THE ANALYSIS OF LABOR PRODUCTIVITY IN A SPECIFIC ROMANIAN POULTRY BUSINESS DURING 2014-2016

Georgiana Melania COSTAICHE, Anişoara CHIHAIA, Georgiana Armeniţa ARGHIROIU, Silviu BECIU

University of Agricultural Sciences and Veterinary Medicine Bucharest, 59 Marasti, District 1, 11464, Bucharest, Romania, Phone: +40213182564, Fax:+40213182888, Mobile:+40744 6474 10, Emails: melania.sanda@yahoo.com, ani_chihaia@yahoo.com, arm3nitza@yahoo.com, beciu.silviu@gmail.com

Corresponding author: melania.sanda@yahoo.com

Abstract

In this paper it was attempted to analyze labor productivity in S.C Avicod S.A. It was chosen this medium sized enterprise, because in this case was recorded the biggest average daily gain. Labor productivity shows the efficiency of human resource use, reflecting the efficiency related with the amount of work involved in. Increasing labor productivity is the only effective way to raise salaries without generating inflation in a country's economy. This research is based on the indicators of the profit and loss account of S.C. Avicod S.A, obtained from open data sources offered online by the Ministry of Public Finance from Romania, for the period 2014-2016. The analysis methods used in data processing were: the comparison method, the indices method and chained factor substitution method. The three conditions of a profitable business, including under normal economic conditions, are: cheap inputs, good technical and economic results, and a better capitalization of production.

Key words: *labor productivity, poultry farming*

INTRODUCTION

Labor productivity shows the efficiency of human resource use, while reflecting the efficiency with which work has been spent.
Productivity is a key factor for any economy, as higher productivity is leading to increased real income, improved living standards and is generally believed to generate significant economic growth [5].
Increasing efficiency implies either more output is produced with the same amount of inputs or that fewer inputs are required to produce the same level of output [11]. The highest productivity is achieved when maximum output is obtained for a particular input level [6].
Increasing labor productivity is a strategic goal for any manager because it ensures profit growth, turnover and leads to lower production costs, so it is the condition of the economic development [12].
Increasing of labor productivity needs to take into account human resources because it is the only conscious factor able to put in practice

modern technologies and to use methods of work organization [10].
The use of qualified workforce enables rational use of time and technical capacity for obtain high-quality goods [3].
Labor productivity is influenced some factors like: climatic conditions, technical progress, the level of organization of production, employee qualification, working conditions, legislation, motivation and satisfaction of the work done, and the climate at work.
Labor productivity is calculated by means of indicators in value or in physical expression.
Increasing labor productivity is the only effective way to raise salaries without generating inflation in a country's economy.
The farmers in the poultry farming are caught between high fodder prices, because there are no regulations on internal market of grain, and the relatively low purchase prices practiced by processing companies in the field.
Productivity in the poultry sector is influenced by the low cost for day-old chicks, labor force and amortization. The low cost for day-old chicks is due to good reproductive performance and incubation stations. The cost

of labor force in Romania is among the lowest in the European Union, and in terms of its amortization it made modernizations and refurbishments by obtaining European non-refundable or partially non-reimbursable funds.

An impediment to achieving high yields is represented by high energy costs, as the technology for broiler requires high energy consumption (aerotherms, fans, lamps).

In this paper we attempted to analyze labor productivity in S.C Avicod S.A. We chose this unit from the middle class, because here was the biggest average daily gain.

MATERIALS AND METHODS

This research is based on the indicators of the profit and loss account of S.C. Avicod S.A, obtained from www.mfinante.gov.ro, for the period 2014-2016. The analysis methods employed in data processing were: the comparison method, the indices method and chained factor substitution method.

Using the comparison method, events are analysis in time and space.

Considering that the indices present the evolution of a phenomenon schematically, but also emphasise the annual growth rhythms, we used them for technical and economic efficiency indicators

The method of chained substitution of factors is based on the successive variation and correlation of the factors specific to the analyzed phenomenon, the substitution assuming the substitution in a certain relationship of the value of a factor (from the previous period) with another value (actually achieved) [9].

Applying this method involves following principles:

-Substitution is made successively, starting with the quantitative factor and fallowing the qualitative factor

-An once-substituted factor is maintained at the substituted level to the end of analisys.

-Technical efficiency is the farmer's ability to obtain maximum product quantities using inputs to a minimum.[7]

The technical efficiency indicators analyzed are: the average daily gain, specific consumption and European Economic Index.

Daily average gain is an indicator of efficiency and represents the gain in weight obtained averaged over a feed day. The efficiency of this indicator is even higher as its value is higher. Increase the daily average gain can be achieved by using performance hybrids by improving growth and feeding conditions.

Specific feed consumption or feed conversion index is the amount of feed consumed to obtain one kilogram of weight gain. So it is a major source of preoccupation because of its role in the fodder cost, the lower its value, the better its performance.

The European Economic Index, the European Efficiency Factor or the Broiler Efficiency Index measure the technical performance. In Romania it was introduced in 1970 as a production index. The higher its value, the better is the technical performance.

Turnover is the volume of receipts at market price for a certain period of time, sums up all receipts and measures the economic performance of the unit. [1]

Profit is the absolute amount of profitability. Profiting is essential to doing business because it provides sources of investment and favors the introduction of technical and scientific progress.

RESULTS AND DISCUSSIONS

SC Avicod S.A. was founded in 2003 by the takeover of Codlea avia. The investments made led to increased production capacity and economic results.

SC Avicod S.A. owns four meat breeding farms located as follows:

- The Sfântu Gheorghe farm No.3 with a capacity of 1,800,000 broilers / year in the 18 fattening halls.

