depreciation, business continuity and use change for lands and buildings.

### Recognition, measurement, presentation

Treating subsequent expenditure as assets or expenditure for the period could be determined by the reasonments of the decision maker, and according to their interests it may include elements of error or fraud, as the case may be. The analysis of the volume and dynamics of fields and buildings may highlight certain aspects concerning the accounting practice. The impact the treating manner of subsequent expenditure has on the economic and financial indicators may prove to the auditor the existence of certain distortions, such as:

- capitalisation of certain subsequent expenditure that will not generate future economic benefits or reductions of the costs incurred for fixed tangible assets produces superior profit and profit margin. This accounting treatment will generate an increase in the firm's heritage, in the sense of the increase of fixed assets and equity. The decision of profit division through the distribution of certain larger dividends as compared to the appropriate ones will create a false image of performance. Reinvesting these profits in society will artificially increase the auto-financing and debt capacity. The assets turnover speed slows



down and the assets increase under the conditions of the given activity volume. The productiveness of their use is diminished;

- recognition within current expenditure of certain subsequent expenses that will generate future economic benefits or decreases of the costs incurred for fixed tangible assets, which trigger profit decrease and the perception of a decrease in performance, affecting the stakeholders and the eventual capital providers. As a result, the contribution to the state's income and the distributed dividends will be more reduced, the price of securities is diminished, the participation in community actions decreases, and providers become more cautious, tightening the contractual terms.

Here is the occurrence of the different accounting treatment of a subsequent expenditure of 1,000 lei, related to fixed tangible assets with a normal period for use of 5 years left.

	subsequent expenditure	
	capitalisation	current expenditure
<b>Profit and loss account (thousands lei)</b>		
Income	10,000	10,000
Operating costs, excluding subsequent expenditure	5,000	5,000
Subsequent expenditure	200	1,000
Gross result	4,800	4,000
Tax on income	768	640
Net result	4,032	3,360
<b>Statement of assets, debts and equity (thousands lei)</b>		
Fixed assets, excluding subsequent expenditure	80,000	80,000
Subsequent expenditure	1,000	
Current assets, excluding house and bank accounts	2,000	2,000
House and bank accounts	3,232	3,360
Total assets	86,232	85,360
Equity, excluding profit / loss for the period	45,000	45,000
Profit / loss for the period	4,032	3,360
Debt	37,200	37,000
Total resources	86,232	85,360
<b>Indicators</b>		
Profit (thousands lei)	4,032.00	3,360.00
Commercial rate of return (%)	40.32	33.60
Rate of self-financing (%)	56.86	56.65
Assets turnover speed (days)	3,147.47	3,115.64
Net asset (thousands lei)	49,032	48,360

The overvaluation of lands and buildings, a fair value respectively that is established in the reevaluation report without market validation, may indicate possible fraud determined by a volitional action in order to obtain credit with a higher value, through the pledging/mortgage of the related asset, as well as the decrease of an eventual negative equity. This practice has negative repercussions both on the economic entity that benefits from the capital, and on the capital providers. The inappropriateness of real performance is reflected upon the solvency insecurity.

Here is the occurrence of the evaluation alternative treatment, if the economic entity records in the accounts a reevaluation difference 5,000 lei higher than the one recognized on the market. At the same time, this example shows the possibility of the transition from negative equity to positive values, through overvaluation.

	revaluation		
	overvaluation	fair value	overvaluation
<b>Statement of assets, debts and equity (thousands lei)</b>			
Fixed assets – historical cost	50,000	50,000	50,000
Revaluation difference	15,000	10,000	15,000
Current assets	2,000	2,000	2,000
Total assets	67,000	62,000	67,000
Equity, excluding revaluation reserve	45,000	45,000	-9,000
Revaluation reserve	15,000	10,000	15,000
Debt	7,000	7,000	61,000
Total resources	67,000	62,000	67,000
<b>Indicators</b>			
Rate of self-financing (%)	89.55	88.71	8.96
Rate of general solvency	9.57	8.86	1.10
Net asset – before revaluation (thousands lei)	45,000	45,000	-9,000
Net asset – after revaluation (thousands lei)	60,000	55,000	6,000

### Accounting policy regarding depreciation

The analysis of depreciation expenses and of the depreciation degree's evolution may highlight changes in the accounting policy regarding depreciation.

