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THE CONSEQUENCES OF THE OMISSION OF THE PROPERTY RIGHTS STUDY IN THE REAL ESTATE ASSESSMENT PROCESS

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Abstract. The article focuses on property valuation. It examines the value, its qualitative and quantitative aspects through the static and dynamic prism; the essence of value and the factors of impact, behavioral aspects over time. The development of the evaluation in recent years has highlighted two directions: the financial and economic assessment centered on evaluation theory and the evaluation of financial investments, focused on evaluation theory. Property valuation takes place through the interference of economic, technical and legal sciences. In recent years, international valuation practice has changed its vision of the subject of evaluation; the focus has been shifted from "real estate" to "property rights". The value of the property depends directly on the real estate property rights, along with the existing tasks. In the process of estimating value, neglecting the survey or superficial examination of real estate has serious consequences for both the owner of the good and the user of the valuation report as well as directly for value. In the article, this situation is exemplified using the case study method.

Keywords: *real estate, property interests, valuation of rights, special value, market value for an alternative use.*

Introduction

One of the priorities of the modern society is the tendency towards sustainable social and economic development. Sustainable development is possible by keeping and using efficiently the values created by our ancestors, along with meeting the needs of the present, without compromising the ability of future generations to meet their own needs. The real estate appraisal activity is used in this sense by estimating the impact on properties. Any action on property, whether physical or legal, is justified only if the future value is not affected.

Appraisal is often perceived as a mathematical tool that allows determination of property value at a specific moment in time. Such a view represents just one side of appraisal – quantitative aspect of the moment.

The property valuation is the science (subject) whose object of study is *the value*, its qualitative and quantitative aspects examined from static and dynamic perspectives; the

essence of value and the impacting factors, the behavioural aspects over time. The valuation development in the last years outlined two directions: the financial and economic assessment centred on the appraisal theory and the financial-investment evaluation focused on the valuation theory. Property appraisal occurs through the interference of economic, technical and legal sciences [1].

Over the past years, international valuation practice has changed its vision of the subject of the valuation, the focus has been shifted from "real estate" to "property rights".

The eighth edition, International Valuation Standards 2007 [2], includes the Guidance Notes¹ *Valuation of Real Property*, which specifies that "The term *property*, in a legal sense, may be defined as ownership rather than the physical entity of land, buildings and tangible personal items. In this context, IVSC identifies four general types of ownership: Real Property; Personal Property; Businesses; Financial Interests". [2, p. 165].

Real estate is defined as "Land and all things that are a natural part of the land, e.g., trees and minerals, as well as all things that are attached by people, e.g., buildings and site improvements. All permanent buildings attachments such as plumbing, heating cooling systems; electrical wiring; and built-in items like elevators, or lifts, are also part of the real estate. Real estate includes all attachments, both below and above the ground." [2, p. 168].

The undated 2017 edition of International Valuation Standards [3] includes the valuation standard IVS 400 Real Property Interests. According to it, the right to property is to be examined for the following reasons:

"A real property interest is a right of ownership, control, use or occupation of land and buildings. There are three basic types of interest:

(a) the superior interest in any defined area of land. The owner of this interest has an absolute right of possession and control of the land and any buildings upon it in perpetuity subject only to any subordinate interests and any statutory constraints;

(b) a subordinate interest that gives the holder rights of exclusive possession and control of a defined area of land or buildings for a defined period, e.g., under the terms of a lease contract;

(c) a right to use land or buildings but without a right of exclusive possession or control, e.g., a right to pass over land or to use it only for a specified activity." [3, p. 81].

To comply with the requirement to identify the asset to be valued in IVS 101 Scope of Work, para 2 (d) the following matters shall be included:

(a) a description of the real property interest to be valued,

(b) identification of any superior or subordinate interests that affect the interest to be valued." [3, 82]

Neglecting the study or the superficial examination of real property interests has serious consequences for both the beneficiary and / or the user of the appraisal report, as well as, directly, for the valuer. This statement is exemplified using a real situation.

