

**THESIS OF DOCTORAL (PhD)  
DISSERTATION**

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**MOSONMAGYARÓVÁR**

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**THESIS OF DOCTORAL (PhD) DISSERTATION**

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**UJHELYI IMRE ANIMAL SCIENCES SCHOOL OF  
DOCTOR'S**

**Marketing economic aspects of producing and processing animal  
products – Doctorate Programme**

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**ECONOMIC BASIS OF CHANGES IN DATA SUPPLY OF  
ACCOUNTANCY IN ANIMAL HUSBANDRY**

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## **I. MAIN RESEARCH OBJECTIVES AND HYPOTHESIS**

In 21st century information service on accountancy shall cover the changing and versatile demands of the market actors under the double pressure of paradigm changes in agriculture and globalisation. The first one transforms the evaluation of the factors of production process and the structure and quantity of published information. The second one urges the countries to adapt international regulations of accountancy or at least to consider them on even larger and larger fields.

On the example of animal keeping enterprises the thesis investigates the evaluation and registration practice featuring production factors of the sector and options of choice as well as the applicability of accountancy reports from the point of view of economic decision-making and process evaluation.

### **The following results can be achieved by the investigations:**

1. Besides several determining market processes and market values technical parameters should also be considered if we want to assure valid and usable information supply within accountancy.
2. A reliable and real view delivers different information for each actor on the market. The frame rules of law applied for accountancy cannot fulfil versatile demands. Besides the elaboration and introduction of Hungarian Accountancy Standards there is a greater demand on higher rate of responsibility in accounting service and better processing information and supplying

data that respects the unique features of enterprises now and in the future as well.

3. Annual statements deliver more information than expected upon their pre-concept on one hand and enterprises can be judged only upon non-public information objectively on the other hand.
4. As many people use the financial statements enterprises determine the order of importance on the basis of historical experience for lack of something better. Small enterprises put the requirements of financial authorities (APEH, VPOP, MVH) to the first rank.

## **II. MATERIAL AND METHODS**

As the study is featured by methodology besides data collection it was very important to make an overall picture about the situation of regulations for animal husbandry for the sake of exploiting possibilities of statement of accounts and evaluation. Act C. of 2000 about accountancy defines the rules, but Act CXXXI. Of 1996 about the standards of company taxation is an element of the system of conditions that cannot be eluded. Modifications of rules of law during the period of investigations were only interesting from the point of view of information supply. Its effect on the economic performance of the enterprises was not included into the original objectives of this paper.

In order to get information about the internationally determined possibilities and the future conditions of changes we had to deal with five International Standards of Accountancy.

Due to the multiplicity of business forms in agriculture it was essential to use the rules of law about co-operations (Act X. of 2006) and agricultural enterprises (Act IV. of 2006) for the analysing calculations referring to the interpretation of the information on own capital.

The demand on the enforcement of biological, technological and technical aspects in accountancy indicated the recognition of the most important standards referring to animal husbandry, but especially the standards of General Recording and Identification System about the animal species and the Act CXIV of 1993 of FM (Ministry of Agriculture) about animal husbandry.

Own sources are based on secondary and primary collection of data. Resources of secondary data are KSH (Central Statistical Office), and FVM (Ministry of Agriculture and Rural Development) publicly available data through traditional and electronic ways and publications on pilot plant system operated by AKI (Institute of Agricultural Economics). Data acquired from AKI served as reliable control data.

Third source of data was a primary data collection composed of the data of a questionnaire (of 47 questions) and data gained by interviewing economic leaders personally.

On the bases of the collected questionnaires we had to restrict the investigations on two animal species (cattle and swine) and three ways of farming purpose (meat and milk purpose cattle and swine for slaughter

We sent the questionnaire to 170 agricultural enterprises also dealing with animal breeding in the West-transdanubian Region. Only 10 out of the received questionnaires contained data that could be evaluated. According to the returns of sales 4 out of 10 could be regarded as animal breeding enterprise.

### **III. RESULTS AND CONCLUSION**

#### **1. Considering technical parameters**

Among the elements of technical parameters (biological basis, technology, by-products, environment and animal well fare measures) the study covers the investigation of the influence of biological basis. The introduction of the International Accountancy Standards, IAS 41, in 2001 resulted in a considerable gap between the international and the Hungarian regulations. This standard definitely puts an end to the concept of historical cost based accounting, while the Hungarian Law of Accountancy preferred the value realized in the past.

Among intangible assets milk quota handling causes problems in accountancy, because the regulations upon trading and holding hinder the formation of a market which would be able to regulate prices and reduces the reliability of information on accountancy.

By pushing the biological basis of breeding animals into the background accountancy recordings handle biological assets as biological products according to the terms used in International Standards.

