

Emerging Markets Queries in Finance and Business

## Measurement of agricultural activities according to the International Financial Reporting Standards

Ildikó Orbán Mrs. Tamás Dékán<sup>a,\*</sup>, Ágota Kiss<sup>b</sup>

<sup>a</sup>*University of Debrecen, Institute of Accounting and Finance  
Böszörményi rd. 138, Debrecen 4032, Hungary*

<sup>b</sup>*University of Debrecen, Institute of Accounting and Finance  
Böszörményi rd. 138, Debrecen 4032, Hungary*

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### Abstract

IAS 41 Agriculture sets out the accounting for agricultural activities and makes differentiation between biological assets (living plants and animals), agricultural produce (harvested product of the company's biological assets) and products that are the outcome of processing that followed harvest. The standard generally requires biological assets to be measured at fair value less estimated costs to sell, but this method can be applied only if the fair value can be estimated reliably. If this requirement does not stand, the asset is measured at cost decreased by the depreciation and the losses of impairment that accumulated. At the point of harvest the value of agricultural produce is its fair value less estimated costs to sell, and at that time this value is considered the cost of the produce (for the purposes of IAS 2 Inventories).

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### 1. Introduction

In our globalizing world several regulations tend to provide the framework for reporting performance, income and capital structure of the companies, but in different statements performance is inconsistently presented and many kind of evaluation method exist in the practice. (Herczeg, 2014) There was/is a significant

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\* Corresponding author. Tel.: +36-30-56-579-56

E-mail address: [orbani@agr.unideb.hu](mailto:orbani@agr.unideb.hu).

need for a unified, standardized valuation system, principles. (Bácsné Bába, 2014.) These facts led to the investors' demand for properly assess the financial health of an organization, and created a commonly accepted rule-system, which name was International Financial Reporting Standards (IFRS). (Becsky-Nagy, 2014, Orbán, 2013) The International Financial Reporting Standards are guidelines and rules set by the International Accounting Standards Board (IASB), so that companies and organizations can follow when compiling financial statements. The International Financial Reporting Standards were previously called the International Accounting Standards (IAS). The IASB (previously IASC, International Accounting Standards Committee) aims for unify the different national financial statements in order to create the comparability of them. To reach its goal, over the general standards towards the financial reporting, specially treated accounting areas, such as agriculture, took place.

IAS 41 Agriculture was first applied to annual periods beginning on or after 1 January 2003. This Standard's aim is to determine the accounting handling and approach of agricultural issues. (I2) The IAS 41 Agriculture defines the agricultural activity as the conversion of biological assets like vegetation and animals into agricultural outturn such as garnered product of the entity's biological assets). (I4) IAS 41 regards to biological assets as it was mentioned above, but the Standard does not go for the regulation of bearer plants, agricultural produce at the time of harvest, and government grants that are in connection with these biological assets. Also land and intangible assets connected to agricultural activity, bearer plants and the government grants in relationship with them do not regulated by IAS 41. However, it does apply to produce growing on bearer plants. (I4) (Amendments are under consideration continuously, from 30 June 2014 the standard is amended by Agriculture: Bearer Plants, amendments to IAS 16 and 41, and will be effective for annual periods beginning on or after 1 January 2016.)

The standard generally requires biological assets to be measured at fair value less costs to sell. The meaning and significance of the fair value measurement in this case is that the value of these assets depends on physical changes and changes in market prices. Agricultural activity is at meteorological, medical and natural risk; this is why the nature of the agricultural sector requires the development of special assessment system. The reason for fair value measurement is that every biological transformation contributes to the future economic benefits expected from biological assets, so exact economic benefit is connected to every single phases, thereby it means the most exact method for determining the profit of agricultural activity.

The current definition of fair value in IAS 41 is the price for which well informed and independent parties who act in their own self interest are willing to exchange the given asset. It shows a market price for the asset on the basis of present-day expectations. (I4) The fair value hierarchy may be summarized as follows (Lakatos et al., 2013):

- price for the asset in an active market,
- up-to-date transaction price for the asset in the lack of active market,
- market prices for assets alike, adjusted for the points of difference,
- industry benchmarks,
- the value of the discounted future cash flows that are anticipated to be generated by asset.

