

**ACADEMY OF ECONOMIC STUDIES OF MOLDOVA**

As manuscript

C.Z.U.: 657.421.1:657.6(478)(043)

**MIHAI POPOVICI**

**IMPROVEMENT OF ACCOUNTING AND AUDITING  
FOR TANGIBLE ASSETS**

**Scientific specialty: 522.02 - Accounting; audit; economic analysis**

Summary of PhD thesis in Economics

**CHIȘINĂU, 2020**

**The thesis has been developed within the department of “Accounting, Audit and Economic Analysis” of the Academy of Economic Studies of Moldova**

**Scientific adviser:**

**NEDERIȚA Alexandru** – habilitated doctor in Economics, university professor, ASEM

**Doctoral committee:**

- 1. President – GRIGIROI Lilia**, Dean faculty of “Accounting”, PhD, assoc. prof., PhD program 522.02 – Accounting; audit; economic analysis, ASEM;
- 2. Scientific adviser – NEDERIȚA Alexandru**, hab. dr., univ. prof., PhD program 522.02 – Accounting; audit; economic analysis, ASEM;
- 3. Official referent – MANOLI Mihail**, PhD, assoc. prof., PhD program 522.02 – Accounting; audit; economic analysis, USEM;
- 4. Official referent – HLACIUC Elena**, PhD., univ. prof., PhD program – Accounting, “Ștefan cel Mare” University of Suceava, Romania;
- 5. Official referent – ISTRATE Costel**, PhD, univ. prof., PhD program – Accounting, “Alexandru Ioan Cuza” University of Iași, Romania.

The defense will take place on 15.04.2020, at 15<sup>00</sup>, within the sitting of the **Doctoral committee** of the Academy of Economic Studies of Moldova: MD-2005, Chișinău, 59 G. Bănulescu Bodoni street, 1rd floor, office 104 (block B).

Thesis and summary can be found at the Scientific Library of the Academy of Economic Studies of Moldova, on the website of ASEM ([www.irek.ase.md](http://www.irek.ase.md)) and on the website of ANACEC ([www.cnaa.md](http://www.cnaa.md)).

**President of Doctoral commission,**  
PhD in Economics,  
Associate Professor

**GRIGOROI Lilia**

**Scientific adviser:**  
Habilitated Doctor in Economics,  
University Professor

**NEDERIȚA Alexandru**

**Author:**

**POPOVICI Mihai**

© Popovici Mihai, 2020

## CONTENTS

CONCEPTUAL ITEMS OF THE RESEARCH .....	4
CONTENTS OF THE THESIS.....	7
CONCLUSIONS AND RECOMMENDATIONS .....	22
BIBLIOGRAPHY .....	25
LIST OF THE AUTHOR'S PUBLICATIONS ON THE THESIS THEME .....	27
ANNOTATION .....	29

## CONCEPTUAL ITEMS OF THE RESEARCH

**Timeliness and importance of the research.** Tangible assets is a key component of a manufacturing entity's heritage and its wealth. The results of entrepreneurial activity are closely related to the proper functioning of tangibles, to their updating and continual modernization and to their proper management. In this context, studying accounting and auditing issues of tangibles has a great priority for production entities.

Tangible assets are continuously considered by researchers and scholars from our country and abroad. As result, we can note a number of differences between the interpretations at national, European and international levels. General studies on the problems of accounting and auditing of tangible were carried out in the works of domestic and foreign economists, such as A.A. Arens, J.K. Loebbecke, E. Lusk, M. Halperin, D. George, L.D. Karen, M. Ristea, M. Boulescu, O. Bojian, V. Munteanu, C. Crișan, A. Dincă, L. Cernusca, D. Visan, D. Botez, C. Ionaș, A. Nedeița, V. Bucur, M. Gherasimov, L. Grigoroii, L. Lazar, L. Cauș, L. Foalea, A. Iachimovschi, L. Brînzilă, A. Graur, M., N. Țiriulnicova, I. Lazar, A. Vragaleva etc.

The **purpose** of this **research** is the investigation and complex examination of the theoretical and applicative aspects of the issues dealt with tangibles accounting and auditing with the aim of creating the fundamental ways of their improvement in accordance with the international norms.

For the achievement of this purpose the following **objectives** were set:

- conceptual study of the notion of tangible assets;
- approaches to the problems dealt with the recognition and primary evaluation of tangible assets along with the identification of the elements to be included in their entry cost;
- analysis of the ways of further evaluation and depreciation of tangible assets and identification of the advantages and disadvantages of amortization methods stipulated by the national accounting regulations through their adjustment to the international requirements;
- identification of the solutions regarding the classification and accounting of subsequent expenses and examination of the issues referred to tangible assets de-recognition;
- elucidation of problems as regards accounting for tangible assets owned jointly under public-private partnership contracts;
- settlement of problems related to audit pre-planning and planning, to the identification of audit risks for tangible assets;
- problem description of the audit evidence collection and of the ways of application of audit procedures necessary for tangible assets auditing;
- improving the exposure of audit opinions and completion of the audit of tangible assets.

**Research hypothesis.** To achieve the objectives listed above there were studied the national, Europeans and international accounting provisions, the experience of other countries as well as the works, investigations and opinions of local and foreign authors, scholars and researchers. We believe that only through a thorough research of all aspects of this subject it is possible to achieve the set objectives for the improvement of auditing and accounting for tangible assets.

**Research Methodology.** The research area of this thesis results from its title and refers to the accounting and auditing domains. This paperwork is intra-disciplinary, its character being mainly applicative; the existing knowledge is used to solve specific problems in order to finally obtain new organizational structures and methods to be applied to a specific and descriptive area, the existing phenomena and exploratory elements being described in details. In carrying out the research there have been used the quantitative and the qualitative, inductive and deductive methods as well as the methods of analysis and synthesis in dependence of the set objectives.

**The important scientific problems solved** in this investigation are related to the recognition and measurement of tangible assets - mainly to their entry-cost formation, to the elucidation of a number of aspects related to the subsequent evaluation, amortization and depreciation of tangibles and to their cost accounting thereafter. There were elucidated some concerns related to accounting for tangible assets held under public-private partnership and there were suggested recommendations for improved accounting with the private partner. There were also addressed some issues related to the audit of tangible assets, particularly to the audit mission, audit sampling and completion of the audit mission.

**The scientific novelty and originality of the work** lies in solving a series of problems related to accounting and auditing of tangible assets, in offering theoretical foundations on the subject, the innovative elements covering the following items:

- deepening and developing the concept of tangible assets and proposing recommendations of new criteria for the classification of tangible assets;
- substantiating the formation of the entry cost in accordance with the acquisition source and with the basic accounting principles;
- recommending the application of depreciation methods used in international practice, such as the “pool” and the “softy” methods;
- founding the need to classify the types of tangible assets in dependence of their territorial location with the aim of their further revaluation;
- rationalization of accounting for subsequent costs related to the tangible assets through the foundation of the notion of capitalization of subsequent costs;

- addressing the problems of partial de-recognition of tangible assets, the liquidation of the access route or the removal of an old object with the purpose of building a new one;
- improving the accounting for tangible assets owned on the basis of public-private partnership contracts by recommending accounting for entries, revaluation of the subsequent costs related to the object received to the private partner;
- investigation of the stages of accounting for tangible assets through its segmentation into divisions/ accounts of bookkeeping or of financial statements;
- elucidation and settlement of issues dealt with the collection and use of audit evidence with reference to tangible assets;
- suggesting foundations for recovery directions of the results of tangibles auditing;
- development of new forms of working documents and making proposals for their use at all stages of the auditing fulfillment.

**The theoretical significance** of this research consists of the analysis of the national and international approaches regarding the concept of tangible assets and the identification of its elements, the formulation of new ones, such as, “land improvements”, “capitalization of subsequent costs of intangible assets” and re-definition of the term “public-private partnership”, the analysis of the elements of the entry costs for the tangible assets and the recommendation of new criteria for setting their fair value, identification of depreciation methods used in international practice and of the new criteria of de-recognition of the tangible assets, substantiation of the ways of improving the audit of tangibles assets based on compartments/accounts of bookkeeping.

**The practical value** of this research is confirmed by the introduction of new bookkeeping accounts, such as, Fixed assets of public-private partnerships, Goods received under public-private contracts etc., argumentation of introduction of new depreciation methods applied in international practice, recommendations of new methods of determining the fair value, proposals of several schemes of accounting formulae, of new forms of revaluation and performance of subsequent costs, as well as of information notes for changes in the value of tangible assets held by public-private partnerships, the practical application of the collection procedures for audit evidence and of the working documents such as the questionnaire on internal controlling.

