# CAN ASSET REVALUATION BE MANIPULATIVE? - A CASE STUDY

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***Abstract:*** *Asset revaluation can trigger different signals to investors depending upon company type, asset intensity and category and investors' expectations. In the same time, motivations behind asset revaluation decisions are diverse, being influenced by management incentives, credit covenants, faithful representation and various other reasons. In many cases the revaluation decision is imposed upon the company by auditors or the need to reduce information asymmetry. In Romania, one of the main decision drivers is the Fiscal Code, due to buildings taxation provisions. For companies that revaluate their fixed assets for taxation purposes only (which is the case for most small companies in Romania), the primary concern is to reduce the fiscal impact – the preferred scenario in this case is most likely to be the one that reduces tax expenses. Our research aims to provide a full picture of the motivations behind the revaluation decision and point to the manipulation instruments made available to companies by the allowed alternatives in what regards (1) which assets to be revalued and (2) how to recalculate book values. By means of a case study we identify the options available to a revaluating company and show how each one can impact the financial statements and financial ratios, thus influencing financial statement users' perception. Our analysis is limited to fixed assets revaluation, as these are the ones revaluated by most Romanian companies. The comparative analysis shows that the decision to not revaluate certain assets categories can lead to serious distortions of the faithful image. Financial ratios can be significantly impacted by the type of assets revalued, depending upon the revaluation direction (upward or downward) and the revaluation differences. In upward revaluation leverage ratios and solvency can improve, leading to a better position in relation to credit covenants. Equity is also positively affected. Alternatively, a decrease of assets' value will be reflected in a negative manner upon these indicators, which might be a serious reason for a company to not revaluate, thus not preserving the true and fair value of assets in the financial statements. Companies can choose between two alternatives of recalculating book values and depreciation. The option taken can also influence the company's financial position. Our study shows that impact over profitability is lower and that profit tax is not affected in a significant manner even if an influence can be identified.*

***Keywords****: assets' revaluation, fair value, financial statements, motivations*

***JEL Classification****: M49*

## 1. Introduction

The motives behind companies' asset revaluation decision are diverse but are usually motivated by two main reasons: constraint or various other incentives. Constraint is usually due to specific financial reporting standards and / or national norms. In USA, the national accounting standards (US GAAP) do not allow upward revaluations while companies reporting under the International Financial Reporting

Standards (IFRS) can choose between the historical cost model and the fair value model. In Romania, Fiscal Code provisions include a buildings' taxation scheme that is directly correlated to their gross book value and revaluation frequency. Higher time spans between revaluations can lead to higher taxations quotas. Large and /or listed companies are audited and auditors will seek insurance that assets are reflected at fair value in the financial statements, imposing the companies to revaluate their assets. Besides constraint one of the various motives can be investor's reaction to revaluation but there are other reasons too. Depending upon motivations behind the revaluation decision companies might revaluate only some of their assets. The approach to valuation in itself and then to the accounting treatment will influence equity and the asset-related financial indicators of the revaluating company.
The purpose of our research is to highlight the diverse motivations behind the assets' revaluation decision and to illustrate by means of a case study the manner in which the decision of which assets are to be revaluated, the valuation approach and the accounting treatment can influence relevant financial indicators. We believe that this analysis and its findings are useful to all parties involved (company, valuators and financial statement users), giving them insight to the particularities of the process, the sensitive spots and the degree to which financial statements can be manipulated.
The article unfolds as follows: first, we present the research methodology used. Second, we make a literature review that summarises the literature's findings regarding motives and incentives behind revaluation decision and investor's reactions to revaluation. Third, by means of a case study, we present the impact over the company's financial statements following assets revaluation, considering several alternatives and highlighting the sensitive areas. Conclusions are presented in the end and we point to further research possibilities.

## 2. Research Methodology

Our research is based on both literature review and case study. Literature review has involved a qualitative and quantitative analysis that led to a clustering of the revaluation motivations researched. We have relied during our literature review process on content analysis and comparative analysis. Our content analysis is orientated to the meaning of the studied documents. Comparative analysis was used in order to emphasis resemblances and differences between the articles studied and synthesize conclusions. We have also relied on interpretative analysis in order to compare conclusions with the status of Romanian companies' incentives behind revaluation decision. For the case study we have used mostly comparative, critical and interpretative analysis. The calculations made represent the quantitative aspect of our analysis. Comparative analysis is made for the interpretation of the effect of different alternatives chosen. In the end, critique and interpretative analysis is used to highlight the impact of decisions made during the process.

