ANALYSIS OF ECONOMIC PERFORMANCE IN AGRICULTURAL HOLDINGS

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Abstract: *Concerns in the field of evaluating economic performance at the firm level date from the emergence of the first major economic theories (Adam Smith, David Ricardo) to the present day. The international and national studies brought to this field, have defined over time numerous techniques, methods and models for evaluating economic performance, reaching the conclusion that "performance" is an objective that must be constantly considered by any economic organization. However, it is not easy to talk about economic performance, because elements of a different nature are interwoven within it, which compete for the achievement of a common goal - increasing the competitiveness of the organization, regardless of the activity sector in which it operates. The organizations must permanently prove their viability, competitive strength, degree of adaptability to economic performance, dictated to some extent by the socio-economic space in which they operate. All this is reflected in the efficiency of production activities based on quantitative and qualitative determinations of production factors, as well as the maximum yields in their use.*

Key words*: agricultural exploitation, performance, competitiveness, adaptability, indicators*

INTRODUCTION

The importance of the agricultural sector is given by the fact that all socio-economic processes in the contemporary world are closely related to the development of this branch. Concerns in the field of evaluating economic performance at the level of an economic unit date back to ancient times (the first economic theories were formulated by Adam Smith) and continue to this day. The international and national contributions brought to this field, have defined over time numerous techniques, methods and models for evaluating economic performance, reaching the conclusion that "performance" represents an objective that must be constantly considered by any economic entity [1,2,4]. Performance, as a whole, defines the ability to produce measurable effects in financial benefits following the exercise of an effort. Thus, the degree of competitiveness of an economic agent on the market is closely related to the level of performance achieved both by his business and by the other businesses that fall into the same segment. By "economic performance" is understood the fact that the company (the operation agricultural, in our case), must permanently ensure its viability, the degree of adaptability to economic performance, determined by the socio-economic space in which the economic unit operates [9]. All this is reflected in the efficiency of production activities based on quantitative and qualitative determinations of production factors, as well as the maximum yields in their use.

MATERIALS AND METHODS

Through the analysis of economic performances, one starts from the general idea that the analysis is a research method that is based on the unfolding of a unitary whole that can be represented by an object/phenomenon or process in its component parts, identifying the factors, causes, as well as the conditions that -created and implicitly influenced [4,9]. From a theoretical point of view, the analysis of economic performance thus represents a set of concepts, techniques, procedures, methods and tools that ensure the evaluation of internal and external information of an organization, with the aim of creating appropriate

assessments regarding the economic-financial situation, (in the present case of an agricultural holding). The increase in economic performance is linked to the optimization of production, which in turn is determined by the optimization of crops from a technical point of view, thus leading to increased economic efficiency with influences on the indicators used in the assessment of economic efficiency and production activity. The efficiency of economic activity in agricultural holdings depends (to a large extent) on three important factors: average yields per hectare, production costs and market prices (for the supply of production factors as well as those for the valorization of products) [6,8]. An activity is considered profitable if the ratio between income and expenses is above unity and the difference between the two indicators is positive. The set of indicators that define economic efficiency in agricultural holdings are given by the level of profit (or net income), gross added value, net added value per hectare, labor productivity, profit rate/return rate, income and expenses, indicators that synthetically express viability agricultural holdings. [1,4,8,9]. The analysis of some indicators for the A.TM holding from the plain area of Timiș county, highlights aspects related to the improvement of economic performance in agriculture.

RESEARCH RESULTS

1. Presentation of the farm based on technical data

In 2020, the A.TM agricultural unit leased 300 hectares of the total area under cultivation, which means that over 68.6% of the cultivated land is owned by the farm.

