

# VALUATION OF INVENTORIES CONSIDERING THE FAIR VALUE OPTIONS

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*Our paper represents a pleading for fair value in the specific case of valuating inventories. The real significance and implications of fair value can only be seen after analyzing the topic from different points of view concerning all involved actors. Therefore we have based our scientific demarche on analyzing the trade literature and comparing the foresights of international regulations given by both the accounting setting bodies and the valuation setting bodies. Moreover we have followed two of the three moments which require valuation and for these moments we have selected those cases which require the using of fair value. Our opinion regarding the findings of the research is expresses by giving practical examples for the specific application of fair value and the way to reach it.*

*Key Words: Fair value, inventories, recognition, market value*

## **Introduction**

Any commercial, industrial or service providing entity must purchase goods and services on a regular basis. A purchasing policy must be established consisting in finding the best supplier in order to reach the optimum profitableness. More precisely we are talking about: the suppliers' competences, technical qualities of the products, delivery terms and prices.

From the accounting point of view, purchases (acquisitions) are first debated in the form of inventories bought by the entity or of the services used, and then in the form of their consumption within the different processes of creating new products or offering new services.

Our study deals with inventories and their value in different moments from their entrance within the estate of the entity until the exit. The possible destinations for inventories consist in productive consumption or sales in the same form.

Valuation of inventories from the accounting point of view is being made in three major moments, corresponding to initial valuation (entrance within the estate of the entity) and the subsequent valuation (the moment when the inventories exit the entity or the closing of the financial period) (Matiş et al., 2007). Our opinion differs from the classic presentations regarding the moments for inventories valuation which talk about entrance within the estate of the entity, the stock taking of assets, closing of the financial period and exit. We believe that the moment of stock taking coincides with the one of closing of the financial period when the patrimonial elements, including inventories, are being valued from the qualitative point of view by comparisons with their specific market.

## **Main objectives of the paper and research methodology**

Among these accounting valuation moments, we will present and debate valuation of inventories at entry within the estate of the entity and valuation of inventories at the closing of the financial period. One of the reasons which made us choose these moments are the discussions that go beyond the historical cost as a basis for valuation, since they require estimating some values or they imply making some calculations and allocations of costs, through reference to the needs of the market. All these cases lead to fair value,

accounting concept which corresponds to other valuation basis than the historical cost (the current cost, the reachable value and the current value).

The current accounting regulations (OMFP nr. 1752/2005) restrain the using of fair value. It is only explicitly foreseen in the case of revaluation for tangibles when dealing with consolidated financial statements and also in the case of financial instruments still within consolidated financial statement. Even though we believe that fair value is implicitly necessary in an indirect manner in other situations. Moreover, some entities apply mandatory or optional IFRS. With these having been said, we will present some considerations regarding the use of fair value in Romania in the specific case of inventories.

The paper has a theoretic character with some technical aspects. It is based on the normative accounting theory, both the one that uses the general chart of accounts and the one which relies on the conceptual framework, considering the fact that in Romania the two approaches coexist. We actually connect the classic accounting concepts and principles to the reform in the field of valuation – the fair value. In order to achieve these objectives we have analyzed the normative documents (valuation standards for assets and accounting standards) and also the trade literature. The comparison method and case studies were extremely helpful in demonstrating our opinion towards the moments when the fair value should and is being used and also its optimum utilization.

### **Valuation at the moment of entry within the estate of the entity**

We believe that the values of inventories at the moment of entry within the estate of the entity, are both the ones proved through documents which show their source and fair values, in some special situations. These special cases will be discussed in the following part of the paper.

Fair value is conceptually presented as being a valuation basis, a convention or an accounting principle or an objective of the valuation (Obert, 2004; Casta, Colasse et al., 2001; Tournier, 2000; Holmes et al., 2002).

From the practical point of view, as an application, we consider that fair value can be reached through the three used approaches for valuation of assets or business': cost, income and market comparisons. The first approach leads to the net replacements cost, the second to the continuing utilization value and the third to the actual market value (Deaconu, 2004).