**The main scientific results forwarded to the defense** derive from the dissertation objectives and consist of the conceptual development and deepening of the notion of tangible assets; identifying the elements of formation of entry costs for tangible assets; recommending application of the depreciation methods used in international practice and rationales of establishing the classes of tangible assets according to their territorial location; addressing the issues on de-recognition of tangible assets,

improving accounting for tangibles held under public-private partnership contracts; investigating the steps in auditing tangible assets in terms of its segmentation by compartments of bookkeeping and solving issues related to collection and use of audit evidence for tangible assets;

**Implementation of scientific results.** The results of this research have been used to improve accounting for tangibles in “Floreni” LLC and “Sara Distribution” LLC entities, that have implemented the act of reception of non-compliant goods, the act of revaluation, the minutes of confirmation of the subsequent costs and the model of independent evaluation of a tangible asset. To improve tangibles, audit the company “Audit-Concret” JSC has implemented the questionnaire of internal controlling on the state of tangibles, and also applied in practice the recommendations proposed for auditing of recognition, de-recognition, amortization and revaluation of tangibles and determination of audit risks.

**Approval of research results.** The research results were presented and approved at five international scientific conferences and symposia organized in the country and abroad.

**Publications from thesis.** The research results were published in 10 scientific papers with a volume of 5.1 copyright sheets, 5 articles – in specialty scientific journals in the country and abroad.

**Volume and structure of the thesis.** This dissertation contains annotation, introduction, three chapters, conclusions and recommendations, bibliography (203 titles), 146 pages of main text, 42 figures, 23 tables and 22 annexes.

**Keywords:** accounting, auditing, tangible assets, recognition, primary evaluation, subsequent evaluation, depreciation, amortization, subsequent costs, de-recognition, public-private partnership, audit evidence, audit risk, audit mission planning, completion of audit mission.

## CONTENTS OF THE THESIS

The **Introduction** argues the topicality and importance of the research theme, there are determined the purpose and objectives of the thesis, it is described the scientific novelty and originality of the obtained results and justified the practical value of the thesis.

In **Chapter 1**, “**Theoretical aspects of accounting for tangible assets**”, there are examined general concepts, components and criteria for classification of tangible assets, ways of recognition and primary evaluation of tangibles and settlement of problems related to entry cost formation.

NAS “Tangible and intangible assets” define assets as property held by the entity for a period longer than one or to be transmitted for use to third parties, and tangible assets – as property in the form of fixed assets, land, assets in operation, investments in real estate and mineral resources [17, pt. 4].

Different authors classify the tangible assets in various ways: depending on the source, proprietorship, on the type of performed activity, on the branch criterion etc. Given the fact that NAS “Tangible and intangible assets” contains the definition of depreciable assets, we deduce that the

tangible assets can be classified according to the depreciation criteria, namely depreciable (fixed assets except non-depreciable, mineral resources, investments in real estate) and non-depreciable (land, tangibles in operation, library funds, cinemas, museum and art objects, buildings and special constructions regarded as monuments of architecture and art, fully depreciated objects but still in operation).

Another classification criterion, in our opinion, may be the degree of mobility, according to which the tangible assets can be divided into mobile (transportation means, tools, instruments, etc.) and real estate (buildings, land, constructions, etc.). In national and international practice there are several concepts related to the composition of tangible assets. Depending on the applied accounting standards or the national norms of each country, the tangibles contain different elements.

Analyzing the sources in the figure below, we see that in international law there are a number of other components of tangible assets, such as plants or productive biological assets (IAS, Romania) and advances (EU Directive, Romania). However, according to the Romanian accounting regulations land is divided into two categories: land and land improvements [16, pt. 193]. It is noted that land is not depreciated but land improvements are.

NAS	IAS	EU directive	Romanian Law	Russian Law
<ul style="list-style-type: none"> <li>▪ tangible assets in operation</li> <li>▪ plots of land</li> <li>▪ fixed assets</li> <li>▪ mineral resources</li> <li>▪ real estate investment</li> </ul>	<ul style="list-style-type: none"> <li>▪ plots of land</li> <li>▪ lands and buildings</li> <li>▪ machinery and equipment</li> <li>▪ ships, aircraft, cars</li> <li>▪ furniture</li> <li>▪ installations, spare and assembly parts</li> <li>▪ stationery</li> <li>▪ productive plants</li> </ul>	<ul style="list-style-type: none"> <li>▪ plots of land and construction</li> <li>▪ technical installations and machinery</li> <li>▪ other installations</li> <li>▪ equipment and furniture</li> <li>▪ advances granted</li> <li>▪ tangibles in operation</li> </ul>	<ul style="list-style-type: none"> <li>▪ plots of land and constructions</li> <li>▪ technical installations and machinery</li> <li>▪ other installations</li> <li>▪ equipment and furniture</li> <li>▪ real estate investments</li> <li>▪ tangible assets for exploration and evaluation of mineral resources</li> <li>▪ productive biological assets</li> <li>▪ advances</li> <li>▪ tangibles in operation</li> </ul>	<ul style="list-style-type: none"> <li>▪ mineral resources</li> <li>▪ fixed assets</li> <li>▪ real estate investments</li> </ul>

**Fig. 1. Items of tangible assets according to the national and international accounting regulations**

Source: elaborated by the author on the basis of national and international accounting regulations



Considering the above, we propose to introduce in NAS the category of “land improvements” that would define the expenses incurred on setting up some plots of land, lakes and ponds, such as access ways, connections to energy resources, water, sewage, dams, fences etc. We recommend their inclusion in the composition of tangible assets as well as the productive biological assets, because they correspond to the broad definition of tangible assets.

Generalizing on the above, we believe that the concept of tangible assets in NAS “Tangible and intangible assets” should be amended so that it can be defined as fixed assets, land and land improvements, advance payments and tangible assets in operation, mineral resources, investments in real-estate property and productive biological assets.

The particular features of tangibles recognition are various, depending on the way of their entry: through acquisition, by creation within the entity, in exchange, as a contribution to the capital stock, free of charge, subsidized, for economic management etc.

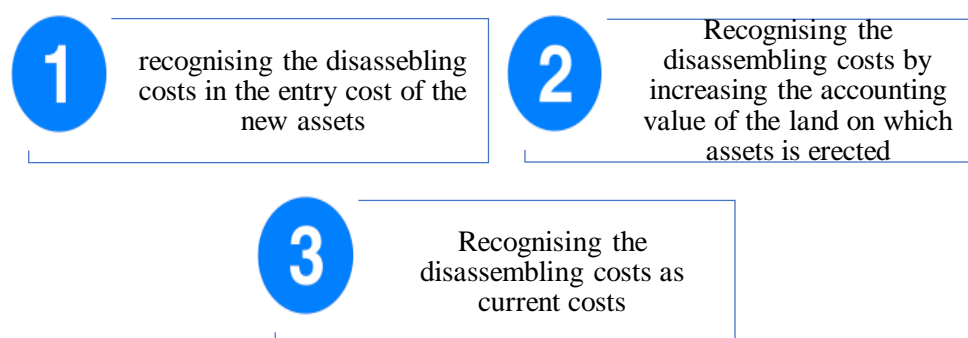
A problem related to the acquisition of fixed assets from abroad lies in their reception with some technical defects or even with quantitative shortages. These allowances may be caused by the fault of the seller, who did not send goods accordingly, or by the fault of the carrier, who transported the goods causing damages to them. For such situations, we propose entities to draw up the act of reception of inappropriate goods, similar to the one from this thesis, in the presence of the seller, the buyer and the carrier.

For the accountants who can not appeal to an independent evaluator to assess the value of an object from different causes (lack of liquidity, placing at a distant from city location, etc.), this thesis describes how to independently determine the fair value of the tangible asset.

In accordance with the NAS “Tangible and intangible assets” the entry cost of an object acquired is composed of the purchase price, customs duties, unrecoverable taxes and duties, with the deduction of all reductions, rebates and commercial discounts at acquisition and of any costs directly attributable to the object to be placed in the location and to be put in the condition necessary for its use according to its destination [17, pt. 8].

IAS 16 states that the cost of tangible assets also includes the primary estimates of the costs of dismantling and removing of the item and its mounting in the site on which it is located, an obligation that an entity incurs when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period [3, pt. 16].

In our opinion, to record the costs of disassembling there are three solutions, namely:



**Fig. 2. Solutions for recognizing disassembly costs**

Source: elaborated by the author

We propose that the disassembling costs and preparation of land for construction, such as a plantation clearing, demolition of old buildings to build new ones, etc., to be considered current expenditure in order to observe the principle of comparability of the tangible assets with other tangible assets.

The cost of entry of tangible assets is different, depending on whether the entity is liable to VAT or not. For VAT non-taxable entities, the cost of entry of the purchased tangibles includes VAT. In our view, it is incorrect that the cost of entry of the same object for an entity liable to VAT to be 20% lower than for a VAT non-taxable entity. Such cases can lead to the recognition at different costs of the similar tangible assets. We believe that in this case non-taxable entities should not include this tax in the cost of entry of the purchased fixed assets, but to recognize that as current expenditure.

The accounting for items purchased at a symbolic price is also rather topical. Lately, questions arise on reflecting the cost of entry of tangible assets, such as mobile phones, tablets and other gadgets at symbolic prices being purchased from certain operators at a price of 1 MDL. We believe that the best solution is to evaluate the asset from the start at its fair value, and not according to the data from the entry document.

