

NEW POSSIBILITIES FOR DEPRECIATION OF TANGIBLE ASSETS

Adriana-Sofia RĂILEANU, Prep. univ., drd.
Academy of Economic Studies Bucharest
Ionela Cristina PRAVĂȚ, Asist. univ., drd.
University of Bacău

Key words: depreciation, components, tangibles, multi-annual inspections.

Abstract: The current context of an economy owing increasingly to knowledge and information has highlighted the importance of pertinent accounting information to decision makers. Even though the recognition of tangible assets does not seem to be problematic, in reality there are a series of situations which require scrutiny. The current study includes the amendments resulting from the IFRS content released up to 31.12.2006 and proposes to clarify the situations in which the registration of components is imposed and how it can be achieved. More specifically, we will concentrate our attention on: the conditions which must be respected for the registration of distinct components within tangibles, the manner by which components can be identified and the instances in which the application of the method on components is possible in concordance with IAS 16, “Tangible Assets”. Subsequently we will debate the position adopted by the Romanian normalisers regarding the registration through components, as well as a few instances regarding the permanence of methods, so that, in conclusion, we will practically show the way in which the amortization through components is determined and registered.

What is a component?

We can define a component as being an element of a tangible which has a different utilization, or which brings economic benefits in a different rhythm than that of the tangible asset in general.

Taking in consideration the conditions imposed by the International Accounting Standard IAS 16 “Tangible Assets”, the method on components can be utilized only if the following two conditions are met simultaneously:

- ✓ the generation towards the entity of future economic benefits is probable, and:
- ✓ the cost can be credibly evaluated.

IAS 16 “Tangible Assets” also foresees that, each part of an element of tangible assets with a cost which is significant in relation with the total cost will be amortized separately. Thus **the identified component must have a significant cost in comparison with the total cost of the set to which it belongs**, subsequently amortizing separately until the moment of replacement or un-recognition.

In case there are different stipulations for the recognition of the components or in the cases where estimation on components is difficult, the entity will resort to **approximation techniques**.

How can components be identified?

For the identification of individual components within the elements of tangible assets, the application of **professional rationalism** is necessary, in order to keep track of circumstances and specifications of the entity types or activities. For example

depending on the type of activity, more specifically its importance within an entity, an element from the structure of tangible assets can be considered as a distinct component for one entity, while it functions as single global asset for another entity.

In practice, the longer the period of exploitation of an asset within an entity, the more necessary the components approach.

In order to determine distinct components within an asset the following two steps must be taken into account:

✓ Step 1: The technical step, within which the technical departments of the entity will carry out a series of preliminary studies in order to assess if the shattering of the asset structure on components is possible as well as the frequency of replacement of the afore mentioned components;

✓ Step 2: The accounting step within which the proposals given by technicians are confronted with the information offered by accounting, keeping only the delimitations which recognize components which have a significant cost and at the same time respecting all the stipulations of IAS 16 “Tangible Assets”: Insofar as an entity separately amortizes certain parts of an element, the entity separately amortizes what’s left of that element (the parts of the element which are insignificant when taken individually). If an entity has different stipulations for these parts, approximation techniques could be necessary for the amortization of the parts left in a way that credibly represents the consumption model and/or the lifetime of its parts.

When can the method on components be applied?

In accordance with the stipulations of IAS 16 “Tangible Assets” two categories of components can be identified: elements destined to be replaced and expenses generated by multi-annual major inspections with the scope of identifying defects.

I. Elements destined to be replaced

Situations exist where some components of corporate assets must be replaced at a regular interval.

IAS 16 “Tangible Assets” offers to classic examples:

- a furnace which requires to be resurfaced after a specific number of hours;
- chairs and upholstery from the inside of a plane which may require replacement several times in the lifespan of the plane.

Other examples in which the registration of components is imposed:

- we consider the case of an airline which acquired a Boeing 767 airplane equipped with Pratt & Whitney JT9D, double flux jet engines; the lifespan of the plane is 22 years while the jet engines must be changed every 11 years; in this case an evaluation for the fuselage and another evaluation for the jet engines will be carried out since they are distinct components;

- a piece of real estate and its elevators, central heating, electrical installations, bathrooms which can all be considered different components.

Thus, these components are going to be recorded into accounting as separate assets since they have a lifespan that is different than the asset of which they are a part of.

To be brief, if from the beginning one or more elements have different utilizations, each element will be the object of an independent evaluation.

If the recognition criteria are met (generates benefits to toward the entity and credible evaluated cost), the entity records into accounts the expense of the replacement

of the component as an acquisition of a distinct asset, and the replaced component will be taken out of the record.

II. Expenses generated by major multi-annual inspections with the scope to identify defects

Situations exist where certain tangible assets can not operate unless inspections on certain time intervals are performed, which serve the purpose of detecting defects no matter if certain parts of the assets are replaced or not.

These types of general inspections have the goal of assuring the operation in complete safety.

