

# Application of Fair Value Measurement Model in IAS 41 – Relation between Fair Value Measurement Model and Income Statement Structure<sup>#</sup>

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## Measurement concepts

At present two measurement concepts are standing against each other:

- Historical costs based measurement of assets and liabilities at purchase price (costs) that were incurred at the moment of purchase and
- Fair value measurement based on market prices, fulfilling the following definition:
- Fair value – the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

Many International Accounting Standards / International Financial Reporting Standards (IAS/IFRS) (IASB, 2006) are based on the fair value concept.

There can be given especially two reasons for departure from the historical costs base, namely:

1. The first reason can be found for investments and financial instruments, where historical costs have low information capacity which

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has been criticized mostly by external users of accounting information.

2. The second reason against using the historical costs base is a hidden aspect of physical capital maintenance erosion. The recognition of expenses, those are determined by inflation undervalued historical costs of consumed assets, bring higher profit and its complete distribution to owners can lead to disability of an enterprise to finance the plain reproduction of inputs. There is a clear requirement not only from external users of accounting information as well as from management to depart from historical costs with the goal to recognize the profit at the moment when the physical productive capacity is maintained. The subject of distribution can be only the profit recognized as a result of matched revenues with the expenses measured at current market values that cannot cause physical capital maintenance damage. In this case, the enterprise should use replacement costs instead of fair values that cannot reflect conditions in which the enterprise works.

The consequences of the both above mentioned factors were introduced into IAS/IFRS as a required measurement at fair value for different classes of assets. Fair value is either an equal alternative measurement to the historical costs based value (e.g. IAS 16 – Property, plant and equipment, IAS 38 – Intangible assets), or it is a preferable or demanded measurement base (e.g. IAS 40 – Investment property, IAS 32 and IAS 39 – Financial instruments).

Besides, IAS 41 – Agriculture (became effective on 1 January 2003) requires using fair value in measuring biological assets from the point of initial recognition and at each balance sheet date. The same demand is required for the biological assets measurement at the point of harvest. While in the other above mentioned areas in which IFRS/IAS derives from the traditionally used historical costs measurement, this approach to valuation is supported by different external and internal users of accounting information, in the case of IAS 41 it is on the contrary. Lots of accounting information users are rather sceptical as for use of fair values.

A unique position of IAS 41 among all the other standards using fair value lies in the fact, that IAS 41 **requires using fair value in measuring biological assets and agricultural products of their own production**, including semi-finished products, which is in many cases not finished

within one accounting cycle, at fair value on the initial recognition of asset, and the historical costs base is completely diminished.

Products and semi-finished products in non-agricultural enterprises are regulated by IAS 2 – Inventories, which unlike IAS 41, respects the historical costs base. Products are measured at production own costs at the moment of costs recognition. An accrual concept, prudent concept and policy, where inventories should be measured at the lower of costs or net realisable value are applied on the recognition of assets at the balance sheet day. The measurement of inventories according to IAS 2 has never been increased above the purchase price. The net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs of sale. The difference between net realisable value and fair value is that the net realisable value is based on the particular conditions of an enterprise while fair value is based on conditions of an independent market transaction that does not reflect present position of an enterprise on the market.

### **Special characteristics of agriculture**

In comparison with manufacturing, agricultural production has a number of specifics that brings the need of modification in accounting methods (Elad, 2004).

The nature of agricultural activity is deliberate regulation of conditions of biological transformation in living plants and animals (further biological assets). The ability of biological transformation (comprises the processes of growth, procreation and degeneration of organisms) is the basis for expected usefulness of biological assets. Biological transformation is the fundament of added value in agricultural activity. The costs incurred in agricultural activity (consumption of production inputs and labour) bring optimizing of biological transformation in order that the effect could be the highest.

Special characteristics of agriculture are predominantly connected with the characteristics of biological transformation. This is a question of the following factors:

- lower level of rectification of the process of agricultural production by people,
- dependency upon weather and other nature conditions,

- seasonal characteristics of production,
- relatively long production cycle,
- continuous characteristics of production – small flexibility as for markets demands,
- usual joint products,
- specific risks (disease, genetic) and restrictive possibility of the prevention.

## **Measurement models in agriculture**

### **Subject of valuation**

Agricultural enterprises use a lot of assets whose function and methods of their use are in general, identical with assets used in any other branch of business (buildings, machinery, inventories, receivables, cash etc.), and no specific approach to their measurement is needed. Assets, that have specific importance in agriculture and the specific way of use, are especially living animals and plants and harvested products (agricultural products). These assets are subject, a means, and a result of agricultural activity at the same time. The measurement of these assets requires different approaches reflecting the above mentioned specifics of agricultural activity. I will therefore concentrate on the measurement of biological assets and agricultural produce.