1. Case study. The subject of the valuation.

The asset being valued is a plot of land for mining with an area of 9.2 ha, of an irregular shape, partially forested. At the time of inspection, there were signs of crumbling of riverbank of the adjacent pond.

The plot of land is located in the North of clay deposit "Pruncul" leased to SC "P". The useful mineral material of the clay deposit complies with the requirements of GOST 530-80 for the production of "100-125" brick.

From a physical and legal point of view, the plot of land cannot be entirely used for any other purpose than mining.

From the physical point of view if splitting the land in the sectors, it could be potentially used partly for agricultural purposes, partly for industrial purposes – such as land without construction (e.g. parking or open warehouse) or light industrial buildings.

From the legal point of view, using the plot of land for agricultural purposes requires to change its destination (zoning).

The right of ownership of land was registered in accordance with the Land Code in 2006 by the Local Public Administration, which in 2008 sold the property to a natural person. Subsequently, after 3 years, the natural person sold the land to a legal entity - "I" Ltd. A mortgage transferred the interest in the plot of land from the owner to the mortgage lender - the "Bank" SC. In 2012, the notice of the execution of the pledge right was submitted and subsequently the land was transferred to the bank. At the beginning of 2013, a court decision declared Ltd "I" insolvent, and an administrator of insolvency was appointed.

Consequently, on the valuation date (2014), the property interests on the real estate as land for mining is divided:

| | |
|---|---------------------------------------|
| direct ownership of the <i>land</i> | Ltd „I”, in the process of insolvency |
| the right of alienation of the <i>land</i> | SC „Banca” |
| complete ownership of the <i>subsoil</i> | The Republic of Moldova (state) |
| the right of subsoil use | SC „P” |

In such case the interests in real property is held jointly, this fact created a situation where potential buyers of land for mining are: SC "P" - as the owner of the layer and / or SC "Macon" – as the largest user of clay for bricks production in the Republic of Moldova.

Consequently, if asset being valued is used for its direct utilization (mining), it does not have market value¹ and according to the International Valuation Standards cannot pledge loans.²

CONSEQUENCE No.1. The bank has a non-performing loan.

2. Analysis of the best use

According to the International Valuation Standards 2011 edition, IVS Framework [4, 22]:

"The market value of an asset will reflect its highest and best use. The highest and best use is the use of an asset that maximises its productivity and that is possible, legally permissible and financially feasible. The highest and best use may be for continuation of an asset's existing use or for some alternative use. This is determined by the use that a market participant would have in mind for the asset when formulating the price that it would be willing to bid.

The highest and best use of an asset valued on a stand-alone basis may be different from its highest and best use as part of a group, when its contribution to the overall value of the group must be considered.

¹ Market Value is the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

² The basis of value to be specified in accordance with IVS 101 para 2(e) will normally be market value. (according to IVS 310 Valuations of Real Property Interests for Secured Lending, paragraph 4).

The determination of the highest and best use involves consideration of the following:

(a) to establish whether a use is possible, regard will be had to what would be considered reasonable by market participants,

(b) to reflect the requirement to be legally permissible, any legal restrictions on the use of the asset, eg zoning designations, need to be taken into account,

(c) the requirement that the use be financially feasible takes into account whether an alternative use that is physically possible and legally permissible will generate sufficient return to a typical market participant, after taking into account the costs of conversion to that use, over and above the return on the existing use."

Based on the location, destination and physical state, we determine the possible use of the asset being valued (Table 1).

In view of the fact that the existing deposit in the perimeter of the plot of land under valuation is clay, and its extraction technically is on the surface of the soil, the following situation has been created:

- Ltd "I" has a direct ownership of the land, but cannot extract the clay because the right of subsoil use belongs to SC "P".

- SC "P" cannot extract the clay because it would violate the ownership of "I" Ltd on the land (by altering its shape and structure both vertically and horizontally).

In the context of the respective use (mining), the land has no market value but has a special value for SC "P" (as a holder of the right of subsoil use) and for Macon SC (as the main user of clay).