Taking into account the dependency on the volume of activity, depreciation expenses have a fixed nature. The registration of certain amounts that change over time, given that the economic entity does not invest, reflects a change in the method of recovery of the invested capital through depreciation. This technique may be the result of fraudulent conduct. The reduction of depreciation expenses, as well as of the depreciation degree, will determine the reporting of a superior profit, which allows the obtaining of a loan and the honoring of certain obligations stipulated in the management contract. On the other hand, higher depreciation expenses will determine the reporting of an inferior profit with a view to establishing less significant debts concerning tax on income.

The suggested example shows the impact of the accounting policy modification on result and equity. Under the conditions of a management contract that stipulates an annual net profit of minimum 2,600,000 lei using a shorter operational period would have meant a penalty for the management firm of 80,000 lei. Increasing the normal operational period allows the fulfillment of contractual obligations taken on by the administrator and a thriving charge of 256,000 lei.

	Depreciation	
	DNF1	DNF2
<b>Profit and loss account (thousands lei)</b>		
Income	10,000	10,000
Operating costs, excluding depreciation	5,000	5,000
Adjustment of fixed assets value	1,600	2,000
Gross result	3,400	3,000
Tax on income	544	480
Net result	2,856	2,520
<b>Statement of assets, debts and equity (thousands lei)</b>		
Fixed assets, excluding annual depreciation	80,000	80,000
Adjustment of fixed assets value	1,600	2,000
Current assets	6,456	6,520
Total assets	84,856	84,520
Equity, excluding profit / loss for the period	45,000	45,000
Profit / loss for the period	2,856	2,520
Debt	37,000	37,000
Total resources	84,856	84,520
<b>Indicators (thousands lei)</b>		
Profit	2,856	2,520
Net asset	47,856	47,520

### **Business continuity**

The high degree of depreciation for buildings may indicate issues regarding business continuity under the conditions of profit distribution in the form of dividends and use of the resources related to cumulated depreciation related to buildings, in order to finance other investment goals.

### **Land use change**

Including buildings in real estate as a result of land use change involves multidisciplinary reasonings as well. Treating investment property distinctly may trigger the auditor's skepticism on the subject of business continuity, because it shows the firm's intention with reference to these assets owned rather in order to obtain rental income and/or to increase capital value than for exploitation or administrative purposes. At the same time, there are particularities in the auditing of the income and return generated by this real estate. Thus, The International Standard on Auditing 520 recommends an assessment through "the prediction of rental income on a building divided into apartments, taking the rental rates, the number of apartments and vacancy rates into consideration", rather than „calculation and comparison of gross margin percentages”, having recourse to factorial approaches in order to explain the researched phenomena.

### **Opportunity cost**

The decision to invest in real estate, in the sense of purchase, modernization, modification, and land use change, engages the analysis of opportunity costs, considering the important amount of allocated resources and the long period necessary to their recovery. As an accurate measure of the financial effort involved by such a decision, the opportunity cost represents its most relevant estimation. The use of significant funds for the modernization or land use change

of a building must be analyzed in the light of the comparison between expected benefits and involved expenditure, plus the current lost benefits and the interest related to the amounts invested in the respective project during the entire recovery period by the depreciation that gradually reduces these amounts. The use of large amounts of money on projects related to real estate without future benefits appropriate to the investments may indicate to the auditor the following: an error of professional reasoning, with consequences on the business continuity; the event of a fraud by overvaluation of works contracts and funds leakage for the benefit of decision makers; laundering of money with unclear origins that will be brought in the sight circuit by including them in the entity's assets.

### Conclusions

The considerable proportion of real estate within the assets of an economic entity and the significant financial sources triggered by any related decision generate major influences on its activity reflected in the financial statements. In a certain context, the interests of the person who draws up financial reporting may determine inappropriate behavior, affecting the quality of the supplied information.