### **1. Historical costs based measurement**

The historical costs measurement is based on its original purchase prices. In the case of the production of biological assets of their own, the measurement is based on their own costs of production.

The calculation of their own costs of production is complicated especially due to the following facts:

- agricultural production is often joint production
- ratio of joint products
  - is usually influenced by people to a certain extent (e.g. cultivation)
  - is variable and depend often on natural conditions (climatic conditions etc.)

- division into main products and by-products from the point of deductible costing is relative, and the differences in particular enterprises may occur.

From the above mentioned factors follows, that the calculation of their own costs of products for individual products resulting from the joint-production is very inaccurate. The allocation of costs to individual products may be done by two methods described bellow.

**The first method** is based on seeking a relevant ratio between joint products that would be suitable for cost allocation. It can be a ratio could be based on valuable or natural quantities. Equity numbers arising from the ratio of quantity of separate products are used (e.g. In the case of meadows, the ratio between fodder and hay as 1:4 can be determined on quantities). Cost units, where particular joint products are transferred on cost units (e.g. 1 fruit tree = 1 high trunk = 2 half trunks = 10 bushes), can also be used. Information capacity of the measurement is dependent upon logical justification of individual procedures. In mine opinion, this method is more useful for plant-growing than for animal production.

**The second method** is based on the procedure where one product is considered as main, and the others as by-products. The by-products are measured at sale price (which naturally includes calculated profit) and deducted from the total costs of joint production. Weaknesses of this method are clear. Because of the profit incorporation into the by-products measurement, the costs of the main product are undervalued. The situation is further complicated by the fact that by-products are often used inside the production cycle as an input into a continuous production (eg. straw as by-product in grain growing is consumed in animal production) and market value may not be reliably determined. In many cases it is difficult to determine which product is the main one.

The combination of both calculation methods is often used in practice.

### **Assessment of historical costs measurement**

1. Historical costs measurement in agriculture is dependent upon the method of calculation and it is, in comparison with other branches, less accurate. Costs calculation is relatively accurate up to the level of joint product.

2. Provided we ignore the difficulties with the calculation of own costs, there is still one **fundamental problem** left. The historical costs model on the basis of incurred costs is not able to absorb the consequences of the value creation process, namely biological transformation. While in the manufacturing enterprise, the measurement model of own costs expresses the increasing value of a product, in agriculture, incurred costs are not decisive factor that determines the value of biological assets and agricultural produce. Particularly this fact is often mentioned as the most important one against using the historical cost valuation. The longer the production process, the greater the decline of the historical cost measurement from current market prices is.

## **2. Market value based measurement**

A critical analysis of historical costs shows obstacles and inaccuracy of such measurement and the inability of costs to recognize changes in the value of biological assets. Alternative measurement models were researched.

Biological assets can also be measured at actual market prices – on recoverable costs or costs of disposal. These measurement models enable an enterprise to measure biological assets on such a price that reflects the present conditions in which the enterprise operates – its market position and the way of use of the measured assets. The measurement at fair value (required by IAS 41 for biological assets and agricultural produce at the point of recognition), on the contrary to these models, requires taking into account the market value of active market as a basis for the measurement. This paper will not set aside arguments for using recoverable amounts or costs of disposal, and in compliance with the requirements in IAS 41, I will farther summarize the solutions for the fair value measurement.

## **3. Measurement according to IAS 41 – Agriculture**

IAS 41 – Agriculture requires measuring biological assets and agricultural produce at fair value at the point of harvest. More detailed guidelines for recognition of fair value and the disclosures of related value changes are included in IAS 41. If an active market exists, an enterprise uses the prices or values determined by the market.

Agricultural produce harvested from the entity's biological assets is measured at its fair value at the point of harvest. Such measurement is the cost at that date when applying IAS 2, Inventories, or another applicable International Accounting Standard. That means that the harvested produce is not re-measured at fair value at balance sheet day according to IAS 41.

The basis for asset's fair value recognition is quoted price in an active market with biological assets or agricultural produce, but only on condition that the market with particular assets exists. If an enterprise has access to different active markets, it will use the price existing in the market that is expected to be used.

If an active market does not exist, an enterprise uses the following possibilities for the market price or market value determination, it available:

- The most recent market transaction price provided that there has not been a significant change in economic circumstances between the date of that transaction and the balance sheet date;
- Market prices for similar assets with an adjustment reflecting the differences between the measured asset and these assets; and
- Sector benchmarks such as the value of an orchard expressed in amounts of fruit (e.g. per export tray, bushel) or hectare, and the value of cattle expressed per kilogram of meat, etc.