Accountancy regulations and practice shall be changed regarding the method of evaluating organic manure as a by-product and its role in the calculation because of environmental regulations manure as a by product.

#### **2. Scope of evaluation**

Enterprises can comply with the requirements of a reliable and real overall picture first of all through the evaluation of property according

to the Law of Accountancy and through public information supply. The solvency requirements apply to items of assets connected to animal stock (value expressible in money, self-negotiability<sup>1</sup>, transferability, possession, ownership). The changing in the environment and regulations of accountancy attach growing importance to the market price determination within the evaluation of assets. Its mechanical application leads to serious deformation of information false recognition of property value.

Among the intangible assets the evaluation of milk quota is not regulated in terms in the Law of Accountancy. In the pilot plant system AKI collects and publishes data from milk producers giving more than three third of quantity of the national milk quota. Due to different practice applied on the farms pilot plant data on property assets (historical cost, book value, depreciation) during the period of investigation cannot be used, because recognition of milk quota amortisation is not justifiable from the point of view of economy or accountancy.

60 percent of the dairy farms involved into the investigations do not recognize the value of milk quota, 40 percent of them recognise its value no matter whether they have acquired it through purchase or by request without charge.

We can only find information on the changes in the value of milk quota in the supplementary enclosure of the annual statement. According to the Law of Accountancy enterprises preparing annual

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<sup>1</sup> The negotiability requirement can assert itself both in the practice and in the theory only limited.

statements have to introduce the most important items of deferred revenues in detail, a part of which is the net value of milk quota acquired without charge. Enterprises involved into the investigations prepared annual statements and published information according to the law.

Accountancy standards accept six methods for evaluating biological products, produce and determining property value at the end of year.

All the enterprises involved chose the method of settling-price-reporting, i.e. when recognising direct costs during the year they use a unit value (fixed by t administrative decision) instead of real prices and costs. Dividing the difference of the two values between sold and stocked products provides another possibility to manipulate the financial situation and profit achieved in the given fiscal year. The risk of detecting the errors or deception is very low, because there is no actor on the market who has enough information to determine the actual cost-relationship. The management referring to trade secret may refuse the revelation of applied methods of calculation, so the extent of modification of property value and profit will remain hidden before external owners and market participants. Based on the available data from the enterprises involved into analysis we can detect the problem, because the relative scattering of difference in stock value compared to the book value was very high for both animal species (swine for slaughtering 290 %, cattle for slaughtering 170 %).

Enterprises can use the simplified evaluation method from 2001 and further “simplifying” methods from 2003. The concept of simplification assets that the direct prime cost of stocks from own

production can be calculated instead of post-calculation from the market price on the basis of expected production and marketing costs and predicted profits. According to regulations valid from 2003 the balance value of own produced stocks can be determined as the product of multiplication of performance grade and expected estimation of production costs instead of itemized recording expenses. Through the application of the method presuming a price and cost reduction the main accounting principles of verity and carefulness get violated.

The opening and closing net value of young stock fattening stock and other stock are recognised as an independent entry in the annual statement. This cannot be determined from the simplified annual statement. Information about this item of assets can be found in the detailed description of the value of activated performances among the description of the evaluation methods and in case of profit and loss accounts made by the method of circulation expenses in the supplementary enclosure as determined by the law.

In 80 percent of enterprises involved into the investigations the supplementary enclosure complied with the standards of law. Information suitable for economic analysis was published by the enterprises in connection with recognising amortisation.

The Hungarian Law of Accountancy – more stringent than the international act – regulates the separate recording as a basic method for the sake of complying with the concept of separate evaluation. The Separate Recording and Identifying System (ENAR) could present a good basis in principle. Due to the basic principle of comparing

expenses and profit both the method of average cost price and evaluations by the FIFO methods can be applied for assets purchased at different times, recorded in groups and having the same parameters. The Law of Accountancy does not regulate the recording in groups in detail. Sources of agricultural literature say that recording assets according to species and age group of animals for breeding would be suitable. On the basis of the questionnaire every enterprise involved into the investigation use the method of separate recording. The enterprises keeping swine for slaughtering do not used the method of separate identification of species as prescribed in the European Union One-third of the cattle farms use it both in the quantitative and in the evaluative recording, tow-third of them uses the method of separate animal identification in the quantitative recording. This last one does not comply with the demands of the analytic recording of accountancy therefore most enterprises use a double system: one for technological data handling and one for accountancy.

