THE ACCOUNTING OF THE AGRICULTURE EXPLOITATIONS AND THE SEASONAL MODEL

Sorin-Constantin DEACONU, Assistant, PhD. Student
University "1 December 1918" Alba Iulia

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Abstract: This article treats aspects concerning agricultural exploitation and the sezonal model. Although the agriculture exploitations presents particularities given by the specific of agriculture they must by addresses in a systematical vision framed in the fundamental structures of the Romanian economy and adapted to the general trends exposed in the national economical politics and in external plan of course at the common market agriculture politics. In general the concept of season represent 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's or by an intense activity in some fields; time of the year that is benefic 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.

The agriculture sector occupies an important role in the field of national economy and it is in the face of 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 that are not specialists can manage the agriculture exploitation. In our opinion the organization and the bookkeeping of the accounting, the provided information's regarding the efficient management and others can not be done by other peoples than the qualified accountants, because even a single entry bookkeeping can not be reduce to the bookkeeping she has other parts (state, banks, clients, suppliers), regarding the presentation and the establishment of the financial information's and the professional arguments regarding the work prevision in agriculture, integrated with the one of the agriculture specialists.

In the context of the agriculture integration at en European level the agriculture exploitations considered to by base forms of organization and working of the agriculture are making the object of a complex and careful analyze. From the success of 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 depend 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 by addresses in a systematical vision framed in the fundamental structures of the Romanian economy and adapted to the general trends exposed in the national economical politics and in external plan of course at the common market agriculture politics.

The strategy of rethinking and development of the agriculture sector and of the agriculture exploitations in particular must have in our opinion:

➢ The implementation and the respect of the acquis-ului which assumes the operational costs compulsory (necessary to the working of the institutions created) and costs generated by the need of reorganization and modernization in order to respect the standards and the increasing of sector competitiveness;

➢ The obligations of Romania as a member of UE which assumes the contribution to the common market budget and a negative impact on the national budget;

➢ For the producers the costs take in account the necessity of modernization of the exploitations and the redimension of those 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 the point of view and the simulation of making micro farms (almost every farm has from 1 to two milk cows in this case the "little farmer" does not receive the subvention because the forms of help are given only if you have from three cows to more; so we propose that is necessary the association many farms of sustenance in order to make 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 (The Farm, The Agricultural Profit etc.) and in the rural space we can say that the press and the materials in field are absent almost in totality. We consider that the potential readers can be attracted through a funny story in agriculture.

➢ The problem of giving the subventions by the authorities is a difficult one because there are delays' regarding the pays and those endanger the production process. For example the subvention for the autumn corn if they are not given in time when the agricultural works are made in order to prepare the land will lead to actions of not cultivating the lands or to make some woks of weak quality.

The opportunity the necessity and the role the efficient management can not be denied in the frame of good running of an agricultural exploitation. That's why the role of the economic expert including the accounting one in the context of the agricultural exploitation activities can not be neglected. Specifically, when we study the organization and management way of the agricultural exploitation accounting we can not see certain particularities that have repercussions on the efficiency of the agriculture entity.

The production activity is influenced in a big relative proportion by the natural causes. If in industry the goods obtained have a small dependence on the pedo climates factors not the same think happened in agriculture where can be obtained superior crops in favorable climates conditions or reduced crops in climates conditions less favorable. The decreasing of the unfavorable influence of the natural factors on the crops from the agriculture can be realized by introducing the elements of the technical progress (mechanization, chemification, irrigation etc.)

Now on the adhesion found of the common market structure 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 circuit and articulated by realization preparations deposing manufacture and retail of the agriculture production and of the entire products of the industry and services that are articulated in this circuit.

Even if the Accounting law nr.82/ 1991 republished does not tell the particularities for the agriculture exploitations the illustration of the existent and the patrimonial movements from the agriculture through the accounting has a special way related to the activity object of those and the characteristic factors of production aspects that we wish to present.

In general the concept of season represent 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's or by an intense activity in some fields; time of the year that is benefic 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 quantity the influence of the season is necessary to know the period of the variation that was produced in function from which will register the month, quarterly etc. statistic dates.

In the theory but also in the practice in a frequent way the problem to find on the base of analyzing some series of dates the condition of that phenomenal the evolution or the involution of its in future. The analyze of the chronological series leads to the future by extrapolating the dates of past and present on the future.

In a general manner we can define the statistic series with a construction made on the observation results, reflecting either the structure of some populations in account with one or more variables, or to the variable of an statistic indicator in report with the others variables.

