PERFORMANCE MANAGEMENT THROUGH THE USE OF EFFICIENCY INDICATORS OF FRUIT FARMS IN THE NORTH WEST REGION OF ROMANIA

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Abstract. The aim of the present research is to identify the managerial performance of the fruit growing activity carried out in farms with legal personality of North Western Romania. The positive results recorded, also called profit, i.e. the effects related to the efforts made in the companies investigated, materialized in the value of sales, total assets or equity at risk, enable us to study the companies' profitability. The company administration, considering the financial and accounting information based on which the profitability rates of the companies can be determined, should require for its management: discipline strengthening in cost management, setting sales prices, correct and efficient use of fixed assets as well as current assets, and increasing the remuneration level of the capital invested from own or external sources. Assessing the fruit business management performance is generally highlighted by the indicator: economic rate of return. This indicator can depend on a number of factors: full use of land and plantations on such land, permanent improvement of the efficiency of technological & agricultural machinery, machines and means of transport, speeding up the current assets (stocks and receivables) turnover ratio, redefining the structure of economic activity in order to increase the share of more profitable areas, reducing specific consumption by improving technological projects, as well as a permanent analysis of the price-cost-profit correlation for the harvested production.

Keywords: management, performance, rates of return, turnover, equity, economic profitability.

INTRODUCTION

Papers, studies and research prove that the countryside can only fulfil its function of supply, relaxation and balance if it remains a lively, attractive space, benefiting from a good infrastructure, with a well-tended landscape and local conditions favourable to agricultural and non-agricultural economic activities.

The North West North Region (Northern Transylvania), as presented by the North West Regional Development Agency (nord-vest.ro), includes 6 counties: Bihor, Bistrita-Nasaud, Cluj, Maramures, Satu-Mare and Salaj. The region's rural environment is made up of 403 communes, totalling 1752 villages. The territory covered by rural settlements is 29285.93 km^2, i.e. 87.53% of the total area of the region.

The main trends noted at regional level as concerns agricultural land use are: decreasing agricultural area in total arable land, especially in marginal and less favourable areas in terms of agri-environmental conditions in Cluj, Bistrita-Nasaud and Maramures counties. Another existing trend is the abandonment of arable land that is becoming unusable for agricultural crops, as well as an increase in the pressure

of non-agricultural activities in the rural environment (increasing areas occupied by buildings at the expense of agricultural areas).

Within the North West Region, the contribution of Local Action Groups (LAGs) is seen as facilitating adaptation and change in the agricultural sector, intensified concerns related to environment, diversity and creativity in the rural economy, as well as increasing the quality of life.

The economic activity "Growing of pome fruits and stone fruits" includes: apples, apricots, cherries and sour cherries, peaches and nectarines, pears and quinces, plums and sloes.

Information provided by www.insse.ro/tempo online for the North West Region of Romania on the number of fruit trees and average yield per tree are presented in the following:

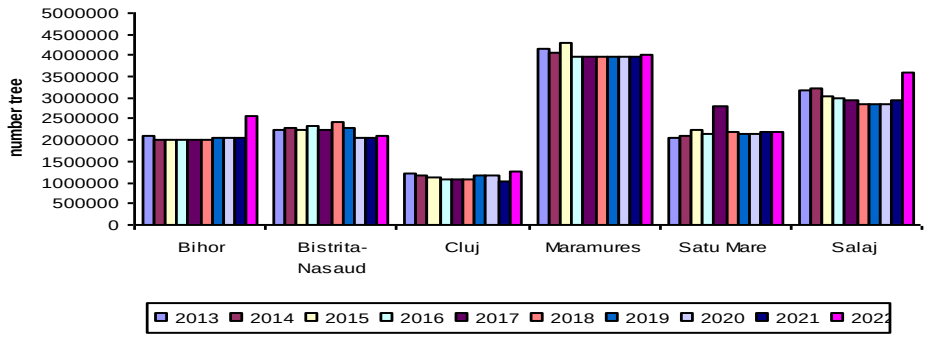

Figure 1. Evolution of the number of fruit trees in fruit, by county, in the North West Region of Romania – no. of trees