When a major inspection occurs, its cost is recognized in the accounting value of the tangible asset as a replacement, if the recognition criteria are respected. Any accounting value remaining from the cost of the previous inspection is unrecognized.

In order to better comprehend these aspects we will show the following example of a maritime company which acquired a ship for 200.000 lei. The lifetime of the ship is 30 years; however maritime regulation speculates, for security reasons, that the ship suspends its activity for 15 days, time in which it will be moved into a dry dock for a major inspection. It is estimated that such an operation will acquire expenses of 20.000 lei.

Under these conditions, from the time of acquisition of the good two components will be registered:

- component A: the ship for 180.000 lei with a lifetime of 40 years;
- component B: the inspection for 20.000 lei with a lifetime of 5 years.

What happens with daily maintenance costs of tangible assets?

The goal of these expenses is the maintenance and upkeep of tangible assets assume work expenses and wear and can include the cost of small components, but they refer to regular maintenance.

Once they appear they will be recognized as expenses in the profit and loss account and must not be confused with the cost of multi-annual major inspections, which is recorded as a distinct component within assets.

In conclusion, the programming of expenses relevant to large maintenance and upkeep programs (major inspections) is a separate asset. Thus, the cost of the inspection component will make the object of its own amortization in reference to its own lifespan.

What is the position adopted by the Romanian normalisers?

According to the Romanian Fiscal Code all tangible assets that meet the following criteria are considered assets that can be depreciated:

- a) are held and used in the production, delivery of goods or performance of services, or are meant to be rented to third parties or in administrative purposes;
- b) have an entry value greater than the limit established by governmental decision;
- c) have a normal lifetime greater than one year; for tangible assets that are used in lots, sets, or that form a single body, lot or set, the total value of the body, lot, or set is taken into account when determining the depreciation.

For components which enter in the structure of a tangible asset whose normal utilization period differs from the resulting asset, the depreciation is determined for each separate component.

Thus all tangible assets that meet the above criteria will be submitted to the depreciation process with the following exceptions:

- a) lands, including forests;
- b) paintings and works of art;
- c) goodwill;
- d) lakes that are not the result of an investment;
- e) goods from the public domain financed from budgetary sources;
- f) any fixed assets which does not change its value in time due to use;
- g) personal vacation homes, protocol residences, sea crafts, cruise ships, others than those used with the scope of income, etc.

The fragments extracted above guide us to the conclusion that **the Romanian approach only partially recognizes the amortization through components stipulated by IAS 16 “Tangible Assets”**, as it only takes into account the first category foreseen by IAS, more specifically for components that require regular replacement and have a significant cost.

Instead, general revisions and inspections are considered expenses along with repairs since they do not contribute to additional economic benefits compared to those initially estimated.

When we compare the two methods we observe that even though the expense is identical, the difference is the apportionment in time. The provisioning method will have as an effect the writing of larger sums in expenses in the first years, while the amortization through components would assure a uniform allocation of the expense of the component with the revision.

... along with the approach of amortization through components

The implementation of the approach through components constitutes **a change of accounting method**, necessitating a re-treatment of amortizable value.

In accordance with the principle of the permanence of methods, the transition to amortization through components assumes the practice of a retrospective treatment. The new norms will be introduced as if they would have been applied in the past, and thus the continuity, comparability, and intelligibility of financial information can be ensured.

Practically, how is the depreciation through components calculated and recorded?

The new element brought fourth by IAS 16 concerning the treatment of tangible assets through components affects the depreciation value, considered the base of depreciation. The components can correspond in one aspect to those elements with a lifespan which is shorter than that of the asset as the whole and which impose themselves to be replaced after a certain period of utilization, or they can be composed of expenses carried out along with the multi-annual general inspections whose purpose is to sustain the good functionality. Both situations described by IAS 16 “Tangible Assets” will be illustrated in the following examples, noting that so far only the first variant is recognized by the Romanian Fiscal Code.

Regarding the amortization through components, IAS 16 “Tangible Assets” anticipates that every part of an element of tangible assets with a cost that is significant in connection with the total cost of the element will be amortized separately. An entity allocates an initially recognized sum for each component and amortizes each such part separately.

Thus the following conclusion can be drawn: expenses with an amortization for each period will be recognized in the profit or loss account only if they are not included in the accounting value of another asset.

Observation: The registration through components can not draw a global value that is superior to the cost of the complex asset or of its reevaluation value.

We present to you as examples two **practical cases**.

Case 1:

We consider the case of S.C. RAISA S.A. which at the beginning of 2007 acquired a new building for 400.000 lei, which had a life expectancy of 40 years. It is foreseen that at the end of the first 20 years of exploitation the replacement of sanitary fixtures will be necessary, which at the date of acquisition are estimated at a value of 50.000 lei.

What is the sum of the annual depreciation of the building?

