



Munich Personal RePEc Archive

Interpretation of the results of the technical indicators of agriculture-specific economic”

Olteanu, Victor

Research Institute for Agricultural Economics and Rural Development

20 November 2014

Online at <https://mpra.ub.uni-muenchen.de/61774/>

MPRA Paper No. 61774, posted 03 Feb 2015 09:12 UTC

INTERPRETATION OF THE RESULTS OF THE TECHNICAL INDICATORS OF AGRICULTURE-SPECIFIC ECONOMIC

OLTEANU VICTOR¹

Summary: *The passage of a technological process is carried out only in circumstances where the process is efficient in economic terms. Assessment of technological processes can be done by means of indicators which can be: economic, technical, economic and technical. Technical-economic indicators used in assessing technological processes are scalars with or without dimensions, which characterizes a substance, a technical device, a system, or a technological process both technically and economically.*

Keywords: *system technology, agricultural establishments, financial statements.*

INTRODUCTION

Analysis of the activity of agricultural units is subject in scope and depth of system metrics and information capacity of each indicator is a numeric expression of a phenomenon, or economic process, defined in time and space and can be characterized by absolute size, relative sizes, medium sizes, indices and coefficients. Use of indicators in the economic analysis has several advantages, such as:

- evolution of a suggestive pose phenomenon (fixed-base indices);
- presents the annual growth factors or phenomena (chain indices);
- can be done comparing the indicators over time and space;
- offers some independence towards value indicators, in terms of significant price variations;
- in her analysis give an "alarm signal" by showing the trend phenomenon analyzed;
- can be used both in the analysis of retrospective and forecast.

In the case of agricultural holdings, the information needed to maintain the competitiveness of its own affairs and its products must be obtained from both internal sources (annual financial statements, management accounting and budgeting analysis), as well as from external sources (other than the holding's accounts). This information allows the evaluation, selection and choice of all allowable variants, the most effective decisions, imposing the need for use of methods and ways of working based on addressing systemic and economic-mathematical modeling, to allow a thorough technical-economic analysis based on consideration of all technical possibilities, linking close to production targets with existing resources, concurrent analysis of all possible variants of action to establish a rational priorities for meeting the diverse needs etc..

MATERIALS AND METHOD

In order to be able to calculate and interpret the multiple aspects of the relationships that are formed objectively between efforts and results in the production of agricultural holdings, it was necessary to the development and use of a system of economic and technical indicators with which to be able to tackle specific agricultural activities, systemic.

A. Technical indicators

The use of such indicators in the indicators are: agricultural land fund; investment indicators; mechanization of agriculture indicators; mainly indicators of agricultural production; indicators of growth and exploitation of animals; forage base indicators; indicators of employment and labour productivity; indices of agricultural production.

Land Fund are indicators: the indicators of land use indicators, areas cultivated, structure of cultivated (indicators indicate percentage).

¹ CsIII. Olteanu Victor: Institutul de Cercetare pentru Economia Agriculturii și Dezvoltare Rurală

Investment indicators most used are: specific investment; investment recovery period; the coefficient of efficiency of investments; investment cost/total production 1000 lei; the increase of production/production unit (ha); reduce cost/unit of product.

Mechanization of agriculture indicators be expressed through: indicators of energy resources (databases) and energy resource use indicators.

Indicators of energy resources (databases) are represented by: the total volume of resources, energy endowment, factor structure of energy resources (assets), the total number of tractors (physical, conventional)

Energy resources use indicators are: the volume of work performed, the average number of tractors that have actually worked

Mainly agricultural production indicators have in mind that the use of chemicals is aimed at increasing yields and achieve higher quality, constant production. The main indicators used are: the total quantity of fertilizer used (chemical fertilizers, organic fertilizers); the amount of fertilizer (organic chemicals) used on crops, which in the case of chemical fertilizers is expressed in gross substance or active ingredients; chemical fertilizers assortment (nitrogenous, phosphatic, complex); structure (percentage) on the surface of chemical fertilizers (total, crops) that have been applied chemical fertilizers (area fertilized, treated, as amended); share (%) of chemicalize surfaces relative to the total area and crops.