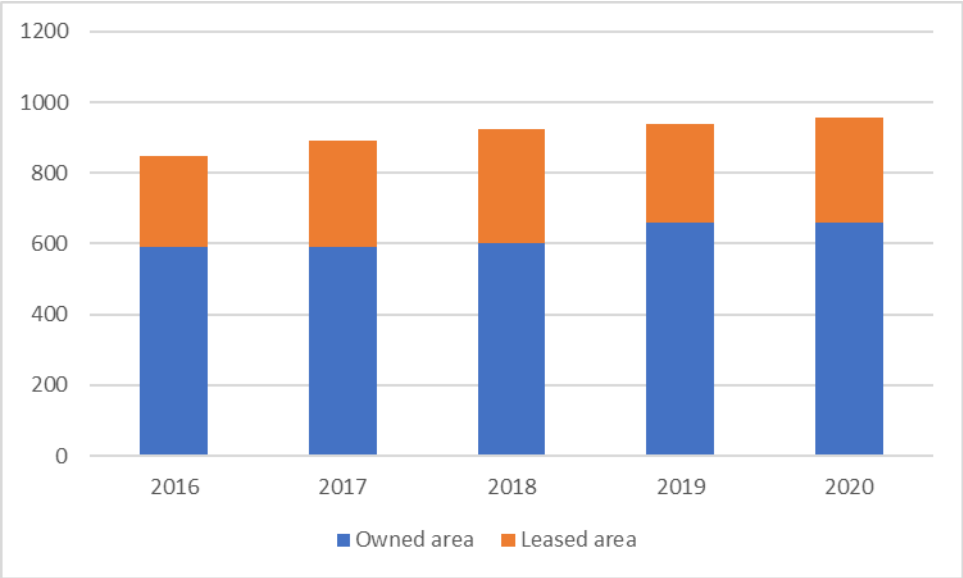

Figure 1. Structure of land areas within the holding (ha)

*Source: **[10]**, internal data provided by the farm*

The A.TM farm increased its owned area and kept the leased area relatively constant. Regarding the structure of cultures, we make the following clarifications:

-grassland surfaces have evolved from one year to another on an upward trend. Although initially barley was cultivated within the holding, this crop was abandoned, and the area originally intended for this crop was later divided among the other crops. The largest share of the crop structure is occupied by grassland. The reasons why the holding chose to cultivate a large area of grassland are related to the observance and correct preparation of the rotation as well as the low production costs, which determine the good income obtained on the crop.

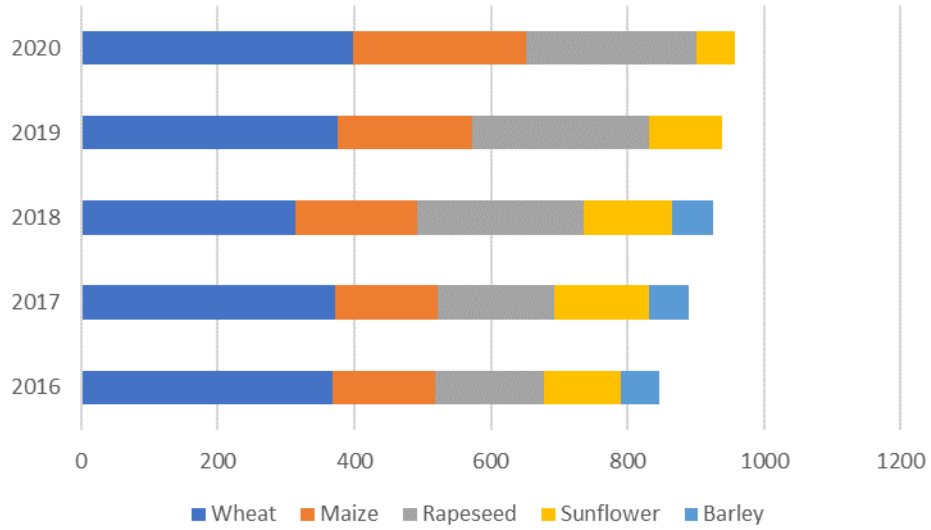

Figure 2. Structure of land areas within the holding (ha)
*Source:**[10]**, internal data provided by the farm*

- regarding oil crops, namely rapeseed and sunflower, their surface area fluctuated slightly from year to year, around 250-300 hectares being cultivated annually. The company has gradually given up sunflower cultivation in favor of rapeseed because rapeseed brings a higher income within the holding, the prices charged for rapeseed are much more advantageous for the producers.