The multiple approaching perspectives of lands and buildings in the light of the accounting regulatory authorities in the accounting, fiscal and evaluation areas and of those involved in their investment, use and trading, require a multidisciplinary research of this phenomenon. The integrating use of the concepts specific to the economic and financial analysis, accounting and audit undoubtedly contributes to the establishment of the enhancement vectors, to the extension of the audit procedures, and to the formation and expression of a pertinent opinion on the subject of financial statements.

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## Analysis of the Romanian construction materials manufacturing sector

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**Abstract.** *The objective of the research is represented by the analysis of the evolution of the construction materials manufacturing sector. During the period after 2008, along with the occurrence of the financial crisis, companies offering construction materials and construction companies experienced a significant downturn. The study aims to identify the correlation between the economic conjuncture emphasized on the national level and the evolution of the construction materials manufacturing sector. The unfavorable effects of the economic crisis on this sector were outlined.*

**Keywords:** economic crisis, construction materials manufacturing industry, performance.

**JEL Classification:** L16, L70, N63, O14.

## Introduction

Following 2008, as the economic crisis has triggered and spread its effects, the companies acting in the construction field entered a period of negative evolution, with repercussions at the level of real estate agencies and real estate developers. The immediate effects were felt in the construction companies and in the producers of construction materials, through activity decreases and implicitly through the reduction of performances at company level.

With a spectacular increase during the period 2002-2008, the construction materials industry and the constructions industry of Romania managed to dominate this sector at the level of the European Union. Since 2000, the Romanian construction market begun to increase slowly, but steadily. During that period, the private sector made significant investments in the field, holding a weight of more than 80% of the total works.

The evolution of the constructions market recorded, at the level of Romania, a spectacular level, from 6.8 billion euro in 2006, to 15.3 billion euro in 2008 and 8.2 billion euro in 2014.

## The construction materials' manufacturing sector in Romania

Currently, the greatest part of construction materials on the market, some 60% - 70%, is manufactured in Romania. This is the reason we want to analyze now the sector of construction materials manufacture.

The turnover achieved at the level of enterprises in Romanian construction materials industry has recorded a major decrease after the start of the financial crisis at the end of 2008. Thus, in 2014 the turnover was by 9.10% lower than the value achieved in 2008 for the subsector *Manufacture of other porcelain and ceramic products*, by some 53% lower for the *Manufacture of refractory products* and by some 45% lower for *Manufacture of articles of concrete, cement and plaster*.

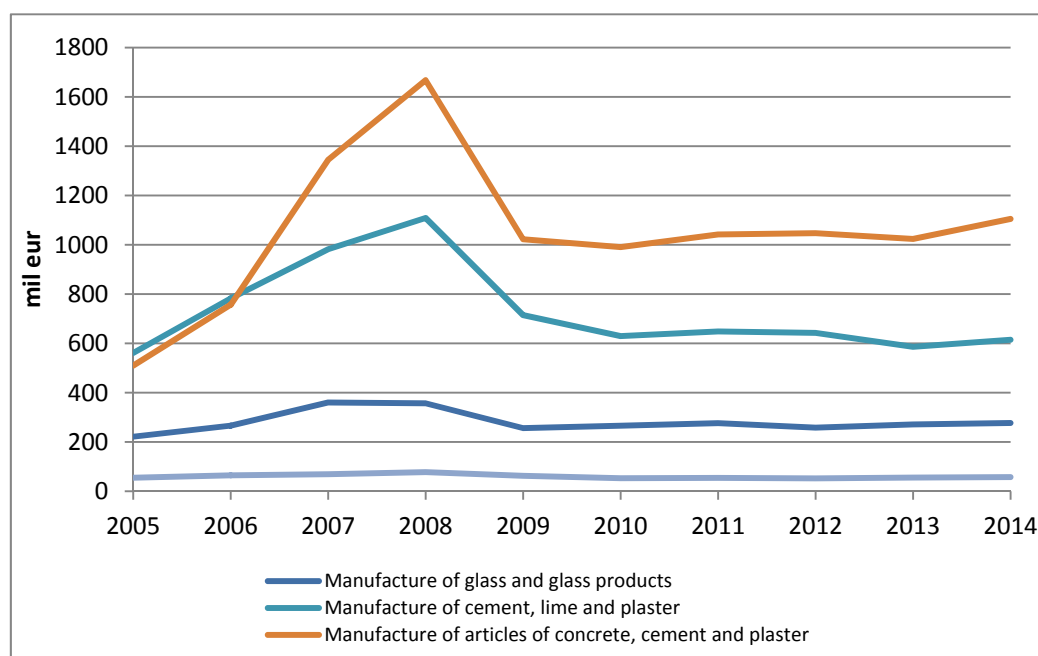
**Table 1.** *Evolution of Turnover in 2008-2014 – mil. euro*

Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
231	Manufacture of glass and glass products	356.6	256.4	265.9	276.2	258.2	271.5	277.0
232	Manufacture of refractory products	45.2	22.5	25.4	25.6	28.7	22.2	21.2
233	Manufacture of clay building materials	203.3	140.1	149.4	153.5	149.9	155.2	154.0
234	Manufacture of other porcelain and ceramic products	150.5	116.8	134.8	143.5	142.1	153.9	164.2

Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
235	Manufacture of cement, lime and plaster	1,108.7	714.4	629.7	648.5	642.8	586.3	614.5
236	Manufacture of articles of concrete, cement and plaster	1,667.9	1,022.4	990.3	1,041.7	1,047.4	1,024.0	1,104.8
237	Cutting, shaping and finishing of stone	77.9	62.5	52.8	54.0	52.3	55.4	57.7
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	290.2	164.2	209.4	236.6	233.5	203.7	198.8
23	Manufacture of other non-metallic mineral products	3,900.3	2,499.3	2,457.7	2,579.6	2,554.9	2,472.2	2,592.2

During a longer time interval, from the comparative analysis of data recorded at the level of Romania for 2005-2014, it can be seen too a major gap until 2010, then a relative stability until 2012, followed then by a slight increase in 2014, as a consequence of a small recovery of the constructions sector. At the end of 2014, there is recorded a turnover that is similar to the values corresponding to the period 2005-2006 for the sectors *Manufacture of glass and glass products*, *Manufacture of cement, lime and plaster* and *Cutting, shaping and finishing of stone*, exception being only *Manufacture of articles of concrete, cement and plaster* where the turnover was by 45.95% greater than the one in 2006.

**Figure 1.** Turnover, by activities during the period 2005-2014



The strong increase of the turnover during the period 2006-2008 was put on the “shoulders” of the expansion of the physical volume of sales, and also on the increase of selling prices for offered products. For example, in 2008 the price of cement increased by approximately 20% from 2007 and by 45% as against 2006. The explosion of the internal consumption of construction materials during the real estate “boom” has convinced the majority of the manufacturers of construction materials, especially the ones producing bricks, BCA and cement to heavily expand their production capacities. Today, barely half of the installed capacities are operational, because of the stagnation of the real estate market, caused by the global financial market.

From the viewpoint of the industrial production in the sector *Manufacture of other non-metallic mineral products* a significant decrease is recorded in 2013 (-39.48%) from 2008. The evolution of this indicator is similar to the turnover. Thus, at the end of the period analyzed, a level of 63.16% out of the value recorded in 2008 is reached.