The special value³ diverges considerably from market value, and in this case, the special value is different for SC "P" or SC "Macon".

Therefore, the asset being valued could have a *market value for an alternative use*. However, according to the Land Code [5]:

Article 52. *Land designated for industry, transportation, telecommunications, and land for other specific purposes* is the land allocated by the local public administration authorities to locate and use administrative and service providing structures, auxiliary and industrial buildings, mining transportation, and other enterprises, institutions, and organizations to build access roads, engineering infrastructure, manage industrial production, build highways, install telecommunication and electric lines... The allocation of land to enterprises, institutions, and organizations for use of underground resources shall be conducted subject to legalization of alienation of such land for mining purposes and reintegration into the agricultural cycle of land previously used for such purposes.

³ **Special value** is an amount that reflects particular attributes of an asset that are only of value to a special purchaser. A special purchaser is a particular buyer for whom a particular asset has special value because of advantages arising from its ownership that would not be available to other buyers in the market.

Table 1

| Potential use | | | |
|------------------------------------|-----------------------------|--------------------|--|
| Possible use | Possibility of physical use | Legal Restrictions | Note ⁴ |
| mining (production of minerals) | possible | forbidden | the right to use the subsoil belongs to another economic agent |
| agricultural work | partly possible | forbidden | it is necessary to change the land destination |
| dwelling buildings | forbidden | forbidden | it is necessary to change the land destination |
| industrial buildings | possible | forbidden | only for the purpose of extracting the deposits |

Article 75. Change of Specific Land Zoning. A change in zoning of land for industry, transport, telecommunication and for other similar purposes shall be approved by Government Decision. Such land shall be used in strict compliance with its zoning. Other activities may be conducted on such land, provided that these works do not interfere with the land main zoning. Executors of industrial, investment and other specific works shall undertake measures necessary to provide the improvement and levelling of land no longer used in their production works and which remained from raw material extraction (kaolin, clay,

⁴ Subsoil Code [6] Article 6:

(1) The riches of any kind in the subsoil of the Republic of Moldova, including the useful mineral substances it contains, as well as its underground spaces are exclusively the object of the public property of the state, are inalienable, insensible and imprescriptible.

(2) The sub-sectors cannot be alienated, they can only be put into service. All legal acts or actions that, directly or indirectly, violate the public ownership of the state over the subsoil are affected by absolute nullity.

(3) The extracted mineral raw material belongs to the beneficial owner of the subsoil, unless the contract stipulates otherwise.

Article 13. The right to use the subsoil sector

(1) The right to use on the subsoil means the possibility of the beneficiary of the subsoil to realize the types of use of the underground sector stipulated in art.14.

(2) The right to use the subsoil shall be carried out within the limits of the sector assigned to the beneficiary of the subsoil in the form of a mining or geological perimeter, according to the clauses stipulated in the contract.

(3) The right to extraction of useful mineral substances, including groundwater and natural curative resources, gives the beneficiary of the subsoil, who has obtained a license in accordance with the provisions of the Law no. 451-XV of 30 July 2001 on the licensing regulation of the entrepreneurial activity, the possibility to carry out activities for a set period, with the obligatory observance of the licensing conditions for the use of the subsoil.

Article 14. Types of use of the subsoil

The base is assigned to use for:

a) geological research, including prospecting, assessment and exploration of mineral deposits and other geological research;

b) extraction of useful mineral substances, including groundwater and natural curative resources;

c) construction and operation of underground constructions not related to extraction of useful mineral substances;

d) burial (storage) of harmful substances and industrial wastes;

e) organization of protected geological objectives;

f) collection of mineralogical, paleontological, other geological collections.

gravel), and reinstate such land in the agricultural cycle, or, if this is not possible, in fish breeding or forestry use. If land users do not observe the provisions of paragraph 3 of this Article, they shall not be allocated any other land.

The following conclusions were drawn after analysing the best use:

- ✓ the utilization of the asset being valued for other purposes than mining is not possible, and the estimation of the value for another use is incorrect.
- ✓ the asset being valued used for the mining does not have market value.
- ✓ the asset being valued used for mining exploitation has a special value.