A problematic situation is the fact that the NAS does not address the concept of updated value at the purchase of tangible assets with their subsequent payment. Please note that IFRS pays special attention to the evaluation according to the updated value. According to NAS, the entity reflects the total cost of entry in accordance with the confirming documents. In our opinion, this position is wrong when payment is delayed by a year or several years, as the updated value of the tangible asset at the time of payment will be lower than the value at the time of purchase. In our opinion, the determination of the entry cost of the purchased tangibles, provided their deferred payment, affects not only the cost of entry of the objects, but also the interest and depreciation expenses borne by the entity.

In Chapter 2 “Methodological and practical approaches to accounting for tangible assets” there are described the methods for subsequent evaluation and the ways of counting the results, are

examined the problems of tangibles depreciation, are analyzed the methods of amortization provided by NAS, are proposed other methods of amortization used in the international practice, are solved the problems of subsequent costs of tangibles and their de-recognition, as well as are addressed the problems related to accounting for tangibles used under the public-private partnership contracts.

NAS “Tangible and intangible assets” proposes two models of subsequent evaluation: the cost-based model and the revaluation model. The revaluation model is applied regularly enough so that the accounting value does not differ significantly from that which would be determined using the fair value on the date of report. The categories of tangibles, the fair value of which are exposed to significant and volatile changes are revalued annually and the categories of assets with insignificant changes in their fair value - once in 3-5 years [17, pt. 183].

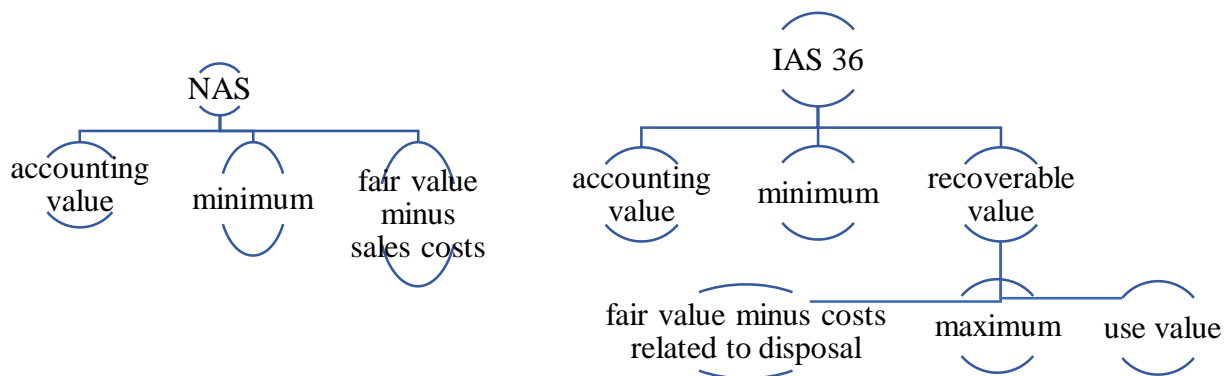
It should be noted that according to IAS 16, if an item of tangible property is revalued, the entire category of property, to which that asset belongs, shall be revalued [3, pt. 36]. This topic was discussed in more details in one of the publications of the author [14].

An issue that is regulated neither by NAS “Tangible and intangible assets” nor by IAS 16 is the lack of clear specific provisions to regulate the establishment and composition of categories of tangible assets. In our opinion, the NAS should allow entities with more subdivisions to conduct revaluation of tangible assets not only by category, but also on subdivisions apart. This option can be selected by the entities with many regional divisions and needs to be reflected in the accounting policies of the entity. Thus, geographical location will not be an impediment to perform the revaluation of tangible assets.

In terms of documentation, there is no regulatory act, that would record the results of revaluation. Starting from the provisions on the mandatory elements of a primary document stipulated in Law No. 287/2017 [6], we propose such a model. This document is used only in the case, when performing the revaluation of categories of tangibles by a commission formed within the entity.

According to NAS “Depreciation of Assets”, the entity must determine on each reporting date whether there is any indicator of depreciation of an asset. In our opinion, besides the indicators under NAS “Depreciation of Assets” and IAS 36 as external indicator may be considered the higher inflation rate, if it had significant annual growth of at least two digits). It would be an index that would influence the change in the fair value of the tangible assets held by the entity.

A problem related to the depreciation of tangible assets is the method by which it is to be carried out: under NAS “Depreciation of assets” or according to the IAS 36. The difference between the two methods is shown in the figure below. The fair value minus the costs of disposal and the utility value (the updated value of the future cash flows that are expected to be obtained from an asset or from a cash generating unit) are the main components of the recoverable value according to IAS 36.



**Fig. 3. Depreciation of fixed assets under NAS “Depreciation of Assets” and IAS 36**

Source: elaborated by the author based on NAS “Depreciation of Assets” and IAS 36

Taking into consideration these legal provisions, we recommend to include in the NAS “Depreciation of Assets” the method for calculating depreciation under IAS 36 to ensure comparability of the results of tangibles depreciation between entities using NAS and those using IAS / IFRS.

Amortization of assets represents the systematic distribution of the depreciable value of an asset for the accounting period of the time of use [17, pt. 4].

The accounting depreciation may affect taxation, in particular when calculating the real estate tax. In the explanations of SFS [2], the tax base for buildings, constructions and other objects liable to taxation, the removal of which is impossible without causing damage to their destination, is the book value of the real estate from the financial statement as of 1 January of the current fiscal year. Given the fact that the book value is formed by reducing the entry costs by depreciation and amortization losses, the choice of the method of depreciation will directly affect the tax base for the tangible assets mentioned above, because each method provides different results.

According to the NAS “Tangible and intangible assets”, the life time and the residual value of each item is determined by the entity independently at the time of transmission of the object for use [17, pt. 20]. A problem can occur when the previously established period of use after some time is to be reviewed and modified. In our opinion, the situations justifying the revision of the duration of use can be: higher performance due to repairs, significant modification of the conditions of use, obsolescence and preservation of the tangibles etc.

In the NAS “Tangible and intangible assets” it is not specifically indicated for which fixed assets the residual value can be zero, but we believe that the accounting policies of each entity must indicate the materiality threshold under which to decide whether a fixed asset can be assigned to residual value. This index can be calculated using the following formula:

$$R_{vi} = \frac{E_{rv}}{E_c} \times 100\% \text{ where: } \begin{array}{l} R_{vi} - \text{the residual value indicator;} \\ E_{rv} - \text{the estimated residual value;} \\ E_c - \text{the entry cost} \end{array}$$

If the residual value index is lower than the threshold value, the residual value will be zero. If the residual value is greater than materiality threshold, the residual value will be the one which was initially estimated.

A depreciation method not used NAS but proposed by the Romanian accounting regulations is the accelerated method of depreciation which provides for counting at the time of entry of the fixed assets in the heritage of the entity of an annual amortization up to 50% of their entry value and, in following reporting periods, the calculation of depreciation is made using the linear method, through the division of the remaining depreciable value by the number of years left.

The table below shows the difference between the linear and accelerated methods of the cost of an asset at the entry cost of 500 000 MDL, with the life cycle of 5 years and the residual value of 80 000 MDL.

**Table 1. Comparison of the linear method with the accelerated method**

Years	Linear method			Accelerated method			linear – accelerated method
	counting method	annual amortization	book value	counting method	annual amortization	book value	
1	$(500\,000 - 80\,000)/5$	84 000	416 000	$(500\,000 - 80\,000) \times 50\%$	210 000	290 000	+126 000
2	$(500\,000 - 80\,000)/5$	84 000	332 000	$(290\,000 - 80\,000)/4$	52 500	237 500	+94 500
3	$(500\,000 - 80\,000)/5$	84 000	248 000	$(290\,000 - 80\,000)/4$	52 500	185 000	+63 000
4	$(500\,000 - 80\,000)/5$	84 000	164 000	$(290\,000 - 80\,000)/4$	52 500	132 500	+31 500
5	$(500\,000 - 80\,000)/5$	84 000	80 000	$(290\,000 - 80\,000)/4$	52 500	80 000	0

Source: elaborated by the author

It can be noted that in the case of the accelerated method, during the first year of use the annual depreciation is 50% of the depreciable amount. Therefore, it can be used to calculate the depreciation of the fixed assets the value of which falls significantly during the first period. Therefore, we propose to include the accelerated method of amortization in the NAS “Tangible and intangible assets”.

One of the less known methods is the Anglo-Saxon “pool” method, which is characterized by applying a single depreciation rate to the book value of all fixed assets of the same category (for example, 10%, 15%, 20%, 25% annually). The table below shows the difference between the linear method and the “pool” method on the data from the previous example and a single amortization rate of 25%.

**Table 2. Comparison of the linear method with the “pool” method**

Years	Linear method			“Pool” method			linear - “pool” method
	counting method	annual amortization	book value	counting method	annual amortization	book value	
1	$(500\ 000-80\ 000)/5$	84 000	416 000	$(500\ 000-80\ 000) \times 25\%$	105 000	395 000	+21 000
2	$(500\ 000-80\ 000)/5$	84 000	332 000	$(500\ 000-80\ 000) \times 25\%$	105 000	290 000	+42 000
3	$(500\ 000-80\ 000)/5$	84 000	248 000	$(500\ 000-80\ 000) \times 25\%$	105 000	185 000	+63 000
4	$(500\ 000-80\ 000)/5$	84 000	164 000	$(500\ 000-80\ 000) \times 25\%$	105 000	80 000	+84 000
5	$(500\ 000-80\ 000)/5$	84 000	80 000	–	–	–	–

Source: elaborated by the author

Depending on the chosen single depreciation rate the “pool” method may be a more or less accelerated method, allowing its use in different situations where the calculation of depreciation of an asset is wished to be made faster.