**Table 2.** *Evolution of Production value in 2008-2014 – mil. euro*

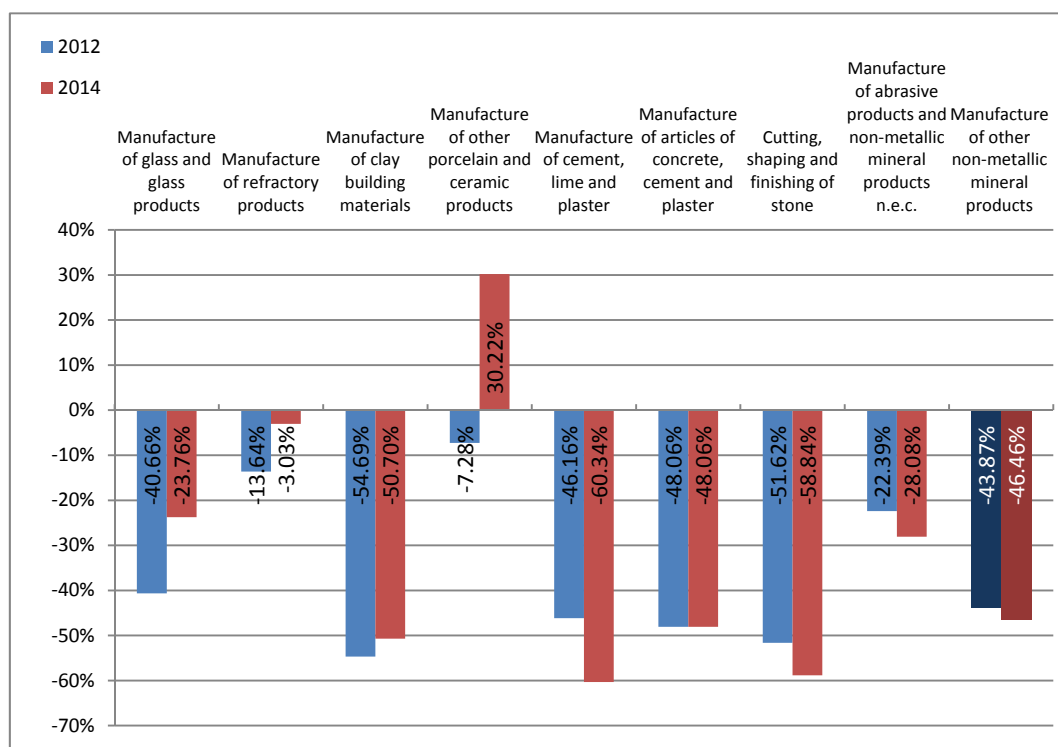
Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
231	Manufacture of glass and glass products	343.5	241.3	245.8	258.8	251.4	252.8	262.1
232	Manufacture of refractory products	37.0	23.5	24.9	25.8	28.8	19.9	20.7
233	Manufacture of clay building materials	226.3	126.2	151.3	160.0	142.2	134.6	134.4
234	Manufacture of other porcelain and ceramic products	146.3	111.0	123.1	139.7	138.6	150.9	160.0
235	Manufacture of cement, lime and plaster	1,131.8	804.9	720.4	769.6	712.8	588.6	622.1
236	Manufacture of articles of concrete, cement and plaster	1,572.3	947.3	862.8	933.9	973.1	915.5	967.4
237	Cutting, shaping and finishing of stone	72.9	55.6	51.5	54.4	47.7	55.5	53.2
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	255.5	151.1	177.3	207.6	216.4	173.2	171.2
23	<b>Manufacture of other non-metallic mineral products</b>	<b>3,785.6</b>	<b>2,460.9</b>	<b>2,357.1</b>	<b>2,549.8</b>	<b>2,511.0</b>	<b>2,291.0</b>	<b>2,391.1</b>

Also, the added value recorded at the level of companies from the sector *Manufacture of other non-metallic mineral products* has known a significant downturn, until 49.71% in 2013 as against 2008. This decrease was given by the substantial modification of six subsectors with values from „-25%” until „-62%”, the exceptions being two subsectors: *Manufacture of refractory products* (-9.09%), and *Manufacture of other porcelain and ceramic products*, where an



increase of 14.74% was recorded. In 2014, it is observed a slight improvement of the situation, following the growth in the subsectors *Manufacture of glass and glass products* by 15% as against 2013, *Manufacture of articles of concrete, cement and plaster* by 12% as against 2013 and *Manufacture of other porcelain and ceramic products* by 13% as against 2013. In 2014, there are two subsectors where further decreases are observed *Cutting, shaping and finishing of stone*, and *Manufacture of abrasive products and non-metallic mineral products n.e.c.*, by 45% as against 2013.

