

# Assets. Biological Assets. The Seasonal Model in Agriculture

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***Abstract.** In order to support the agricultural exploitation we tried in this paper to develop a model that involves a seasonal component at entity’s level. Consequently, we made a study to an exploitation acting in the vegetal field by collecting accounting informations from the data base entity and by informations that were processed using different statistical functions. So, through the proposed model we try to make certain previsions taking into account the economic situation in which the agricultural exploitation works.*

**Key words:** asset; biological asset; agricultural exploitation; seasonality.

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**JEL Codes:** Q11.

**REL Codes:** 10B, 15B, 15E.

## 1. The agricultural exploitation

In the dedicated literature there are used different names and definitions which refer to the concept of an economic unit, such as: enterprise, organization, economic agent, commercial society, entity (the concept of entity is used more often by the Order no. 1752/2005 in order to approve the accounting regulations according with the European orders, Monitorul Oficial no. 1080 bis/2005), firm, associated enterprises, enterprises combinations and others. Further on, we will present some definitions from the literature of the concept of enterprise.

An enterprise is an economical unit which is characterized by a specific kind of activity, by a technological functioning and organization, by the capacity to produce certain goods, to lead and manage in a rational way, and also by its financial autonomy (Dobrotă, 1997, p. 120).

In another vision, the enterprise represents the entity that manages the economical values with the purpose to realize some productive activities, some commodities circulation and bonds (shares, bonds, bills of exchange), the entity that performs services and other social useful operations (Călin, Ristea, 2000, p. 17).

According to the Council Regulations no. 686/1993 regarding the statistic observation units, the enterprise represents a group of legal units which are established as organizational entity of goods production, commercial services which benefits by a certain decisional autonomy, especially for the assurance of its current resources.

Another point of view considers the enterprise as a group of persons, organized

according to certain legal, economical, technological requirements which concept and develop a complex of work processes using certain working methods, materialized in products and services with the purpose to obtain a net income or profit as big as possible (Marian et al., 1994, p. 14).

From the above definitions arise the following characteristics of the enterprises:

- have their own<sup>(1)</sup> patrimony and a licit purpose;
- the labour is paid;
- have decisional autonomy;
- organize own accounting;
- the purpose in the competitive economy of a certain enterprise we consider to be the one to consolidate a market position and to increase the entity value comparing to the other competitive entities.

In general, the enterprises can be classified by many criteria. A classification can be done depending on the big fields in which it activates, the enterprises belonging to:

- the primary sector – agriculture, extractive industry;
- the secondary sector – enterprises that belong to the industry and civil engineering;
- tertiary sector – enterprises that have as activity object the trade, the transport, the tourism, banking commercial societies.

Under the primary sector a special attention is given in present to the agricultural exploitations.

The concept of exploitation has its origin in the French word „exploitation” and it refers to an economic enterprise which exploits the lands, forests, mines (Romanian Academy Linguistic Institute “Iorgu Iordan”, 1998, p. 359).

For the first time after 1989 in the Romanian legislation the concept of agricultural exploitation was defined as representing a complex form of property organization, through which the land, animals and the other way of production are put into value, interconnected into an unitary system with the purpose to perform works, provide services and efficient agricultural products (Ordonanța de Urgență no. 108/2001 regarding the agricultural exploitations, Monitorul Oficial no. 352/2001).

According to the Order no. 152/2004 regarding establishment of organizational and functioning terms of reference of the Integrated System of Management and Control published in the Monitorul Oficial no. 186/2004 the exploitation represents a production unit administrated by a farmer<sup>(2)</sup> and situated on the country territory.

In another normative document (The Order of the Ministry of Agriculture, Forests and Rural Development no. 302/2005 regarding the realization of the Farms Register, published in the Monitorul Oficial no. 401/2005) the agricultural exploitation is presented as a technical-economic unit that develops its activity under a single management and has as activity object the land exploitation. In the same normative act is told that the agricultural exploitation has one or more farms<sup>(3)</sup>. And the farm has the total organization of production factors with the purpose to obtain agriculture products, managed by a single manager. A farm is generally composed by: a yard with buildings and the corresponding agricultural lands.

According to the annual statistic of Romania, edition 2005, the agricultural exploitation represents an economic entity

of production which has its activity under a current unique management and has all the animals and lands used all or partial for the realization of an agriculture production no matter of the property type, legal form or size.

