CONSIDERATIONS FOR REAL ESTATE PROPERTY VALUATION

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Real estate properties are the most important elements of an economic activity that contributes to the creation of the value once they are included in the economic cycle.The adequate estimate of the value of real estate properties and competent analysis of all aspects related thereto are used as decision support regarding the use and disposal of the real estate properties. In determining the market value of a real estate property, you can choose one of three methods available in the practice of the valuation, market approach , income approach or cost approach. In this context, using the cost approach , we determine the market value of a real estate property , given that realistic , accurate estimate contribute to the establishment and stabilization of loans and investments that promote the development of the real estate property in the sense required by society.

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1. Introductory elements on cost approach

Cost Approach is an valuation method based on market comparisons by which the value of a real estate property is determined by summing the value of the land and building, considering the developer's profit too.

The specific of cost approach is that the real estate appraiser estimates the difference perceived by a potential buyer of the valueted building and a new building or reproduction cost generated by the existing structure, broken down into direct costs, indirect and contractor's profit. Since the cost of reproduction, also called replacement cost will be eliminate the impairments found on the valuation date. At the amount thus obtained, if added the profit share incumbent contractor shall obtain the value of the ownership of the building.

In applying the cost approach, the real estate appraiser attempts to identify and measure the causes of cumulative depreciation, allocating the sales price on components, land and building, then eliminating the contribution of the construction of the replacement cost estimate. There is a cumulative depreciation if the allocated cost of construction of the selling price is lower than the estimated replacement cost.

The valuation method based on cost approach is in accordance with the principles of the valuation, represented by:

- Substitution principle according to which a prospective buyer will not pay more than the cost it entails obtaining a similar construction with the same utility;
- The principle of supply and demand that influence the market prices;
- The contribution principle which seeks an economic balance between the inputs for obtaining or maintaining the optimal value. An inappropriate economic balance will lead to undersize (too small investment relative to the amount construction site) or oversize (the consequence of excessive investment).
- The consideration of external conditions, an example being the external depreciation that occurs when the real estateproperties may have different values to their costs. Declining market conditions specific to the crisis affectsthe value of the older real estate properties.
- The principle of the best use is based on the market value of a real estate property. A site can have the best use being free and making a building on that site is another best use.

Regarding the applicability of the cost approach, for new construction the market value and the cost are closely related. The cost approach can be applied for the old building, where are available the information regarding the accumulated depreciation. The cost approach is used to estimate the market value of the buildings are being planned by comparing the price paid for an existing building with a replacement cost of the building. The cost approach is important when the market is less active, goods that are traded have different characteristics, no comparable properties and they don't generate revenue.

A particular problem that has called into question since there was still in force Law No 32/1968 (the former law concerning the legal regime of offenses) and that is still arousing interest for the specialists and practitioners practice is the issue of limitation in for lifting of unauthorized construction. The thorniest part of the problem relates to the time when this term flows, if it could be invoked by the authorities or by the offender in case of subsequent obtaining of authorisation after the discovery of a contraventional act.[86]

The specific of cost approach is the distinct valuation of land and construction related, useful in evaluation to ensure, in order to delimited the uninsurable elements of the insurable elements. A particular importance is in financial accounting valuations when it is desired to estimate the depreciation in order to determining the income tax.

If there are improvements on the property, the cost approach allows to cover the cost of improvements by increasing the anticipated selling price, being prevented the oversizing. Please note that by applying the cost approach, the conclusive results obtained are an indication of the ownership right.

After obtaining all necessary and relevant information in the valuation process, is undergoing a series of steps to determine a value by the cost approach, represented by:

- Estimation of the land value considered to be available;
- Estimation of the rebuilding or replacement cost at the valuation date, which includes direct and indirect costs and builder's profit, excluding the profit that accrues to the developer of the real estate property, costs generally called hard cost;
- Estimation of other necessary costs for building (technical studies, fees and permits, etc), generally called soft cost;
- Determination the total replacement cost by summing all the necessary costs;
- The estimation of the accumulated depreciation;
- The determination of net replacement cost by decreasing total accumulated depreciation from the replacement cost;
- The sum of net replacement cost of buildings and special constructions to achieve net replacement cost of all the buildings;
- Estimation of the developer 's profit given the market analysis ;
- Obtaining the absolute value of the ownership right of thereal estate property by adding at the land value the net replacement cost of all of the buildings;
- In order to reflect the participation on the valuated real estate property, the correction of property value is required.