Source: author's own processing after www.insse.ro/tempoonline

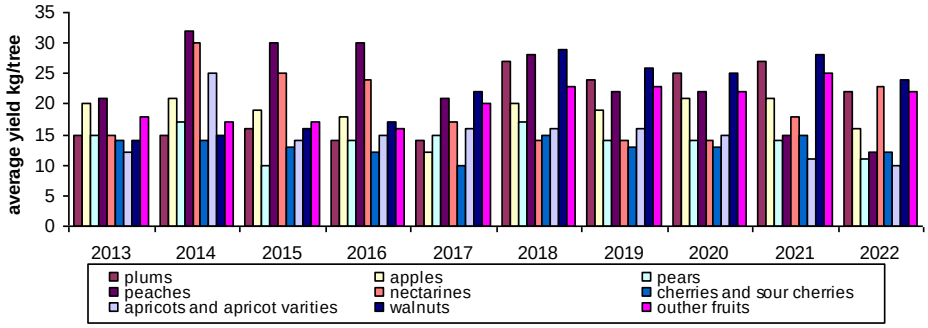

Figure 2. Evolution of average production by tree species in the North West Region of Romania

Source: author's own processing after www.insse.ro/tempoonline

From the point of view of evolution of the number of fruit trees, it is noted that the number of peach, nectarine, apricot and cherry trees is decreasing, and the main causes are the vagaries of nature, with very early springs followed by frosts, precisely during the flowering period of these fruit trees.

Bihor, Bistrita-Nasaud and Satu Mare counties each have around 2 million fruit trees, then Salaj county with around 3 million fruit trees, Cluj county with around 1 million fruit trees and Maramures county with around 4 million fruit trees.

The average fruit yield per tree is characterised by a decrease after 2019 for: peach, nectarine, cherry and apricot trees. After 2018 and 2019 there is an increase in the average yield per tree in plums, walnuts and other fruits. The average yield per tree for apples remains fairly constant.

"One of the main qualities of a business entrepreneur is the ability to dream, and documentation and organisation are elements that turn dreams into reality. An idea can become a good business, but this requires thorough documentation, marketing studies, drawing up a business plan, searching for funding sources" (Ciurea M et al., 2015). The fruit business is a combination of systems: management of the fruit farm agroecosystem, efficient and sustainable management of fruit land, fertilizer management of fruit plantations, technical and economic management of fruit farms and last but not least financial & accounting management of the fruit farm. The effects of the management systems to be implemented or already applied are reflected in the annual Financial and Performance Statements of the economic unit. This way, a series of indicators analysing the profitability of fruit orchards by fruit tree variety, as well as the performance of the fruit farm itself can be determined and interpreted.

MATERIALS AND METHODS

The research is based on the analysis, processing and interpretation of data collected from the relevant literature, official websites and statistical yearbooks, as well as the calculation of specific indicators for the analysis of economic profitability of businesses whose object of activity is "Growing of pome fruits and stone fruits", existing in the researched area, namely the North West Region of Romania. The number of farms with legal personality, existing in the assessed area at the end of 2022 is 52 and to these the following requirements have been applied: to be among the top entities in the county for the turnover indicator and at the same time to make profit. The remaining batch for dissemination of information and calculation of indicators is 9 economic units.

The preliminary stage of profitability analysis is to study the profit based on the indicator expressed in absolute values, but for more relevance of the reasoning it is necessary to refer to other indicators, so the resulting rates will provide information of complex economic significance (Susu, 2021). From a mathematical point of view, rates are determined as the ratio between an effect indicator, such as profit/loss, and an effort indicator, such as ,,activity flow" or ,,stock", turnover, total revenue, equity, total assets, etc. (Hristea, 2013).

Commercial rate of return analysis

A profitability indicator that expresses the efficiency of the commercial policy and especially the pricing policy of the economic entity. It is usually assessed when looking at the trend from one period to the next, but also when comparing competitors' results.