Another method of depreciation specific for the Anglo-Saxon financial system is known as the “softy” method (sum of the year's digits) or the method of decreasing quotas, in which, in order to calculate the rate of amortization the years from the period of use are summed up. In order to analyze the difference between the linear method and the method of “softy” below is an example.

Initially, the operation of calculating starts by summing the amount of years, that is 15 (1+2+3+4+5), then the annual depreciation is calculated through multiplying the annual depreciable value by each of the following fractions: 5/15; 4/15; 3/15; 2/15; 1/15 (in this order, one fraction per each year).

**Table 3. Comparison of the linear method with the “softy” method**

Years	Linear method			“Softy” method			linear - “softy” method
	counting method	annual amortization	book value	counting method	annual amortization	book value	
1	$(500\ 000-80\ 000)/5$	84 000	416 000	$(500\ 000-80\ 000) \times 5/15$	140 000	360 000	+56 000
2	$(500\ 000-80\ 000)/5$	84 000	332 000	$(500\ 000-80\ 000) \times 4/15$	112 000	248 000	+84 000
3	$(500\ 000-80\ 000)/5$	84 000	248 000	$(500\ 000-80\ 000) \times 3/15$	84 000	164 000	+84 000
4	$(500\ 000-80\ 000)/5$	84 000	164 000	$(500\ 000-80\ 000) \times 2/15$	56 000	108 000	+56 000
5	$(500\ 000-80\ 000)/5$	84 000	80 000	$(500\ 000-80\ 000) \times 1/15$	28 000	80 000	0

Source: elaborated by the author

We consider it appropriate to include in the NAS “Tangible and intangible assets” the “softy” method, that could be used in particular for calculating the depreciation of transportation means,

because in the first year of operation their value decreases sharply against the cost of entry, and in the coming years – slower. The subject was described in detail in one of the publications of the author of this thesis [11].

The “capitalization” term is provided in the NAS and in the works of the local authors [8], but a definition of it is missing. We propose to include the term of “capitalization of subsequent costs related to tangible assets “ with the wording “adding to the accounting value of a tangible asset the subsequent costs that contributed to extend its duration of use, to increase its capacity, to achieve substantial improvements of its production quality and/or the substantial reduction of the production costs.”

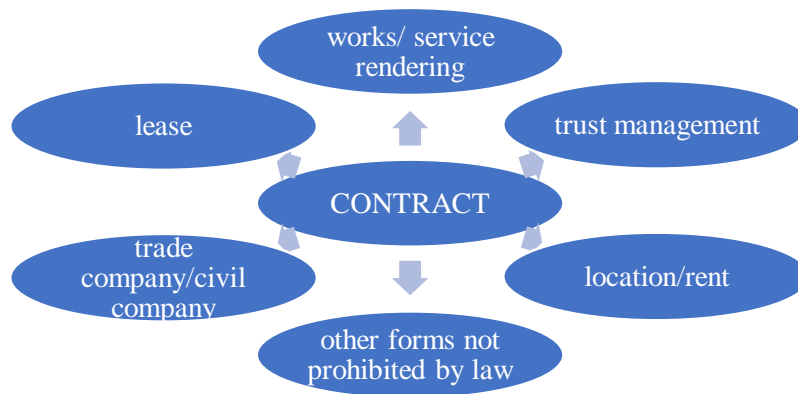
The way of documentary registration of the subsequent costs, including those to be capitalized, is not regulated enough. According to art. 11 par. (1) of Law no. 287/2017 [6], the economic facts (capitalization of subsequent costs) are accounted for under primary documents. Therefore, we propose to use as the template the minutes presented in the thesis. The minutes proposed contains the conclusions of the commission on modifying the characteristics of a fixed asset and the capitalization of the subsequent costs.

At de-recognition of tangible assets the entities that have certain special constructions such as roads or ways of access encounter problems their liquidation. Compared to other property, roads cannot be closed and always run under the destructive action of traffic and climatic factors. We believe that in the case the road is internal and will no longer be used, it can be used for other purposes (e.g. as agricultural land), and if the road is external or local, it can be transferred under the administration of public authorities.

Another problematic situation for accountants may occur when deciding to sell part of tangible asset, keeping the other part under its proprietorship [12]. In our opinion, both sides of the asset shall be measured at their fair value, then a part be accounted for as tangible asset and the part to be sold must be recorded as inventory/goods. Thus, the tangible asset still held by the entity will be reflected in the financial statements at its real value observing the prudential principle and the one meant for sale to be delimited from the other assets as a separate record while being prepared for sale.

On disposal of tangible assets problems occur between entities building real estate and the entities that provide electricity, water / sewage, natural gas. Within the legislative framework it is stated that entities that own power plants, transmission lines, electricity substations and gas installations are entitled to transmit them for free to the system operators of this property, and they are bound to receive them. We believe that in this case the above-mentioned installation should not be donated (transmitted free of charge), but sent into service under a bailment.

In a business environment that constantly feels the lack of capital and investments business people tend to associate or jointly with the State to achieve a particular result. According to the stipulations of Law no. 179/2008 [7, art. 18] and The methodological instructions on accounting peculiarities in the process of realizing public-private partnership (hereinafter - Methodical instructions) [4, pt. 7], public-private partnership is achieved through the forms indicated in Figure 4.



**Fig. 4. Forms of contracts under public-private partnership**

Source: elaborated by the author under Law no. 179/2008 [7, art. 18]

The General Plan of Accounts [9] does not provide for synthetic accounts and distinct sub-accounts of bookkeeping transmitted / received within the public-private partnership. To this end, we propose to introduce the following accounts and sub-accounts for the private partner.

**Table 4. Accounts and subaccounts proposed for goods transmitted / received under the public-private partnership**

Class	Group	Account /	Designation
1 “Tangible property”	12 “Tangible assets”	123 “Fixed Assets”, sub 1239 “Fixed assets related to public-private partnership”	Summarizes information on the existence and movement of fixed assets related to public-private partnership
8 “Management accounts”	83 “Other management accounts”	837 “Costs related to fiduciary management”	Summarizes information on the costs of trust management
		838 “Total income proceeds related to trust management contracts”	Summarizes information on total proceeds under trust management contracts
		839 “Costs related to civil society contracts”	Summarizes information on costs of civil society contracts without common assets
9 “Off- balance accounts”	-	926 “Assets received under public-private partnership contracts”	Summarizes information on goods received under public-private partnership contracts

Source: elaborated by the author

Given the fact that during the use of the asset by the private partner, it may be necessary to conduct its further evaluation or depreciation the private partner must submit the results of the operations to the public partner to make adjustments in the accounts of both entities. We propose that



the accounting regulations should include provisions on mandatory submission within one month of the said information by public and private partners in an informative note on tangible assets.

Another aspect which is not covered refers to the object evidence (land) submitted by the public partner to the private partner. Transmission to the public partner is reflected in the internal correspondence between sub-accounts opened in the accounts of the object bookkeeping, but the private partner this operation does not reflect. We believe, this approach is not justified, because this land should be counted in the private partner's accounting at least in an off-balance account (debit account 926 "Assets received under public-private partnership contracts").

A provision that is not stipulated in Methodical Instructions is related to the subsequent costs accounting of tangible assets (subject of the trust management contract). For the current subsequent costs of tangible assets, it is provided the use of an account called "Costs related to trust management" and we propose to count them in account 1236 "Subsequent costs related to objects not registered in the balance", in the case they are capitalized. However, we propose the submission of an informative note at the end of the accounting period to the public partner by the private partner to reflect the revenues and costs related to the contract of trust management.

In sharing the results of civil society contracts, it is not clearly determined the entry cost of the assets remaining in the property of the private partner. The economists Țiriulnicova N. and Dima M. believe that the party transferred to the public partner must be included in the entry cost of the tangible assets remaining with the private partner. [19] We disagree with this position, as it increases the cost of entry of the newly created tangibles, especially as the result transmission to the partner is defined in the letters SFS [15] as a supply. The author expressed his viewpoint on this subject in one of his works published abroad [10].

In **Chapter 3 "Problems of auditing tangible assets"** there were investigated the following subjects: description of the way of fragmentation the tangibles audit, characterization of the stages of pre-planning and planning, study of the types of audit evidence and of the collection procedures, proposals of solutions related to the elaboration of the audit report and the way of expressing audit opinions, analysis of economic and financial indicators related to tangible assets and presentation of directions using the audit results.

There are different methods of segmentation of an audit. By using the method of cycles, it is not possible to investigate the tangible assets. We argue that the best way is to run the audit of tangibles according to the departments (accounts) of accounting and financial statements.

The American scientists A.A. Arens and J.K. Loebbecke [1, p. 253] divide Phase I of "Planning and defining a method of auditing" in some parts of audit planning, including: obtaining information

on the background and on the legal obligations of the client, exercising preliminary analytical procedures, determination of materiality threshold, audit risk assessment etc.