Typically, the valuation mission aims to estimate the market value and the valuation process contains all the necessary steps . However, the valuation process provides the framework in order to be estimated other valuables. The number of steps depends on the nature of the valuation and the information that is available . In all cases , the valuation indicates the route to be covered in implementing market research and analysis, the application of valuation techniques and analytical integration of their results in an estimate of the amount requested.

2. Case study on the determination of the market value of a real estate property

Based on the theory above , it was analyzed the valuation of a property using the valuation method represented by the cost approach , through which were highlighted the main costs involved, broken down into sections.

In Tables 1, 2 and 3 were highlighted the essential elements regarding the valuationon a building of 480 m^2 .

[86] Mihăilescu Mădălina Elena, Câteva consideraţii pe marginea sancţiunii contravenţionale a desfiinţării lucrărilor şi aducerii lucrărilor în faza iniţială", "Curierul judiciar" nr. 3/ 2011, ISSN 1582-7526, Edit ALL Beck.

Tabel 1

Summary regarding the calculation of the reconstruction or replacement cost

Current Issue	Fundation	Built area m^2 A	Cost/m^2 Fundation B	Total cost C=AxB	Distance correction D	Labor correction E	Corrected total cost F=CxDxE
1		240	145.8	34992	1.003	0.9823	34475.76
TOTAL INFRASTRUCTURE							34475.76
Current Issue	Ground floor	Built area m^2 A	Cost/m^2 Ground floorB	Total cost C=AxB	Distance correction D	Labor correction E	Corrected total cost F=CxDxE
1		240	173	41520	1.003	0.9823	40907.45
TOTAL GROUND FLOOR							40907.45
Current Issue	Mattic	Built area m^2 A	Cost/m^2 MatticB	Total cost C=AxB	Distance correction D	Labor correction	Corrected total costF=CxDxE
1		240	76.4	18336	1.003	0.9823	18065.49
TOTAL MATIC							18065.49
TOTAL COSTOF THE INFRASTRUCTURE AND SUPERSTRUCTURE							93448.7
TOTAL PRICE/m^2							194.68

Source: Developed by the authors

Tabel 2

The total cost of the interior and exterior

Current Issue	The parter finish	Built area m^2 A	Cost/m^2 The parter finish B	Total cost C=AxB	Distance correction D	Labor correction E	Corrected total cost F=CxDxE
1		240	292,9	70296	1.003	0.9823	65258.92
TOTAL PARTER FINISH							65298.92
Current Issue	The mattic finish	Built area m^2 A	Cost/m^2 The mattic finish	Total cost C=AxB	Distance correction	Labor correction E	Corrected total cost F=CxDxE
1		240	142,1	34104	1.003	0.9823	33600.86
TOTAL MATTIC FINISH							33600.86
Current Issue	The scale finish	Built area A	Cost/scale B	Total cost C=AxB	Distance correction	Labor correction E	Corrected total cost F=CxDxE
1		240	79,5	19080	1.003	0.9823	18798.51
TOTAL SCALE FINISH							1879851
TOTAL NUMBER OF m^2							480
TOTAL OF THE INTERIOR, EXTERIOR ANDTERRACE							124164.6
TOTAL PRice/m^2							258.68

Source: Developed by the authors

Tabel3.

The costs of internal functional facilities

Current Issue	Electrical	Built area m^2	Cost/m^2 electrical installation	Total cost	Distance correction	Labor correction	Corrected total cost
2	Parter	240	19.2	4608	1.003	0.9823	4540.02
6	Mattic	240	19.2	4608	1.003	0.9823	4540.02
Total electrical							9080.04
Current Issue	Sanitary	Symbol	Cost	Total cost	Distance correction	Labor correction	Corrected total cost
2	Parter		1529	1529	1.003	0.9823	1506.44
3	1st floor		2655	2655	1.003	0.9823	2615.52
6	Mattic		2655	2655	1003	0.9823	2615.83
Total sanitation							6738.79