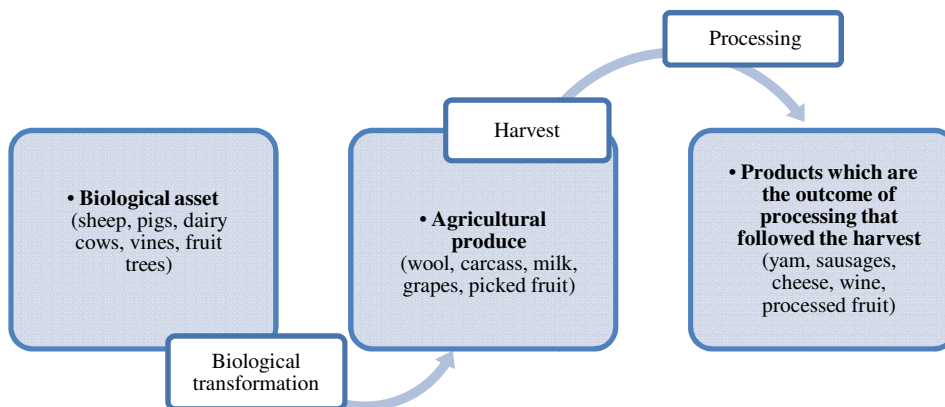
## 2. Agricultural activity in the scope of IAS 41<sup>†</sup>

Agricultural activities are widely interpreted, and are distinguished by the fact that management promotes and manages biological conversion (for example management can influence the development of living animals or vegetation, the decrease in output as a result of age or disease and management is also able to affect the production of new biological assets via a managed reproductive program) and is able to measure how the quality and quantity of these assets change (sheep, pigs, beef cattle, poultry, fish, dairy cows, trees in a forest, plants for harvest - for example, wheat and vegetables, trees, plants and bushes from which agricultural produce is harvested - for example, fruit trees, vines and tea bushes). Examples of agricultural activity:

- Raising livestock, fish or poultry
- Stud farms (for example, breeding horses or cattle)
- Silviculture
- Farming vineyards, orchards or plantations
- Floriculture, fish farming (I5)

In order to create cohesion and unification of these themes a new, special concept system was developed. The basis of the classification is the process approach representation of agricultural activities. Based on the next flow diagram (Fig. 1) biological asset, agricultural product and product of processing that followed the harvest can be separated.

Figure 1: Process of agricultural activities



Source: Own illustration, Kiss, Á. – Orbán, I. 2014

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- <sup>†</sup> Related definitions according to the IAS 41 (11, L320/336):
  - Agricultural activity – the management by an entity of processes where biological assets are transformed into agricultural produce, into additional biological assets or for the purpose of sale.
  - Biological transformation – comprises all the processes that cause qualitative or quantitative changes in a biological asset, such as growth, degeneration, production and procreation).
  - Biological asset – a living animal or plant.
  - Agricultural produce – harvested product of the entity's biological assets.
  - Harvest is the detachment of produce from a biological asset or the cessation of a biological asset's life processes.

The IAS 41 Agriculture follows the process of agricultural activities only to the point of harvest, so it deals with the regulation of biological assets and agricultural output at the time of harvest. IAS 2 Inventories regulates the processing of produce gained after the harvesting that is the reason why in this case IAS 41 cannot be applied. IAS 41 is handling the management of biological assets: enlarging the agricultural outcome, logging, plant cultivation; horticulture and aquaculture. The biological alteration can be defined as the process of growing, ageing, production and procreation of biological assets. As a result of this process is a new agricultural produce or transformed version of another biological asset, which can be observed and measured. IAS 41 emphasizes the measurement, tries to determine the value of assets in connection with the agriculture and their representation in the financial statements, and the Standard reveals that how can the occurring physical changes interact with the future economic benefits.