In some cases if the market-determined price or value may not be available for a biological asset in its present condition; an enterprise uses the present value of expected net cash flow from the asset discounted at a current market-determined pre-tax rate in determining fair value.

The standard requires the measurement of biological assets at its fair value less estimated point-of-sale costs. Point-of-sale costs include commissions to brokers, dealers, levies by regulatory agencies and commodity exchanges, and transfer taxes and duties. Point-of-sale costs exclude transport and other costs necessary to get assets to a market. In compliance with the requirements in IAS 41, the costs necessary to get assets to a market (transport costs) are excluded from the fair value at the moment of its determination. Fair value is market value less transport costs and other costs necessary to get assets to a market.

An enterprise must use the price of an active market (if it exists), regardless of the fact if this price is available for the enterprise in its present condition as for its market position. The present conditions of an enterprise, using fair value for the measurement biological assets, are reflected only in the amount of reducing costs necessary to get assets to a market.

Fair value needn't be recognizable only in initial phases of biological assets growing, where IAS 41 allows the use of historical costs.

There is a presumption that the fair value of agricultural produce can be always measured reliably. This presumption is problematic in such cases where for the quality determination of agricultural produce, on which the price is dependent, tests are required. Because some tests are time-consuming, the quality of production needn't be known and, therefore, not even the price at the balance sheet date. (As an example an enterprise specialized for seedling can be used. Several months testing of seedling quality must be done in order to be recognized.)

### **Recognition of results from revaluation**

A gain or loss arising from the valuation of biological assets at fair value on initial recognition and from the revaluation at fair value at the balance sheet date are included in net profit or loss for the period in which it arises. The recognition of unrealised gains and their eventual distribution to owners can jeopardize the production maintenance of capital invested into an enterprise.

The standard requires separate recognition of gains or losses from the fair value measurement. The standard recommends to make analyses of the influence of total change of fair value that results into separation of physical changes (the increase of value caused by biological processes of growing, maturing, etc.) and the value changes and their individual recognition.

### **Classification of expenses in income statement**

DSOP and Draft E 65 included recommendation for agricultural enterprises to draw their income statement with the classification using the nature of expense method. IAS 41, does not regulate the expenses classification in an income statement. In the part of bases for conclusion to IAS 41, there is stated that above mentioned recommendation was excluded in



order to be consistent with IAS 1 where both classifications of expenses are mentioned: classification based on the nature of expenses and the classification based on their function within an enterprise. In an illustrative example in IAS 41, there is demonstrated the classification based on the nature of expenses is demonstrated only.

### **Assessment of measurement at fair value**

The measurement concept that is used in the standard, is based on theoretically correct base, but brings problems that has to be considered when selecting the measurement basis:

- Market-determined price (which should be used by enterprises in compliance with IAS 41 for fair value determination) may not be available, relevant for an enterprise in its present condition,:
  - as for the position at the market, an enterprise may not reach this price level,
  - a part of biological assets is not for sale at all,
- fair value of agricultural produce is not always reliably determined (e.g. quality of production at the balance sheet date is not known),
- income statement recognition of unrealised gains from the revaluation to fair value and their distribution can damage the production capacity of an agricultural enterprise.

### **Comparison of measurement approaches**

Where comparing the above mentioned approaches it is clear that both approaches have advantages and disadvantages.

### **Evidence and reliability**

Evidence and reliability are qualities often named as advantages of the historical costs measurement. Reliability is based on the fact that historical costs are the prices of significantly occurred business transactions. In the case of the products of their own this argument is weakened. The allocation of costs to individual outputs is complicated especially by the needs of overheads allocation. In agricultural activity, the process of allocation costs is further complicated by joint products. It can be stated that

relative accuracy and reliability of cost allocation is restricted to the level of joint product.

The fair value measurement of biological assets and agricultural produce is evident and comparable especially under such conditions where active market exists, in the case of the alternative determination of fair value, evidence is clearly weaker.

### **Ability of measurement to express value of biological assets and agricultural produce**

In manufacturing enterprises, the increase of production value is dependent upon the amount of costs incurred, and the historical costs model has direct relationship to the value of produce. This is not true in agricultural enterprises because the main factor in increasing the production value are not incurred costs but biological transformation, which is integral quality of biological assets. A historical costs model in agriculture does not reflect an increase of the production value. It is more appropriate to measure biological assets and agricultural produce at the fair value basis.