Current Issue	Heating	Built area m^2	Cost/m^2 electric heating	Total cost	Distance correction	Labor correction	Corrected total cost
2	Parter	240		9672	1.003	0.9823	9529.31
6	Mattic	240	19.2	9672	1.003	0.9823	9529.31
Total heating installations							19058.62
Total facilities							34877.44
Total price euro/m^2							110.72
Total functional buildings and facilities							252490.7
Final price euro/m^2							526.02

Source: Developed by the authors

Tabel 4 Total costs

Administrative building	Pret/m^2	
Structure	206,5	
The interior finish	218,4	
Electrical	33.1	
Sanitary	25	
Heating and ventilation instalation	30,8	
Lindab Roof	79.5	
Total /m^2	593,3	
Sanitary	398,5	4

Source: Developed by the authors

Tabelul 5 Summary regarding the market value

Value administrative space with VAT	286.378 €
Value administrative space without VAT	230.950 €
LAND VALUE	106.300 €
TOTAL	337.250 €

Source: Developed by the authors

After applying the evaluation method based on cost results the market value of the property. The market value of the land is added at the estimated net cost of construction. The value of the site is directly influenced by the best use of it; it is estimated using various techniques reflecting the value of the total ownership.

The cost of reconstruction and replacement are two concepts that at first glance appear to designate the same principle, but there is a distinction to be underlined.The cost of reconstruction is the estimated cost to build, at current prices of the valuation date, an exact replica of the building valueted using the same materials, construction regulations, projects and including any shortcomings, dimensioning and building depreciation valuated.

On the other hand, the replacement cost is the estimated cost considering the current prices of the valuation date for construction of a building with a utility equivalent to building valuated by using modern materials, regulations, current projects and plans.

The estimateof the cost of reconstruction can be difficult due to inability to use the identical materials for reconstruction and the modification of construction norms. The cost of reconstruction, however, provide a basis for measuring the depreciation of any kind.

Using replacement cost eliminates the need for some form of functional depreciation, real estate appraiser using a replacement cost that takes into account the cost of the elements affected by the recoverable depreciation. Using either the cost of rebuilding or replacement is influenced by valuation purposes.

In order to completing the final stage in cost approach represented by the reconciliation of the final value, the real estate appraiser:

- Estimates the net cost of all upgrades to the site and its associated buildings;
- Sums up the replacement costs for all improvements and constructions in which adds the profit obtained by developer, determining the estimated value of construction;
- Adds the estimated value to the result that indicates the total value of the real estate property.

It is imperative that the value indicated by the cost approach tobe estimated at the valuation date and to be correlated with other value approaches.

3. Depreciation in valuation and accounting

The depreciation is defined as the difference between the replacement cost of the building and its contribution value at the valuation date. The net cost of construction can be determined by the real estateappraiser by estimating and subtracting depreciation for the construction of its replacement cost, so in this way it can estimate the contribution of the construction to the market value of the real estate property.

There are three major causes that may lead the depreciation of a building and they may act either individually or together:

- Physical depreciation whichis determined by impact weathering and wear generated by a regular use of the building to;
- Functional depreciation which is based on a deficiency of both the construction and materials and also to the design which led to decrease its usefulness and value;
- External depreciation which is based on the existence of negative influences outside the real estate property, for example unfavorable market conditions, which temporarily or permanently affect its usefulness.

It should be noted that the concept of depreciation is used both in accounting and in valuation, but there is a distinction between the two uses. Depreciation in the accounting takes the form of accounting depreciation and it refers to the amount of capital recovered that is used to calculate income tax expense for fixing the amount allowed to withdraw or re-locate the accumulated assets based on legislation. Also, accounting depreciation is not a figure taken from the market, but in terms of depreciation calculated by the real estate appraiser they are extracted from the market.

4. Real estate developer'sprofit and incentive

In order to take the decision to build a real estate property, the profit anticipated by the developer has an overwhelming influence, having the role of reward for taking the risk and it is determined as the difference between the market value of the completed property and the total project cost. Profit obtainable varies and it depends on how the developer was inspired in siting, in building improvements and how well was analyzed demand for the property.