## 3. Literature Review

The companies' financial statements information has a great deal of influence over the investor's actions (Gaeremynck and Veugelers, 1999). Financial statements users are primarily concerned with their relevance and credibility. While credibility is considered by some authors as a lesson fast learned, relevance, especially where fair value is involved, can be difficult (Kadous et. al, 2012). Studies made over a period of four decades show asset revaluation can have an influence over the companies' value and that fair value is a significant indicator for investors. Sharpe

and Walker (1975) found that stock prices increase for companies with upward revaluations while Standish and Ung (1982) considered that following revaluations companies' value only increases when stock owners have positive expectations. Revaluation and stock price are found to be directly related by Jaggi and Tsui (2001) while Bart and Clinch (1998) consider that revaluation of financial and tangible assets is correlated to market quotations while fixed assets revaluation is considered relevant only depending upon company type and when is made every three years or less. Kadous et. al (2012) find that the relevance of financial situation is influenced by the perception of users regarding the fair value estimation. So, in general, studies show that revaluation is generally considered to be relevant by investors but they perceive this revaluation in various ways, depending upon company, assets' intensity, approach of fair value measurement, geographical area etc. and is usually correlated with investors' expectations.

Reviewing academic researches made upon the subject of asset revaluation motivations we have found that there is a leading positivist stream of research based on empirical studies. We have analysed a number of eighteen studies made during the last 20 years on various geographical areas, mostly Great Britain and its influence areas, where revaluation was allowed before IFRS. The main motivations and incentives identified by these studies are:

- Better access to financing
- True and fair image of the company
- Signals for investors
- The intensity of assets
- The need to reduce information asymmetry
- Low liquidity
- Management opportunism
- Political costs (for large companies)

Many studies consider that better access to financing is a serious incentive behind asset revaluation decision and that asset revaluation can be a solution for companies at risk of violating financial covenants or with cash flow difficulties (Whittered and Chan, 1992; Brown, Izan and Loh, 1992; Easton et. al, 1993; Cotter and Zimmer, 1995; Black et. al, 1998; Gaeremynck and Veugelers, 1999; Jaggi and Tsui, 2001). During the last years though, there is research that takes the opposite view, finding that better credit leverage is no longer a motive for revaluation (Senga and Sub, 2010) and that this motivation's strength varies from a country to another (Barlev, 2007). A fair company value is considered to be better supported if companies include revaluation reserves in their book values (Easton et. al, 1993) and some companies revaluate assets in order to signal the fair value of assets to investors (Jaggi and Tsui, 2001). Easton et. al (1993) consider that the level of revaluation reserves is a significant explanatory variable for the stock price of companies with important changes of debt-to-equity indicator but not for other companies. Revaluation of fixed assets is considered to be more reliable (Lynn and Peasnell, 2000) and is positively associated with the magnitude and intensity of assets and negatively with liquidity. Management opportunism is considered to be a motive for the decision of assets revaluation decision as this is considered a way to manipulate earnings (Black et. al, 1998; Quagli and Avalone, 2010). The need to reduce information asymmetry between management and shareholders' and other information users is also identified as a motivation (Quagli and Avalone, 2010).

These studies also point to several motives that lead companies to the decision to not revaluate: high revaluation costs, conservative positions of internationally listed companies (Pierra, 2007), credibility issues (Gaeremynck and Veugelers, 1999, Lin and Peasnel, 2003, Cotter, 1999), a high quantity of assets, especially equipment and machinery (Easton et al, 1993), enough internal financing resources (Whittered and Chan 1992). Results are not always consistent from a study to another and there are limitations due to sampling and methods used and also due to the fact that the economic and legal environment of each country is also a relevant variable (Barlev et. al, 2007). We subscribe to Barlev's opinion that revaluation motivations are largely depending upon the specific legal and economic environment of each country. Without basing this conclusion on a study, but analysing Romania's regulation and practices, we believe that for Romanian companies the main revaluation motives are (1) Fiscal Code stipulations, (2) the need of correlation between the net book values and mortgage values estimated for company's assets that secure loans, (3) the need to reflect the fair value of assets in the financial statements (especially for listed companies or under the auditor's pressure) and (4) the need for equity improvement. Other motivations, as earnings management or reduction of information asymmetry might be also relevant but do not prevail.