Obtaining the background information is related to understanding the business branch of the customer, respectively, the specific features of accounting these tangible assets. Getting information on the legal obligations of the client can be made by checking the set-up documents to see if on founding the entity the tangible assets were put up as part of the corporate capital.

Step of performing analytical procedures is a practical step in analyzing several indicators in order to make the decision to accept a client fee proposed audit services and decisions that will auditor regarding elements samples to be collected.

In the table below we are analyzing the indicators of tangible assets of two entities surveyed in 2018 to see which one is most profitable and has highest priority to be audited.

**Table 5. Indicators analyzed under planning the audit of tangibles**

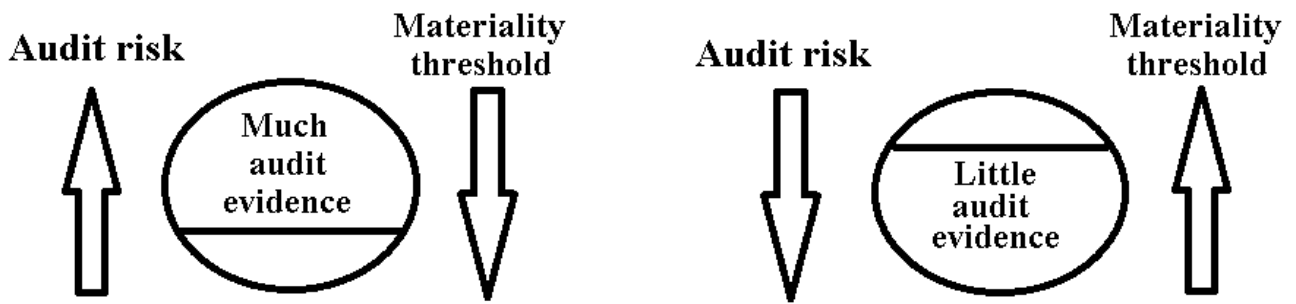
No.	Indicators	Entity analyzed		Comparing indicators of Safmadora-Grup LLC and Fitfoods LLC
		Fitfoods LLC	Safmadora-Grup LLC	
1	Tangible assets in operation	1 156 785	–	– 1 156 785
2	Plots of land	230 281	–	– 230 281
3	Fixed assets	36 660 930	1 912 769	– 34 748 161
4	Ratio of tangible assets (tangible assets / total assets)	0,92	0,28	– 0,64
5	Ratio of tangible assets / equity	4,21	0,59	– 3,62
6	Return on assets (net profit / total assets)	0,17	0,05	– 0,12

Source: elaborated by the author based on the financial statements of “Fitfoods” LLC and “Safmadora-Grup” LLC entities from 2018

Looking at the table above, it can be noted that all indicators of tangible assets at “Fitfoods” LLC company are higher than those of “Safmadora-Grup” LLC. “Fitfoods” LLC in comparison with “Safmadora-Grup” LLC entity has tangible in operation (so it is needed to check the acts of putting into operation, of construction etc.), plots of land and a greater number of fixed assets. However, the share of tangible assets - ratio of tangible assets and equity - and return on assets is higher at “Fitfoods LLC” in comparison with “Safmadora-Grup” LLC. So, to audit the tangible assets of “Fitfoods LLC” will require a fee and a period of auditing greater than when auditing “Safmadora-Grup” LLC.

The determination of the materiality threshold by the auditor is a matter of professional judgment and is affected by the auditor's perception of the financial information needed by the users of these financial statements.

In practice, materiality is indirectly proportional to the audit risk as shown in the relationship from Figure 5.



**Fig. 5. The relationship between materiality and audit risk**

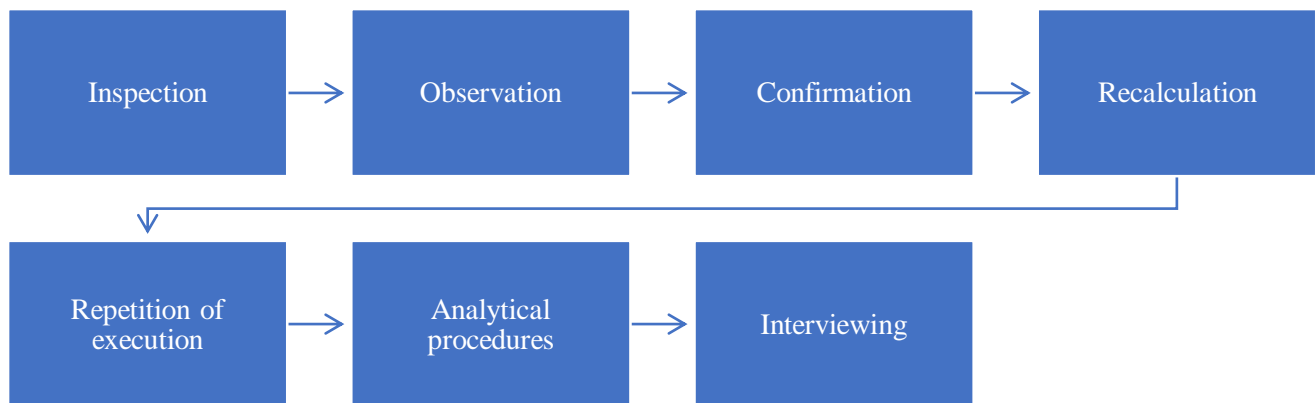
Source: elaborated by the author

In the picture above we see a close relationship between materiality and audit risk.

We believe that materiality is a relative measure rather than an absolute one and that is to be determined according to the total value of tangible assets of the audited entity in the amount of 5-10% of their value. A problem for auditors can occur if the entities do not have an organized system of internal control. For these entities there is a high-risk control, expressed numerically by 100%.

When running an audit, the essential step is to gather audit evidence. This is the information used by the auditor to found the findings on which their opinions are based and which can be collected from the accounting records. The author's point of view on this matter was largely described in one of the works published abroad [13], which pinpoints the audit evidence on fixed assets.

Audit procedures to obtain audit evidence may include:



**Fig. 6. Audit procedures**

Source: elaborated by the author based on ISA 500 [5, pt. A16]

When auditing tangible assets, the auditor may participate in both inventorying and in internal controlling activities performed by the entity's personnel to collect evidence as accurately as possible even from within the entity.

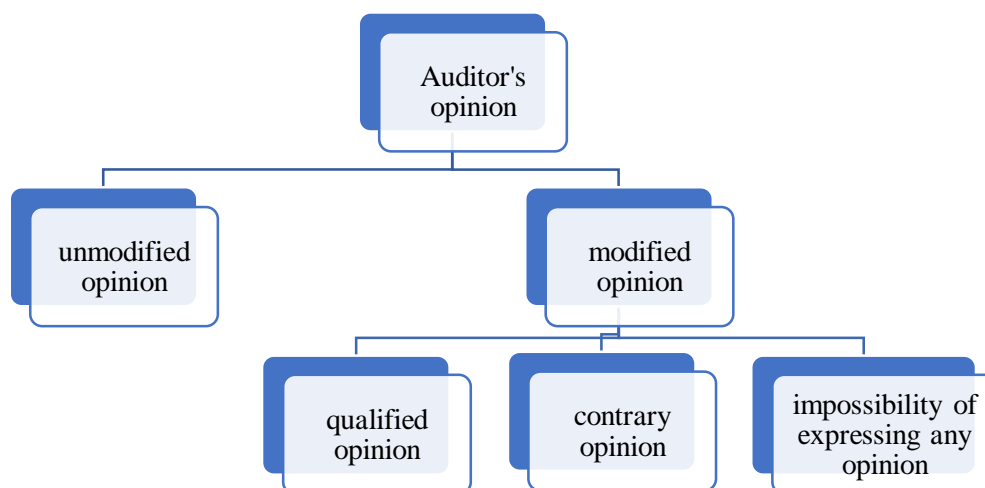
The auditor may request from the suppliers or customers of the entity the acts of checking balances or the documents confirming mutual balances. For example, if an entity creates a tangible

asset, the auditor may require from the suppliers of raw materials or services the act confirming the mutual balances to check if there were no inflated expenses for their creation.

Under tangibles auditing it is recommended that the auditor checks the accuracy of the mathematical formulas used to calculate the depreciation of tangible assets, depending on the method of calculation used under its own accounting policies.

We recommend using a questionnaire, which should be submitted to the chief accountant before starting the audit of tangibles, the model of which is presented in the thesis. We believe this will provide greater clarity on how to account for tangible assets of the audited entity at the very beginning of the audit engagement.

The last stage of an audit is the completion of the audit and the issue of the audit report. In our opinion, the most important component of an audit report is the audit opinion. Depending on the conclusions drawn on the basis of the collected audit evidence during their audit, the auditor may issue one of the following opinions:



**Fig. 7. Types of opinions from the auditor' report**

Source: elaborated by the author

In our opinion, when auditing tangible assets, an unmodified opinion should be expressed when the auditor concludes that, based on the audit evidence obtained the overall situation of the tangibles assets is in accordance with the applicable financial reporting framework.