The term entrepreneurial incentive means the compensation anticipated by the developer of the project for taking the risks. Earned profit level is influenced by the stage of development and the various degrees of risk and expertise and can occur in different stages of the project , not only with its completion.

Information about cost estimating value must be analyzed by the real estate appraiser to determine whether there was already an allocation for entrepreneurial profit. If not done, the profit can be counted twice. Data from sales of comparable properties often include a profit for the developer.

Services which estimate costs mention direct costs (contractor's profit) and indirect costs (cost of sales), not to mention the entrepreneur's profit estimates. Because the costs are covered differently, the task of the real estate appraiser is to determine where will include in its estimate the antreprenorial profit- if is an item already included in the aggregate costs or is an added subsequently to the aggregate costs.

In order to analyze the components of reward and compensation that the developer anticipates, the real estate appraiser may choose to differentiate the concepts of project profit, entrepreneurial profit and real estate promoter's profit and contractor' s profit, as follows:

- Project profit is the sum of total reward obtained for coordination and entrepreneurial risk taking.
- Entrepreneurial profit is profit share attributed to the developer's effort , which is different from the real estate promoter's effort if it exists. There are times when real estate developer and promoter are the same person , in this case the entrepreneurial profit is equal to the profit of the project.
- Promoter's profit is the compensation accruing to responsible person with managing the entire process of planning, other than the original developer
- Contractor's profit is part of overheads related to the project , which usually is not reflected in reward entrepreneurship .

In the following it is outlined the way of forming the cost to the end customer , based on the cost of resources committed to starting the project .

The cost of the final customer	⟹	Pretul dezvoltatorului
Developer's price	⟹	Developer's cost + profit
Developer's cost	⟹	Manufacturer 's price
Manufacturer 's price	⟹	cost of resources+ profit

Figure 2
Source: Developed by the authors

In order to calculate the profit for a project, cost approach take into account both the real estate developer's profit and entrepreneurial profit . Income received by the contractor is included in the fee applies for this , therefore be incorporated in direct costs.

5. Conclusions

Based on the considerations outlined above , it can be concluded that adequate estimateof value of the property and analysis of all aspects related to these are urgently needed based on the claim that the property are key elements within any economic circuit and bringing its a plus value .

In this paper we focused on the method of assessment based on cost approach, on market comparisons through which determines the value of a property by summing the value of the land and building , taking into account real estate developer's profit too, that is considered one of the most effective methods of evaluation.

In conclusion , based on theoretical considerations exposure, was performed a case study in which was determined the market value of a property by applying the method based on cost . Following the results , we can say that the approach based on cost evaluation proves to be the most effective method of evaluation , leading to obtaining reliable and relevant data.

References

1. *ANEVAR - IROVAL "Evaluarea proprietătii imobiliare", Colectia Biblioteca ANEVAR IROVAL - "Evaluarea şi finantarea proprietătilor imobiliare, Partea I - Bazele evaluarii şi finantării proprietătilor imobiliare", Colectia Biblioteca ANEVAR*
2. *Bleoju G., Capatana A., COLLABORATIVE INNOVATION THROUGH ADJUSTING STRATEGIC INTELLIGENCE CAPABILITIES ON SOFTWARE MARKET, Network Intelligence Studies, 2014;*
3. *Bleoju G., Capatana A., THE SPECIFIC VALORISATION OF COMPETITIVE INTELLIGENCE PROFILING ON THE SOFTWARE INDUSTRY, The Proceedings of the 15th European Conference on Knowledge Management - ECKM 2014;*
4. *Buşe L., şi colaboratorii, Analiză economico-financiară, EdituraUniversitaria, Craiova, 2013;*
5. *Crivii Adrian, Vascu Adrian - "Evaluarea întreprinderilor ", ed. a V-a, Biblioteca ANEVAR, 1999*
6. *Creţu C., Gheonea V., Sîrbu C., Constandache N., NORMALIZATION - THE PATH OF CONVERGENCE IN PUBLIC SECTOR ACCOUNTING IN ROMANIA, 6th International Conference - Accounting and Management Information Systems AMIS 2011, Bucharest Academy of Economic Studies 8-9 iunie 2011,*
7. *CRETU C., SÎRBU C., GHEONEA V., CONSTANDACHE N., "PRESENTATION OF FINANCIAL STATEMENTS ACCORDING TO IPSAS - A CHALLENGE FOR PROFESSIONAL ACCOUNTANTS", Proceedings of the 6th EIRP, International Conference on European Integration - Realities and Perspectives, Danubius University, Galati, România, Mai 13-14, 2011, Published by EIRP, vol.6, Online ISSN: 2069 – 9344/Print ISSN: 2067 – 9211, pp. 485-498.*
8. *CONSTANDACHE N., "THE BREAK - EVEN POINT AND THE LEVERAGE EFFECT – INSTRUMENTS FOR ASSESSING THE ECONOMIC AND FINANCIAL RISK" în „Acta Universitatis Danubius. (Economica, Vol. 7 no. 6/2011), Galaţi, Editura Universitară Danubius, ISSN: 2065 – 0175, pp. 20-33.*
9. *CONSTANDACHE N., "COMPANYS RENTABILITY BOARD THROUGH CASH FLOWS" în „The Journal of Accounting and Management, JAM,Vol. 1 no. 2/2011), Galaţi, Editura Universitară Danubius, ISSN: 2284 – 9459, pp. 27 – 36*
10. *Hristea Ana M., Analiza economică şi financiară a activităţii întreprinderii. De la intuiţie la ştiinţă, Vol. 2, Ediţia a II-a, Editura Economică, Bucureşti, 2015;*