A weak point in the Romanian legislation is the lack of the agricultural exploitation definition till the Urgent law no. 108/2001. Also we notice that in present are more than one definitions of the agricultural exploitation presented by the Romanian norms. We consider that presenting some clear and easily understood normative documents we can eliminate this negative aspect.

In the specialty literature it is used the word of agricultural enterprise as an economic and production unit, an alive and independent organism which has its own patrimony. It is also an economic agent of which main activity is the production of agriculture products and agricultural aliments and also services destined to be sell. The agricultural enterprise is a centre of decisions with its own accounting and bank account and which has relations with the outlets and supply market from where it achieves a part of its production factors that she combines in different proportions with the own resources. The agricultural enterprise manages its resources and production in order to obtain a maximum profit and observing the durable development requirements (Zahiu, 1999, p. 77).

We mention the fact that the expression of exploitation does not identify with the concept of property because a private land can be deliberately divided to more than one subjects of exploitation completing their unit of production under the name of agricultural exploitation.

If we refer to the International Standards of Accounting elaborated by the International Accounting Standards Board<sup>(4)</sup> we do not find the concept of “agricultural exploitation” but the one of “agriculture activity” which represents “the management biological assets transformation by an certain enterprise in order to sell to the agriculture production or in additional biological assets” (IAS 41 Agriculture, paragraph 5).

## 2. The concepts of asset and biological asset

According to the Financial Accounting Standards Board (FASB) the definition of the asset is given as representing the future economic advantages that come from transactions or past events. At the level of the Financial Accounting Standards Board (IASB) we find a similar definition.

In the specialty literature there are opinions according to which the definition of the asset must be revised in the way of that the future economic benefit should be replaced by the right of property as main criteria of recognition. On contrary, other opinions specify that just the vague character of the definition make her applicable to a bigger number of situations, thus assuring its longevity.

Compared to the American vision, the international concept explicitly sets the asset as economic resource that must have certain strictness.

The definition of the asset is based on the next elements: resource, control, past event, economic benefits; cost; credibility.

The resource represents a reserve or resources susceptible to be capitalized in a

certain situation. If we extend the concept to natural resource then we will deal with the totally of the mineral and mining resources, of lands, waters and forests that a country owns (Romanian Academy Linguistic Institute “Iorgu Iordan”, 1998, p. 920).

The economic resources are composed from the totality of elements, direct and indirect premises – of the social practical actions, which are useable, can be attracted and are real used to produce and obtain goods (Dobrotă, 1997, p. 20).

The economical goods are composed from those scarce elements that exist in nature or are created by man – identified and measurable – goods directly related with the human needs (Dobrotă, 1997, p. 78).

The concept of control originates from the expression “contra rolus”, which means the verification by a specific person of the original document by its duplicate. The control represents the permanent or periodical analysis of an activity, situation in order to follow its course and in order to take improvement measures (Romanian Academy Linguistic Institute “Iorgu Iordan”, 1998, p. 221). In the vision of the International Accounting Board the control can be defined as “the power to lead the financial and operational politics of an enterprise in order to obtain benefits on its activity”.

We consider that introducing the expression of control in order to define the asset concept and the prevalence of economic over the legal principle has disturbed the accounting practitioner and especially the theoretician because the collocation of property right was given up. The Civil Code defines the property right as

being a right to exclusively and absolutely enjoin and hold a good but under some limits determined by law.

The past event represents an important matter, a fact of a great importance for the entity that already took place.

The economical benefits represent the entity potential to contribute to the development of the treasury flows. As a rule, the majority of the economists consider that the purpose of an affair is to register a profit as big as possible. This idea is met very often in the specialty literature as in the optic of many entities also. We consider that this objective must not be generalized because the entities must aim the financial position consolidation on the market, by maintaining stable relations with its partners, harmony between the employees, a symbiosis on hierarchical scale between the employees and the employers' representatives.

The cost reflect the consume of raw materials and consumable being composed from direct expenses related to the use of the labour force and also from the quotas from the indirect production expenses allocated in a rational manner to goods production process. The cost concept is used in relation to entering in patrimony of elements such as: procurement. The cost concept is used very often when we refer to the management accounting. No matter the circumstances of cost using we consider that to the notion of cost it should be given the proper importance because the information spread by it is crucial for the decisions taken by the investors, clients and suppliers.