Period 2007 – 2026:

Depreciation of heavy structure (350.000 / 40 years)	8.750 lei
Depreciation of installations = component I (50.000 / 20 years)	2.500 lei
Yearly building depreciation	11.250 lei

In 2026 the sanitary equipment, completely depreciated, will be decommissioned and replaced. We will suppose that the new equipment will costs 80.000 lei and also has a life expectancy of 20 years.

Period 2026 – 2045:

Depreciation of heavy structure (350.000 / 40 years)	8.750 lei
Depreciation of installations = component I (80.000 / 20 years)	4.000 lei
Yearly building depreciation	12.750 lei

Case 2:

On 01.07.2007, S.C. DanubTrans S.R.L. specialized in river transportation acquisitioned a modern cargo transport vessel, with an acquisition cost of 1.400.000 lei.

The life expectancy of the vessel is of 20 years, however the exploitation of this type of asset has a compete revision of the vessel imposed every 5 years.

The revision is considered as being a distinct component of the asset and the cost of such an operation is estimated at 300.000 lei. Knowing that S.C. DanubTrans S.R.L. closes its financial exercise on 31.12 the following are requested:

- The presentation of the table of depreciation of the asset for the 20 years of exploitation;
- The determination of future accounting values of the asset on 31.12.2011 and then on 31.12.2012;
- The accounting entries relevant to exercises 2011 and 2012.

Solution:

Note: The treatment prescribed by IAS 16 “Tangible Assets” will be applied.

a) According to the IFRS stipulations, expenses with general inspections cannot bring forth provisions for risks (regarding tangible assets occurring as a result of reparations) which can be made up for multiple financial exercises. IAS 16 “Tangible Assets” clearly affirms that such expenses with general revisions are recognized in the accounting value of the element and are amortized in the individual period of use.

Thus, from the acquisition of the good, in concordance with the method of registration through component, the foreseeable cost of the future program of revision must be subtracted from the global cost of the asset and recorded separately, then amortized in its own rhythm of bringing future economic benefits.

On 1.07.2007 the acquisition of the vessel takes place (1.400.000 lei).

A revision is foreseen every 5 years (300.000 lei).

The vessel will be registered as 2 components:

- component A: gross value 1.400.000 lei – 300.000 lei = 1100000 lei, with a life span of 20 years;
- component B: gross value 300.000 lei, which will be amortized in a period of 5 years.

For the simplification of the presentation the following table can be interesting:

Table 1

The depreciation of the two components

YEAR	CARGO VESSEL			REVISION			TOTAL ANNUITY
	Base	%	Annuity	Base	%	Annuity	
2007	1.100.000	1/20*6/12	27.500	300.000	1/5*6/12	30.000	57.500
2008	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2009	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2010	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2011	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2012	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2013	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2014	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2015	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2016	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2017	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2018	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2019	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2020	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2021	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2022	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2023	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2024	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2025	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2026	1.100.000	1/20	55.000	300.000	1/5	60.000	115.000
2027	1.100.000	1/20*6/12	27.500	300.000	1/5*6/12	30.000	57.500
Total	xxx	xxx	1.100.000	xxx	xxx	1.200.000	2.300.000

Component B will be recognized on 01.07 in exercises 2007, 2012, 2017, 2022 and will be unrecognized on 30.06 in exercises 2012, 2017, 2022, 2027.

b) Net accounting values:

On 31.12.2011

1.100.000 lei – (27.500 lei + 55.000 lei * 4 years) + 300.000 lei – (30.000 lei + 60.000 lei * 4 years) = 882.500 lei

On 31.12.2012

1.100.000 lei – (27.500 lei + 55.000 lei * 5 years) + 300.000 lei – 30.000 lei = 1.067.500 lei

Net accounting value of the asset on 31.12.2012 is superior to the net accounting value on 31.12.2011, because on 1.07.2012 the revision operation occurs.

c) The accounting registrations relevant to exercise 2011:

6811	Exploitation expenses regarding asset depreciation	115.000
2813	Depreciation of means of transport	115.000

115.000 lei = 55.000 lei + 60.000 lei

The accounting registrations relevant to exercise 2012:

1/07/2012

6811	Exploitation expenses regarding asset depreciation	30.000
2813	Depreciation of means of transport	30.000

30.000 lei represents the complement of depreciation until the exit of the component.

1/07/2012

2813	Depreciation of means of transport	300.000
2133	Means of transport	300.000

Derecognizing the revision, component completely depreciated.

31/12/2012

2133	Means of transport	300.000
404	Supplier of non-current assets	300.000

Recognizing a new revision

31/12/2012

6811	Exploitation expenses regarding asset depreciation	85.000
2813	Depreciation of means of transport	85.000

85.000 lei = 115.000 lei – 30.000 lei, representing the annuity, minus the sum accounted in June.

REFERENCES

1. Blin Pierre (2006) - *Comptabilité approfondie et révision - Evaluation*, Ed. CNED, Lyon;
2. IASB (2007) - *International Financial Reporting Standards (IFRS) including International Accounting Standards (IAS)*.