- as far as the corn crop is concerned, this crop is gaining ground in the surface structure of the A.TM farm. Noting an increase of approximately 20 to approximately 50 hectares from one year to the next. By comparing the base years of 2016 and 2020, it can be seen that we have an increase in the area of corn by 104 hectares in absolute value (69.3%). Regarding the organization of a crop rotation, it is based on a series of agrotechnical measures and decisions that are based on the requirements of the plants to be cultivated as well as on the characteristics of the area.

Table 1.

Structure of crop rotation

2016	2017	2018	2019	2020
Wheat/barley	Rapeseed	Maize	Sunflower	Wheat
Rapeseed	Wheat/barley	Sunflower	Maize	Rapeseed
Maize	Sunflower	Wheat/barley	Rapeseed	Maize
Sunflower	Wheat/barley	Rapeseed	Wheat	Sunflower

*Source**:[10],** technical data provided by the farm*

The determining factors are: the climate, the soil, the type of relief (in our case plain), the amount of precipitation, temperature, natural fertility, pH, the amount of microelements, erosion, etc. The average productions obtained directly denote the superior quality of the soil works.

Table 2.

Average productions obtained (kg/ha)

Culture	2016	2017	2018	2019	2020
Wheat	6.500	6.8	6.900	6.700	6.800
Maize	3.000	2.900	3.100	3.200	3.150
Rapeseed	7.200	7.000	7.100	7.300	7.200
Sunflower	2.700	2.900	3.100	3.000	3.050

*Source:**[10]**, internal data provided by the farm*

Two main factors that influence the amounts of total production are: the average production obtained per hectare and the area cultivated with each crop. To these are added the indirect ones: pedoclimatic conditions (dry years, late frost, precipitation in unfavorable periods, large storms, etc.), applied technology, agrotechnical measures within the farm.

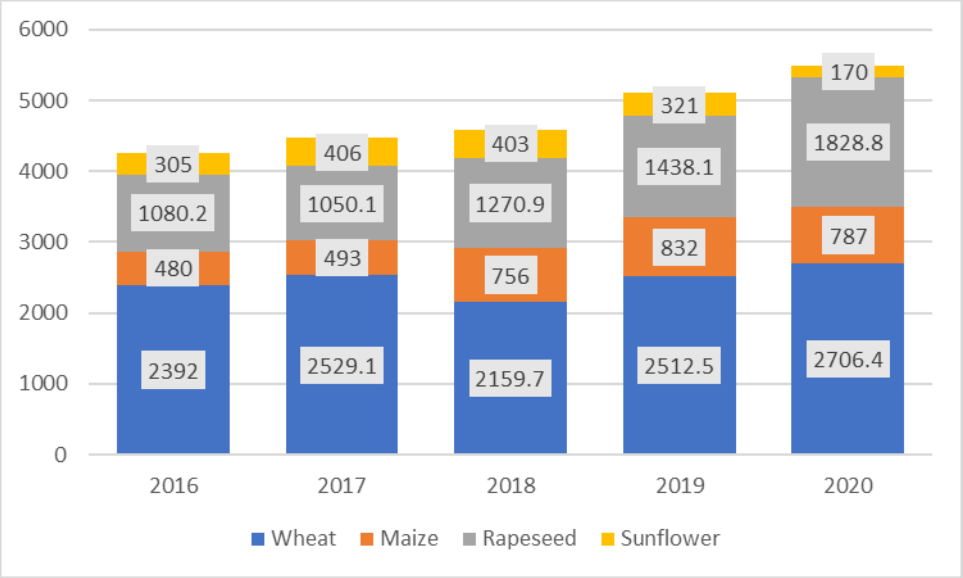

Figure 3. Total productions obtained (tons)