We believe that the qualified opinion related to the audit for tangible assets can be expressed when the auditor is unable to apply all the necessary audit procedures so as to achieve the audit objective or when they are unable to express an unmodified opinion.

A contrary view (or unfavorable effects, as it is called in other sources) should be expressed after auditing the tangible assets, when significant errors have been detected in the financial statements compared to the statements de facto created by the entity.

We believe that it is impossible to issue an opinion after the audit when the objectives of tangibles audit cannot be achieved at all or hardly achieved because of lack of evidence. This may occur due to lack of access to documents of recognition or de-recognition of property, to conduct subsequent costs, especially on their capitalization and to other accounting documents.

The tangibles audit is completed with the analysis of their use efficiency, which is necessary for the recovery of the audit of the audited entity. The economists N.Tcaci and V. Cojocaru [18, p. 150] propose a group of indicators expressing the efficient use of the fixed assets.

To see in practice how to calculate each of these indicators, below we are presenting an example based on the financial statements of the 2017 and 2018 years prepared by the entity “Safmadora-Grup” LLC.

**Table 6. Analysis of efficient use of fixed assets**

No.	Indicators	Accounting period		The deviation (+;-)
		2017	2018	
1	Productive fixed assets, thousand MDL	2 356	1 913	-443
2	The value of services, thousand MDL	2 350	2 434	+84
3	Sales revenue, thousand MDL	11 094	35 059	+23 965
4	Net profit /net loss thousand MDL	1 696	311	-1 385
5	Yield of productive fixed assets (1.2: 1.1)	0,99	1,27	+0,28
6	Productive capacity of fixed assets (1.1: rd.2)	1,00	0,79	-0,21
7	Fixed assets exploitation rate (1.3: 1.1)	4,71	18,33	+13,62
8	Rotation time of productive fixed assets (1.1: 1.3x360)	76,45	19,64	-56,81
9	Return of productive fixed assets (1.4: 1.1x100)	71,99	16,26	-55,73

Source: elaborated by the author

Analyzing the yield of productive fixed assets of the entity being audited, the auditor notes that in 2017 this indicator is negative for the services per one MDL of the invested assets is up to nearly a MDL. In 2018, this indicator is higher (1.27 MDL), i.e. an increase of 0.28 MDL. Neither the productive fixed assets' capacity indicator is satisfactory in 2017, because for one production MDL is required a value unit of fixed assets. In 2018 this indicator is better.

The exploitation coefficient of productive fixed assets obtained from the analysis demonstrates that the value of the productive assets of the entity generates revenues of 4.71 times higher than their own value. In 2018 they obtained a coefficient of 18.33, representing a positive trend. The auditor may notice that the productive fixed assets started to be managed better and to bring a higher income. The rotation time of the productive fixed assets has a positive trend, because it decreased from 76.45 in 2017 to 19.64 in 2018. However, due to the decrease in the net profit to 1385 thousand in 2018 compared to 2017, the return on the productive fixed assets reflects a lower efficiency in 2018 than in 2017.

We conclude that the auditor must come up with some recommendations to the audited entity to make better use of the tangible assets owned. The results of the audits and of the economic and financial analysis of the tangible assets will contribute to making correct managerial decisions by the audited entity's management in order to improve the accounting of the tangible assets owned by them.

## **CONCLUSIONS AND RECOMMENDATIONS**

The investigations conducted in the domain of accounting and audit of tangible assets allowed the following **conclusions**:

**1.** The specialty literature contains multiple concepts related to tangible assets. Investigating the national and international standards of accounting, the accounting rules of other states, and the provisions of Directive 2013/34 / EU we can conclude that the productive biological assets, the granted advances related to tangible assets and land improvements according to NAS, are not included in the composition of tangible assets.

**2.** During the operations of recognition and measurement of tangible assets practitioners face different challenges for which there are no finalized solutions: the recognition of tangible assets, the determination of the costs to be included in the cost of entry, the reception following the acquisition from abroad of fixed assets with certain defects or quantitative shortages, revaluation of tangible assets fully worn-out and the establishment of classes of tangibles with the entities with divisions located at longer distances.

**3.** The selection of the calculation method of depreciation is succeeded by certain problematic issues such as the establishment of its duration of use and of the residual value of the depreciated tangible assets. NAS "Tangible and intangible assets" offers only three methods of amortization. In international practice but there are some more methods, the advantages of which we have demonstrated in this research.

The concept of capitalization is not defined by NAS and the procedure of drafting the documents on subsequent costs is not regulated as well. At the same time there are also various problems reported to the de-recognition of tangible assets.

**4.** Accounting for tangible assets under public-private partnerships has received little attention except for the latest period, when the Methodological instructions have been approved. The complexity of this area creates problems such as: accounting for the public partner's contributions and their bookkeeping with the private partner, their revaluation, their subsequent cost accounting etc. However, the General Plan of Accounts is not adapted to the conditions of holding tangible assets under public-private partnership contracts.

5. Any audit is performed by dividing the financial statements into segments or smaller parts. It has been demonstrated that to audit tangible assets it is necessary to apply fragmentation based on the compartments method or on bookkeeping accounts. When initiating the tangibles auditing mission, it is also necessary to draw up a questionnaire for collecting audit evidence. Particular attention was paid to how to express the audit opinion. However, some experts and practitioners recommend to carry out the economic and financial analysis of the audited entity in order to ensure continuity of its activity being proposed several indicators, the calculation of which was presented in the thesis.

**Applied science problems of major importance solved** in this investigation are related to the recognition and primary evaluation of tangible assets (particularly to the entry cost formation), elucidating some aspects of further evaluation, amortization and depreciation of tangible assets and related to their subsequent costs accounting. There are investigated the concerns related to accounting for tangible assets held under public-private partnership and formulated recommendations of its improvement for the private partner. They addressed some tangibles auditing issues, especially the audit mission planning, audit sampling and completion of the audit engagement.

**Issues unsolved in this dissertation.** We believe that future researchers should deeper study the fiscal aspect of tangibles' depreciation. However, special attention should be paid to the tangible assets under civil society contracts between private partners, because this thesis approached only those of public-private partnerships. Finally, it is necessary to examine in more detail the audit of tangible assets, as this topic was not treated adequately in this thesis, because of the restriction on the volume of this paper-work.

Based on the conclusions above, we consider opportune the following **recommendations**:

1. To ensure consistency on tangibles composition in the Republic of Moldova with the international norms, we propose that the concept of tangible assets in the NAS "Tangible and intangible assets" be amended so that the tangibles can be defined as fixed assets, plots of land and land improvements, granted advances and tangible assets in operation, mineral resources, real estate investments and productive biological assets.

2. In the operations for recognition and evaluation of tangible assets we recommend to include in the NAS provisions the types of exchange of tangibles and re-introduction of the entry source with the surpluses found at inventorying, formation of the entry cost observing the comparability of the financial statements (recognition of VAT in the current costs for non-liable-to-tax entities, setting the entry cost of tangible assets purchased for symbolic amounts at their fair value, etc.), the use of a tangibles valuation model independently and of the act of receiving the non-compliant goods on the carrier's arrival at the point of unloading, establishment of classes of revaluation taking into account

not only the tangibles nature, but also their destination or location and the use of the act of revaluation of the tangible assets.

**3.** In order to improve the depreciation of tangible assets we insist on including in the NAS “Tangible and intangible assets” of other depreciation methods, such as the accelerated method, the “pool” method and the “softy” method. We recommend to introduce in the above NAS the term “capitalization” which would mean “adding to the accounting value of a tangible asset the subsequent costs that contributed to extending of the duration of use, to increasing their capacity, to achieving substantial improvements in production quality and / or substantial reduction of production costs “, and using the model of the minutes confirming the subsequent costs. We also recommend, the transmission of the tangible assets for disposal being included in the composition of stocks, only if they are subject to preparation for sale and taken into account the negative consequences that could jeopardize the entity after the transfer of a subsidized tangible and transmission for use of gas facilities, water, electricity, etc. under a bailment to the system operator.

**4.** Given the need to promote among private entities the public-private partnerships, we consider appropriate to amend the concept of public-private partnership being defined as “a contract between the public and private sectors to perform activities of public interest, under which the partners account duly for the resources, the risks and the benefits so, that all parties involved are rewarded and the public interest is ensured by continuous monitoring of how the project is carried out”. It is necessary to include the provisions on disclosing by the partners through an information note on the tangible assets to avoid friction on the value of the item at both partners.

**5.** In order to perform effective and qualitative audit of tangible assets we recommend to apply the method of compartments or bookkeeping accounts. Before starting the tangibles audit, we propose to present to the chief accountant of the audited entity a questionnaire to understand more clearly how to account for the tangible assets of the audited entity. At exposing an audit opinion other than the unqualified one, the auditor is warned that they should refer in the report to all aspects that led to the formulation of such opinions. We believe, that at the completion of the audit engagement it is necessary to carry out the economic and financial analysis of the entity, including its tangible assets to make correct management decisions.