The assessment of historical costs in agricultural enterprises is dependent upon requirements of users of accounting information. If the balance sheet measurement should express their useful value demonstrated by a market price then the historical cost measurement is not appropriate.

This requirement is not decisive from the point of view of an enterprise. The primary goal of accounting under the going concern concept is rather reliable recognition of profit only at the moment when the renewal of inputs is secured – sustainability of the production ability of an enterprise maintained. Only profit determined by this way after taxes is subject to distribution to owners. For agriculture it is important not to undervalue production inputs than to measure outputs at selling (market) prices. A relative disadvantage of historical costs used in agricultural enterprises is the recognition of profit at the end of a production cycle, especially for those ones with a long production cycle. The long production cycle is often connected with continuous production when biological assets of different generation are grown up simultaneously and, therefore the process of their ripening is gradual and the recognition of profit is more or less proportioned in particular accounting periods.

The fair value measurement could in particular meet the needs of external users of accounting information. But majority of external users of accounting information are afraid that the fair value measurement will be connected with fictive incomes and that accounting information will not provide them with quality base for decision making in highly risky agricultural produce.

It is difficult to establish which way of measurement is more appropriate. It could be useful to construct an accounting system of an agricultural enterprise in such a way that it would give information from both points of view.

### **Research goal**

My research goal aims – on the basis of analysis of issues concerning the biological assets measurement and the measurement of agricultural produce – at submitting an accounting system that enables the recognition and disclosure of information about biological assets and agricultural produce that will fulfil the following requirements:

- enables to fulfil requirements of IAS 41 – Agriculture for measurement and recognition of biological assets and agricultural produce,
- provides information that enable users of accounting information quantify risks connected with recognition of unrealised gains from revaluation to fair value,
- will not burden agricultural enterprises by high laboriousness with treatment of accounting information and will provide information necessary for the management of agricultural enterprises,
- enables to gain information for calculation of standard gross margin which is required by the European Union.

### **Proposed solution**

Standard IAS 41 requires the measurement of biological assets at fair value. A gain or loss arising on initial recognition of biological assets at fair value and a gain or loss arising from the revaluation of assets at the balance sheet date are included in net profit or loss for the period in which it arises. There is a possible way how to reduce risks connected with the requirement to measure biological assets at fair value. The disclosure of

two comparative (alternative) balance sheets seems to be a solution. Assets are measured at fair value in one balance sheet while in the second one historical costs are used for assets. The comparison of two balance sheets will enable the users of accounting information to analyze differences.

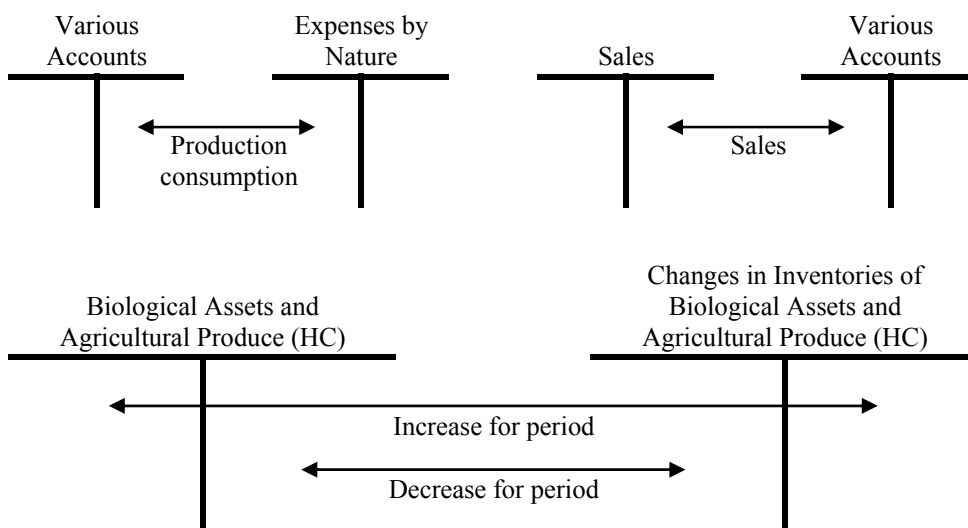
But taking into consideration the fact that a gain or loss from the different assets measurement is included in net profit or loss for the period in which it arises, I will concentrate on an appropriate structure of an income statement only. How can an appropriate structure of an income statement be understood? It should be an income statement that enables a sophisticated separation of gains or losses from revaluation.