*Source:**[10]**, internal data provided by the farm*

2. Economic results

Based on the technical data from the holding, the evaluation of the economic results followed. The continuous adaptability of agricultural holdings to new production technologies has led to an increase in their size, this being directly proportional to the decrease in the number of agricultural holdings at the national level. For an agricultural holding, not only the size is necessary, but also the size (economic size), with the aim of obtaining income that creates economic well-being for it.

The Standard Output (SO) value, included in the PNDR 2014-2020, represents the standard production coefficient and an important tool in calculating the economic size of the agricultural holding. The economic size of the farm, measured by the value of the standard output (SO), indicates that, during the analyzed period, the farm under analysis is of a large size, being one of the important players on the local, regional and even national market. The economic dimension of the holding is necessary in the situation where the farmer wants to apply one of the PNDR measures. If he would like to access European funds in the future based on Submeasure 4.1.- Investments in Agricultural holdings, the farmer could benefit from non-refundable public support of 50% of the total eligible expenses.

Table 3.

Standard value output

Culture	2016	2017	2018	2019	2020
Wheat	164.576	167.032	204.695	246.550	260.284
Maize	103.635	110.112	166.215	177.114	170.302
Rapeseed	96.270	96.270	124.746	124.746	107.324
Sunflower	63.790	79.032	78.151	64.637	33.829
Large farm	428.271	452.446	573.807	613.047	571.739

*Source:**[10, 13, 14, 15, 16]**, internal data provided by the farm*

To evaluate the overall economic performance of the A.TM. indicators reflecting effort, effect and economic efficiency were taken into analysis. Thus, the economic effect is translated by production value. At the level of the analyzed agricultural holding, the production value increases progressively from one year to the next with an average of approximately 7% per year.

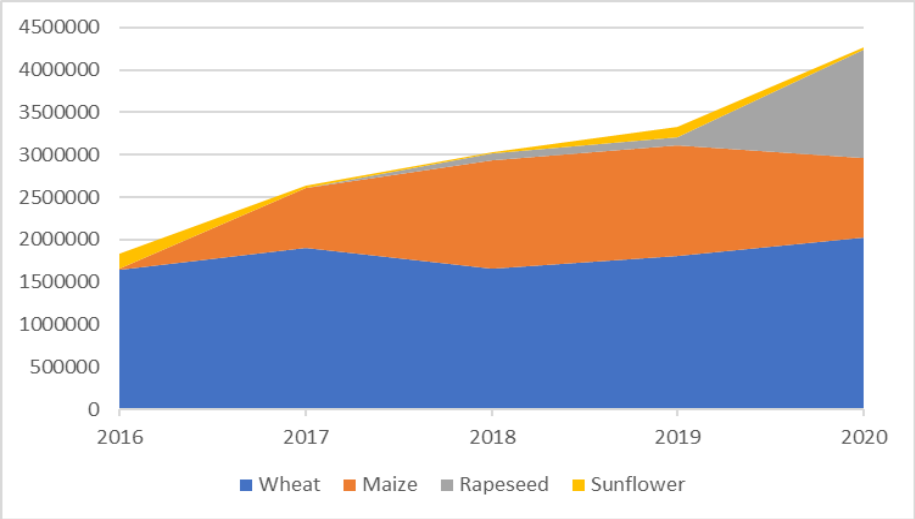

Figure 4. Total production value by culture

*Source:**[10]**, internal data provided by the farm*

The sales prices are in line with the market prices of the analyzed period, the two crops for which a sales price above the price set in the market is obtained are wheat and corn, which are sold in the months of February-March, because the farm has the possibility to store the grains in our own metal silo type warehouses.

Table 4.