11. *Grosman M., Evaluarea rezultatelor activitătii dec marketing în baza implimentării sistemului de indicatori manageriali, Revista „Studii economice", ULIM, nr. 3-4 decembrie 2012*
12. *Iancu D., MANAGERIAL LEADERSHIP FROM THE PERSPECTIVE OF ENVIRONMENT ORGANIZATIONAL SPORTS, INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;*
13. *Iancu D., EDUCATIONAL MANAGEMENT, A NEW PARADIGM IN SOCIAL DEVELOPMENT, INTERNATIONAL CONFERENCE of SCIENTIFIC PAPER AFASES 2012 Brasov, 24-26 May 2012;*
14. *Isai V., Aspects regarding the accounting of reexport and lohn operations, The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics, 2004, ISSN 1584-0409*
15. *Isai V., Particularities of the managerial accounting in the companies of import and export, The Annals of Dunarea de Jos University. Fascicle I. Economics and Applied Informatics, 2003, ISSN 1584-0409*
16. *Isai V., Radu R.I., Rusu R., The biological assets and the crop production – acknowledgement and evaluation possibilities in the agricultural holdings accountancy from Romania, 23rd IBIMA Conference, Valencia, Spain, 2014.*
17. *Peştisanu, C., Burlacu, C., Şchiopu, C., ''Constructii, clădiri și alte constructii inginerești'', Colectia Biblioteca ANEVAR;*
18. *Spătaru L., Analiza economico-financiară. Instrument al managementului întreprinderilor, Ediția a II-a, Editura Economică, București, 2010;*
19. *Spencer, Pickett, K., H., The Internal Auditing Handbook, Second Edition, Editura John Wiley&Sons, III, River Street, Hoboken, NY 07030, USA, 2006;*
20. *Spătaru L., ''Analiza economico-financiară. Instrument al managementului întreprinderilor'', Ediția a II-a, Editura Economică, București, 2010;*
21. *Spencer, Pickett, K., H., ''The Internal Auditing Handbook'', Second Edition, Editura John Wiley&Sons, III, River Street, Hoboken, NY 07030, USA, 2006;*
22. *Şchiopu, C., ''Costuri de reconstructie-Costuri de înlocuire. Clădiri industriale, comerciale și agricole, constructii speciale'', Editura Iroval, București, 2010;*
23. *Şchiopu, C., ''Costuri de reconstructii-Costuri de înlocuire. Clădiri cu structuri pe cadre, anexe gospodărești, structuri MITek și constructii speciale'', Editura Iroval, București, 2014;*
24. *Şchiopu, C., ''Constructii, sisteme și subsisteme constructive'', Editura Iroval, București, 2012;*
25. *Vâlceanu Ghe., Robu V., Georgescu N., ''Analiza economico-financiară'', Editia a doua revizuită și adăugită, Editura Economică, București, 2005;*