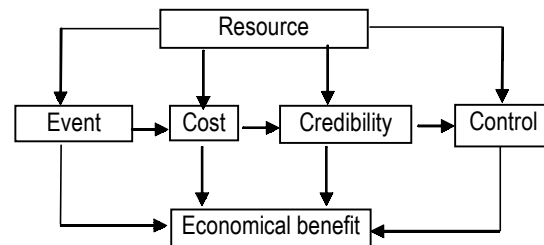
Credibility refers to the notion that expresses the truth. The cost of the asset must express the reality, must respect the

principles that governs the whole scaffold accounting. For an asset to have a credible cost there must be a credible market.

The credible market is a market where are cumulatively accomplished the following conditions:

- the commercialized elements are unitary;
- permanently can be found interested buyers and sellers;
- the prices are known by the interested ones.

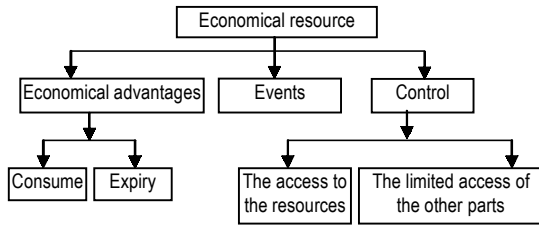
We present below a scheme through which we present the content of the asset concept:



**Figure 1.** *The content of the asset concept*

We observe from the above figure that an asset, in general, is considered a resource once it enters in the entity patrimony and the result is represented by the economic benefit. Shortly, we can introduce the idea that the concept asset is similar to the notion of economic benefit. But if we will consider the economic benefit similar to the profit then we will get to the paradox to confuse the notion of asset with the one of the capital. We consider that this is a risk of the internationalized accounting: the accounting profession in Romania may misinterpret certain concepts, fact that can lead to the professional rationale affecting.

Going in-depth our analysis, certain assets have their own features which we present below:



Source: Stere, 2001, p. 18.

Figure 2. The asset put to the microscope

The consume from the figure above refers to the delimitation and separation of the economic benefits over the resources that they come from. The expiry refers to the fact that the potential of the resource decreases in time. Thus, the fact that the resources are limited is demonstrated.

Because of the control the entity has access to the resources from its own patrimony, but in the same time the access of the other entities to the resources is restricted.

In this paragraph we want to analyze also the biological asset concept, which is represented by a living animal or plant, and a group of biological assets represent a group of similar animals or plants (IAS 41 Agriculture, article 5). Results that in the structure of a biological asset we have: animals and plants that we will refer further on.

The animal is an organized creature, single or multi-cellular having the capacity to move and feel (Romanian Academy Linguistic Institute “Iorgu Iordan”, 1998, p. 42).

The plant is a generic name given to the vegetal organisms with an organization more simple than of the animals and which extract their substances from the roots. The plant is characterized by the presence of chlorophyll and by the fact that the member of the cellule is made out of cellulose and in the case of the superior species from the body made out of root, trunk and leaves (Romanian Academy Linguistic Institute “Iorgu Iordan”, 1998, p. 802).

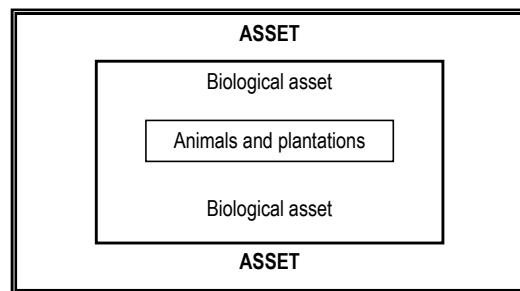


Figure 3. Asset versus biological asset

The notion of asset in general has the meaning of biological asset. Also from the crops are resulting the agricultural products which represent the assets. In the legal optic the biological assets are the elements that have a positive economic value for the agricultural exploitations, which generate benefits bigger or smaller depending on the risks that can appear.

Below we presented some biological assets examples agricultural products and products obtained from the crop process:

**Biological assets, agricultural products and processed products**

Table 1

Biological assets	Agricultural product	Products resulted after the crop
Sheep	Wool	Stalk, carpet
Trees from the plantation	Log of tree	Timber
Plants	Cotton plant	Clothes
Milk cows	Milk	Cheese
Pigs	Carcass	Sausage, prefabricated ham
Bushes	Leaves	Tea, treated cigarette

Source: IAS 41 Agriculture, paragraph 4.

The biological assets for which is applied IAS 41 are only those assets destined for selling through which transformation are obtained the agricultural products or the additional biological assets.