DSOP and Draft E65 proposed to draw an income statement using a classification based on the nature of expense. IAS 41 – Agriculture doesn't include this recommendation explicitly but demonstrate an income statement using a classification based on the nature of expense in an appendix to standard. Could income statement using a classification based on the nature of expense provide information in higher quality than an income statement based on classification of expenses by function?

The solution of this issue could be a comparison of the following simplified schemes of accounting systems applicable in agricultural enterprises. The first two systems (indicated as A and B) are based on the **classification of expenses by nature**. System A uses traditional approach to the measurement of biological assets and agricultural produce e.g. historical costs while system B uses measurement at fair value.

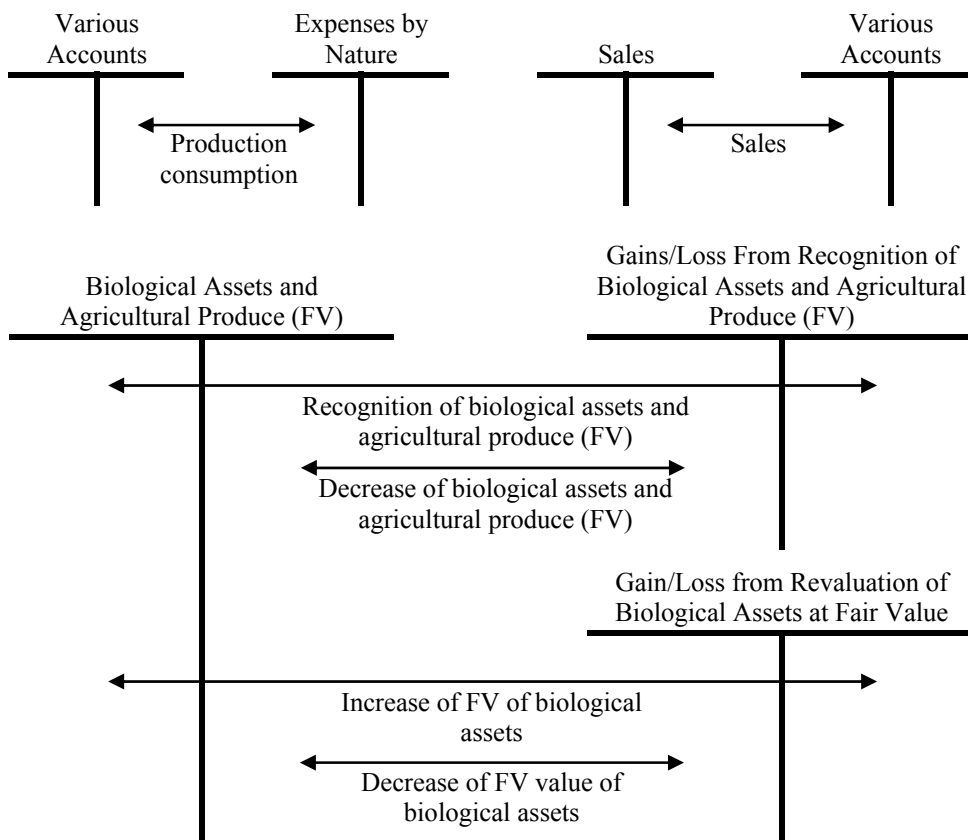
The following two systems (indicated as C and D) are based on the **classification of expenses by function**, where C uses the historical costs while system D uses measurement at fair value.

**A. Accounting system based on classification of expenses by nature and with measurement of own products at historical costs (HC)**



<b>A. Income statement – classification of expenses by nature</b>	
Sales from agricultural produce	+
Sales from biological assets	+
Changes in inventories of finished goods and biological produce measured in own costs of production (in HC)	+/-
Raw materials and consumables used	-
Staff costs	-
Other operating expenses	-
Profit / loss	+/-

**B. Accounting system based on classification of expenses by nature and with measurement of own products at fair value (FV)**



<b>B. Income statement – classification of expenses by nature</b>	
Sales from agricultural produce	+
Sales from biological assets	+
Gain/loss from recognition of increase and decrease in value of biological assets and agricultural produce (measured at fair value)	+/-
Gain/loss from revaluation of biological assets on fair value at balance sheet date	+/-
Raw materials and consumables used	-
Staff costs	-
Other operating expenses	-
Profit / loss	+/-

Note that similar structure of an income statement is published as an example in IAS 41

### **Comparison of Income statement A and Income statement B**

Differences are concentrated in the following items:

#### **Income statement A:**

“Changes in inventories of finished goods and biological produce measured at own costs of production (in HC)”

#### **Income statement B:**

“Gain/loss from recognition of increase and decrease in value of biological assets and agricultural produce (measured at fair value)”