CONSEQUENCE no. 2: estimation of the market value for the asset being valued is treated as a falsification of the results of the evaluation, for which the valuator is responsible to administrative and criminal liability for the unlawful activity according to the legislation of the Republic of Moldova [7, art.24, para.2].

3. Value Estimation

Special value – an amount that reflects particular attributes of an asset that are only of value to a special purchaser. The only buyer for the asset being valued is SC "P" because it is the holder of the right to use the subsoil.

Another potentially interested buyer could be SC "Macon" as a final user of the clay deposit within the perimeter of the asset being valued. However, for SC "Macon" the special value is lower than for SC "P", because in the case it purchases the land, an extraction permission is to be obtained from SC "P".

According to the valuation principles only the special buyer - SC "P" is examined.

The value of the asset being valued, under existing legal conditions, is the value of the right to extract the clay from the perimeter of the asset being valued expressed by a fix amount payment⁵.

The methodology of estimating the value of the license in the Republic of Moldova is explained in the Annex to the *Regulations on Evaluation of Intellectual Property Rights* [8], Methodological Guidelines on *Evaluation of Intellectual Property Rights*. Chapter X. *The calculation of the license value* stipulates that the value of the license can be calculated based on profit, based on royalties, as a fix amount or in a combined form.

Referring to the asset being valued, its special value for SC "P" is the license value expressed by a fix amount payment. As a basis for calculating royalties, the sales price of clay is applied. The potential volume of the clay deposit is determined as a proportion to the surface. As the plot of land is located at the periphery of the "Pruncul" clay deposit, a correction coefficient of 0.9 is included for estimating the size of the potential volume of the clay deposit. As a result, the clay reserves in the perimeter of the asset being valued are approx. 2 283.8 thousand m³ or 3 654.1 thousand tonnes.

The price per tonne of clay was estimated based on the prices actually paid by SC "Macon" to SC "P" for "Pruncul" clay - 46 lei including transportation. Considering the cost of transport during the year 2007 (on average 400 lei per one car of 8 m³), the clay price was 14.75 lei / t. At the time of the valuation, there were no offers of clay on the Moldovan market.

⁵ **A fix amount payment** is the amount of the fixed payment in the form of a lump-sum payment for granting the right to use the intellectual property under the license agreement, regardless the actual volume of sales of the licensed products (services). It can be paid out as a single lump-sum or as periodic payments through a structured settlement.

If necessary, construction companies are paying the excavator 350 lei / hour and the transportation - 600 lei / car of 8 m³, without a separate payment for the clay.

Table 2

| Determination of the clay deposit volume | | | |
|---|-----------|--------------------|---------------------------|
| Criteria | „Pruncul” | Asset being valued | Note |
| area, ha | 40,7 | 9.2 | |
| reserves on 16.06.1983, thousand m ³ | 11 226.0 | 2 283.8 | 11 226 / 40.7 x 9.2 x 0.9 |
| reserves on 01.01.2013, thousand m ³ | 10 536.1 | | |
| extracted volume, thousand m ³ | 689.9 | | 11 226 - 10 536.1 |
| average annual extraction volume, thousand m ³ | 23.79 | | 689.9 / 29 years |
| dry density of clay, kg / dm ³ | | 1.6 | |
| reserves, thousands of tons | | 3 654.1 | 2 283.8 x 1.6 |

There are offers of clay from the Ukrainian mines. Prices, with and without transportation, range between 50 - 100 UAH / t in the Kiev region, 25 UAH / t in the Odessa region, 33 - 45 UAH / t in the Zaporozhye region. Due to market conditions, increased transportation costs and lack of special extracted material costs, we consider the potential price of clay for bricks of 13.5 lei / t. According to the "25% rule" used to determine the amount of royalties, the annual amount of the royalties is around 96.7 thousand lei, determined as 25% of the potential profit before taxes (Table 3 and 4). However, under that rule it is assumed that the right to use the subsoil is also subject to licensing. Since the subject of licensing is only the land ownership, the royalty size can not exceed half of the size determined under the "25% rule". Consequently, the maximum amount of considered fees is around 48,000 lei annually.

