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EVALUATION METHODS USED FOR TANGIBLE ASSETS BY ECONOMIC ENTITIES

Empirical studies

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Abstract

At many entities the net asset value is influenced by the evaluation methods applied for tangible assets, because the value of intangible assets and financial assets is small in most cases. The objective of this paper is to analyze the differences between the procedures / methods of evaluation applied by micro and small entities and medium and large entities for tangible assets in Romania and Hungary. Furthermore, we analyze the differences between the procedures / methods of evaluation applied by micro and small entities in Romania and Hungary, respectively the differences between medium and large entities regarding de evaluation methods for tangible assets in Romania and Hungary. For this empirical study the questionnaire is used – as research technique, and to demonstrate the significant differences between the evaluation methods we used the Kolmogorov – Smirnov Z test.

INTRODUCTION

Items of property, plant, and equipment should be recognised as assets when it is probable that:

- it is probable that the future economic benefits associated with the asset will flow to the entity, and
- the cost of the asset can be measured reliably (http://www.iasplus.com/en/standards/ias/ias16t).

Romanian accounting legislation took over partially this international regulation in Order of Ministry of Public Finance no. 1752/2005 for approving accounting regulations in accordance with the European Directives and in the OMPF no. 3055/2009 for approving accounting regulations in accordance with the European Directives (OMPF no. 1752/2005, OMPF no. 3055/2009).

Tangible assets represent assets that:

- are held by an entity for use in the production of goods or services, for rental to others or for administrative purposes, and
- are used over a period longer than one year.

Under Hungarian law, within the tangible assets those assets may be presented as those who serve the entity more than one year. As tangible assets can also be recognized those material assets taken in use and placed in service which serve – directly or indirectly – the entities' activity over a long period, longer than one year (Law no. 100/2000 concerning accounting, Hungary).

In the Romanian and Hungarian accounting conceptual framework two evaluation bases are defined, that may be used in the annual financial statements: *historical cost* is the cost of acquisition or production cost, as basic valuation rule and *revalued amount / fair value* as alternative rule, allowed for tangible assets, respectively for financial instruments.

According OMPF no. 3055 / 2009 for approving accounting regulations in accordance with the European Directives, entities may revaluate tangible assets existing at the end of the financial year so that they be presented in accounting at fair value reflecting the results of the revaluation in financial statements prepared for that year.

The Hungarian Accounting Law no. 100/2000, establishes rules for revaluation of tangible assets. In relation with the time of reassessment it can be mentioned that reassessment must be carried out when the net value of tangible assets is much higher than the net book value. The phrase "much" in our opinion could mean 20% or 50% or other values, is not a fixed threshold, the legislation leaves it to accounting professionals to make the decision based on professional judgment.

OBJECTIVES

The main objective of this empirical study is to analyze the differences between the procedures / methods of evaluation applied by micro and small entities and medium and big entities for tangible assets in Romania and Hungary. Furthermore, in the paper we analyze the differences between the procedures / methods of evaluation applied by micro and small entities in Romania and Hungary, respectively the differences between medium and big entities regarding de evaluation methods for tangible assets in Romania and Hungary

RESEARCH METHODOLOGY

For this empirical study we used questionnaire – as research technique that includes a predetermined set of questions, constructed to ensure the analysis of the respondents' opinions.

The accounting policies applied by entities for tangible assets in Romania and Hungary are analyzed with the help of questionnaires, as well as the differences between the procedures/methods of evaluation applied by economic entities in Romania and Hungary.

HYPOTHESIS

General hypothesis

H_1 In the accounting practice of micro and small entities the evaluation procedures / methods used for tangible assets show significant differences compared to evaluation procedures / methods used by medium and large entities.

H_2 In the accounting practice of Romanian entities, the evaluation procedures / methods used for tangible assets show significant differences compared to evaluation procedures / methods used by entities in Hungary.

Statistical hypothesis

H_0^1: Between evaluation procedures / methods applied by micro and small entities (MSE), respectively by medium and large entities (MLE), no more than four (three in the case of Hungary) procedures / methods of evaluation show statistically significant differences.

H_1^1: Between evaluation procedures / methods applied by micro and small entities, respectively by medium and large entities, more than four (three in the case of Hungary) procedures / methods of evaluation show statistically significant differences.

$H_0^{2\,MSE}$: Between evaluation procedures / methods applied by micro and small entities in Romania and in Hungary no more than three evaluation procedures / methods show statistically significant differences.

$H_1^{2\,MSE}$: Between evaluation procedures / methods applied by micro and small entities in Romania and in Hungary more than three evaluation procedures / methods show statistically significant differences.

$H_0^{2\,MLE}$: Between evaluation procedures / methods applied by medium and large entities in Romania and in Hungary no more than three evaluation procedures / methods show statistically significant differences.