**Figure 2.** Evolution of the value added in 2012 and 2014 as against 2008 (%)



From the viewpoint of the operational profit, during the period 2008-2013 there are observed significant decreases for most subsectors, with the exception of *Manufacture of other porcelain and ceramic products*, where there is an actual increase, both in 2009 and 2010. This situation was reached, on one hand, due to the fact that the volume of sales and the price decreased and, on the other hand, due to the fact that expenses could not be reduced in the same amount, by taking into account the existence of fixed costs.

**Table 3.** *Evolution of the operational profit in 2008-2013 – mil. euro*

Symbol	Name of industry	2008	2009	2010	2011	2012	2013
231	Manufacture of glass and glass products	58.5	35.8	39.6	43.7	29.1	34.6
232	Manufacture of refractory products	-0.2	0.9	4.0	2.4	1.5	1.2
233	Manufacture of clay building materials	61.3	29.6	39.9	34.1	23.2	27.0
234	Manufacture of other porcelain and ceramic products	10.2	13.1	15.0	14.0	12.7	18.2
235	Manufacture of cement, lime and plaster	432.4	327.7	299.5	280.8	219.8	142.7
236	Manufacture of articles of concrete, cement and plaster	301.2	162.0	150.7	119.0	126.9	102.4
237	Cutting, shaping and finishing of stone	14.3	8.4	9.6	-3.0	3.6	12.0
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	59.6	45.9	45.8	50.3	44.8	42.4
23	<b>Manufacture of other non-metallic mineral products</b>	<b>937.3</b>	<b>623.4</b>	<b>604.1</b>	<b>541.3</b>	<b>461.6</b>	<b>34.6</b>

Note: data for 2014 are not available

By correlating the evolution of the turnover to the operational profit dynamics we come across another indicator that emphasizes the changes occurred in the sector of constructions materials manufacture, that is the rate of commercial profitability.

**Table 4.** *Evolution of the commercial profitability ratios in 2008-2013 – %*

Symbol	Name of industry	2008	2009	2010	2011	2012	2013
231	Manufacture of glass and glass products	16.40	13.96	14.89	15.82	11.27	12.74
232	Manufacture of refractory products	-0.44	4.00	15.75	9.38	5.23	5.41
233	Manufacture of clay building materials	30.15	21.13	26.71	22.21	15.48	17.40
234	Manufacture of other porcelain and ceramic products	6.78	11.22	11.13	9.76	8.94	11.83
235	Manufacture of cement, lime and plaster	39.00	45.87	47.56	43.30	34.19	24.34
236	Manufacture of articles of concrete, cement and plaster	18.06	15.85	15.22	11.42	12.12	10.00
237	Cutting, shaping and finishing of stone	18.36	13.44	18.18	-3.0	6.88	21.66
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	20.54	27.95	21.87	21.26	19.19	20.81
23	<b>Manufacture of other non-metallic mineral products</b>	<b>24.03</b>	<b>24.94</b>	<b>24.58</b>	<b>20.98</b>	<b>18.07</b>	<b>15.39</b>

In the case of this indicator too, there is a decline recorded at the level of the entire industry, that is approximately nine percentage points until the end of 2013. In detail, we observe that for certain sub-sectors, the years 2009 and 2010 have brought forward an increase of the commercial profitability ratio, by at most 7.42 percentage points in 2009 for *Manufacture of abrasive products and non-metallic mineral products n.e.c.*, respectively by 11.75 percentage points in 2010 for *Manufacture of refractory products*. After 2010, the problems of the companies become deeper, and the commercial profitability decreases by five to ten percentage points.

If in 2002, in the industry of construction materials, there were active some 1,750 economic agents, of which 106 were medium and big enterprises, at the end of

2008 there were 3,151 companies. More than 90% of the companies inside the sector were privatized at the end of 2003. The effervescence of constructions, during 2002-2004 on the Romanian market, has attracted more and more foreign companies, which have invested in the manufacture of construction materials. The year 2004 was very active from the viewpoint of investments in construction materials. The financial problems, the contraction of the market and the increase of commercial pressure, have determined the closure of many companies, reaching in 2014 a total of 2,409 companies (a decrease by 23.41%), a level close to the one for 2004 (2,350 companies).