The statistics series can be classified after different criteria's namely after the number of the variables the nature of the indicator from the base of the series the expressing mode of the variable making after the nature of the variable etc. According to the last criterion mentioned the statistics series can be:
 ➢ Attributive series (have at base the attributive variable);
 ➢ Area series (have at base area variable);
 ➢ Chronological series (of time).
Next will refer to the chronological series.

The chronological series reflects the evolution in time of a statistic populations 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 be like this:

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

Indicators y(t), where t $= \overline{1,n}$ is the result of the interaction of many factors

between we mention: essential factors, season factors, cyclical factors, unessential factors, etc.

The essential factors have a continuous action in the same meaning deciding the principal part from y(t) named level of trend or trend.

The season factors are also the essential factors but their action meaning changes periodical determining some variations of the trend.

The cyclical factors represents the essential factors of which action meaning 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 variations of the phenomenal.

In order to predict the evolution of a phenomenal it is necessary to know the composition of its trend. In this way the elimination of the seasonal composition and the cyclical on from the model must be imposed, in consequence it is needed a no seasonal and a no cyclical series.

We present in the table the value of the corn obtained by an agricultural exploitation during a period of time of 36 calendar months (the information's are from the balance of checking made at the end of each calendar month).

Table 1

The corn value obtained by an agricultural exploitation

Months / Year	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	26.819,49
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
	31.07	**31.08**	**30.09**	**31.10**	**30.11**	**31.12**
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

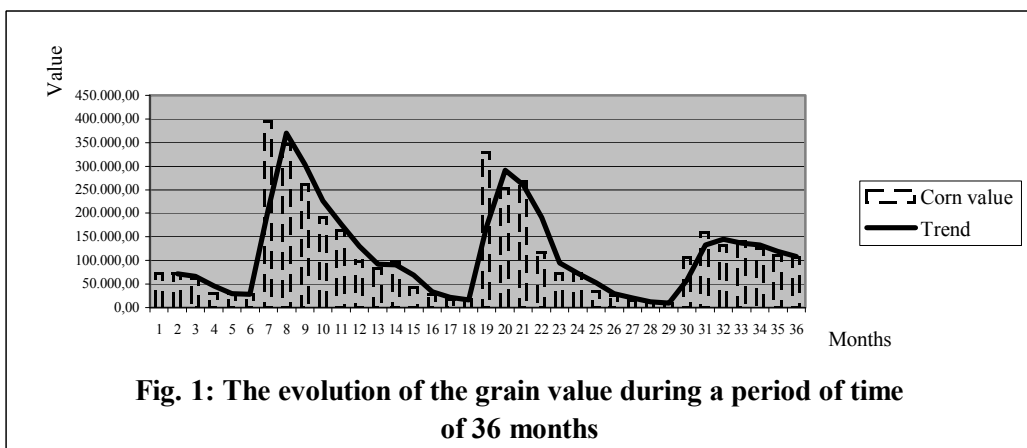If we represent graphic the sums from the table above we will have:

Fig. 1: The evolution of the grain value during a period of time of 36 months

From the graphic we can not deduce which is the trend of the corn 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 nr.1 into the un-cyclical industry values below.

The values un-cyclical industrys for the corn value

Months / Year	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
	31.07	**31.08**	**30.09**	**31.10**	**30.11**	**31.12**
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	-	-	-	-	-	-

$$y`_{17} = \frac{\frac{71.403,00}{2} + 71.403,00 + 61.941,19 + ... + 2.170,59 + 98.744,77 + \frac{84.491,00}{2}}{12} = 146.028,82$$

$$y`_{36} = \frac{\frac{71.636,91}{2} + 33.633,98 + 25.826,34 + ... + 126.371,00 + 111.440,00 + \frac{105.605,00}{2}}{12} = 79.881,39$$

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

Trend

Months / Year	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
	31.07	**31.08**	**30.09**	**31.10**	**30.11**	**31.12**
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	-	-	-	-	-	-