$H_1^{2\,MLE}$: Between evaluation procedures / methods applied by medium and large entities in Romania and in Hungary more than three evaluation procedures / methods show statistically significant differences.

RESULTS AND DISCUSIONS

To validate the first hypothesis we selected 10 procedures / methods in the case of Romanian entities and 9 procedures / methods of evaluation in the case of Hungarian entities based on the questionnaire designed for accountants / economic directors. These are the following:

1. The criteria used to recognize the tangible assets
2. Evaluation bases used to present tangible assets in annual financial statements
3. Recognition of the impairment of tangible assets in annual financial statements
4. The staff in charge (realized) of the revaluation of the tangible assets
5. Groups of tangible assets which were revalued in 2012
6. Amortization methods used by entities
7. Recognition of residual value of tangible assets
8. The treatment of the costs related to the acquisition of tangible assets
9. The treatment of the costs of renovation, maintenance and repair of tangible assets in “questionable” cases
10. The solution applied to the assets which have tax value below the limit set by Government decision and the duration of use is greater than one year

To analyze the responses from the two samples (economic entities Romania and Hungary), we applied the Kolmogorov - Smirnov Z test, which is a nonparametric test to compare two independent samples.

Romanian sample

According to the criteria\criterion to recognize tangible assets between micro and small entities (ROMSE) statistically significant differences exist compared to the recognition criteria\criterion used by medium and large entities (ROMLE), as shown in Kolmogorov - Smirnov Z test. The differences consist in the fact that, within the micro and small entities, only seven entities (2.69%) applied economic criteria for recognition of tangible assets compared to 17 (12.06%) entities within the medium and large entities. However small and micro entities used more frequently for recognition the tangible assets as mixed recognition criteria than the medium and large entities, being used in 43.46% of all micro and small entities, in contrast to medium and large entities, who applied for recognition the mixed recognition criteria at 30 entities, representing 21.28% of all medium and large entities.

Also, by applying χ^2 goodness – of – fit test, we observe that χ^2 (2) at micro and small entities = 114.054 (p = 0.000), χ^2 (2) = 77.743 (p = 0.000) at medium entities and χ^2 (2) = 7.000 (p = 0.030) at large entities, are significant, which means that between the recognition criterion applied to tangible assets exist statistically significant difference, within the three types of entities. By investigating the residuals in the table, where the frequencies of the recognition criteria\criterion are presented, we found that residuals are the highest for the category: value and useful life prescribed by tax legislation. Consequently, the value and useful life prescribed by tax legislation criteria has significantly higher proportion within the three recognition criteria used in the recognition of tangible assets.

In other cases, we did not find statistically significant differences between the evaluation procedures / methods used by micro and small entities and medium and large entities.

Regarding the question: Groups of tangible assets that were revalued in 2012?; in case of the Romanian sample we formulated two additional questions, namely:

- What is the reason for buildings' revaluation?
  1. Presentation of the buildings at fair value in the financial statements
  2. Establishing the taxable value of the buildings
- Do you consider correct to revaluate in every three years the entities' buildings from accounting point of view the requirement under the Tax Code?

To the first question the majority of the specialists pointed out that the reason of buildings' revaluation is to establish the taxable value of the buildings. To test it, as significantly more opted for this option, we applied the binomial test. Binomial test proves equalities of proportions or equality of an observed proportion to one specified (0.50).

Significance threshold is <0.05 (Sig. = 0,000) that means, determining the taxable value of the buildings reason predominate in significantly greater extent compared to the presentation the fair value of the buildings in the annual financial statements.

For the second question, concerning the agreement or disagreement regarding requirement provided by the Tax Code to revaluate the entity buildings every three years we accumulated 7 pro arguments and 8 counter arguments, as follows:

Pro arguments

- In three years the buildings value changes (increases or decreases)
- To present at fair value the entity buildings
- Yes, because otherwise the majority of the entities would not revalue buildings and so in every three years the buildings value is updated
- It provides a regular update of the accounting value

- Reflecting in the accounting a value close to the market value of the building
- For reflection the buildings as transparent as possible and real in the annual financial statement
- Because the buildings value is not constant, the market value is variable.

Counter arguments

- It was introduced for the reason increasing taxes on buildings
- No, because the tax law should not impose the revaluation
- The accounting regulations provide to present the buildings at the fair value, but this thing does not mean revaluation in every three years
- To have a faithful image of the annual financial statements, they should be evaluated at each financial year end
- Whenever is needed to present the fair value in the financial statements, there should not be obligatory every three years to determine the taxable value
- High revaluation cost, there are not significant changes in the housing market for construction and industrial lands
- Fiscal rules should not govern economic decision
- Revaluation is made obligatory on fiscal basis and less to reflect the fair value of the patrimony in the annual financial statements.