## BIBLIOGRAPHY

1. ARENS, A.A. et al. Audit: An integrated approach. Chisinau: ARC, 2003. p. 949 pp. ISBN 9975-61-290-3.
2. What is the tax base for real estate and land that have not been assessed for tax purposes? © 2019 [cited 09.10.2019]. Available: <https://www.fisc.md/ShowQuestions.aspx?Category=579773dd-d59e-4c8b-9044-1d6d656fa90f&n=5.4.2>
3. IAS 16 “Tangible” [online]. [Cited 06.12.2019]. Available: <http://mf.gov.md/ro/content/standardele-interna%C8%9Bionale-de-raportare-financiar%C4%83-1>
4. Methodological instructions on accounting peculiarities in the process of fulfillment of public-private partnerships: MF Order no. 192 of 12 November 2018 in the Official Gazette of RM [online]. 2018, No. 430-439 [cited 17.07.2019]. Available: <http://www.legis.md/cautare/resultate/111830>
5. ISA 500, “Audit Evidence” [online]. [Cited 10.07.2019]. Available: <http://mf.gov.md/ro/content/sia-%C8%99i-codul-etic-emise-de-ifac-anul-2015-recep%C8%9Bionate-de-ministerul-finan%C8%9Belor>
6. Law on accounting and financial reporting: No. 287 of 15 December 2017. In: Official Gazette of RM [online]. 2018 No. 1-6 [cited 06.21.2019]. Available: <http://www.legis.md/cautare/rezultate/110399>
7. Law on public-private partnership: no. 179 of 10 July 2008. Official Gazette of RM [online]. 2008, no. 165-166 [cited 03.20.2019]. Available: <http://www.legis.md/cautare/rezultate/110569>
8. Nederita, A. On the accounting for subsequent costs capitalized. In: Accounting and Audit. 2019, No. 3, p. 52. ISSN 1813-4408.
9. Plan of accounts approved by MF Order no. 119 of August 6 2013. In: Official Gazette of RM [online]. 2013 No. 233-237 [cited 04.09.2019]. Available: <http://mf.gov.md/ro/content/planul-general-de-conturi-contabile-aprobat-prin-ordinul-nr119>
10. **Popovici M.** Problems of accounting tangible assets under public-private partnership. In: *In-Extenso*. 2019, No. 6, pp. 107-112. ISSN 2360-0675.
11. **Popovici M.** Some aspects and methods for depreciation of tangible assets. In: *Economica*. 2019, No. 2 (108), pp. 79-88. ISSN 1810-9136.
12. **Popovici M.** Some problems of accounting de-recognition of tangible assets. In: *Economica*. 2017, No. 4 (102), pp. 120-125. ISSN 1810-9136.
13. **Popovici Mihai.** Theoretical and Practical Aspects on the Audit Projects for tangible assets. In: *European Journal of Accounting, Finance & Business* [online]. 2018, No. 17, pp. 19-31 [cited

- 09.02.2019]. ISSN 2344-102X. Available: <http://accounting-management.ro/?pag=list&year=2018>
14. **Popovici Mihai**. Some aspects of the subsequent evaluation of tangible assets. In: *International Conference "Prospects and problems of integration into the European sphere of research and education"*, June 7 2017. Cahul State University "Bogdan Petriceicu Hasdeu", 2017, vol. I, pp. 166-170. ISBN 978-9975-88-019-0.
  15. On tax obligations under a civil contract: SFS letter no. 13 of 20.5.2016 [online]. [Cited 03.05.2019]. Available: <https://www.contabilsef.md/ro-obliga-ii-fiscale-cadrul-unui-contract-de-societate-civil-sc-nr-26-08-4-3-11-4-8796-3970- in-26/05/2016-ru-en-48 881 />
  16. Accounting regulations on the annual individual and consolidated financial statements: Ministry of Finance Order no. 1802 of 29 December 2014. In: Official Gazette of Romania [online]. 2014 No. 963 [cited 04.09.2019]. Available: <https://codfiscal.net/42096/omfp-18022014-reglementarile-contabile-privind-situatiile-financiare-anuale-individuale-si-situatiile-financiare-anuale-consolidate>
  17. NAS "Tangible and intangible assets" MF Order no. 118 of August 6 2013. In: Official Gazette of RM [online]. 2013 No. 233-237 / 1534 [cited 08.29.2019]. Available: [http://mf.gov.md/sites/default/files/legislatie/snc-ordin\\_nr.118\\_0.pdf](http://mf.gov.md/sites/default/files/legislatie/snc-ordin_nr.118_0.pdf)
  18. TCACI, N., Cojocaru, V. Methodological issues concerning the estimation of economic efficiency of means of production in agricultural enterprises. In: *Studia Universitatis. Series: Science and Economics*. 2012, No. 7 (57), pp. 193-200. ISSN 1857-2073.
  19. ДИМА, Марчела, ЦИРЮЛЬНИКОВА, Наталья. Совместная деятельность (простое товарищество) некоторые особенности учета и налогообложения. В: *Accounting and audit* [online]. № 11, 2018. [cited 06.06.2019]. ISSN 1813-4408. Available: <http://contabilitate.md/?mod=article&id=8063>

## LIST OF THE AUTHOR'S PUBLICATIONS ON THE THESIS THEME

### 1. Articles in journals

#### 1.1. Articles in journals from other databases supported by ANACEC

1.1.1. Popov, Mihai. Reflections on risks in fixed assets audit. In: *EcoForum* [online], 2019, no. 1 (18), Vol. 8, 6 p., ISSN: 2344-2174. 0.615 p.s. Database: ERIH Plus, DOAJ, UL RICH'S, REPEC. Available: <http://www.ecoforumjournal.ro/index.php/eco/article/view/920>

1.1.2. Popov, Mihai. Theoretical and Practical Aspects on the Audit Projects for tangible assets. In: *European Journal of Accounting, Finance & Business* [online]. 2018, Volume VII, Issue XVII, pp. 19-31, ISSN 2344-102X. 0.625 p.s Database: ERIH Plus REPEC. Available: <http://accounting-management.ro/?pag=list&year=2018>

#### 1.2. In journals from the National Registry of Specialty Journals

1.2.1. Popov, Mihai. Some problems of accounting de-recognition of tangible assets. In: *Economica*, December 2017, An. XXV, no. 4 (102), pp. 120-125, ISSN 1810-9136, category B. 0.342 p.s. Available: [https://ase.md/files/publicatii/economica/2017/ec\\_2017\\_41.pdf](https://ase.md/files/publicatii/economica/2017/ec_2017_41.pdf)

1.2.2. Popov, Mihai. Reflections on subsequent costs accounting for fixed assets. In: *Studia Universitatis Moldaviae*, 2018, no. 2 (112), pp. 92-98, ISSN 1857-2073, category B. 0.65 p.s. Available as: <http://studiamsu.eu/nr-2-112-2018/>

1.2.3. Popov, Mihai. Some aspects and new methods for depreciation of tangible assets. In: *Economica*, June 2019, An. XXVIII, no. 2 (108), pp. 79-88, ISSN 1810-9136, category B. 0.445 p.s. Available: [https://ase.md/files/publicatii/economica/2019/ec\\_2019\\_2\\_v1.pdf](https://ase.md/files/publicatii/economica/2019/ec_2019_2_v1.pdf)

### 2. Articles in conference proceedings and other scientific events

#### 2.1. In scientific events works included in the *Register of published materials based on scientific events organized in Moldova*

2.1.1. POPOVICI, Mihai. Issues relating to the evaluation of accounting evaluation for tangible assets. In: *International Conference "Accounting and accounting profession in the time of challenges"* from 5 to 6 April 2017, the sixth edition, Chisinau, ASEM, 2017, pp. 101-106, ISBN978-9975-127-50-9. 0.505 p.s. Available: [https://ase.md/files/catedre/cae/conf/conf\\_aprilie\\_2017.pdf](https://ase.md/files/catedre/cae/conf/conf_aprilie_2017.pdf)

2.1.2. POPOVICI, Mihai. Advance payments for tangible assets: accounting and tax treatments. In: *International Conference "Competitiveness and innovation in the Knowledge Economy"* from 22 to 23 September 2017, Vol. III, Chisinau, 2017, pp. 176-

181, ISBN 978-9975-75-897-0. 0.48 p.s. Available: [https://ibn.idsi.md/sites/default/files/imag\\_file/Competitiveness% 20% 5% 9H% 20inovarea V.3 2017.pdf](https://ibn.idsi.md/sites/default/files/imag_file/Competitiveness%20%5%9H%20inovarea%20V.3%202017.pdf)

2.1.3. POPOVICI, Mihai. Comparative Assessments of recognition of tangible assets according to NAS and IFRS. In: *Scientific Symposium of the Young Researchers*, April, 28-29, Vol. I, XV Edition, Chisinau, ASEM, 2017, pp. 72-77, ISBN978-9975-75-877-

2. 0.55 p.s. Available: [https://ase.md/files/publicatii/electronice/simp\\_doct\\_apr2017\\_en1.pdf](https://ase.md/files/publicatii/electronice/simp_doct_apr2017_en1.pdf)

2.1.4. POPOVICI, Mihai. Some aspects of the subsequent evaluation of tangible assets. In: *International Conference "Prospects and problems of integration into the European research and education"* of June 7, 2017, vol. I, Cahul State University "Bogdan Petriceicu Hasdeu", 2017, pp. 166-170, ISBN 978-9975 -88-019-0. 0.455 p.s. Available:

[http://www.usch.md/wp-content/uploads/2015/11/Conferinta-USC-2017-Workshop, 2-4-PDF% 92% D0% BE% D0% 81% D 1% D 1% D 1% 82% 81% D0% B0% D0% BD% D0% BE% D0% B2% D0% BB% D0% B5% D0% BD-1.pdf](http://www.usch.md/wp-content/uploads/2015/11/Conferinta-USC-2017-Workshop_2-4-PDF%92%D0%BE%D0%81%D1%D1%D1%82%81%D0%B0%D0%BD%D0%BE%D0%B2%D0%BB%D0%B5%D0%BD-1.pdf)

### **3. Other works and achievements specific to various scientific fields**

3.1. POPOVICI, Mihai. Problems of accounting for tangible assets under public-private partnerships In: *In-Extenso*, no. 6, V. I, University "December 1, 1918", Alba-Iulia, Romania, 2019, pp. 107-112, ISSN 2360-0675. 0.435 ps.s.