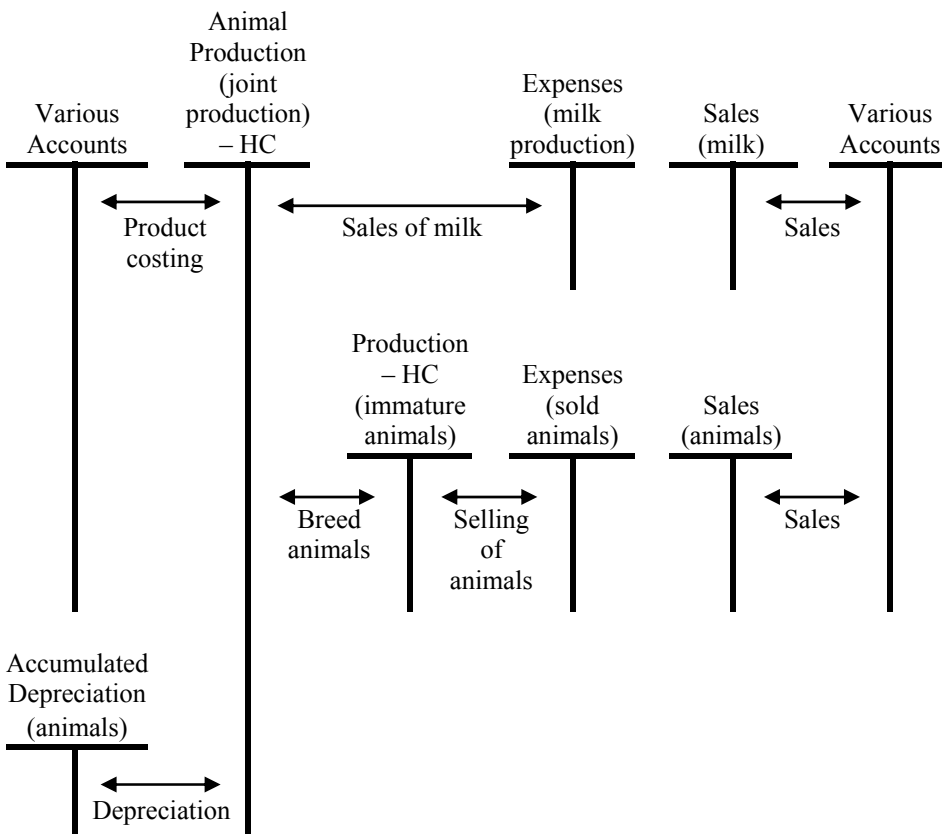
“Gain/loss from revaluation of biological assets on fair value”

Conclusion from the comparison of items used in an income statements:

- In Income statement A, the value of change in unrealised produce and immature biological assets for the period is included in an item “**Changes in inventories of finished goods and biological produce**” measured at own costs of production (in HC).
- Change in unrealised produce and immature biological assets for the period is included in Income statement B too, in item “**Gain/loss from recognition of increase and decrease in value of biological assets and agricultural produce**”, but this time measured at fair value (including anticipated gain). Within this item, this is not only a matter of separation of an anticipated gain in manufactured products which decreases the efficiency of information.
- Item “**Gain/loss from revaluation of biological assets on fair value**” included in Income statement B includes changes in fair value of biological assets (e.g. livestock, or immature animals under breeding) that can have negative or positive value – it shows:

- Mainly process of degeneration for mature biological assets in a way how reflected by market using floating of a market price.
- [In Income statement A, based on historical costs, there is a progressive decrease of value for mature biological assets allocated in the form of depreciation.]
- For young (immature) biological assets (e.g. young animals) an increase of value in the change of market price.
- [In Income statement A, process of an increase in the value of immature biological assets is recognized only by increasing the value of assets by production costs incurred on their breeding or growing.]

**C. Accounting system based on classification of expenses by function and with measurement of own products at historical costs (HC) – animal production:**