The IAS 41 does not cover:

- the biological assets owned for creative purposes (for example the ones from the fun parks, zoo, botanical gardens – the ones that do not have commercial activities, including the sportive hunting and fishing);
- the investment made in a forest with the purpose to reduce the carbon dioxide from the atmosphere;
- animals and birds owned for the fights (dogs, roosters);
- animals owned for protection (e.g. dogs)<sup>(5)</sup>;
- forests for the mountains protection;
- living animals and plants owned for expositions and competitions;
- living animals and plants owned for decorative purposes;
- animals owned only for work (e.g. the horses, mule, donkey, duffers).

The biological assets of an entity no matter their vegetal or animal origin can be classified in the following categories according to the IAS 41, paragraph 43 as follows:

- consumable biological assets – the ones that will be cropped as agriculture products or sold as biological assets;
- productive biological assets – the ones that are not consumed being self regenerating rather than agricultural products;

- mature biological assets – the ones that have accomplished the conditions to be cropped (are mature from a morphological or productive point of view);
- immature biological assets – the ones that didn't rich the full development phase and are not ready for cropping.

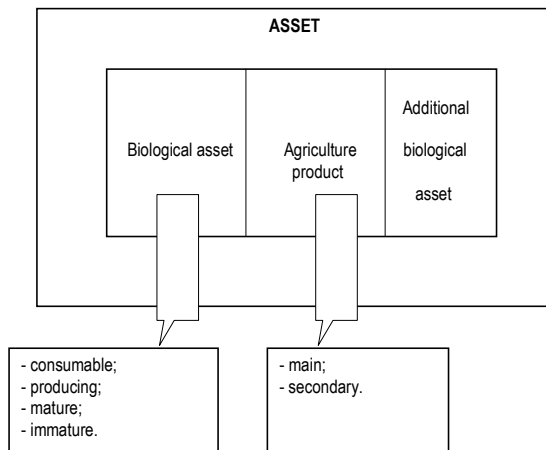
According to the IAS 41 the biological assets are delimited from the agriculture products. This delimitation has accounting implications. So the agricultural products are considered stocks and they do not have to be depreciated while part of the biological assets are put under the process of wear and so they must be depreciated.

The agriculture product represents the product cropped from the biological asset of the agriculture entity. The agriculture products are classified by many criteria but we consider that he most important is depending on the purpose from the agriculture activity:

- the main products are the ones for who's production presumes organizing the production process and programming;
- secondary products the ones obtained in the same time with the main products as a biological characteristic of the agriculture production. The secondary products do not make the base activity object, but is resulted as a biological consequence of this activity.

Below we will present the sphere of the asset in the agriculture exploitations from the point of view of the IAS 41 Agriculture.





**Figure 4.** *The sphere of the asset in the agriculture exploitations*

If we exemplify the notions exposed above, in an agricultural exploitation we have:

- The consumable biological asset: rice.
- The main agriculture product: grains.
- The secondary agriculture product: stems.
- The additional biological asset: seeds.
  
- The consumable biological asset: walnut.
- The main agriculture product: walnuts.
- The secondary agriculture product: leaves.
- The additional biological asset: stocks.

In the vegetal field there can be situations in which we have only biological assets and main and secondary products, the additional assets are missing. For example:

- The consumable biological asset: grain.
- The main agriculture product: grain.
- The secondary agriculture product: maize stalk.
- The additional biological asset: -.
- Also in the vegetal field there can exist only biological assets and the main product:

- The consumable biological asset: carrot.
- The main agriculture product: root.
- The secondary agriculture product:-.
- The additional biological asset:-.

We present also an example from the zoo technical field specifying that the affirmation made above are applying in this sector too:

- The consumable biological asset: cattle.
- The main agriculture product: carcass.
- The second agriculture product: hoofs, hair, intestine, cow hide;
- The additional biological asset: -.

Referring to the classification of products as main and secondary if we make appeal to the management accounting we can identify the specific way, which can be applied in the agriculture exploitations, namely the method of equalizing the quantity of the secondary product with the main product. This is how the unitary cost is calculated.

### 3. Season and seasonality model in agricultural exploitations

The agriculture sector occupies an important role in the field of national economy and it faces new challenges related to the complex process of the economy reorganization, of adapting at the competition environment and integration in the agriculture structures of the common market.

It is an illusion that we can imagine that people which are not specialists can manage the agriculture exploitation. In our opinion the organization and the bookkeeping of the accounting, providing information's



regarding the efficient management and others can not be done by other people than the qualified accountants, because even a single entry bookkeeping can not be reduced to the simple bookkeeping because it involves also third parties (state, banks, clients, suppliers), in what regards the presentation and the elaboration of the financial informations and in what regards the professional arguments related to the planning in agriculture. The work of the qualified accountants has to be integrated with the one of the agriculture specialists.

