

FACTOR ANALYSIS OF THE TOTAL INCOME OF THE FARM PLANT

FIRU ADRIAN¹ LUNGU MARIAN¹

¹ *Banat's University of Agricultural Science and Veterinary Medicine from Timisoara
Faculty of Agricultural Management, Romania; adi_firu@yahoo.com*

Abstract: *This paper studies, the plan - done, the standard deviation of the absolute total revenues and vegetable farm at the same time, the influence of factors: total production, total production structure and rates of recovery.*

Key words: *economic model, iterating method, absolute deviation, the influence of the production structure, the influence of total production, the influence of price.*

INTRODUCTION

Review factor income at farm level during plan-made plan is carried out based on economic model:

$$V_T = Q_T \cdot \sum_{i=1}^n g_{si} \cdot p_i$$

Where:

V_T - total income per farm;

Q_T - total production per farm;

g_{si} - Structure related to crop production;

p_i - the price of the corresponding products of crops.

Technical and economic information are taken from the enterprise's economic record and are listed in Table. 1

Table 1

Specification Culture	Total Production (Q_T) (T)		Price (P) (lei/ t)		Total revenues (V_T) lei	
	Plan	Accomplished	Plan	Real grounds	Plan	Accomplished
Wheat	1000	1500	400	350	400000	525000
Corn	2000	1700	300	340	600 000	578000
Fl sun	400	350	700	750	280000	262500
Soy	150	250	650	700	97500	175000
Total	3550	3800	x	x	1377500	1540500

Using the method of iterating the analysis of the total revenues realized during the Plan, shall be as follows:

1) The calculation of absolute deviation of total revenues at farm level:

$$\Delta V_T = V_{T1} - V_{T0} = 1540500 \text{ lei} - 1377500 \text{ lei} = 163000 \text{ lei}$$

Where:

$$V_{T1} = Q_{T1} \cdot \sum g_{si1} \cdot p_{i1} = 1540500 \text{ lei}$$

$$V_{T0} = Q_{T0} \cdot \sum g_{si0} \cdot p_{i0} = 1377500 \text{ lei}$$

In performing arithmetical operations to determine the influence of preliminary calculations are required:

$$\overline{p_0} = \sum g_{si0} \cdot p_{i0} = \frac{1000}{3500} \cdot 400 + \frac{2000}{3550} \cdot 300 + \frac{400}{3550} \cdot 700 + \frac{150}{3550} \cdot 650 =$$

$$= \frac{1377500 \text{ lei}}{3550 \text{ t}} = 388,03 \text{ lei/t}$$

$$\overline{p_1} = \sum g_{si1} \cdot p_{i1} =$$

$$= \frac{1500}{3800} \cdot 350 + \frac{1700}{3800} \cdot 340 + \frac{350}{3800} \cdot 750 + \frac{250}{3800} \cdot 700 =$$

$$= \frac{1540500 \text{ lei}}{3800 \text{ t}} = 405,39 \text{ lei/t}$$

$${}^r \overline{p_0} = \sum g_{si1} \cdot p_{i0} =$$

$$= \frac{1500}{3800} \cdot 400 + \frac{1700}{3800} \cdot 300 + \frac{350}{3800} \cdot 700 + \frac{250}{3800} \cdot 650 =$$

$$= \frac{1517500 \text{ lei}}{3800 \text{ t}} = 399,34 \text{ lei/t}$$

2) The calculation of the influence of: Q, g and p:

$$- \Delta V_T(Q) = Q_{T1} \cdot \sum g_{si0} \cdot p_{i0} - Q_{T0} \cdot \sum g_{si0} \cdot p_{i0} =$$

$$= (Q_{T1} - Q_{T0}) \cdot \sum g_{si0} \cdot p_{i0} = (Q_{T1} - Q_{T0}) \cdot \overline{p_0} =$$

$$= (3.800 \text{ t} - 3.550 \text{ t}) \cdot 388,03 \text{ lei/t} = 97007,5 \text{ lei}$$

$$- \Delta V_T(g_s) = Q_{T1} \cdot \sum g_{si1} \cdot p_{i0} - Q_{T1} \cdot \sum g_{si0} \cdot p_{i0} =$$

$$= Q_{T1} \left(\sum g_{si1} \cdot p_{i0} - \sum g_{si0} \cdot p_{i0} \right) = Q_{T1} \cdot \left({}^r \overline{p_0} - \overline{p_0} \right) =$$

$$\begin{aligned}
 &= 3800 \text{ t} (399,34 \text{ lei/ t} - 388,03 \text{ lei/t}) = 42978 \text{ lei} \\
 - \quad \Delta V_T(p) &= Q_{T1} \cdot \sum g_{s1l} \cdot p_{i1} - Q_{T1} \cdot \sum g_{s1l} \cdot p_{i0} = \\
 &= Q_{T1} (\sum g_{s1l} \cdot p_{i1} - \sum g_{s1l} \cdot p_{i0}) = Q_{T1} \cdot (\overline{p_1} - \overline{p_0}) = \\
 &= 3800 \text{ t} (405,39 \text{ lei/ t} - 399,34 \text{ lei/t}) = 22990
 \end{aligned}$$

3) calculating the relation of equality between the sum of the influence: Q, g and p and the deviation of total revenue:

$$\Delta V_{T(Q)} + \Delta V_{T(g_s)} + \Delta V_{T(p)} = V_T$$

$$97007,5 \text{ lei} + 42978 \text{ lei} + 22990 \text{ lei} = 163 \text{ 000 lei}$$

$$162975,5 \text{ lei} \approx 163 \text{ 000 lei}$$

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CONCLUSIONS

During the plan-made vegetable farm was an absolute deviation of 163 thousand, which is determined by the influence of factors: production, production and price structure, as follows:

- Production was influential factor worth 97007,5 lei;
- The influence of structural factors of production stood at 42997 lei;
- Influence the price factor amounted to the value of 22990 lei.

As seen from the analysis, production factor had the highest value as the influence, following the structure of production, then the price of products.

Causes which change every culture and on the whole farm are:

- The use of its high productivity varieties of wheat crop and soybean crop;
- Decreasing the crops maize and sunflower, as a result of changing climatic factors (excessive drought, hail, etc.).

Causes which modify the price level are:

- Surplus wheat crop production;
- Shortfalls existing agricultural market crops: corn, sunflower and soybean;

The causes which alter the structure of production are presented above.

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