## 4. Case study

We have used a case study to illustrate the possible impact over financial statements of various alternatives available when a company decides to revaluate. Our aim is to identify the manner in which each option available to the company in this process can impact the financial statements and financial ratios, thus influencing financial statement users' perception. The case study will allow us a quantitative assessment of this impact, even if limited to the actual situation of the subject. Our analysis is limited to fixed assets revaluation, as these are the ones revaluated by most Romanian companies.

We have considered a company (hereinafter the "Company") with a relevant fixed assets intensity and also complex activity (production and trade). The Company owns land, buildings and equipment. Last revaluation made three years ago had as main purpose buildings' taxation and the Company only registered the values for the accounting group of Buildings (212). Our Company is currently in position to revaluate its assets at the end of the financial year. This case study analyses the whole process, presenting first the current situation and revaluation decisions taken by the company as well as revaluation effects. We have then taken into consideration all alternative scenarios available for the company in order to do a comparative analysis of the financial impact (accounting and fiscal). The decision areas identified were: (1) to revaluate or not the assets; (2) in case of a positive revaluation decision, which category of assets is to be revaluated; (3) for assets that get depreciated, which of the accounting treatment alternative allowed (for gross book value and depreciation calculation) should be considered.

Due to taxation issues the Company considers to revaluate buildings at year end. The fixed assets structure before the yearend possible revaluation is presented in Table 1:

**Table 1** – Structure and weight of fixed assets

| Structure and weight of fixed assets | |
|---|---|
| Weight of tangible fixed assets in total fixed assets | 99.65% |
| Weight of tangible fixed assets in total assets | 40.80% |
| Tangible fixed assets distribution: | |
| - Land | 0.59% |
| - Buildings | 74.40% |
| - Equipment | 25.01% |

Source: Author's projection based on Company data

Tangible fixed assets represent over 40% of total assets, therefore an important weight. The land was never revalued which is an indication that the financial statements might not reflect a fair value for land. Land and constructions owned by the company compose a real estate property, made of three buildings and land with a 1,625 square meters area. The new valuation is made based on the income approach as the property is the type that generates revenues and this approach was considered relevant. In the end, the appraiser had to allocate the value between land and buildings, as the income approach lead to the value of the overall property. For value allocation the appraiser has deduced the market value estimated for land from the total value estimated for the property and the result was allocated to buildings. The resulted values are presented in Table 2. An analysis of the valuation report shows that the appraiser has chosen the upper value level for land, which has led to a smaller value allocated for buildings (motivated by taxation reasons).

**Table 2** – Valuation results and value allocation

| Value allocation following revaluation | |
|---|---|
| **Description** | **Fair Value (Lei)** |
| Total property of which | 2,768,211 |
| - Buildings | 1,375,651 |
| - Land | 1,392,560 |

Source: Company valuation report

Revaluation differences are presented in Table 3.

**Table 3** – Revaluation differences

| Revaluation results | | | | | |
|---|---|---|---|---|---|
| | Yearend gross book value | Yearend depreciation | Yearend net book value | Estimated fair value | Revaluation differences |
| | Lei | Lei | Lei | Lei | Lei |
| Land | 6,022 | - | 6,022 | 1,392,560 | 1,386,538 |
| Buildings | 807,724 | 65,680 | 742,044 | 1,375,651 | 633,607 |
| **TOTAL** | **813,746** | **65,680** | **748,066** | **2,768,211** | **2,020,145** |

Source: the Author

The Company decided to register only the revalued value of buildings and not the land. With regard to recalculation of gross book values and depreciation, OMFP 3055/2009 (in accordance with IAS 16 provisions) allows two alternative treatments:

- depreciation is calculated proportionally with the change within the asset value, the revalued value being the new net book value – coded by us as Treatment A
- depreciation is eliminated from the gross book value of the asset and the net book value is restated at the revalued value of the asset – coded by us as Treatment B

The Company decided for treatment B. The estimated fair value is the new book value (which equals the net book value) and depreciation becomes null.