Indicators of growth and exploitation of animals. Indicators on the basis of the forage. Indicators used in animal husbandry

Livestock accounts for all the animals of the same species, race, category from a farm. The main indicators characterizing the livestock are:

- Livestock species, age groups, sex, breed, destined to a specific date;
- Rolling stock is the number of animals that are holding it in a certain period, resulting from the original herd, plus entries from this period;
- The minimum number of animals represent the lowest number of animals of a species, category during the year;
- The maximum number of animals is the largest number of animals of a species, category during the year;
- The average number of animals represents the average number of animals of a species, category in a given period, determined by the evolution of animals during that period.

Apart from structural indicators mentioned in economic calculations are used:

- the structure of the race of each breed to share = total number of species. The percentage is determined by the ratio between the number of animals in each race and the total number of animals of the species concerned, in physical units.
- norm (of) serving = number of animals that can be taken care of by an employee or a group of employees in the technical and organizational conditions well defined.

Indicators of employment and labour productivity are represented by resource indicators: work on staff, representing the total number of employees, average number of employees, the labour structure.

- Labor utilization indicators are: the average number of employees (Nef), index (grade) of the use of force, the degree of seasonality of Supply, employment seasonality, the intensity of seasonality.
- Labour productivity indicators: Productivity Index labour productivity

B. Economic indicators

The indicators of this type is the system of indicators go into agricultural holdings, which assists in the economic analysis of production and technologies required to provide the results of the characterization of the production activity in the conditions of application of a specific technology, to measure the volume of production factors, assign highlighting material and financial means are used and how to use it in production. They should highlight the contribution of technical progress introduced in increasing production and economic efficiency estimation of the ratio of the effort made and the effect obtained. Indicators are taken into consideration for the characterization of the economic efficiency of production technologies, new or better must reflect the results achieved compared to a basic or initial technology.

Of the main indicators of economic analysis of production technologies are:

1 total production (\$/hectare total output, total production lei/a worker and lei/year; total production to 1000 lei fixed costs, the total output of 1000 lei production expenditures; the total output to 1000 lei material expenses; the share value of cargo in total production output);

2 material costs (material costs to total production 1000 lei, expenditure materials to 1000 lei material expenses; main production to 1000 lei material expenses freight production per unit of product);

3 primary production (the main production lei/lei per hectare and per year; the main production to 1000 lei fixed costs; the share of the main products in total);

4 labour costs (labour costs per hectare and year, expenditures with the labour force in the total cost of production);

5 total costs of production (total expenditure per hectare and per year, total expenditure on production to 1000 lei total production total production expenditures; the 1000 lei cargo production);

6 cost of production (production cost per unit produced (tone, kg, PCs);

7 ROI (profit per hectare; profit from 1000 lei production expenditures; the profit to 1000 lei fixed costs, the rate of profit);

8 labor productivity (output per worker overall or total workers; the total production per unit of time worked; a worker's main production; the profit per unit of time worked), etc.

To be able to compute the schedules listed above, it should be known the expenditure, revenue and profit, the unit's accounting statements, in order to assess its profitability.

Farm income

In the analysis of distinction between the two categories: income from farm income from agriculture. This differentiation reveals that at the level of a holding can be deployed and non-agricultural activities that can increase total revenue, having positive effects on the viability of the farm. In terms of income from agriculture, it should be noted that their size depends on: the production obtained, the level of prices, costs of production factors, interest from contracted credits, if any, policies for supporting agriculture by the State, as well as a host of other natural and economic factors that influence the biological productivity and farm incomes.

Farm expenses

The expenditure accounts for the consumptions of labor and material in any kind of activity. In agriculture, the costs for the establishment of agricultural and livestock products, the

unit of area (ha) in plant production and livestock or product in the animal production.

Farm profit

Nationally defined and interpreted in various forms. The notion of profit is regarded as accepted and understood differently by economists in the light of the overall concept, as a result of the economic effort (cost of production) and the effect resulted in proceeds. To gain profit, in all situations where total revenue should be greater than the total expenditure. Looking at it this way, "the profit can be defined as a surplus of receipts over costs", he is "positive difference between income derived through the sale of assets made by a trader and their cost, regarded as an expression of economic efficiency." Profit is "part of the selling price of the goods or services of the company; the final price is determined by the margin (share) profit accepted. "The common aim of all economic operators are obtaining profit, which is one of the most used indicators of the economic activity of enterprises.