In the context of the agriculture integration at European level the agriculture exploitations considered to be base forms of organization and working of the agriculture are making the object of a complex and careful analysis. The successful implementation of some essential modifications necessary at the level of the exploitations structures, productions and merchandising and also at the level of the management and administration of own resources will attract the increasing of the decisional capacity and the adaptation of the agriculture units to the requests imposed by the new mechanisms of the economy market. Although the agriculture exploitations presents particularities given by the specific of agriculture they must be approached in a systematic vision, framed in the fundamental structures of the Romanian economy and adapted to the general trends of the national economic politics and in external plan at the common market agriculture politics.

In our opinion, the strategy of rethinking and development of the agriculture sector and of the agriculture exploitations in particular must address to:

- The implementation and the observing of the acquis related to the mandatory operational costs (necessary for the institutions created to work) and costs generated by the need of reorganization and modernization in order to respect the standards and for increasing of sector competitiveness.

- The obligations of Romania as a member of UE which involves the contribution to the common market budget and a negative impact on the national budget.

- For the producers the costs take into account the necessity of exploitations modernization and re-dimension in order to face the direct competition with the producers from the other countries members of the European Union, also with the producers that are outside the European area. In this moment the Romanian agriculture is full of farms of sustenance, which in fact represents maybe the most important problem with which Romania is dealing in the field. We consider that those farms should be rethought from organizational point of view and there should also exist a simulation transforming them into micro-farms (almost every farm has from one to two milk cows in this case the “little farmer” does not receive the state aid because the forms of help are given only if you have more than three cows; consequently, we propose that is necessary more subsistence farms to associate themselves in order to establish an associative form of at least 10-15 cows).

- For the consumers the costs will be generated by the increasing of the prices at the majority of the agro-alimentary products.

- The press in the agricultural field is less read by the farmers. Only 20-30% of

the farmers read the specialized reviews (Ferma, Profitul agricol etc.) and in the rural area we can say that the press and the specialty materials are almost absent. We consider that the potential readers can be attracted through a funny story related to agriculture.

- The state aid matter is a very difficult one because there are registered payment delays that endanger the production process. For example, if the autumn state aids for grain are not given in time for the lands preparatory works this will have as a consequence a poor quality of works.

The opportunity, necessity and the role the efficient management cannot be denied in order to a proper running of an agricultural exploitation. That's why the role of the economic expert including the accountant in the context of the agricultural exploitation activities cannot be neglected. To be more specific, when we study the organization and management of the agricultural exploitation accounting we cannot remark certain particularities that have repercussions on the efficiency of the agricultural entity.

The production activity is highly influenced by the natural causes. If in industry the goods obtained have a small dependence on the pedo-climatic factors not the same thing happened in agriculture where one can be obtained superior crops in favourable climates conditions or reduced crops in climates conditions less favourable. The decreasing of the unfavourable influence of the natural factors on the crops from the agriculture can be realized by introducing the elements of the technical progress (mechanization, chemistry, irrigation, etc.).

Now, after EU accession more than ever we have to get used not to treat simply, conventional or with prejudices the agriculture. As it is natural in a modern economy when we refer to the agriculture we must take into account a whole complex articulated circuit and of preparing, obtaining, depositing, processing and selling the agriculture production. There should also be taken into consideration the entire products of the industry and services that are present in the circuit in question.

Even if the Accounting law no. 82/1991 republished does not specify the agricultural exploitation particularities, the illustration of the existent and the patrimonial agricultural movements through the accounting has a special way related to the activity object of those and the characteristic factors of production.

In general the concept of season represents the time period of the year corresponding much or less to a season; period of time that is characterized by the appearance of some phenomena or by an intense activity in some fields; time of the year that is benefit to make certain actions that are conditioned by the characteristics of the season.

A characteristic of agriculture is the cyclic nature of the production, determined by natural factors and biological ones that are revealed by the production instability and temporary and also by the farmers' incomes.

The variations that are produced in the agriculture sector sometimes can have a regularity character and can result from certain objective causes related to the changes of season.

In order to quantify the influence of the season it is necessary to be known the periodicity of the variation based on which statistical data will be registered monthly, quarterly, etc.

In theory and also in practice frequently arises the problem to find out, based on analyzing some series of data, the condition of that phenomenon and its future evolution or involution. The analysis of the chronological series leads to a planning by extrapolating the past and present data over the future.