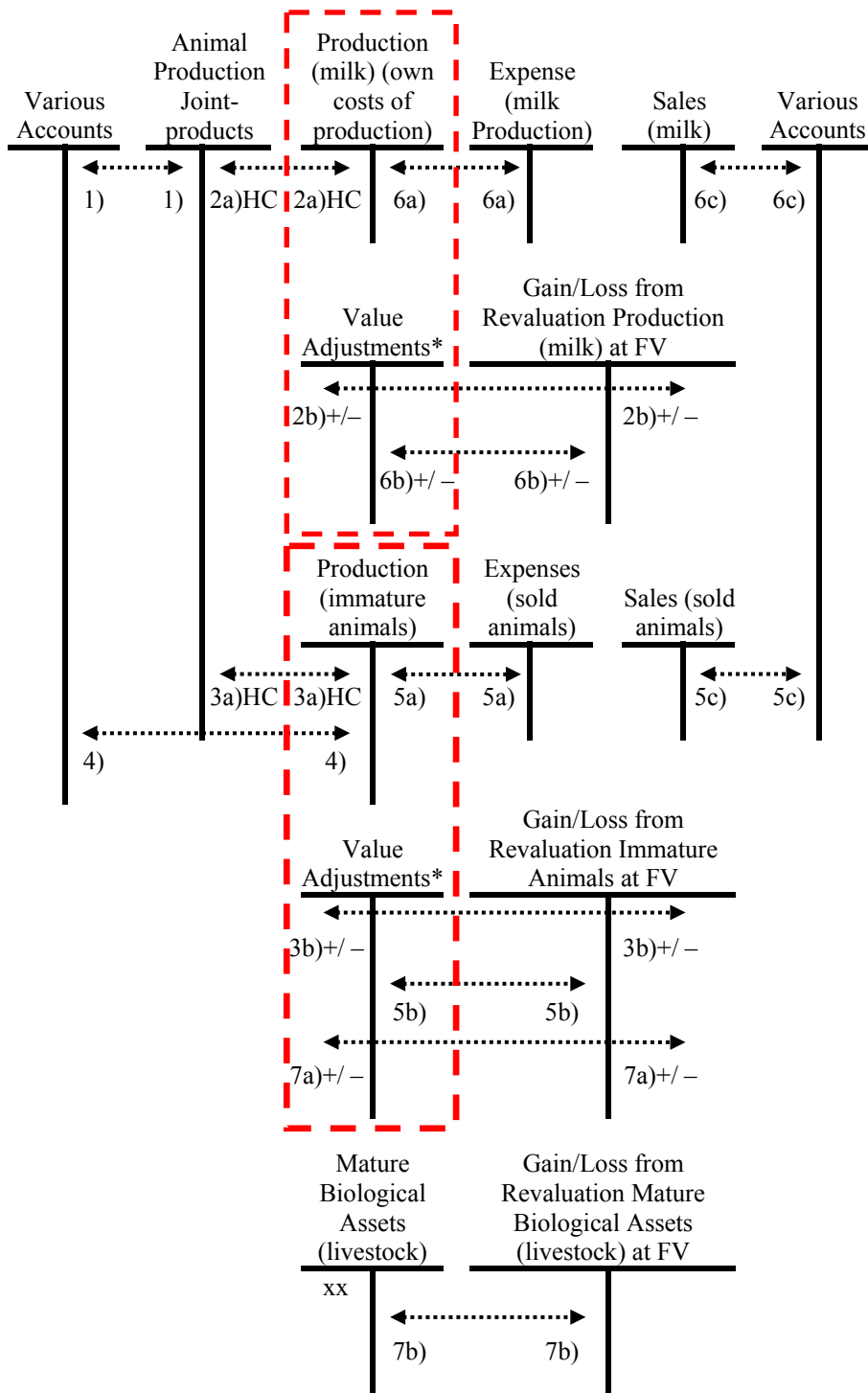


<b>C. Income statement – classification of expenses by function</b>	
Sales from agricultural produce	+
Costs of sale (sold agricultural produce)	–
Gross profit from agricultural produce	+,-
Sales from biological assets	+
Cost of sale (sold biological assets)	–
Gross profit from biological assets	+,-
Distribution costs	–
Administrative expenses	–
Other operating expenses	–
Profit/ loss	+,-

**D. Accounting system based on classification of expenses by function and with measurement of own products at fair value (FV) – animal production:**

Description:

- 1) Product costing. Note: Using fair value, production does not include depreciation expenses
- 2a) Products manufactured (milk) measured at own costs of production
- 2b) Value adjustments between own costs of production and fair value of production (milk) (+/-)
- 3a) Immature animals born at own costs of production – if there is no possibility to recognize own costs of production, fair value is used for measurement. In this case, which can happen in practice, an anticipated profit cannot be separated and recognised on the account valuation adjustment (see operation 3b)
- 3b) Value adjustments between own costs of production and fair value of born animal (+/-)
- 4) Own costs of animal breeding
- 5a) Decrease of sold animals at own costs of production
- 5b) Share of value adjustment concerning sold animals
- 5c) Sales – animals
- 6a) Decrease of sold products (milk) measured at own costs of production
- 6b) Share of value adjustment concerning sold products (+/-)
- 6c) Sales – milk produced
- 7a) Revaluation of immature animals at FV at the end of the year
- 7b) Revaluation of mature animals at FV at the end of the year
- xxx Closing balance at FV, before revaluation at new FV.