The potential sales revenue that can be obtained by SC "P", based on the average annual volume extracted in "Pruncul" mine, is 449 thousand lei / year (23.79 thousand m³ x 1.6 x 13.5 lei / t = 513 857 lei / year). Royalties, according to international practice for similar situations, are ranging between 5-10% of sales, which for the asset being valued is approximately 6,64 - 13.27% of forecasted profit before taxes. Royalties based on of 5% rate are 25 693 euro / year. Royalties based 10% are 51 386 euro / year. Assuming the discount rate equals to the bank interest rate for deposits of legal entities of 7,98% (the alternative investment method in the minimum risk circumstances), we determine the discount coefficient (compounded interest) for 96 years (until the resource is exhausted: 2 283 800 m³ / 23.79 thousand m³ / year = 96 years).

$$\text{Discount coefficient} = [(1+0.0798)^{96} - 1] / [(1+0.0798)^{96} \times 0.0798] = 12.523439$$

Consequently, considering the basis of royalties the sales revenue is:

The minimum license value is 25 693 x 12.523439 = 321 763 lei or 322 thousand lei.

The maximum license value is 51 386 x 12.523439 = 643 525 lei or 644 thousand lei.

Based on the "25% rule"

The license value is 48 374 x 12.523439 = 605 804 lei or 606 thousand lei.

Table 3

| Assessment of income and costs account of clay extraction activity⁶ | |
|---|------------------|
| Criteria | Value |
| Amount extracted on average per year, thousand t | 38.06 |
| The quantity transported on average by a truck type CAMAZ6520, t | 12.8 |
| Number of cars needed to transport the quantity extracted annually | 2 973.71 |
| The minimum number of cars | 2 |
| Average transportation distance: mine – Chisinau – mine, km | 30 |
| Cost of diesel, lei / l | 17.45 |
| Consumption, l / 100 km | 45 |
| The cost of the necessary diesel for a work shift ride, lei | 235.58 |
| Cost of diesel required annually, lei | 700 531 |
| The annual amortization of 2 trucks, lei | 74 000 |
| Payroll fund for 2 drivers, lei / year | 96 000 |
| Expenses for transportation, lei / year | 870 531 |
| <i>Cost of transportation, lei / car</i> | 293 |
| Bucket capacity a excavator, type Э 304A, m ³ | 0.4 |
| Extraction volume, according to normative productivity, m ³ /h | 15 |
| Time required to excavate annual volume, hours / year | 1 585.98 |
| Normative diesel consumption, l / h | 9.6 |
| Cost of diesel, lei / year | 265 682 |
| Excavator amortization , lei / year | 74 000 |
| Payroll Fund, lei / year | 60 000 |
| Expenses for excavation, lei / year | 399 683 |
| <i>Cost of excavator, lei / hour</i> | 252 |
| <i>Cost of excavation and transportation, lei / car</i> | 427.15 |
| Total excavation and transportation costs, lei / year | 1 270 213 |
| Overheads, % | 10 |
| Total with overheads, lei / year | 1 397 235 |
| Average market price, lei / car | 600 |
| The added value, lei / car | 172.85 |
| Added value, lei / t. | 13.5 |
| Sales revenue, lei / year (600 lei / car x nr. car / year) | 1 784 224 |
| Profit before taxes, lei | 386 989 |
| Profits tax, % | 12 |
| Net profit, lei / year | 340 550 |

As a result, the value of the right (the right on land + the right on the deposit) to extract the clay deposit from the perimeter of the plot of land under evaluation is within the limits 644 thousand lei – 1 288 thousand lei.

⁶ Calculations are aggregated, additional special costs supported by holder of the right of subsoil use are not included.