The settlement of expenses for biological assets is determined by the gross value, the productive period of life, the method of amortisation and the residual value. The investigated animal farms indicated without exception that the change in productivity was the most important aspect of determining the productive period of life. Swine farms stated in their answers to the questions of the questionnaire that they determined the productive period of brood sows and stock boars on the basis of changing in the keeping costs and figures of experience Every of the investigated enterprises reckoned amortisation by using the linear depreciation allowance. Enterprises exclusively take the

market prices into consideration when calculating the expected market value at the end of the productive period of breeding stock. As a result there is not much difference between the gained weight and the quality of meat during one year or three years of fattening. Breeding value and productivity after the productive period of life do not matter. Besides theory, if enterprises would take into consideration the gained weight during keeping than they could not calculate with depreciation, because the scrap value would be higher than the historical costs for every animal species and purpose of husbandry.

Enterprises evaluate breeding animals on the basis of live weight. Because the only contact between the yields and the performance of breeding animals goes through the dam, the evaluation and record of depreciation on the basis of lifetime production are not justified

Net value of breeding animals is recorded in a separate entry in the balance of enterprises preparing annual statements. In the simplified annual statement it is a part of the sum of tangible assets. Reason for and economic impact of value correction and changes in methods of evaluation shall be described in supplementary enclosure of every enterprise. Until 2006 the supplementary enclosure of every enterprise should have included the development of the gross value and accumulated depreciation of breeding animals (opening, increase, decrease and closing)<sup>2</sup> and the detailed description of the considered year according to the applied methods. From 2006 this refers only to those who prepare annual statements.

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<sup>2</sup> Literature on accountancy and practice call this type of account investment mirror.

### **3. Informative content of statements**

Market participants qualify the usefulness of information about accountancy data and published statements upon their contribution to decision-making process. Behind the question there is the relationship between a reliable and valid overall picture and the demand of economic decision-making on information. In the process of decision-making financial is only one of the aspects. We should consider in the decision-making process economic ethical and non-economic factors, especially in the field of agriculture and animal husbandry.

Based on the literature the paper studies the indexes of financial statements that are used for analysing proprietary and financial situation among the most important ones. On one hand the number of indexes is very high, on the other hand both the literature and the practice consider the same relative numbers at different content and meaning. The paper contains some of the most important differences and some of their reasons as well.

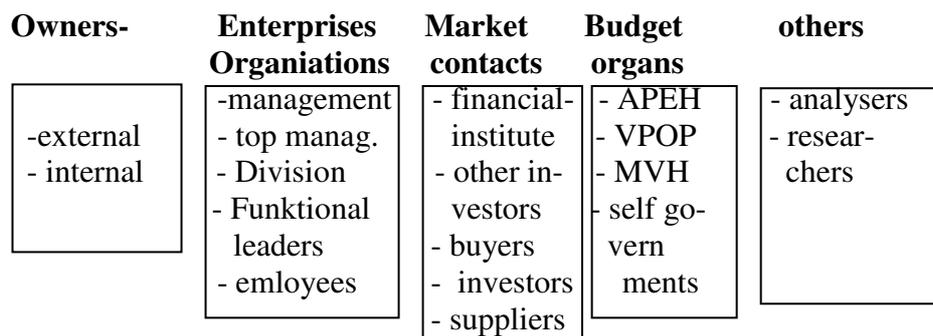
In the thesis the author investigates the availability and content of data necessary for calculating indexes on the bases of statements and simplified statements prepared yearly. The paper also deals with the effect of differences between methods of expenses of circulation and total expenses in profit and loss account.

In case of proprietary indexes we had to evaluate the differences between the separate value categories and the system of conditions and reasons for their application. Further more both the literature and the economic practice neglect handling and content of deferred revenues and targeted reserves among property elements. The paper

deals with the method of their handling and determining the elements that should be taken into account when calculating current assets. In the profit and loss account the content of other revenues should have been described so that indexes of profitability and efficiency give a more real picture about the performance of animal farms.

#### 4. Features of financial statement users

The reasons for the difference between the real and valid overall picture and the demand of holders of interest (market participants) is the different understanding of phrases and the range of values reflecting the interest of users and that of the standards of the Law of Account, which is different in every respect. This part of the paper investigates how the accountancy and market participants apprehend the real and valid overall picture of an enterprise and introduces the most important characteristics of value enhancement processes at an enterprise on the basis of animal farms involved into the investigation.



APEH: Tay and REvenue Office

VPOP: Customs and Financial Office

MVH: Agricultural and rural Development Office

Source: own research

**Figure 1**  
**Groups of holders of interest**

The questionnaire survey collected the opinions of the financial managers of enterprises regarding their use of financial statements.

**Table 1**

**Use of financial statements by holders of interest**

<b>Holders of interest</b>	<b>Medián</b>	<b>Módusz</b>
Owners	9	10
Management–Top managers	10	10
Employees	5	0
Financiers	9	10
Buyers - Suppliers	9	10
Budget organs	9-10	10
Analysers	6	0

Source: own research

Law of Accountancy recognizes book keeping and auditing as accountancy service. The activity of tax expertise is closely bound to them.