**Table 5.** *Number of enterprises in 2008-2014*

Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
231	Manufacture of glass and glass products	603	577	479	432	427	429	431
232	Manufacture of refractory products	38	30	33	28	30	27	28
233	Manufacture of clay building materials	314	250	190	147	171	161	152
234	Manufacture of other porcelain and ceramic products	203	190	162	137	143	154	159
235	Manufacture of cement, lime and plaster	67	60	51	48	45	45	46
236	Manufacture of articles of concrete, cement and plaster	1,333	1,314	1,115	997	1,010	975	971
237	Cutting, shaping and finishing of stone	511	543	510	473	489	505	519
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	82	101	99	97	96	102	103
23	Manufacture of other non-metallic mineral products	3,151	3,065	2,639	2,359	2,411	2,398	2,409

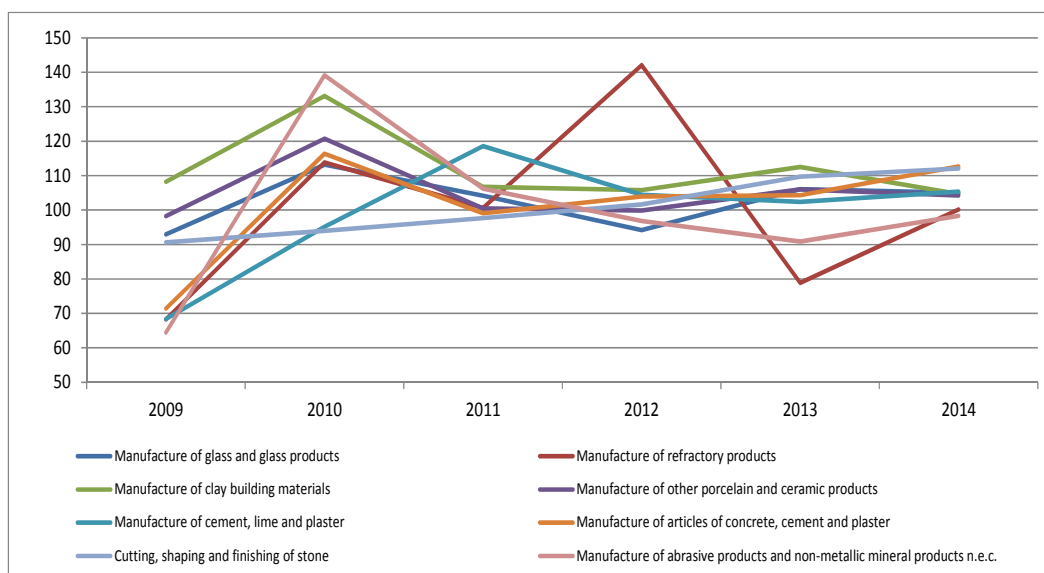
As it can be seen from the previous table, in 2014, the greatest number of companies in the manufacture of construction materials are situated in the subdivision *Manufacture of articles of concrete, cement and plaster* (40.31%), followed by *Cutting, shaping and finishing of stone* (21.54%) and *Manufacture of glass and glass products* (17.89%). In the other five subdivisions of manufacturing activities, there are, cumulated, 20.26% of total companies.

The evolution of the employees' number is an indicator that follows the economic evolution of any activity sector, which means that the contraction of activity volume has negative effects on the labor market.

**Table 6.** *Number of employees in 2008-2014*

Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
231	Manufacture of glass and glass products	9,412	7,284	6,676	6,656	6,608	6,552	6,365
232	Manufacture of refractory products	1,333	973	965	967	763	748	713
233	Manufacture of clay building materials	6,758	4,302	3,445	3,316	3,062	2,818	2,671
234	Manufacture of other porcelain and ceramic products	7,883	6,226	5,954	6,311	6,256	6,392	6,543
235	Manufacture of cement, lime and plaster	4,040	3,805	3,524	3,060	2,904	2,587	2,574
236	Manufacture of articles of concrete, cement and plaster	21,721	18,637	15,511	16,469	15,927	14,927	14,296
237	Cutting, shaping and finishing of stone	3,372	2,986	2,685	2,811	2,679	2,586	2,403
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	2,957	2,597	2,381	2,533	2,582	2,480	2,461
23	Manufacture of other non-metallic mineral products	57,476	46,810	41,141	42,123	40,781	39,090	38,026