Table 4

| Estimation of license value | | | |
|--|-----------|--------------------|--|
| Criteria | „Pruncul” | Asset being valued | Note |
| area, ha | 40.7 | 9.2 | |
| reserves on 16.06.1983, thousand m ³ | 11 226.0 | 2 283.8 | 11 226 / 40.7 x 9.2 x 0.9 |
| reserves on 01.01.2013, thousands m ³ | 10 536.1 | | |
| extracted volume, thousand m ³ | 689.9 | | 11 226 – 10 536.1 |
| average annual extraction volume, thousand m ³ | 23.79 | | 689.9 / 29 years |
| density of dry clay, kg / dm ³ | | 1.6 | |
| reserves, thousands of tons | | 3 248.1 | 2 283.8 x 1.6 |
| clay price, lei / t | | 13.5 | |
| Revenue from potential sales / year | 513 857 | | |
| years | | 96 | 2 283.8 / 23.79 |
| discount rate, % | | 7.98 | NBM deposit, legal pers. |
| K act. | | 12.523439 | $(1.0798^{96} - 1) / (0.0798 * 1.0798^{96})$ |
| royalty rate, minimum | | 5% | |
| royalty rate, maximum | | 10% | |
| amount of royalties, minimum, lei | | 25 693 | 513 857 x 5% |
| amount of royalties, maximum, lei | | 51 386 | 513 857 x 10% |
| License value, minimum, lei | | 321 763 | 25 693 x 12.523439 |
| License value, maximum, lei | | 643 525 | 51 386 x 12.523439 |
| | | | |
| Royalty rate to profit before taxes for the amount of 25.7 thousand lei / year | | 6.64 % | for partial right |
| Royalty rate to profit before taxes for the amount of 51.3 thousand lei / year | | 13.27 % | for partial right |
| Minimum royalty rate for absolute right on extraction | 13.28% | | for absolute right |
| Maximum royalty rate for absolute right on extraction | 26.54% | | for absolute right |
| "25% rule" – royalty rate to profit before tax | 25% | | for absolute right |
| Amount of royalties according to "25% rule", lei / year | 96 747 | | for absolute right |
| The value of absolute right on extraction according to "25% rule", lei | 1 211 608 | | for absolute right |

The value of the right on land or the special value for the special purchaser SA "P" is within the limits 322 thousand lei - 644 thousand lei (or ½ of the value of the absolute right of extraction). These figures represent the benchmark for direct negotiations with a potential special buyer.

In the case of omission of the study of property interests, and applying the valuation methodology, the estimated value by Discounted Cash Flow method would be approximately 4.3 million lei (340 550 x 12.523439).

CONSEQUENCE No. 3: The value of the asset being valued would be approx. 4.3 million lei in the case of omitting the study of the ownership rights compared to the zero market value and to the 644 thousand lei – special value in the case of considering the effects of the ownership rights.

Conclusions

Neglecting the study or the superficial examination of real property interests of asset being valued has serious consequences:

- for the beneficiary of the valuation report (the owner of the good) – the owner believes that the asset valuable, de facto the asset may be of no value or may have a net inferior value;
- for the user of the valuation report – the banking institution will offer a mortgage without a real collateral;
- for the valuator – the falsification of the valuation results is followed by administrative and criminal liability.

Bibliographical references:

1. Albu, S. *Evaluarea și gestiunea eficientă a patrimoniului public în Republica Moldova*. Teza de doctor habilitat, Chișinău, 2012, 329 p.
2. Standardele Internaționale de Evaluare. Ediția a opta 2007. Tradus IROVAL. www.anevar.ro
3. International Valuation Standards 2017. www.ivsc.org
4. International Valuation Standards 2011 www.ivsc.org
5. Land Code, no. 828 of 25 December 1991. In: Monitorul Oficial no.107 of 04 September 2001.
6. Cod of subsoil, no.3 of 02 February 2009. In: Monitorul Oficial no.75-77 of 17 April 2009
7. Law no.989 of 18 April 2012 on Evaluation Activity. In: Monitorul Oficial no.102 of 16.07.2002
8. Government Decision no. 783 of 30 June 2003 on Regulations on Evaluation of Intellectual Property Rights. In: Monitorul Oficial no.138-140 of 08 July 2003.