$N\ R_{MN} = \frac{R_n}{CA} X100$ N_{MR} = Net Margin Rate

R_n = Net profit

CA = Turnover (Susu, 2021)

Depending on the indicator values, the following situations may occur:

- Unstable, if profit margin is below 1%;
- Stable, if profit margin is between 1% and 15%;
- Volatile, if profit margin is higher than 15% (Stefanita Susu, 2021)

Economic rate of return analysis

A profitability indicator expressing the degree of return on all the capital invested in the economic entity, determined by the contribution of assets to net income.

$R_{OA} = \frac{R_n}{A_t} X\ 100$ R_{OA} = Return on Assets

R_n = net profit

A_t = total assets (Siminica, 2010)

Financial rate of return analysis

The financial rate of return expresses the efficiency of the use of the company's equity capital (the relative size of the remuneration of the partners/shareholders). Managers also have an interest in maintaining an appropriate level of this rate in order to retain their positions and achieve the firm's performance criteria.

$R_{OE} = \frac{R_n}{C_{pr}} X100$ R_{OE} = Return on equity

R_n = net profit

C_{pr} = Equity (Petrescu, 2004)

RESULTS AND DISCUSSIONS

1. Analysis of productive biological assets - orchards managed in economic units with legal personality in the North West Region of Romania

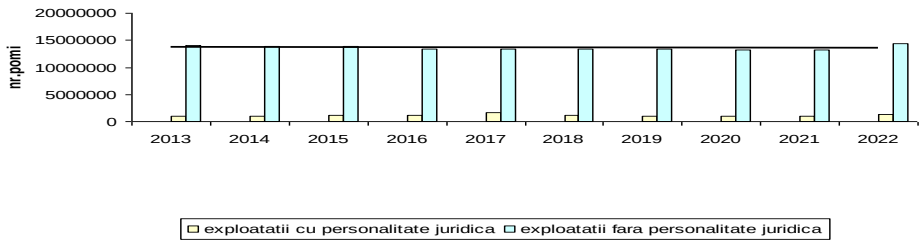

Figure 3. Dynamics of the number of fruit trees on fruit farms according to their legal status in the North West Region of Romania

farms with legal personality – farms without legal personality

For the period researched, i.e. 2013-2017, the number of fruit trees in fruit, components of productive biological assets - fruit plantations - of farms with legal personality, has increased from 6.76% in 2013 to 12.18% in 2017 in the total number

of fruit trees in operation. A slight period of decline follows until 2020. In 2021 and 2022 there is a slight increase, so that at the end of 2022 the share of trees on farms with legal personality is 9.48% of all fruit trees found on farms.

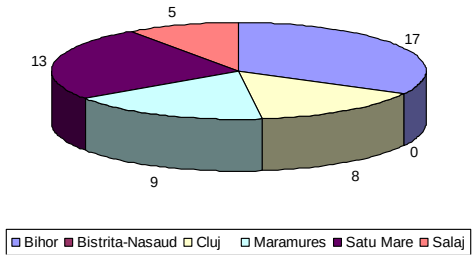

Figure 4. Distribution by counties of the fruit farms with legal personality, at the level of 2022, North West Region of Romania; Source: author's own processing, after www.doingbusiness/profile financial

As of 31 December 2022, Bihor County registered 17 economic units of Limited Liability Company (LLC) type, of which 6 companies have not carried out any activity, 8 companies do not meet the established selection criteria and only 3 units will serve for the dissemination and analysis of financial & accounting information. As of 31 December 2022, Satu Mare County registered 13 economic units, of which 2 units did not carry out any activity, 9 units do not meet the established criteria and only 2 units will be used for the analysis of financial & accounting information and the determination of the rates of return. As of 31 December 202, Maramures County registered 9 economic units, of which 4 are without activity and the rest do not meet the required criteria. As of 31 December 2022, Cluj county registered 8 companies of which 2 are inactive, 4 companies do not meet the established criteria and only 2 economic units will allow the determination of rates of return. On 31 December 2022, Salaj County registered 5 economic units, of which 1 is inactive, 2 do not meet the criteria and only 2 will be used to establish rates of return.