**Table 4** – Book values recalculation

| **Recalculation of book values and depreciation - Treatment B** | | | | |
|---|---|---|---|---|
| Recalculated gross book value | Yearend depreciation | Recalculated net book value | Yearly depreciation | Previous year depreciation |
| **Lei** | Lei | Lei | Lei | Lei |
| **1,375,651** | **0** | **1,375,651** | **30,570** | **17,822** |

Source: the Author

*Alternative scenarios to be considered:*

At year end, the Company could choose between the following alternatives, which we have coded below:

- NO-REV - to make no revaluation
- B-REV - tor evaluate only the buildings and recalculate book values and depreciation in accordance to one of the previously presented possibilities:
    - B-REV_A - accounting treatment A
    - B-REV_B - accounting treatment B (the chosen option)
- L&B-REV - to revaluate both land and buildings and recalculate book values and depreciation for buildings in accordance to one of the previously presented possibilities:
    - L&B-REV_A - accounting treatment A
    - L&B-REV_B - accounting treatment B
- To revaluate all fixed assets (including machinery and equipment) and choose one of the two accounting treatment alternatives (A or B).

Our case study considers the first five alternatives and the impact of each. The land fair value and revaluation differences were presented in Table 3. In Table 5 we present the recalculation of book values for alternative treatment A.

**Table 5** – Alternative recalculation of book values

| Recalculation of book values and depreciation – Scenario B-REV_A | | | | |
|---|---|---|---|---|
| Recalculated gross book value | Yearend depreciation | Recalculated net book value | Yearly depreciation | Previous year depreciation |
| **Lei** | Lei | Lei | Lei | Lei |
| | | | | |
| **1,497,413** | **121,762** | **1,375,651** | **33,276** | **17,822** |

Source: the Author

The effects of the various alternatives are presented below.
*1. Local taxes*: according to the Fiscal Code in force at the respective date, buildings' tax (applied to gross book value) is of 0.9% if a revaluation took place at least three years before or 5% if no revaluations were made. Table 6 illustrates the fiscal impact, showing an important increase with tax expenses for the no revaluation alternative. The smaller expense occurs for the alternative chosen by the Company (as this returns the smaller gross book value). The Company also registers an expense with valuation services which has to be considered. Land revaluation alternatives are not presented as land taxation is not related to land book values.

**Table 6** – Fiscal impact

| Buildings' tax expense modification | | | | |
|---|---|---|---|---|
| Description | Previous year tax | Scenario | | |
| | | **NO-REV** | **B-REV_A** | **B-REV_B** |
| Tax quota | 0.90% | 5% | 0.90% | 0.90% |
| Tax on buildings (Lei) | 7,270 | 40,386 | 13,477 | 12,381 |
| **Yearly variation** | | **556%** | **185%** | **170%** |
| Revaluation cost | | | 3,000 | 3,000 |
| Total expenses (Lei) | 7,270 | 40,386 | 16,477 | 15,381 |
| **Yearly variation** | | **556%** | **227%** | **212%** |

Source: the Author

*2. Assets structure:* the fixed assets' structure will vary greatly (see Figure 1) depending upon the chosen scenario. While the weight of tangible fixed assets in total fixed assets does not exchange dramatically, their weight in total assets increases from 40% (the No-Rev case) to 59% (if the Company decides to register the land at fair value too). The fixed assets structure is significantly modified if the Company chooses to register the revaluated value of land, the land weight increasing from 1% to 47% in total tangible assets. It can be easily observed that before revaluation the financial statements do not reflect the true and fair value of assets and that the Company's option of not registering the newly estimated fair value for land leads to an unfaithful representation of the Company's worth.