The number of employees in the construction materials manufacturing industry has reached, at the end of 2014, 38,026 persons, after the companies fired more than 19,400 people since 2009. However, in 2011 982 jobs were created, but this value is significant compared to what happened during previous years. The only sector in which an increase of employees took place during 2013-2014 was *Manufacture of other porcelain and ceramic products*.

**Figure 3.** *Indices of average annual productivity of labor during 2009-2014*

The data analyzed emphasize the fact that, overall, the productivity of labor records increases during 2010-2014, exceptions being the sector *Manufacture of abrasive products and non-metallic mineral products n.e.c.* where, between 2011 and 2014, were recorded values that are lower by 2.5%-9.2%. The values for the indicators of labor productivity, calculated as against the previous year, are reasonable, if we take into account the fact that the Romanian economy was and is still affected by the economic crisis. By analyzing in parallel the evolution of the average yearly salary, there can be observed that the correlation between these two elements was not always respected, in the sense of the more accentuated increase of salaries, in some moments, compared to the evolution of labor productivity. By respecting these correlation, there will be permanently ensured the efficiency of salary expenses, and by respecting the correlation between the growth indices of salary expenses and the growth indices of employees' number, the increase of the average salary will be ensured too. The correlation between the increase of the labor productivity and the average salary, if respected, is reflected in the decrease of expenses per la 1000 lei turnover.

**Table 7.** Salary expenses per 1000 lei turnover in 2008-2014

Symbol	Name of industry	2008	2009	2010	2011	2012	2013	2014
231	Manufacture of glass and glass products	104.6	106.9	95.9	96.7	102.6	99.8	103.6
232	Manufacture of refractory products	119.5	173.3	165.4	152.3	115.0	153.2	165.1
233	Manufacture of clay building materials	150.5	141.3	114.5	117.3	116.1	106.3	116.9
234	Manufacture of other porcelain and ceramic products	227.9	212.3	201.8	212.5	205.5	226.8	215.0
235	Manufacture of cement, lime and plaster	43.9	60.6	62.4	58.3	56.5	60.7	58.9
236	Manufacture of articles of concrete, cement and plaster	70.4	92.0	82.6	82.5	79.8	81.3	77.4
237	Cutting, shaping and finishing of stone	134.8	132.8	149.6	220.4	145.3	128.2	124.8
239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	66.2	88.9	67.3	67.6	69.0	72.7	77.5
23	Manufacture of other non-metallic mineral products	77.8	94.5	88.3	89.4	86.1	90.0	88.7

Based on the data in the previous table, we reach the conclusion that, generally, in 2009 there was a decrease of efficiency for salary expenses (less the sectors *Manufacture of clay building materials*, *Manufacture of other porcelain and ceramic products* and *Cutting, shaping and finishing of stone*), then, due to the decrease of the employees' number, the values approached the levels recorded at the beginning of the period analyzed. At the end of 2014, for half the activity sectors, the correlation between the evolution of the turnover and the personnel expenses was not respected.

## Conclusions

From the analysis of information collected for the period 2008-2014 it can be observed a slight recovery of the Romanian construction materials industry's potential to produce, at the proper quality level, and structured on products necessary in the European economy. A major downturn of the activity was observed, for the period 2008-2010, followed then by a slight increase until the end of 2014, but without overcoming the levels recorded at the beginning of the period analyzed.

The local constructions market, one of the most affected during crisis, continued its decline in 2014, recording a minus of 10-15%.

The immediate effects of the crisis triggered at the end of 2008 were the decrease of activity volume, the diminishing of commercial profitability ratios, and on long term have led to the disappearance, from the market, of 742 companies and the firing of 19,450 employees.

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