Fig 2:The evolution of the grain value according to the trend
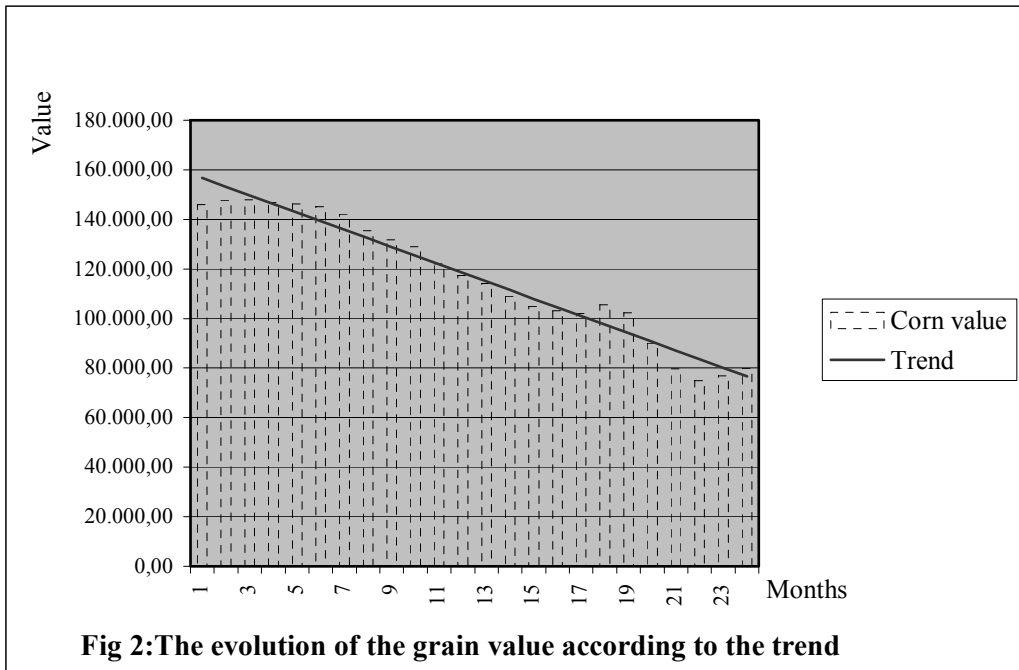
Analyzing the graphic of the un-cyclical industry values we find that the trend of the corn value can be a straight line, namely:

$$T(t) = a + bt \quad (2)$$

The determination of the parameters a and b ii is made by using the method of the smallest squares namely on the next equation system:

$$\begin{cases} a + bM(t) = M(y(t)) \\ aM(t) + bM(t^2) = M(y(t) \, x \, t) \end{cases} \quad (3)$$

where:

$$M(t) = \frac{1 + 2 + 3 + ... + 24}{24} = 12,5$$

$$M(t^2) = \frac{1^2 + 2^2 + 3^2 + ... + 24^2}{24} = 204,16$$

$$M(y) = \frac{146.028,82 + 147.644,30 + 147.873,95 + ... + 79.881,39}{24} = 116.660,81$$

$$M(y(t)xt) = \frac{146.028,82x1 + 147.644,30x2 + ... + 79.881,39x24}{24} = 1.291.569,18$$

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Replacing the dates from the system above we have:

$$\begin{cases} a + 12,5xb = 160.660,81 \\ 12,5xa + 204,16xb = 1.291.569,18 \end{cases} \Rightarrow \begin{cases} a = 160.145,42 \\ b = -3.478,77 \end{cases} \Rightarrow$$

$$T(t) = 160.145,42 - 3.478,77xt$$

We find that the b coefficient value is negative namely -3.478,77. This negative value reflects the fact that the corn value decreases during the analyzing period. In the situation in which the coefficient value is positive we have an increasing of the assets value during a period of time that was analyzed.

Replacing the t in the equation above we have the results from the table below. The line probably settled in the graphic above can be considered to adjust good the series analyzed (the corn value obtained), because the leads of the values given by the trend are insignificant.

We can make a prevision of the corn value in the next periods if we use the extrapolation trend. If we want to make the previsions for the 37 month will make the next calculations:

$$T(25) = 160.145,42 - 3.478,77x25 = 73.176,17$$

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

$$T^{'}(25) = 73.176,17x0,33 = 24.148,14$$

So for January next year the estimation for the corn 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 value estimate is smaller and it fallows the trend determined previous, namely an involution of the corn production is registered. The same prevision can be made for the next months but with the amendment not existing very big variations of the natural factor (hail, drought, floods, etc).

Conclusions and appreciations
In this paper we made analyze based on the un-cyclical industry model in the agriculture exploitations. Concrete, we concentrated in a chronological series the value of the corn during a period of 3 year time. Based on those information's we made the graphic in order to see the evolution or the involution during that time (graphic nr.1 from the paper). The graphic made is not relevant because it does consist very big variations and it is practical 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 leaded to the results presented in the table nr.16 from the paper. The values un-cyclical industries have been presented with the trend (determined by applying the TREND function) and we obtained the graphic that tells the real fact from the practical activity, namely the situation, as it does not exist the influence of the seasonal activities. Concrete we found a unceasing evolution of the

corn value obtained through the period analyzed, the increasing expressed by the negative value of the coefficient b determined by the method of the smallest squares or using the Liniest function.

Any type of research being in the final step tell Goodman "can tell new acknowledges, can find the validity of what it accepted previous or can modify what it accepted previous as being true. She can and usually makes it, asks new questions for the future researches to ask."

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