Generally, we can define the statistic series as a construction based on the observation results, reflecting either the structure of some populations in account with one or more variables, or the variation of a statistic indicator comparing with those variables.

The statistics series can be classified using different criteria like: the number of variables, the nature of the indicator from the base of the series, the way to express the variable's realization, the variable's nature, etc. According to the last mentioned criterion, the statistics series can be:

- Attributive series (based on attributive variable);
- Space series (based on space variable);
- Chronological series (of time).

Next we will refer to the chronological series.

The chronological series reflect the evolution in time of a statistic population studied in report with a variable. If we put down the references periods with 1, 2, ..., t, ..., n, and the numeric values of the size y

suitable to those references periods with  $y(1)$ ,  $y(2)$ , ...,  $y(n)$ , then the chronological series will have the following form:

$$y: \begin{pmatrix} 0 & 1 & 2 & 3 & \dots t & \dots n \\ y(0) & y(1) & y(2) & y(3) & y(t) & y(n) \end{pmatrix} (1)$$

Indicators  $y(t)$ , where  $t = \overline{1, n}$  is the result of many factors interaction: essential factors, seasonally factors, cyclic factors, unessential factors, etc.

The essential factors have a continuous and constant action deciding the main part from  $y(t)$  called level of trend or trend.

The seasonally factors are also essential factors but their action changes periodically determining some variations of the trend.

The cyclic factors represent essential factors of which action changes in time, but at intervals much bigger comparing to the influence of the seasonal factors.

The factors inessentials determine irregular and unpredictable fluctuations. They do not have a permanent character and they do not lead to big phenomenon variations.

In order to predict the evolution of a phenomenon it is necessary to know the composition of its trend. In this way the elimination of the seasonal and cyclical composition of the model must be imposed. In consequence, it is needed to unseasoned and un-cylices the series in question.

We present in the table below the value of the grain obtained by an agricultural exploitation during 36 months period (the source of information is the monthly balance sheet).

The grain value obtained by an agricultural exploitation

Table 2

Year	Months	31,01	28,02	31,03	30,04	31,05	30,06
	2005		71,403.00	71,403.00	61,941.19	29,999.08	30,115.91
2006		84,491.00	97,086.35	41,769.62	26,501.79	17,130.00	15,723.96
2007		33,633.98	25,826.34	14,952.51	10,239.50	9,698.05	107,092.79
		<b>31.07</b>	<b>31.08</b>	<b>30.09</b>	<b>31.10</b>	<b>30.11</b>	<b>31.12</b>
2005		394,352.90	345,515.64	262,237.57	191,098.74	162,170.59	98,744.77
2006		329,584.92	253,032.98	266,921.20	116,529.21	73,557.70	71,636.91
2007		158,141.89	132,047.62	140,512.00	126,371.00	111,440.00	105,605.00

If we represent graphic the data from the table above, we will obtain:

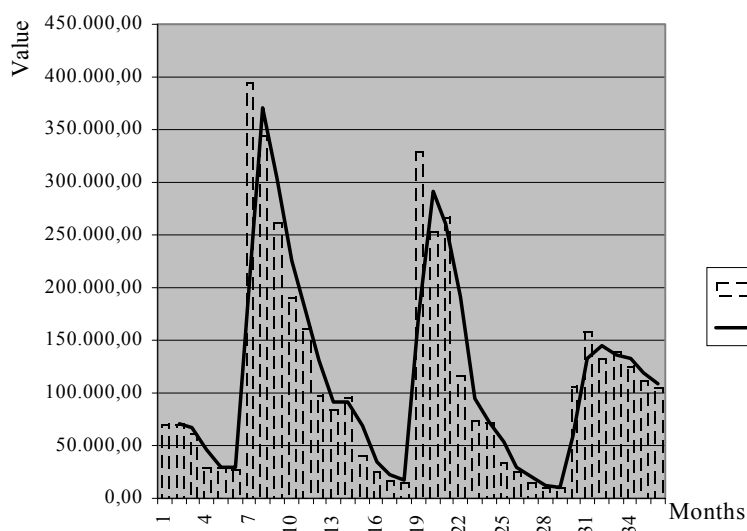


Figure 5. The evolution of the grain value during 36 months period of time

From the graphic we cannot deduce which is the trend of the grain production during the 3 years. The seasonal character in the agriculture determines the big variation

from the graphic. In order to eliminate the seasonal character we will process the dates from table 1 into the un-cyclical industry values below.