Average prices for agricultural products offered by the farm (lei)

Culture	2016	2017	2018	2019	2020
Wheat	640	690	720	750	810
National average price	630	665	680	730	790
Rapeseed	1.690	1.450	1.680	1.560	1.570
National average price*	-	-	-	-	-
Maize	610	670	620	650	700
National average price	620	660	620	640	700
Sunflower	1.420	1.380	1.420	1.350	1.550
National average price	1.510	1.370	1.320	1.290	1.500

no official data ; Source:[10]**, internal data provided by the farm*

The economic effort translated through production expenses or technological expenses can be seen in table 9, both for each crop and for each year.

Table 5.

Technological expenses within the agricultural holding (lei)

Culture	2016	2017	2018	2019	2020
Wheat	1.030.800	1.004.700	908.100	1.012.800	1.114.700
Rapeseed	471.300	490.700	757.100	783.800	583.400
Maize	375.600	420.800	465.700	533.100	661.100
Sunflower	150.780	207.300	136.400	73.400	170.300
Wheat	2.028.480	2.123.500	2.267.300	2.403.100	2.561.800

*Source:**[10]**, internal data provided by the farm*

Technological expenses have increased from one year to the next, being strongly influenced, on the one hand, by the purchase prices of the inputs used by the company, the price of fuels, but also the expenses for the depreciation of the machines and their maintenance. From the data provided by the Agricultural Exploitation, the total expenses for the years analyzed include all direct and indirect expenses that directly influence the company's profitability.

Table 6.

Technological expenses within the agricultural holding (lei)

Category of expenses	2016	2017	2018	2019	2020
Technology	2.028.480	2.123.500	2.267.300	2.403.100	2.561.800
Salary	285.400	310.200	320.800	321.100	362.750
Rent	375.000	312.000	382.000	310.100	325.100
General	3.800	4.100	4.200	4.350	4.520
Total expenses	2.692.680	2.749.800	2.974.300	3.038.650	3.254.170

*Source:**[10]**, internal data provided by the farm*

The economic efficiency is translated by the result of the year (profit/loss), the rate of profit, Thus, the result of the year, for the agricultural unit under analysis, as well as for the entire analyzed period can be seen in the following table

Table 7.

Recorded profits (lei)

Economic indicators	2016	2017	2018	2019	2020
Total gross income*	3.278.275	3.561.188	3.950.556	4.171.694	4.519.258
Total expenses	2.692.680	2.749.800	2.974.300	3.038.650	3.254.170
Profit	585.595	811.388	976.256	1.133.044	1.265.088
Profit rate%	21,74	29,50	32,82	37,28	38,87

*Source:**[10]**, internal data provided by the farm*

In all the analyzed years the holding of A.TM. recorded profit, its value increasing from year to year. An important element that indirectly contributes to the formation of income and implicitly profit is the financial support granted by the state (subsidies per hectare). We specify the fact that the holding A.TM. benefited in the period 2016-2020 from these for all crops. Thus, by the provisions of GEO no. 3/2015 for the approval of the payment schemes that apply in agriculture in the period 2015-2020, the farmer could benefit from the single payment per area (SAPS), the transitional national aid for vegetables (ANT1).

CONCLUSIONS

The main objective of the work was the evaluation of the economic performance of the analyzed agricultural unit. To achieve this process, the evolution of the indicators considered relevant for the notions of economic efficiency was tracked over a period of five years.

Agricultural production can be obtained with the help of various combinations of factors, in relation to the conditions and possibilities of the agricultural exploitation. The factors used in the production process can give different results if they are used in various combinations, both from a physical point of view, through the prism of the productions made, but also from an economic point of view, through the prism of costs or benefits.

In agricultural activity, the balance that must be achieved between the different categories of factors must be considered. The varied possibilities of combining the factors,

as well as the generated effects, will attract the growing need to know how the factors will behave in different/various combinations.

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