In all three types of entities, the results regarding pro and counter arguments are similar, the majority (80%) who have agreed with the requirement provide by the Tax Code, opted for two reasons: present the fair value of the entity building and it provides a regular update of the accounting value. Respectively, entities which have not agreed with the requirement provide by the Tax Code, the majority (86.80%), opted for three arguments: it was introduced for the reason increasing taxes on buildings; no, because the tax law should not impose the revaluation and wherever there is a need to present the fair value in the financial statements, it should not be obligatory to determine the taxable value in every three years.

Hungarian sample

We will review the evaluation procedures / methods which based on the Kolmogorov – Smirnov Z test show statistically significant difference between micro and small entities and medium and large entities (Table No. 1)

Regarding the staff in charge of the revaluation of tangible assets in the case of micro and small entities, significant differences exist compared to the staff that performed the revaluation of the tangible assets in the case of medium and large entities, according to the results of the Kolmogorov – Smirnov Z test.

The differences consist in the fact that, within micro and small entities, most revaluation is made by independent evaluators, respectively at medium and large entities, most revaluations were performed by the committee formed within the entities.

Also, we identified a statistically significant difference between micro and small entities and medium and large entities regarding the groups of tangible assets revalued in 2012. Almost exclusively only construction (51.51%) and machinery (45.45%) were revaluate in micro and small entities in 2012, compared to medium and large entities, where buildings (28.57%), technical equipment (23.81%), machinery and equipment for measuring (23.81%) and motor vehicles (23.81%) in almost equal rates were revalued in 2012.

As shown in Table no. 1, between other evaluation procedures / methods used by small and micro entities and medium and large entities, there exist no statistically significant differences.

Validation of hypothesis number 1.

Based on statistical tests applied we can conclude the following:

- By comparing the 10 evaluation procedures / methods within the micro and small entities and medium and large entities in Romania only one statistically significant difference was found.
- By comparing the 9 evaluation procedures / methods within the micro and small entities and medium and large entities in Hungary only two statistical significant differences were found.

Thus, according to research findings, the null hypothesis is validated, there is no statistically significant difference between evaluation procedures / methods applied by micro and small entities and medium and large entities in the two countries.

As we did not find statistically significant difference between evaluation procedures / methods applied by the micro and small and medium and large entities in the two countries, we performed a comparative analysis between micro and small entities in Romania and Hungary and between medium and large entities in Romania and Hungary to verify statistically significant differences between the evaluation procedures / methods applied by economic entities. This analysis was performed using the Kolmogorov – Smirnov Z test.

First we want to mention that it was impossible to include in the analysis the depreciation methods applied by the entities, in this comparative analysis, because the entities in Romania and in Hungary use different methods of depreciation for tangible assets.

As it is presented by Table No. 2, in six cases out of seven statistically significant differences exist between the evaluation procedures / methods applied by micro and small entities in Romania and micro and small entities in Hungary. Further we mention the differences found:

- The majority of the entities (75.08%) in Hungary use the historical cost, in the case of Romania the proportion between the three evaluation bases is almost identical.
- Mostly in Romania there are recognized adjustments for impairment or loss in value of land, respectively for building in greater proportion than at entities from Hungary. In Hungary most frequently adjustments for impairment or loss in value of the motor vehicles are recognized.
- In the case of entities in Romania only 10.70% of the entities revalued tangible assets by the commission formed in the company, the rate in Hungary is 42.64%.
- In Romania the entities most frequently recognize residual value for motor vehicles, in Hungary the proportion between the three types of tangible assets is similar (building, plant and machinery, motor vehicles).
- The costs related to the acquisition of tangible assets are incorporated in the assets value in share of 90.39% in Hungary and in Romania in share of 50% of the total entities.
- Regarding the renovation, maintenance costs in questionable cases most entities in Hungary (76.16%) incorporate these costs in the value of the assets, in the case of Romanian entities these expenses are recorded at current costs for the majority (63.81%).

Next we test whether there are significant differences between evaluation procedures / methods applied by medium and large entities in these two countries (Table No. 3).

Between the criteria used to recognize the tangible assets and recognition of the residual value of tangible assets there is no statistically significant difference in case of medium and large entities from Romania and Hungary, according to the Kolmogorov – Smirnov Z test.