The values un-cyclical industry for the grain value

Table 3

Anul	Lunile	31,01	28,02	31,03	30,04	31,05	30,06
	2005		-	-	-	-	-
2006		142,036.58	135,484.47	131,826.18	128,914.26	122,115.00	117,293.30
2007		102,248.71	90,064.20	79,756.09	74,899.12	76,887.62	79,881.39
		<b>31.07</b>	<b>31.08</b>	<b>30.09</b>	<b>31.10</b>	<b>30.11</b>	<b>31.12</b>
2005		146,028.82	147,644.30	147,873.95	146,887.75	146,200.95	145,197.56
2006		114,044.76	108,956.55	104,870.00	103,075.03	102,087.77	105,585.14
2007		-	-	-	-	-	-

$$y'_{17} = \frac{\frac{71,403.00}{2} + 71,403.00 + 61,941.19 + \dots + 2,170.59 + 98,744.77 + \frac{84,491.00}{2}}{12} = 146,028.82$$

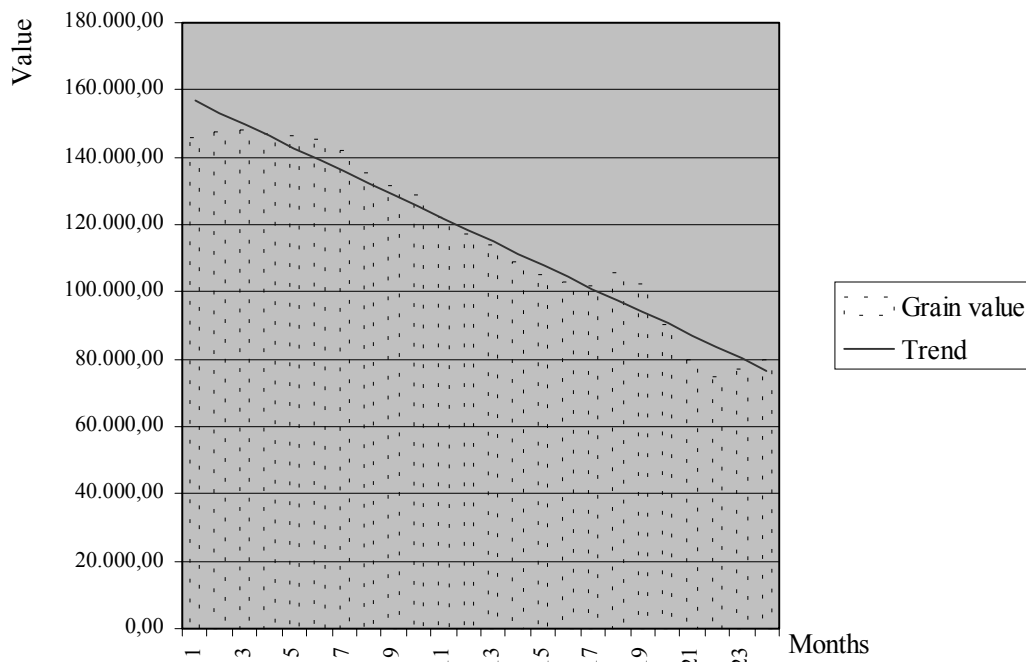
$$y'_{36} = \frac{\frac{71,636.91}{2} + 33,633.98 + 25,826.34 + \dots + 126,371.00 + 111,440.00 + \frac{105,605.00}{2}}{12} = 79,881.39$$

After the un-seasonal industry values applied and we obtained the values presented were determined, the TREND function was in the table, meaning the trend.

**Trend**

Table 4

Year \ Months	31.01	28.02	31.03	30.04	31.05	30.06
2005	-	-	-	-	-	-
2006	135,794.04	132,315.27	128,836.50	125,357.73	121,878.96	118,400.20
2007	94,048.82	90,570.05	87,091.28	83,612.51	80,133.75	76,654.98
	<b>31.07</b>	<b>31.08</b>	<b>30.09</b>	<b>31.10</b>	<b>30.11</b>	<b>31.12</b>
2005	156,666.65	153,187.88	149,709.11	146,230.34	142,751.57	139,272.81
2006	114,921.43	111,442.66	107,963.89	104,485.12	101,006.36	97,527.59
2007	-	-	-	-	-	-