Summarizing the above mentioned criteria we can state that in a complex business not every activity is handled in accordance with IAS 41. Agricultural produce and the outcome of processing that was accomplished after the harvesting can be separated from the biological asset itself, as we can see it in the following examples (IS, Fenyves – Ertsey, 2007):

- Example – Sheep farm

An entity raises sheep, slaughters them and sells the carcasses to the local meat market. In this case the sheep are considered as biological assets as long as they are still alive, when they are slaughtered their biological transformation comes to an end and the definition of agricultural produce can be applied for the carcasses. Wool, which is the harvested product of the sheep as biological assets as well, is also agricultural produce. Milk is a product that is the outcome of processing that followed harvest. This is why this entity should account for the live sheep in accordance with IAS 41 and the carcasses, wool, and milk as inventory as it is described by IAS 2.

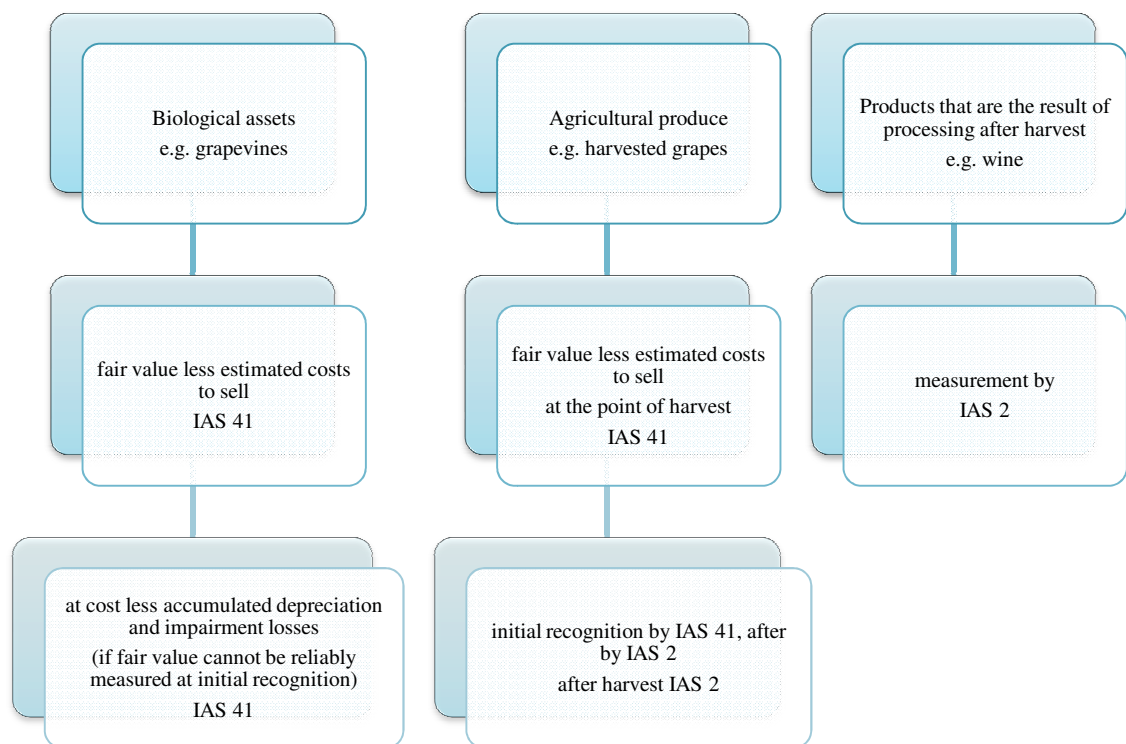
- Example – Vineyard

If another entity cultivates vines, harvests the grapes and produces wine, then the grapevines are considered as biological assets that permanently reproduce crops of grapes. When the entity harvests the grapes, their biological transformation ceases and they will be agricultural produce, on the other hand grapevines are still living plants; hence they must be treated as biological assets. In this example the entity should use the IAS 41 in case of the grapevines and IAS 2 should be applied for the harvested grapes and the production of wine as they are regarded as inventories.

### 3. Measurement of agricultural activity

Measurement of the agricultural activity depends on the status of them, it means: where are the assets in the process, see Fig. 1 (biological assets or agricultural produce or products that are the result of processing after harvest). Depending on this classification various standards deal with different assets.