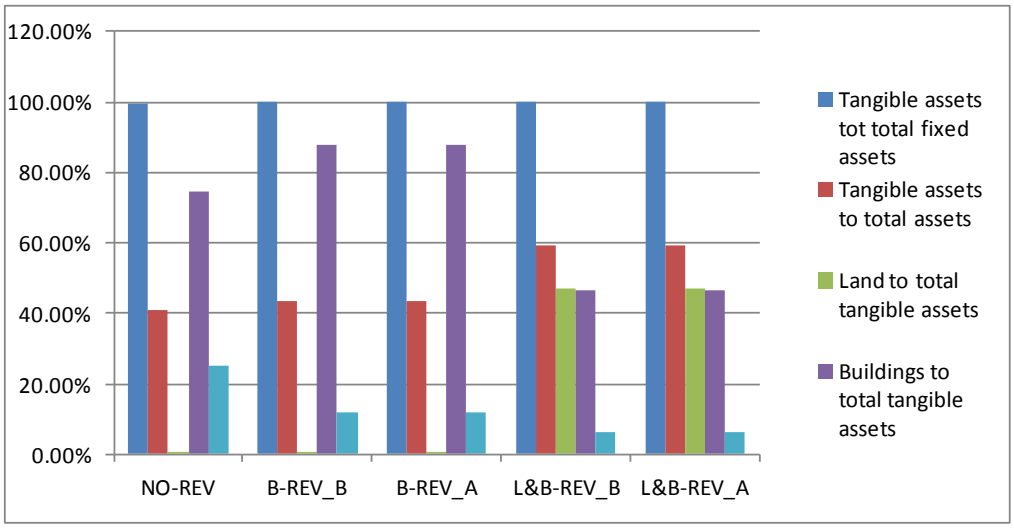


**Figure 1** – Structure and weight of fixed assets
Source: the Author

*3. Equity:* The increase of revaluation reserves leads to an increase in shareholders' equity and total equity. In this case, also, the highest increase (by 88%) takes place if the Company decides to register the estimated fair value for land too. Figure 2 presents the variation for three alternatives, as revaluation differences are the same regardless of the accounting treatment alternative chosen.

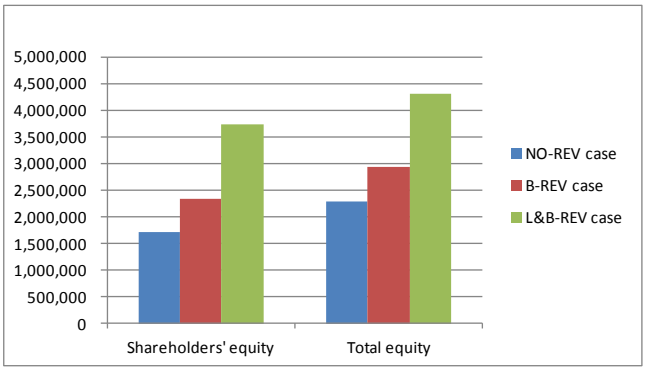


**Figure 2** – Equity variation
Source: the Author

*4. Financial ratios:* we have also analysed the impact upon the Company's several financial ratios for the 5 alternative scenarios presented. Modifications are obvious for financial leverage and solvability but overall, all financial indicators improve, especially if the new land value is also registered. From the analysed ratios, those that increase are financial strength ratios (illustrated here by shareholders' equity to total equity), equity ratio and net worth solvency. Leverage ratios as debt to equity and total assets to equity decrease, which enables the Company to have a better position in relation to credit covenants. Return on assets remains at a low level.

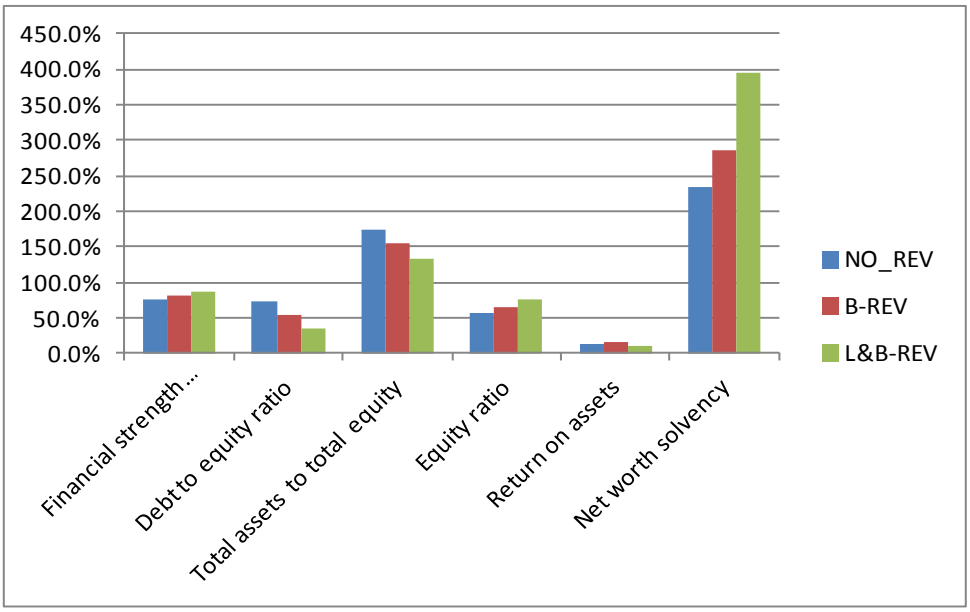


**Figure 3** – Financial ratios variations
Source: the Author

*5. Fiscal effects:* for fiscal effects we have pursued first the effect upon buildings' tax (presented in table 6). Company profit will be also affected by depreciation expense but only at accounting level, as supplementary depreciation is not a deductible expense. We have assumed that for the following year the Company will maintain the same level of revenues and expenses and analysed the effect over the accounting profit and profit tax generated by the depreciation and buildings' tax expenses for the five scenarios presented