### **The case of inventories obtained free of charge**

When we say free of charge inventories we understand receiving some inventories as a donation or having positive differences at the stock taking moment. In these situations the valuation is being done at the identified fair value for the moment of entry within the estate of the entity for that particular inventory. Across history, Romanian accounting regulations have also used some other names to refer to fair value, such as utilization value or current value. Generally, for assets, a certain type of consensus exists when talking about the value which they receive as being donated. Both the Romanian and International regulations refer to a certain form of fair value. Regarding the plus of stock taking, sometimes no express mentioning is being done and some other times we find some references to fair value. It is our opinion that in the case of inventories obtained free of charge their fair value must be determined, consisting in their market value as we will show within the 3<sup>rd</sup> section of our paper.

### **The case of acquisition/production of coupled inventories**

It is sometimes possible that some acquisitions/production processes regarding inventories to be made at a global cost, corresponding to more coupled inventories. In this case it is necessary to determine the acquisition/production cost for each product separately, the accepted method being proportional to the corresponding market value (Blin, 2005:24). Other trade literature specify the using of the net realizable value (Epstein and Mirza, 2005: 170). Anyway we consider that it is the case for a value in correspondence to the market conditions at the valuation moment, with or without deduction of supplementary corresponding afterwards costs.

#### ***Case study no.1:***

A batch of materials is being bought at a global acquisition cost of 5.000 lei. After the sorting, ferrous materials, copper and aluminum are being separated. An estimating market value of 3.000, 2.000, and

1.000 Lei at the date of acquisition is being considered for the three distinguished products. Consequently the global acquisition cost will be assigned to each inventory separately, proportionally to its market value, as follows:

- acquisition cost for ferrous materials:  $5.000 \times 3.000/6.000 = 2.500$  Lei
- acquisition cost for copper:  $5.000 \times 2.000/6.000 = 1.666$  Lei
- acquisition cost for aluminum:  $5.000 \times 1.000/6.000 = 834$  Lei.

### ***The case of determining the cost for the harvest agricultural production from biological assets***

Inventories in the case of agricultural production which is being harvested by the entity from its biological assets are treated from the determination of costs point of view within IAS 41 "Agriculture".

At the moment of initial recognition for these type of inventories, in other words at harvest time, the valuation is being done at fair value less the estimated costs at the selling point at harvest time.

We should also mention that according to IAS 2 "Inventories" the fair value, even diminished with the harvest costs is different from the net realizable value, which is specific for inventories. Our own point of view referring to these aspects will be presented below.

### ***Valuation at the moment of closing the financial period***

It is the case for determining the net realizable value at the moment of closing the financial period. The aim of the valuation is analyzing some eventual impairment of inventories and presenting the minimum between their cost and their net realizable value within the balance sheet.

We consider that calling the above mentioned value a fair value consisting in net realizable value leads to the realizable value as valuation basis. Applying this valuation basis represents the actual market value.

The way to reach the market value is presented and developed within the valuation standards and also within the accounting standards. Among the accounting standards, the most complex in clarifying this matter, in our opinion, are the ones comprised within the FASB's project "Fair value measurements" and which aim the market value. The project offers a hierarchy of value which groups the inputs which should be used in order to estimate the fair value at three levels. Among these we have selected the first 2 levels:

- a) Level 1 of estimations, which uses market references and which requires the observation of the active market with immediate access for the entity;
- b) Level 2 of estimations, in the case when market prices for identical assets can not be found. In this case market prices for similar assets are being used by adjusting them for differences if such information is available.
- c) More precisely, in order to obtain the net realizable value to compensate it with the accounting value of inventories and eventually record some adjustments for impairments, the following stages are distinguished:
  - 1) *Estimating the current selling price on the market, in other words the market value*

In our opinion, the market value must be understood in the exact sense of its name, using prices which are already met on the market for identical or similar inventories.

We appreciate that inventories subscribe to the above presented procedures with the observation that when some selling contracts exist the contractual price can also be used as an equivalent of the market value for the corresponding quantity of inventories. Even without an actualization clause for the prices comprised in the contract, because of the high rotation speed of inventories on the market, there is no significant risk for the prices in the contract to "get old".