Figure 2: Measurement of biological assets and agricultural produce by IAS 41/ IAS 2



Source: Lakatos et. al (2013): A Nemzetközi Pénzügyi Beszámolási Standardok elmélete és gyakorlata

As we stated above, the IAS 41 Agriculture regulate the measurement of biological assets and agricultural produce at the time of harvest. By the Framework we can state, that an entity can recognise a biological asset or agriculture produce just in case of the entity has control over the asset because of its activities in the past, it is very likely that in the future the entity will have economic benefits from the asset and it is possible to measure either the fair value or cost of the asset in a reliable way. (IAS 41.10, I4) Biological assets that belong to the area of IAS 41 are evaluated on initial recognition and at subsequent reporting dates at fair value less estimated costs to sell (FVLCTS) but this method can be applied only if the fair value can be estimated reliably. (IAS 41.1, I3) Agricultural produce is evaluated the same way at the time of its harvest. (IAS 41.13, I4) In case of harvested produce, as it is a marketable commodity, the fair value can be measured all the time, hence the exception of 'measurement reliability' cannot occur. (I5) IAS 41 presumes that fair value can be reliably measured for most biological assets. Many biological assets have representative and available prices or values driven by market conditions, as generally agricultural produce are basic commodities that have an active market (e.g. the grapes, pigs etc. are traded actively on the market that is the reason why they have a reliable market price) However, that presumption can be rebutted for a biological asset because there are cases when there is no quoted market price for a produce when it is initially recognised and alternative fair value measurement methods cannot be applied either as they are obviously unreliable. That is the reason why in cases like these the asset is measured at cost decreased by the depreciation and the losses of impairment that accumulated. (In determining cost, accumulated depreciation and accumulated impairment losses, an entity considers IAS 2 Inventories, IAS 16 Property, plant and equipment and IAS 36 Impairment of assets.) Even in

such cases all the other biological assets of an entity must be measured at fair value less costs to sell. When the fair value becomes reliably measurable as the circumstances on the market change,, then the entity obliged to evaluate on fair value less costs to sell. (IAS 41.30, I4)

Fig 2. shows the grapevines-wine example from this approach: entity which grows grapevines has to record the grapevines as biological assets and the harvested grapes at the point of harvest by IAS 41 at fair value less costs to sell. After harvest agricultural produces will be in the scope of IAS 2 Inventory. Initial and following recognition of harvested grapes, when it is in the process of of wine-production, it is treated as inventory in accordance with IAS 2. Some biological asset is physically attached to land and it is measured separately from the land as biological asset. (in our example grapevines are physically attached to land) In some cases, if the biological assets that are attached to the land do not have own markets, the basis of the measurement can be the combined asset's fair value (land, improvements and biological assets) (IAS 41.25, I4), which has a real active market.

#### 4. Conclusion

The International Financial Reporting Standards (IFRS) are guidelines and give a framework for reporting performance of the companies, in order to properly assess the financial health of organizations. The IFRS aims for unify the different national financial statements in order to create the comparability of them. IAS 41 Agriculture is a special standard, which sets out the accounting for agricultural activities and distinguishes between biological assets (living plants and animals), agricultural produce (harvested product of the entity's biological assets) and products that are the result of processing after harvest. IAS 41 applies to biological assets, but bearer plants, agricultural produce at the point of harvest, and government grants that are connected to these biological assets are exception. Land that is connected to agricultural activity (IAS 16 Property, Plant and Equipment), intangible assets (IAS 38 Intangible Assets) in relationship with agricultural activity, bearer plants and government grants that are connected to them are not in the scope of this Standard. The standard generally requires biological assets to be measured at fair value less estimated costs to sell, unless fair value cannot be reliably measured, in this case, the asset is measured at cost less accumulated depreciation and impairment losses. Measurement of the agricultural activity depends on the status of them, it means: where are the assets in the process of agricultural activity (biological assets or agricultural produce or products that are the result of processing after harvest). Depending on this classification various standards deal with different assets (IAS 41/IAS2). In these mixed and complicated circumstances this paper tries to make a clear picture of the measurement of various agricultural activities, and can be a basis for further examination.

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