<b>D. Income statement – classification of expenses by function</b>	<b>Historical costs bases</b>	<b>Gain/loss from revaluation</b>
Sales from agricultural produce	+	
Costs of sale (sold agricultural produce)	-	
Gross profit from agricultural produce	+,-	
Sales from biological assets	+	
Cost of sale (sold biological assets)	-	
Gross profit from biological assets	+,-	
Revaluation of biological assets on fair value		+,-
Gains /loss from agricultural produce measurement at fair value at harvest point		+,-
Distribution costs	-	
Administrative expenses	-	
Other operating expenses	-	
Profit/ loss	+,-	

### Conclusion

The results from comparative study of income statements measured at fair value, where the first one is based on the classification of expenses by nature (income statement B), and the second one is based on the classification of expenses by function (income statement D) show that the income statement with the classification of expenses by function provide users of accounting information with more relevant information. This classification enables consistent separation of gains and losses from the fair value measurement. This classification provides information about profit realised from the historical costs base measurement so as information about future potential profits and losses, those could be estimated from biological assets and agricultural produce at fair value.

I presume that using an income statement based on the classification of expenses by function in an accounting system enables:

- To ensure requirements in IAS 41 and, at the same time, reduce risks which arises with the required using of fair value in the way of consistent separation of measurement influence on particular groups of assets;
- Detailed analysis of efficiency of different types of production in agricultural enterprises that is useful for their managements;
- Application of the classification of expenses by function into financial accounting will not increase an amount of accounting works in agricultural enterprises because the calculation of own costs of production is necessary condition for the rational management of enterprises anyway. The classification of expenses by function in accounting system ensures transparency of income statement.
- Proposed accounting system can be modified in such a way that it enables to determine the “standard gross margin” required by EEC Directive. The modification of an accounting system would require the separation of the “standard costs” from all other costs, fixed ones. “Standard costs” are the costs enumerated, and in compliance with the guidelines to “standard gross margin” determination they are considered to be variables. The separation of costs could be ensured by separate recognition of both, variable and fixed costs, within accounts for different types of production.

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## **Application of Fair Value Measurement Model in IAS 41 – Relation between Fair Value Measurement Model and Income Statement Structure**

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### **ABSTRACT**

Application of IAS 41 Agriculture is controversial. There is a lack of research in this area. Starting point of this paper is an analysis of special characteristics in agriculture. In comparison with manufacturing, agricultural production has a number of specifics that brings the need of modification in accounting methods. The nature of agricultural activity is deliberate regulation of conditions of biological transformation in living plants and animals (further biological assets). The ability of biological transformation (comprises the processes of growth, procreation and degeneration of organisms) is the basis for expected usefulness of biological assets. Biological transformation is the fundament of added value in agricultural activity. A comparison of valuation approaches in agriculture is carried out regarding special characteristics of agriculture. Two approaches may be found to valuation in agriculture. The first one is based on biological assets valuation in historical costs. The second one recommends current costs, which are accepted by the IAS 41, based on fair value less estimated point-of-sale costs valuation.

The fair value measurement could in particular meet the needs of external users of accounting information. But majority of external users of accounting information are afraid of the fact that the fair value measurement will be connected with fictive incomes and that accounting information will not provide them with quality base for decision making in highly risky agricultural produce. It is difficult to establish which way of measurement is more appropriate. It could be useful to construct an accounting system of an agricultural enterprise in such a way that it would give information from both points of view.

Relations between above mentioned valuation approaches and income statements (using “by nature” and “by function” models) are examined. The comparative study of income statements, where the first one is based on the classification of expenses by nature, and the second one is based on the classification of expenses by function shows that the income

statement with the classification of expenses by function provides users of accounting information with more relevant information. This classification enables:

1. consistent separation of gains and losses from the fair value measurement and
2. to provide information about profit realised from the historical costs base measurement so as information about future potential profits and losses, those could be estimated from biological assets and agricultural produce at fair value.

The results of my research show that fair value model better expresses the value of biological assets. In contrast to IAS 41, I recommend structure of income statement based on function of expense method with some modifications. The main advantage of this recommended approach is limitation of risks associated to unrealized gains or losses as proposed in IAS 41.

**Key words:** Measurement; Fair value; Agriculture.

**JEL classification:** M41.