**The used market information will represent the most sustainable data available at the moment of valuation, concerning the events which occurred after the closing of the financial period, if these confirm the existent conditions at the end of the period.**

- 2) *Deducing some elements meant to transform the market value into a net value, specific for the considered inventory*

Therefore the following are taken into consideration: usual commercial discounts, administration and distribution expenses which were afterwards made, and also production expenses which will be made

forward for the products in progress. The profit percent isn't deducted on product, as the benefice wouldn't exist for the sellers of inventories.

The International Accounting Standards, through IAS 2 "Inventories" subscribe to the above presented aspects regarding the net realizable value. We consider it to be useful to also underlie three aspects mentioned within the standard, among which we agree with the first two of them. On the other hand we dare to comment upon the third.

Therefore:

- Considering the mentioning within the accounting standard, we appreciate that at the moment of estimating the net realizable value, the aim of holding the inventories is also taken into consideration. This influences their value as follows:

- for raw materials and consumables - held for consumption – it is recommended to determine the replacement cost;
- for finished products, semi finished products and commodities – destined for trading – it is appropriate to determine the market value and to deduct the corresponding elements in order to obtain the net realizable value, as described above.

- Also, the international accounting regulations referring to inventories mentions that normally, the net realizable value must be determined for each inventory element taken individually. Some exceptions are still admitted for global valuation of some assembling elements, which are linked to each other, and therefore can be correctly valued even if taken together. As an example, products lines with assembling utilizations, made and traded within the same geographical area are mentioned (Feleagă and Malciu, 2004: 164).

Besides the above mentioned case within the international standards there are also some situations stipulated within the American accounting standards. We should mention that the US GAAP accept the recognition as revenue for the gains, even if there aren't achieved yet. Therefore the valuation at net realizable value for a whole group of products is accepted if for some elements an unrealized gain appears (the net realizable value being higher than the accounting value), and for other an unrealized lose (the net realizable value being smaller than the accounting value), finally the two of them compensating each other and reducing the net lose.

- Finally, IAS 2 "Inventories" underlies the fact that the net realizable value which is being determined for inventories, with the aim of analyzing some eventual impairment is different from the fair value. The net realizable value would refer to the net sum which the entity would expect to obtain by selling inventories during the normal development of its' activity (IASB, 2007). The fair value would reflect the sum for which the same inventory could be exchanged on the market, between buyers and sellers who are interested and well informed. It is mentioned that the first is a value which is specific to the entity while the second isn't. It is also shown that even though fair value would be diminished by the selling costs, it wouldn't be equal to the net realizable value for inventories.

As for where we are concerned, we do not accept these differentiation and these arguments. In our opinion fair value can take the shape of an historical cost, a market value, a replacement cost, an actualized value. It does not have to be looked at unilateral, just as a market or exchange value. If so, the net realizable value, based also on a market value or seldom on the replacement cost, is equal to fair value which takes into consideration all the required deductions that might appear in a particular situation for valuation an inventory.

We believe that the accounting standard wants to differentiate the way to determine fair value, term used in a generic manner, for the whole category of inventories – it is the case for net realizable value – and particular inventories such as biological assets or inventories held by brokers on the stock exchange – for which the fair values/current values are being determined considering the specific conditions.

More precisely, after analyzing the trade literature and the spirit of IAS 2 "Inventories" and also of the connected standards such as IAS 41 "Agriculture" we understand that there are two exceptions from applying the historical cost as a basis for valuation of inventories. These require applying other valuation basis for initial recognition which would lead to fair values. We refer here to: biological assets until the moment of harvest, according to IAS 41 "Agriculture" (since afterwards IAS 2 is being applied and therefore a valuation based on costs) (1); inventories that belong to brokers on stock exchanges in accordance to IAS 2 (2).