The standards of Law of Accountancy incorporate bookkeeping services. Owners and the management of smaller enterprises see and qualify the book keeping organisation through the eyes of demands on taxation tax controller and financing. Auditing could strengthen the introduction of a reliable and valid overall picture, but these regulations do not refer to the most critical group of enterprises, the small holders. Economic organisation belonging to that group very often call for book-keeping service and as a result information supply necessary for economic decision making are pushed back. They fail to utilise the opportunities of choice rendered by the Law of Accountancy. Our investigations proved that this process was enhanced among animal breeding farms as well.

To **summarize** the results of the investigations we can conclude that a reliable and valid overall picture of an enterprise is differently understood from the point of view of the users and accountancy. Accountancy means by that compliance with the regulations and the former one means the quality of information that can support decision making. Improvement of accounting activity can only be carried out if we integrate the processes of decision making and information supply, i.e. accounting services should first of all take into consideration the demands of market participants and only secondly self-protecting and declining or restricting responsibility.

#### **IV. NEW AND NOVEL SCIENTIFIC RESULTS**

1. Reliable valuation of tangible assets cannot be carried out if we calculate the value of breeding animals on the basis of their meat value.
2. Evaluation based on life performance of breeding animals can basically change economic relations in animal husbandry, especially in milk production. The change appears in the characteristics of amortisation, culling becomes more favourable, at a date reflecting productivity much better, in the evaluation enforcing the special use of biological assets much more.
3. Ongoing investments, value of investments in the considered year, activated assets' value are used to calculate the indexes of re-generation of breeding animals. In my opinion activated assets' value is the most reliable, as the produced stock rate is very high in the activated value of animals, which is recognized among the stocks and not among investments until they are involved into breeding.
4. I suggest calculating the index of stock re-generation on the basis of gross value data published in the supplementary enclosure of annual statements by analogy with the assets system of human resource management.
5. According to the different purposes of investigation we corrected the meaning of phrases related to capital<sup>3</sup> and studied their relation to the annual statement.

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<sup>3</sup> Circulating assets, net circulating assets, current assets.

## V. LIST OF THESIS RELATED SCIENTIFIC PUBLICATIONS AND LECTURES

### **Scientific publications in Hungarian published in edited journals and other proceedings:**

**Kiss Árpád (2003):** Kinek készüljön a megbízható és valós összkép? 66-74 p. In. BORSZÉI ÉVA (szerk.): *Doktoranduszok a számvitel és a pénzügy területén..* Gödöllő Szent István Egyetem Gazdaság- és Társadalomtudományi Kar Számviteli és Pénzügyi Tanszék 154 p.

**Kiss Árpád (2007):** Számviteli információk növekvő fontossága. *Gazdálkodás* 51 (20) 198-205 p.

**Kiss Árpád (2008):** A tejkvóta számviteli kezelésének problémái és ezek hatása a vállalkozások vagyoni helyzetére. In. BÁCS Z. (szerk.): *Hagyományok és új kihívások a számvitel területén; 140 éves a számvitel oktatása a debreceni gazdasági felsőoktatásban.* Debrecen Debreceni Egyetem AMTC AVK Debrecen (under edition)

### **Scientific publications in a foreign language published in edited journals and other proceedings:**

**Kiss Árpád (2009):** Problems of Milk Quota Management in Accounting System, their Effect on Property Status of Enterprises *Acta Agronomica Óvariensis* **50.** (under edition)

### **Lectures published in full volume in Hungarian:**

**Kiss Árpád (2003):** Mi változik a számvitelben az EU csatlakozás után? EU Konferencia Mosonmagyaróvár, előadás CD kiadványon.

**Kiss Árpád (2003):** Az EU csatlakozás sajátos számviteli problémái a mezőgazdaságban, Georgikon Napok Keszthely, 2003 december

**Kiss Árpád (2003):** Az EU pályázatírás eszköztrendszere WEU Konferencia Mosonmagyaróvár, 2004. május CD kiadványon

**Abstracts and summaries published in Hungarian:**

**Kiss Árpád (2005):** A KAP és az állati termékpályák koordinációs mechanizmusainak gazdasági problémái *Gazdálkodás* **49** (14) 10

**Electronically available lectures**

**Kiss Árpád (2007):** Számviteli jegyzet I-II. kötet előadásai

**Kiss Árpád (2007):** Számviteli feladatgyűjtemény

**Kiss Árpád (2007):** Vállalkozói kontrolling

**Kiss Árpád (2007):** Vállalkozói kontrolling feladatgyűjtemény

**Kiss Árpád (2008):** Vállalkozások adózása előadásai

**Kiss Árpád (2008):** Vállalkozások adózása feladatgyűjtemény