2. Analysis of commercial rates of return

a. Bihor county

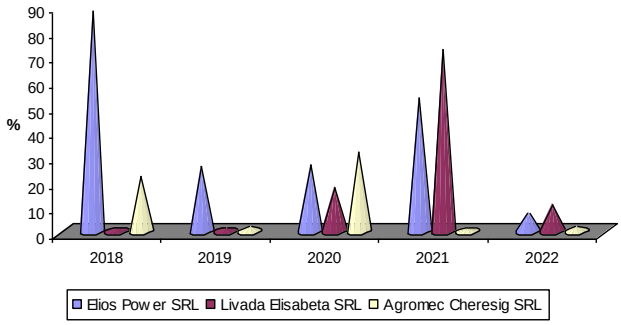

Figure 5. Dynamics of commercial rates of return, for entities in Bihor County Source: author's own processing after www.listafirme.ro

The overall profitability rate for the three economic units assessed over the 5-year period is largely volatile, with year-to-year swings from minimal stability to slight instability and volatility. The management of these businesses is not based on a

policy of cost management, of correct cost management, which is why there are strong fluctuations in both turnover and net result.

b. Cluj county

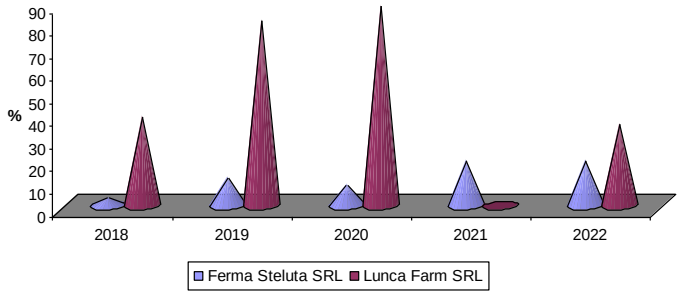

Figure 6. Dynamics of commercial rates of return, for entities in Cluj County
Source: author's own processing after www.listafirme.ro

The first economic entity maintained stability in overall profitability during the period 2018-2020, but in the following periods a state of volatility is noted, while the second business passes from a state of volatility through instability in the course of the year 2021. The management of this business needs to fix its cost management policy.

c. Satu Mare county

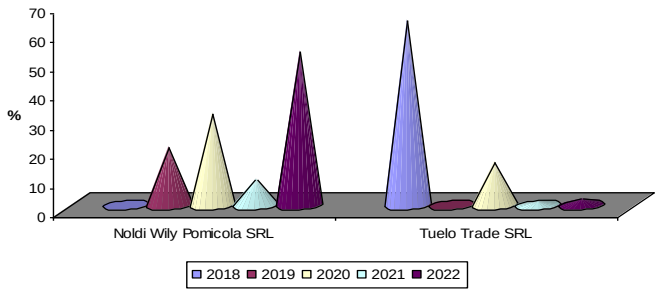

Figure 7. Dynamics of commercial rates of return, for entities in Satu Mare County
Source: author's own processing after www.listafirme.ro

The first economic unit in an unstable state switches to volatility for the period 2019-2022, while the second company researched finds its way in the stability zone from 2020 onwards.

d. Salaj county

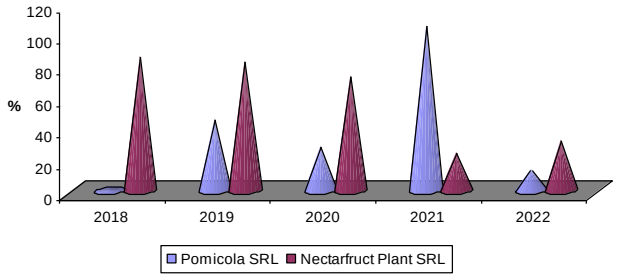

Figure 8. Dynamics of commercial rates of return for entities in Salaj County
Source: author's own processing after www.listafirme.ro

Pomicola SRL is characterised as volatile in terms of overall profitability, with the exception of year 2022, when it manages a slight shift to stability. The result may be caused by the change of the entity's manager. The second company fails to break out of its volatile state.