## ADNOTARE

**Popovici Mihai „Perfecționarea contabilității și auditului imobilizărilor corporale”, teză de doctor în științe economice, Chișinău, 2020**

**Structura tezei:** adnotare, introducere, trei capitole, concluzii și recomandări, bibliografie din 203 de titluri, 22 de anexe, 146 de pagini de text de bază, 42 de figuri și 23 de tabele. Rezultatele obținute sunt publicate în 10 lucrări științifice.

**Cuvinte-cheie:** contabilitate, audit, imobilizări corporale, recunoaștere, evaluare, derecunoaștere, amortizare, parteneriat public-privat, planificarea auditului, probe de audit, risc de audit, finalizarea auditului.

**Domeniu de studii:** contabilitate; audit.

**Scopul lucrării:** constă în cercetarea și examinarea complexă a aspectelor teoretice și aplicative aferente contabilității și auditului imobilizărilor corporale în vederea fundamentării direcțiilor de perfecționare a acestora în conformitate cu normele internaționale.

**Obiectivele cercetării:** investigarea și elucidarea problemelor recunoașterii, evaluării, deprecierii, amortizării, contabilizării costurilor ulterioare, derecunoașterii și deținerii în parteneriate public-private a imobilizărilor corporale; analiza și identificarea problemelor legate de planificarea și exercitarea, colectarea de probe și finalizarea auditului imobilizărilor corporale.

**Noutatea și originalitatea științifică** constă în aprofundarea și dezvoltarea teoretică a noțiunii de imobilizări corporale; perfecționarea modului de contabilizare a imobilizărilor corporale; dezvoltarea metodologiei contabilizării imobilizărilor corporale deținute în parteneriatele public-private; elaborarea unor formulare noi și exprimarea propunerilor de utilizare a acestora; investigarea etapelor de auditare și perfecționarea auditului imobilizărilor corporale.

**Rezultatele obținute care contribuie la soluționarea unei probleme științifice importante** constau în aprofundarea și dezvoltarea conceptuală a noțiunii de imobilizări corporale; identificarea elementelor de formare a costului de intrare; recomandarea aplicării unor metode de amortizare utilizate în practica internațională, argumentarea stabilirii claselor de imobilizări corporale în funcție de amplasare; perfecționarea contabilității imobilizărilor corporale deținute în parteneriat public-privat; investigarea și soluționarea problemelor colectării probelor de audit și fundamentarea direcțiilor de valorificare a rezultatelor auditului imobilizărilor corporale.

**Semnificația teoretică și valoarea aplicativă** rezidă din concluziile și recomandările aferente temei studiate, care vor contribui la perfecționarea contabilității și auditului imobilizărilor corporale.

**Implementarea rezultatelor științifice:** unele recomandări elaborate în teză sunt acceptate spre implementare în entitățile cercetate și pot fi utilizate în procesul didactic al instituțiilor de învățământ și de instruire profesională cu profil economic.

## ANNOTATION

**Mihai Popovici “Improvement of accounting and auditing for tangible assets”**

**PhD thesis in Economics, Chisinau, 2020**

**Thesis structure:** annotation, introduction, three chapters, conclusions and recommendations, bibliography made of 203 titles, 22 annexes, 146 pages of main text, 42 figures and 23 tables. The obtained results are published in 10 scientific papers.

**Keywords:** accounting, auditing, tangible assets, recognition, evaluation, derecognition, depreciation, public-private partnership, audit planning, audit evidence, audit risk, audit completion.

**Field of study:** accounting; audit.

**The purpose of the paper:** research and multilateral examination of theoretical and applicative aspects related to accounting and auditing for tangible assets aiming to substantiate the ways of their improvement in accordance with the international norms.

**Research objectives:** investigating and solving problems related to the recognition, evaluation, depreciation, amortization, subsequent costs accounting, de-recognition and holding of tangible assets by public-private partnerships; identification and analysis of issues related to planning and performance of auditing, sampling and completion of the audit of tangibles.

**Scientific novelty and originality** consists of deepening the theoretical concept of tangible assets; improving the modes of accounting for tangibles; developing accounting methodology for tangible assets held jointly by public-private partnerships; development of new forms and suggesting proposals of their use; investigating the accounting stages and improving audit of tangible assets.

**The results that address important scientific issues’ settlement** lie in deepening and developing the concept of tangible assets; identification of elements of entry cost formation; recommendations to implement amortization methods used in international practice; argumentations for establishing the categories of tangible assets according to location; improving accounting for tangibles held by public-private partnerships; investigation and settlement of problems dealt with collecting audit evidence and substantiation of the ways of recovering the result of tangibles auditing.

**Theoretical significance and practical value** result from the conclusions and recommendations related to the investigated theme that will contribute to the improvement of tangibles accounting and auditing.

**Implementation of scientific results:** a number of recommendations elaborated in this dissertation have been accepted for implementation in the entities under examination and can be used as teaching aids in educational institutions and economic vocational training.

## АННОТАЦИЯ

**Попович Михай «Совершенствование учета и аудита долгосрочных материальных активов», докторская диссертация в области экономики, Кишинэу, 2020**

**Структура работы:** аннотация, введение, три главы, выводы и рекомендации, библиографический список из 203 наименований, 22 приложения, 146 страниц основного текста, 42 рисунка и 23 таблицы. Результаты исследования отражены в 10 научных работах.

**Ключевые слова:** бухгалтерский учет, аудит, долгосрочные материальные активы, признание, оценка, последующие затраты, прекращение признания, амортизация, государственно-частное партнерство, планирование аудита, аудиторские доказательства, аудиторский риск, завершение аудита.

**Область изучения:** бухгалтерский учет; аудит.

**Цель работы:** исследование и комплексное изучение теоретических и практических аспектов учета и аудита долгосрочных материальных активов в целях обоснования направлений совершенствования данной области деятельности в соответствии с международными нормами.

**Задачи исследования:** исследование и выявление проблем, связанных с признанием, оценкой, обесценением, амортизацией, последующими затратами и прекращением признания долгосрочных материальных активов; анализ и выявление проблем, связанных с планированием аудита, сбором доказательств и завершением аудита долгосрочных материальных активов.

**Научная новизна и оригинальность** состоит в углублении и теоретическом развитии понятия долгосрочных материальных активов; совершенствовании учета долгосрочных материальных активов; развитии методологии бухгалтерского учета долгосрочных материальных активов, находящихся в государственно-частном партнерстве; разработка новых форм документов и обоснование их применения; исследование этапов аудита долгосрочных материальных активов и его совершенствование.

**Полученные результаты, способствующие решению важной научной проблемы,** состоят в углублении и концептуальной разработке понятия долгосрочных материальных активов; выявлении элементов формирования первоначальной стоимости; рекомендации к применению методов амортизации, используемых в международной практике, аргументировании установления классов долгосрочных материальных активов в зависимости от их местоположения; совершенствовании учета долгосрочных материальных активов, находящихся в государственно-частном партнерстве; исследовании и решении проблем сбора аудиторских доказательств и обоснование направлений использования результатов аудита долгосрочных материальных активов.

**Теоретическая и практическая значимость** вытекает из выводов и рекомендаций по изучаемой теме, что будет способствовать совершенствованию учета и аудита долгосрочных материальных активов.

**Внедрение научных результатов:** некоторые рекомендации, сформулированные в работе, были приняты для внедрения на исследуемых предприятиях и могут быть использованы в учебном процессе учебных заведений и курсов повышения квалификации экономического профиля.

**MIHAI POPOVICI**

**IMPROVEMNT OF ACCOUNTING AND AUDITING  
OF TANGIBLE ASSETS**

**522.02 - ACCOUNTING; AUDIT; ECONOMIC ANALYSIS**

Summary of PhD thesis in Economics

---

Approved to print: 10.03.2020

Paper size 60x84 1/16

Offset paper. Offset print.

Circulation 10 iss.

Printing Sheets: 2,00

Order no. 3

---

Editorial-Polygraphic Printing Department of ASEM

Chişinău, 59 G. Bănulescu Bodoni G. str., MD-2005

tel .: +373 (0) 22 402 910, +373 (0) 22 402 886