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**Table 7** – Comparative profit and loss situation

| ***Profit and loss*** | | | | |
|---|---|---|---|---|
| | Year end | | Following year | |
| *'Lei* | **B-REV_A** | **B-REV_B** | **B-REV_A** | **B-REV_B** |
| Turnover | 4,450,607 | 4,450,607 | 4,450,607 | 4,450,607 |
| Operational revenues | 4,477,668 | 4,477,668 | 4,477,668 | 4,477,668 |
| Total operational expenses of which | 3,783,293 | 3,783,293 | 3,801,766 | 3,805,761 |
| - taxes | 23,016 | 23,016 | 28,127 | 29,223 |
| - depreciation | 97,308 | 97,308 | 110,670 | 113,569 |
| Operational margin | 694,375 | 694,375 | 675,902 | 671,907 |
| *% operational margin* | *16%* | *16%* | *15%* | *15%* |
| Financial margin | (48,781) | (48,781) | (48,781) | (48,781) |

| | | | | |
|---|---|---|---|---|
| **Gross profit** | **645,594** | **645,594** | **627,121** | **623,126** |
| **Profit tax** | **105,601** | **105,601** | **105,034** | **104,859** |
| **Net result** | **539,993** | **539,993** | **522,086** | **518,267** |

Source: The Author

Effects over gross profit are due to an increase of expenses with buildings' tax and depreciation. On the whole we have a small variation of the operational margin and effects upon profit tax are even smaller, as shown in Table 8 below:

Table 8 – Profit and profit tax variation

| **Profit and profit tax variation** | | | | |
|---|---|---|---|---|
| | **Year end** | | **Following year** | |
| Lei | **B-REV_B** | **B-REV_A** | **B-REV_B** | **B-REV_A** |
| Operational result | 694,375 | 694,375 | 675,902 | 671,907 |
| Yearly variation | | | -2.66% | -3.24% |
| Gross profit | 645,594 | 645,594 | 627,121 | 623,126 |
| Yearly variation | | | -2.86% | -3.48% |
| Profit tax | 105,601 | 105,601 | 105,034 | 104,859 |
| Yearly variation | | | -0.54% | -0.70% |

Source: The Author

## 5. Conclusions

The literature review on the matter of motivations behind asset revaluation decisions and markets reaction to revaluation enables us to believe that there are cases where asset revaluation can bring significant changes in the company's financial statements and influence financial statement users' perception. Motivations behind revaluation decisions are diverse, stretching from the need to reflect the true and fair value of assets and reduce information asymmetry to the companies' need to improve equity and financial ratios demanded by credit covenants. For Romanian companies an important driver behind the revaluation decision is the buildings' taxation system.

The case study presented allows us to better understand the manner in which management's decisions can influence the financial statements structure after revaluation, offering insight to the particularities of the process, the sensitive spots and the degree to which financial statements can be manipulated. The company's management has at hand several options (to revaluate or not, to revaluate only some assets' categories and to recalculate book values) and each has an influence upon balance sheet elements and several financial ratios. Thus, depending upon incentives, management can be in a position to manipulate assets' revaluation to a certain degree which would serve their purpose better.

For Romanian companies that revaluate their fixed assets for taxation purposes only (the case for most small companies in Romania), the primary concern is to reduce the fiscal impact – the preferred scenario in this case is most likely to be the one that reduces tax expenses. As land is not taxed at the registered value, companies are

not obliged to revalue the land unless they have other motivations (faithful representation, financial ratios improvement). The decision of not revaluating the land may lead to a distorted image of the assets' worth respectively of the financial statements. The comparative analysis shows that revaluation can have a strong impact over balance sheet elements as equity and asset related ratios, as leverage and solvency while profit and profit tax do not vary in a significant way. Depending upon the revaluation direction (upwards or downwards) and management's decisions regarding subsequent accounting treatment these ratios can improve the company's position in relation to credit covenants or the opposite. Therefore financial statements users have to be cautious in interpreting information following revaluation processes and ask for more details.

The analysis made is limited to the actual situation of the subject company considered and also to the ratios and balance sheet elements analysed. Many other research areas are possible, like a study made on Romanian revaluing companies in order to understand revaluation motivation drivers or preferred decisions following revaluations.

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