**Figure 6.** The evolution of the grain value according to the trend

Analysing the graphic of the un-seasonal industry values we find out that the trend of the grain value can be a straight line, namely:

$$T(t) = a + b \times t \quad (2)$$

The determination of the parameters “a” and “b” it is made by using the method of the smallest squares, based on the following equation system:

$$\begin{cases} a + b \times M(t) = M(y(t)) \\ a \times M(t) + b \times M(t^2) = M(y(t) \times t) \end{cases} \quad (3)$$

where:

$$M(t) = \frac{1+2+3+\dots+24}{24} = 12.5$$

$$M(t^2) = \frac{1^2 + 2^2 + 3^2 + \dots + 24^2}{24} = 204.16$$

$$M(y) = \frac{146,028.82 + 147,644.30 + 147,873.95 + \dots + 79,881.39}{24} = 116,660.81$$

$$M(y(t) \times t) = \frac{146,028.82 \times 1 + 147,644.30 \times 2 + \dots + 79,881.39 \times 24}{24} = 1,291,569.18$$

Replacing the data in the above system we obtain:

$$\begin{cases} a + 12.5 \times b = 160,660.81 \\ 12.5 \times a + 204.16 \times b = 1,291,569.18 \end{cases} \Rightarrow \begin{cases} a = 160,145.42 \\ b = -3,478.77 \end{cases} \Rightarrow$$

$$T(t) = 160,145.42 - 3,478.77 \times t$$

We find out that the “b” coefficient value is negative namely -3,478.77. This negative value reflects the fact that the grain value decreases during the analyzed period. In the situation in which the coefficient value is positive we have an increasing of the assets value during the analyzed period.

We can make a prevision of the grain value in the next periods if we use the extrapolation trend. If we want to make the previsions for the 37<sup>th</sup> month will make the next calculations:

$$T(25) = 160,145.42 - 3,478.77 \times 25 = 73,176.17$$

This value will be corrected with the medium seasonal coefficient previously determined:

$$T(25) = 73,176,17 \times 0,33 = 24,148,14$$

So, for January next year, the estimation for the grain production is 24,148.14 lei comparing to the same month of the last year, which was 33,633.98 lei. We notice that the estimated value is smaller and it fallows the trend previously determined, namely an involution of the grain production is registered. The same prevision can be made for the next months if there are not registered large variations of the natural factor (hail, drought, floods, etc.).

## Conclusions

In this paper, we have made an analysis based on the un-seasonal industry model in the agriculture exploitations. Concrete, we concentrated in a chronological series the value of the grain during 3 years period of time. Based on those information's we made a graphic in order to see the evolution or the involution during that time. The graphic in question is not relevant because of its very big variations and it is practically impossible to see how the production develops during the last years. In this way we proceed to the un-cyclical industry of the initial series by specific remaking and calculations that led to the results presented in the table 3 of this paper. The un-seasonal values have

been represented with the trend (determined by applying the Trend function) and we obtained the graphic that shows the real state of the practical activity, without the influence of the seasonal activities. Concrete, we found out a decreasing evolution of the grain value obtained in the analyzed period. The decrease is expressed by the negative value of the "b" coefficient, determined by the method of the smallest squares or using the Linest function.

Goodman mentions that any type of research, in its final step "can bring new acknowledges, can contest the validity of what was previously accepted or can modify what it was previously accepted as being true. The research can and usually does ask new questions for the future researches to answer."

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## Notes

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<sup>(1)</sup> The concept of patrimony is also used in the OPFM no. 1752/2005 even if in an exceptional way, namely at point 99 "the investment made for....by including in the exploitations' expenses in a period decided by the administration council". This fact reveals that the Romanian accounting writers are trying to give up to the notion of patrimony but we find out that the legislation has its lack. This is the reason that makes us believe that the concept in question will remain in use, at least when it comes to the accounting practicing, but also when it comes to the accounting theoreticians.

<sup>(2)</sup> In the same legislative document are defined the next terms:

- the farmer represents the physical or legal person or a group of them no matter the legal status given by the national legislation to the them; the legal/physical person(s) in question have exploitations situated on a country territory.
- agriculture activity refers to the cultivation of the plants animals or land.

<sup>(3)</sup> In case the exploitation has only one farm the two categories can be mixed up.

<sup>(4)</sup> IASB elaborated a particular standard IAS 41 "Agriculture" in force for the financial situations



corresponding to the periods starting with 1<sup>st</sup> January 2003.

- <sup>(5)</sup> We specify that in the vision of the Romanian normalization expert, the protection and hunting dogs be considered fixed asset. This

aspect is foreseen in the Catalogue regarding the classification and normal functioning period of the fixed assets, code 2.4.1.5 Protection and hunting dogs, with a normal functioning period between 4 – 8 years.

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