Economic efficiency indicators of the agricultural farm

a. Indicators reflecting the net profitability of the agricultural farm. They allow an analysis of profitability only in the total activity of the unit:

- Net income calculated as a difference between gross profit and income tax. He remains available to the economic unit to be allocated according to the destinations specified;

b. The net rate of return of the total activities of the farms, which are determined according to the resources consumed (total expense), income from total activity and resources used considered that effort (manpower, Land Fund, fixed assets, current assets, the capital). Indicators that reflect gross profitability of agricultural holdings. They allow an analysis of the profitability of both the total activity of the unit and on the types of activities or the entire Department's organizational structures, as well as on each product:

- Gross profit is calculated as the difference between total revenue and total expenditure (without being included in the corporate income tax);
- Gross rate of return calculated as ratio between gross profit and resources taken into account (including the revenue unit).
- Indicators which reflect the overall profitability of farms:
- net profit and net rate of return of the total activity of the agricultural holding;
- gross profit and gross rate of return of the total activity of the agricultural holding;
- gross profit and gross rate of return by types of activities (operational, financial activity and exceptional);
- gross profit and gross rate of return on the organizational structures;
- gross profit and gross rate of return on various products.

On the basis of this indicator system can identify organizational structures, areas of activity and products where there has been a dynamic period of profitability or a favorable dynamic, but not up to the level of competitiveness required by internal and external market, giving the possibility of taking measures to increase the profitability of the entire economic and financial activities on a higher rung. Profile of a complex agricultural enterprises (vegetable, livestock and industrial) as well as the organizational structure of these units (farms and fields, bins, etc.) make it necessary to trace the contribution of each branch of production and organizational links to the profitability of the enterprise.

CONCLUSIONS

For Romania, agriculture is an absolute priority, because it is a sector with considerable

potential, traditionally occupied an important place in the structure of the Romanian economy. It is an important factor of social stability and the maintenance of ecological balance, being the branch which provides food for the population and significant amounts of raw materials for the food industries and other non-food industries.

Agricultural development cannot be purely economic, based on the principle of maximum profit-profit immediately that cannot be designed in the absence of access to information-but we will have to become a sustainable development, able to find the most suitable criteria to optimize report-resource needs, taking into account four factors: population, natural resources and the natural environment, industrial production and pollution. Agricultural activity must be conducted on principles which should govern the farms producing agricultural goods and services in agriculture, resources used, costs and revenues, including educational management necessary for both those who produce, but also for those who sell and consume goods and services in question.

As human activity, specialized agriculture encompasses both the production and distribution of agricultural goods and services, and is considered by some economists a "vital sectors" of socio-economic life. The commercial component increases as share in total agricultural production, the agriculture will be more efficient and more integrated Romanian agriculture in domestic and international economy.

Boosting the agriculture sector as well as to farmers as participants in achieving economic and social equilibrium cannot be sustained only by a national effort, legislative and financial.

BIBLIOGRAPHY

1. Anghel I., Marketing, Editura ASE, București 2000;
2. Berca M., Agricultura in tranziție, Editura Ceres, București 2001;
3. Blaciotti S., Definirea interesului național prin identificarea capacităților reale de producție agricolă, Universitatea Națională De Apărare „CAROL I”, Centrul De Studii Strategice De Apărare Și Securitate, Colocviu Strategic Nr.11/2009;
4. Bold I., Exploatația agricolă – organizare, dezvoltare, exploatare, Ed. Mitron, Timișoara;
5. Bold, I., Rus Gh., Strategii pentru agricultura românească, Editura Mitron, Timișoara, 2003;
6. Dragomir V., „Proiectarea unui sistem de tip holding, prin intermediul asocierii pentru produsele agricole de origine vegetală din județul Călărași”, Teză de doctorat, București, 2008;
7. Enache E., Analiza economico-financiară, Editura Independența Economică, Brăila, 1998;
8. Tofan Al., Dimensiunea economică a exploatațiilor agricole, Analele Științifice ale Universității Alexandru Ioan Cuza Iași, vol LII/LIII, Științe Economice, 2005/2006.