As presented by the Table No. 3, in five cases out of seven, statistically significant differences exist between the evaluation procedures / methods applied by medium and large entities in Romania and medium and large entities in Hungary. Further we mention the differences found:

- The majority of the entities (66.67%) in Hungary use the historical cost, in the case of Romania the proportion between the three evaluation bases is almost identical.
- In Romania mostly, adjustments for impairment or loss in value of land are recognized, respectively for building and machinery in greater proportion than at entities in Hungary.
- In the case of entities in Romania only 7.10% of the entities revalued tangible assets by the commission formed in the company, the rate in Hungary is 83.33%.
- The costs related to acquisition of tangible assets are incorporated in the assets value in share of 93.75% in Hungary and in Romania in share of 60.28% of the total entities.
- Regarding the renovation, maintenance costs in questionable cases most entities in Hungary (95.83%) incorporate these costs in the value of the assets, in the case of Romanian entities these expenses are recorded at current costs for the majority (70.42%).

Validation of hypothesis number 2.

Based on statistical tests applied we can conclude the following:

- By comparing the 7 evaluation procedures / methods applied by the micro and small entities from Romania and from Hungary six evaluation procedures / methods show statistically significant differences
- By comparing the 7 evaluation procedures / methods applied by the medium and large entities from Romania and from Hungary five evaluation procedures / methods show statistically significant differences

Thus, according to the research results in both cases the null hypothesis is rejected, the alternative hypothesis is accepted, there are significant differences between evaluation procedures / methods applied by micro and small entities in Romania and Hungary, respectively between evaluation procedures / methods applied by medium and large entities in Romania and Hungary.

CONCLUSIONS

First, in connection with the obligation under the Tax Code to revaluate the entity buildings every three years, our view is similar to the respondents who answered negatively to this question. If we consider correctly the influence of taxation, fiscal policy on accounting, then we cannot talk about fair view financial statements which are made based on professional judgement. Taxation would not require accounts to use certain methods of evaluation, respectively revaluation of assets of the entity that should be planned by entity experts, and date of the revaluation to be established with professional judgement in order to be made when necessary. But we agree with the affirmation that revaluation of buildings would not be obligatory, the majority of the entities would not revaluate them.

There are no statistical significant differences between evaluation procedures / methods applied by micro and small entities (MSE), respectively by medium and large entities (MLE), in Romania and Hungary. Thus, we confirm that the size of the entity has no effect on the election evaluation procedures / methods for tangible assets in Romania and Hungary.

There are significant differences between evaluation procedures / methods applied by micro and small entities in Romania and Hungary, respectively between evaluation procedures / methods applied by medium and large entities in Romania and Hungary. Thus, we can confirm that the economic entities in Romania generally apply different evaluation procedures / methods for tangible assets than the economic entities in Hungary, so the fair view of the information presented in the financial statements is based on different evaluation procedures / methods in the two countries.

In our opinion these differences affect the comparability of the financial information between the two countries. So, the information presented in the annual financial statements concerning tangible assets, must be restated in order to be compared.

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[4] http://www.iasplus.com/en/standards/ias/ias16

Appendices

Table No. 1
Significance threshold – Evaluation procedures / methods used by entities in Hungary

No.	Evaluation procedures / methods	Asymp. Sig.
1	The criteria used to recognize the tangible assets	0,804
2	Evaluation bases used to present tangible assets in annual financial statements	0,145
3	Recognition of the impairment of tangible fixed assets in annual financial statements	0,208
4	The staff who realized the revaluation of the tangible assets	0,000
5	Groups of tangible assets that were revalued in 2012	0,000
6	Amortization methods used by entities	0,060
7	Recognition of the residual value of tangible assets	0,671
8	The treatment of the costs related to the acquisition of tangible assets	1,000
9	The treatment of the costs of renovation, maintenance and repair of tangible assets in “questionable, interpretation” cases	0,084

Table No. 2
Significance threshold – Evaluation procedures / methods used by micro and small entities

No.	Evaluation procedures / methods	Asymp. Sig.
1	The criteria used to recognize the tangible assets	0,412
2	Evaluation bases used to present tangible assets in annual financial statements	0,000
3	Recognition of the impairment of tangible fixed assets in annual financial statements	0,000
4	The staff who realized the revaluation of the tangible assets	0,000
5	Recognition of the residual value of tangible assets	0,008
6	The treatment of the costs related to the acquisition of tangible assets	0,000
7	The treatment of the costs of renovation, maintenance and repair of tangible assets in “questionable, interpretation” cases	0,000

Table No. 3
Significance threshold – Evaluation procedures / methods used by medium and large entities

No.	Evaluation procedures / methods	Asymp. Sig.
1	The criteria used to recognize the tangible assets	0,868
2	Evaluation bases used to present tangible assets in annual financial statements	0,001
3	Recognition of the impairment of tangible fixed assets in annual financial statements	0,000
4	The staff who realized the revaluation of the tangible assets	0,000
5	Recognition of the residual value of tangible assets	0,903
6	The treatment of the costs related to the acquisition of tangible assets	0,001
7	The treatment of the costs of renovation, maintenance and repair of tangible assets in “questionable, interpretation” cases	0,000