3. Analysis of economic rates of return

a. Bihor county

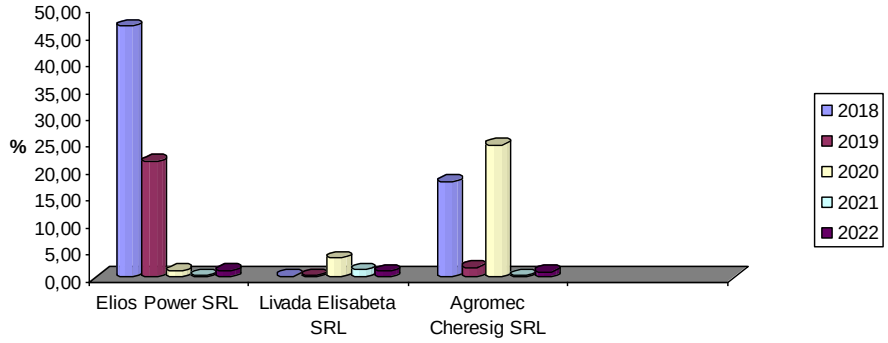

Figure 9. Dynamics of economic rates of return, for entities in Bihor county
Source: author's own processing after www.listafirme.ro

For the period 2019-2022 Elios Power SRL shows an increase in the total asset efficiency, i.e. return on tangible assets and current asset turnover, and in the rest of the investigated period the values of this ratio are around 1. The second company, Livada Elisabeta SRL, has the values of this rate of return with values around 1, except for the year 2020 with a 3.47 value. The third competitor, Agromec Cheresig SRL, shows fluctuations in this economic rate of return except in 2020, when the calculated rate is 24.63.

b. Cluj county

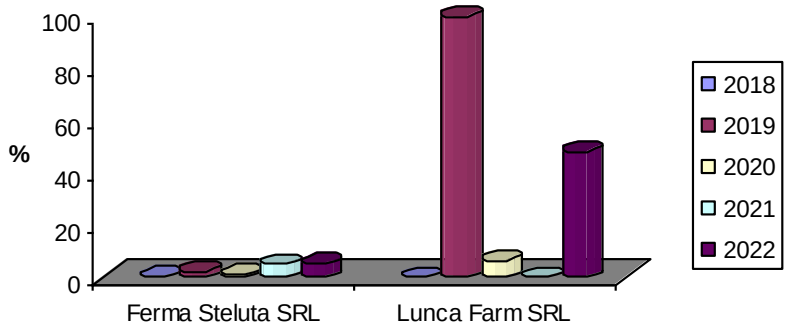

Figure 10. Dynamics of economic rates of return for entities in Cluj county
Source: author's own processing after www.listafirme.ro

The first firm shows very low values of the economic rate of return, but close from one year to the next, while the second firm analysed shows strong fluctuations in this rate, especially in 2019 and 2022, when the net profit recorded may also come from activities other than the main one.

c. Satu Mare county

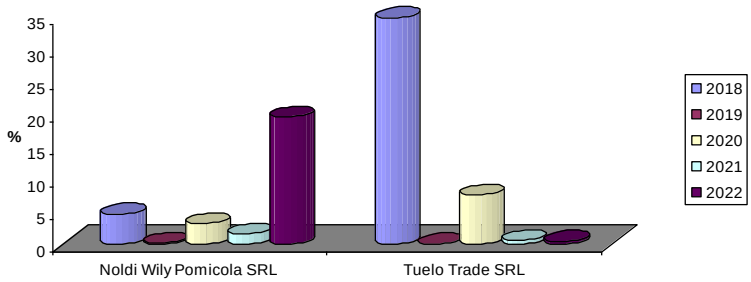

Figure 10. Dynamics of economic rates of return, for entities in Satu Mare county
Source: author's own processing after www.listafirme.ro