In order to continue our arguing for the equivalence between the net realizable value and fair value diminished with the specific costs of finishing or selling the inventories we also offer the case, also stipulated within IAS "Inventories", of initial valuation of inventories at the so called net realizable value. These would apply in the exceptional case of inventories of agricultural and forest products, agricultural products after harvest, mineral and mining products for which we can not determine the cost, but the price of the day is available (again the realizable value is just a market value). When inventories are valued over the cost, revenue will be recognized in advance of the selling (anticipated). In conclusion, the net realizable value used to directly record these inventories whose cost can not be determined, is actually a fair value, another basis for initial valuation than historical cost. We therefore find ourselves in the case of biological assets and inventories held by brokers on the stock exchange, which are initially valued at fair value.

The international valuation standards (IVS), conceived in close correlation to the accounting ones, restate the definition for net realizable value comprised within IAS 2 "Inventories", but mention that it is a value which can be used only in the context of IAS 2 for properties held with the purpose of selling within the course of the normal activity of the entity (IVA 1 "Valuation for financial reporting") (IVSC, 2005). In the context of valuation for financial reporting, the valutors should respect this accounting presentation /requirement following the market value (from which the cost related to the selling are being deducted) if and only when all the demands within the definition given by valutors for market value are carried out. The valuation standard also mentions that the term "net realizable value" is equivalent to the one of "net selling price".

An important remark taken from Annex A "Accounting fundamentals for IVA 1" of IVA 1 is the one referring to the definition of current assets and their connection to tangibles and intangibles assets on which the valuation standards generally focus. It is shown that for current assets they refer to elements which are effectively owned as a commercial inventory which is to be sold during the exploitation cycle of the entity, usually one year. Dwellings built and sold by the constructors are given as an example and it is concluded that current assets (we must underlie again that they are only understood to be non current assets own with the purpose of being sold) should not be valued in the context of their connection and meaning for accountancy and financial statements.

We conclude that it is recommended to apply the valuation methodology for investment properties in order to identify their market value and therefore their net realizable value.

Also, we consider that the valuation standard (IVA 1) is reductive, it does not understand inventories different from commodities and only includes in this category non current assets held for trading. Its' contribution still consists in underlying the fact that the net realizable value is actually an accounting term, specific for inventories valuation, which is determined by starting with the market value. Obviously that the net replacement cost, which might be used in the case of some raw materials and consumables, it is not mentioned since this type of inventories doesn't even exist within the standard. The connection to fair value isn't done, but it is also presented as a market value (with the exception referring to the case when there is no market information available, therefore appealing to other valuation models). Moreover the connection with the net realizable value is easy to be done.

### ***Case study no.2:***

An entity owns for selling an inbuilt land, with a surface of 1000 m<sup>2</sup>, situated in an industrial area. At the valuation date, the prices on the market for comparable lands had values between 50 and 80 Eur/m<sup>2</sup>. The values were determined through expertise, by using the direct comparison method, applying corrections for: ownership rights, legal restrictions, financing conditions, selling conditions, location and other comparison criteria. The valuator opted for the value of 60 Eur/m<sup>2</sup>, by using the standard with a few corrections. Therefore a value of 216.000 Lei was determined.

### **Conclusions**

Fair value gains more and more field as a principle used in valuation. Promoted by the American accounting regulations and then by the International ones, it seems to be more required in Europe by each day. In order for it to applied, fair value must be understood as a concept and technical implications. Our study presents the moments and cases which impose the using of fair value for inventories. We consider that accounting valuation is being done in three moments, among which we have presented the moment of entry within the estate of the entity and the closing of the financial period in the case of inventories. For

these moments we have selected those cases which require the using of fair value. We have expressed our opinion regarding the specific application of fair value and the way to reach it by giving some examples. Therefore we have based our scientific demarche on studying the trade literature and the professional standards. We consider that in the case of inventories, very often, it is followed the market value and as an exception the replacement cost. These applications are required in the case of inventories which are obtained free of charge, coupled inventories, inventories with a specific nature (like biological assets or investment property owned for selling), and also in the case of estimating adjusting for impairment at the closing of the financial period.

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