The strong fluctuation from one year to the next of this economic rate of return for both economic units expresses a deficiency in the profitable operation of the patrimonial asset and its incorrect management. The only exception is the value of investments in progress and fruit plantations not yet in fruit.

d. Salaj county

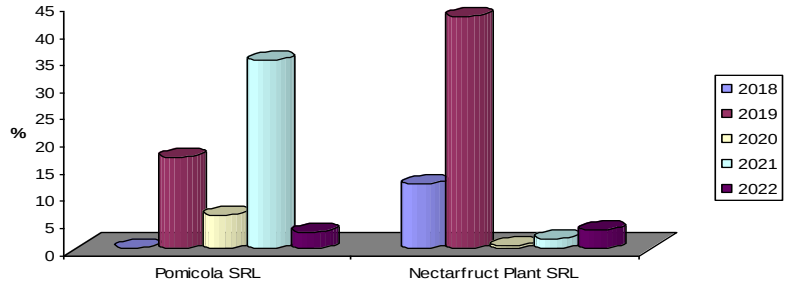

Figure 11. Dynamics of economic rates of return for entities in Salaj County
Source: author's own processing after www.listafirme.ro

The strong fluctuation in the value of this economic rate of return during the period under review may be due to the higher value of net profit from other secondary activities for which the business is authorised. For Nectarfruct SRL the period 2020-2022 shows a slight increase from one year to the next, which implies a better management of the assets held by the entity.

4. Analysis of financial rates of return

Table 1.

Dynamics of financial rates of return

Name of economic unit	2018	2019	2020	2021	2022
Elios Power SRL	91.76	37.22	2.07	6.96	63.75
Livada Elisabeta SRL	15.83	15.83	15.83	15.83	15.83
Agromec Cheresig SRL	17.8	1.78	24.63	0.35	0.99
Steluta Farm SRL	9.72	37.52	13.5	37.2	29.83
Lunca Farm SRL	0	124.19	1.37	0	68.18
Noldi Wily Pomicola SRL	95.65	4.19	31.26	31.52	82.14

Tuelo Trade SRL	67.55	0	13.65	3.58	2.91
Pomicola SRL	0.08	16.88	6.23	34.69	3.09
Nectarfruct Plant SRL	11.86	42.77	0.46	1.77	3.44

Source: author's own processing after www.listafirme.ro

The strong variation in these financial rates of return both among companies and for the same company over the period under research indicates that the rate increase is driven by the increase in the turnover rate of total assets, but given the specificity of productive biological assets with an operating life between 10-30 years, and that the harvested fruits are biological assets in the nature of stocks, stocks characterised by perishability, there is a possibility that the raising rates are due to the profits recorded from authorised secondary activities. The high level for certain periods of the financial rate of return can also be caused by any loans taken out for short periods and which, together with the equity capital invested, contribute to the increase in the capital risked in the business by the business owners.

CONCLUSIONS

The research carried out for 52 apple orchards with legal personality in the North West Region of Romania, of which only 9 had financial and accounting information disseminated in terms of profitability, raises a red flag regarding the training and need for advice of the apple farms administrators.

Any managerial diagnosis should always be complemented with a set of relevant data, on areas such as:

- financial accounting (indicators of profitability, liquidity, dynamics of the company's activity, company financing, external financial environment, etc.)
- commercial (rational choice of suppliers, consumer demand for fruit, quality of marketing strategies, etc.)
- fruit production (estimated yields, state of production equipment and machinery, etc.)
- human resources (employee requirements, salary fund, employee turnover and movement, etc.)

The financial and accounting area is the one that brings together qualitative and quantitative information from all the other existing and relevant areas for the fruit farm. Accounting information, in particular that related to costs, turnover, economic and financial result, profitability, performance, must be the basis of any managerial decision or management decision scenarios.

Economic intelligence plays a more important role than marketing or quality of harvested production for the performance and competitiveness of a fruit farm. Thus the actions of economic intelligence are no longer unknown to the current economic unit, which we consider "smart" because it achieves high performance through intelligent management, in which economic intelligence activities are run correctly and realistically in the substantiation and implementation of decisions.

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