-The Ilieni farm No.7 with a capacity of 810,000 broilers / year in the 8 fattening halls.

-Codlea farm with a capacity of 1,800,000 broilers / year in the 24 growth halls.

-The Dumbravita farm No.7 with a capacity of 900,000 broilers / year in the 10 growth halls.

It owns five own showrooms, one of which is in Codlea and four are in Brasov. The evolution of technical efficiency indicators is important

for the unit as it can influence the economic performance of the unit.

According to Table 1, the daily average gain, increased by 2.2% in 2016 compared to 2015, which is a positive aspect contributing to the increase in live weight. Increasing this indicator can be achieved by respecting the microclimate, namely the temperature, the humidity and the ventilation.

The specific consumption indicator had a downward trend during the analyzed period, the positive influence of this indicator is given by the decrease of the consumption of fodder,

respectively the decrease of the production cost. Decreasing feed consumption can be achieved by using scientifically established rations, using modern equipment to avoid waste, but also lowering density, thus avoiding competition for fodder.[3]

The European Economic Indicator increased by 3.5% in 2016 compared to 2015, a positive aspect as it is the most complex indicator taking into account: the viability of the effective, the mean weight at slaughter, the slaughter age and the specific consumption of the fodder.

Table 1. The technical efficiency indicators of S.C. Avicod S.A.

Indicators	U.M.	2014	2015	2016	2015/2014 (%)	2016/2015 (%)
Daily average gain	g/day	63.5	63.66	65.05	100.3	102.2
Specific consumption	Kg/kg of spor	1.69	1.64	1.62	97.0	98.8
EEI		366.3	378.2	391.3	103.2	103.5

Source: Avicultorul magazine (1) 2017[2], own calculations

Table 2. The evolution of the profit and loss account indicators at S.C. Avicod S.A.

Indicators	M.U.	2014	2015	2016	2015/2014 (%)	2016/2015 (%)
Turnover	lei	69,438,218	70,468,351	71,530,093	101.5	101.5
Profit	lei	1,580,476	4,794,031	4,523,744	303.3	94.4
Income	lei	96,931,563	119,056,399	123,085,107	122.8	103.4
Expenditure	lei	95,351,087	11,4262,368	118,561,363	119.8	103.8
Number of employees	number	197	292	314	148.2	107.5

Source: http://www.mfinante.gov.ro,[8] own calculation
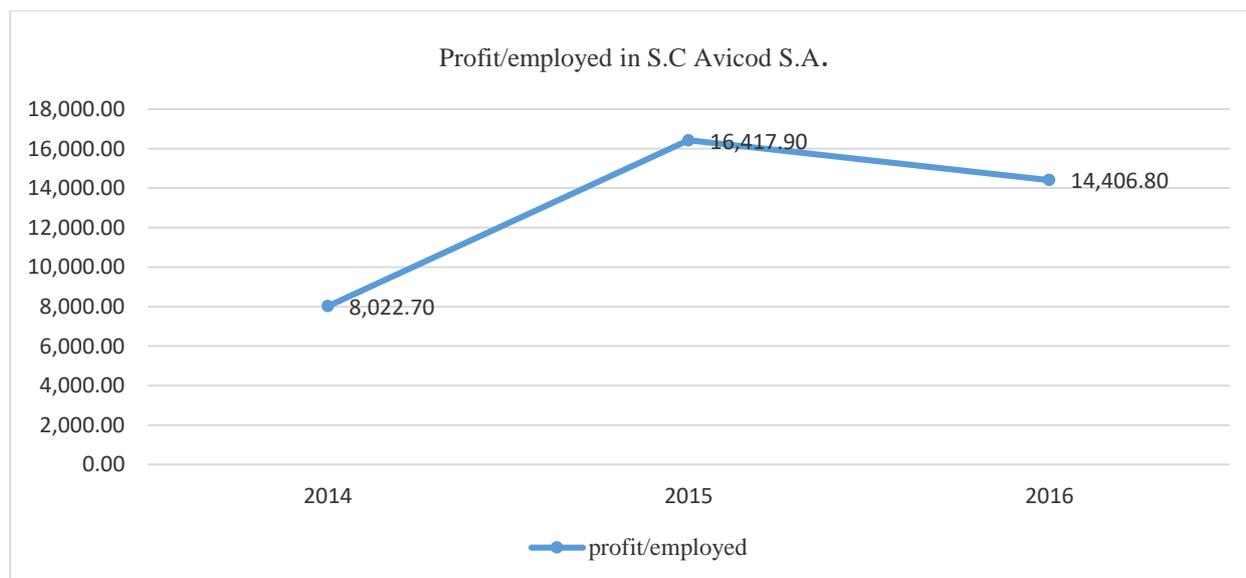
Fig.1. Profit/employee in S.C Avicod S.A. in the interval 2014-2016
Source: own calculation, based on http://www.mfinante.gov.ro [8]

According to the Table 2 the economic indicators in the analyzed period had an

ascending trend, the highest increase it is observed to the profit, 202.3% in 2015

compared to 2014. In 2016 compared with 2015 profit decreased by 5.6%.

The evolution of profit / employee in S.C. Avicod S.A. in the period 2014-2016 is shown in Figure 1 and the growth of profit / employee can be observed. In 2015 the value of the profit/employee was the highest, but in 2016 it registered a slight decrease.

Table 3. The absolute and relative deviation of annual labor productivity;

Indicators	2015/2014		2016/2015	
	Absolute deviation (+/-)	**Relative deviation (%)**	**Absolute deviation (+/-)**	**Relative deviation (%)**
Profit/employee	8,395.2	2,04.6	-2,011.1	87.8

Source: own calculation, based on http://www.mfinante.gov.ro [8]
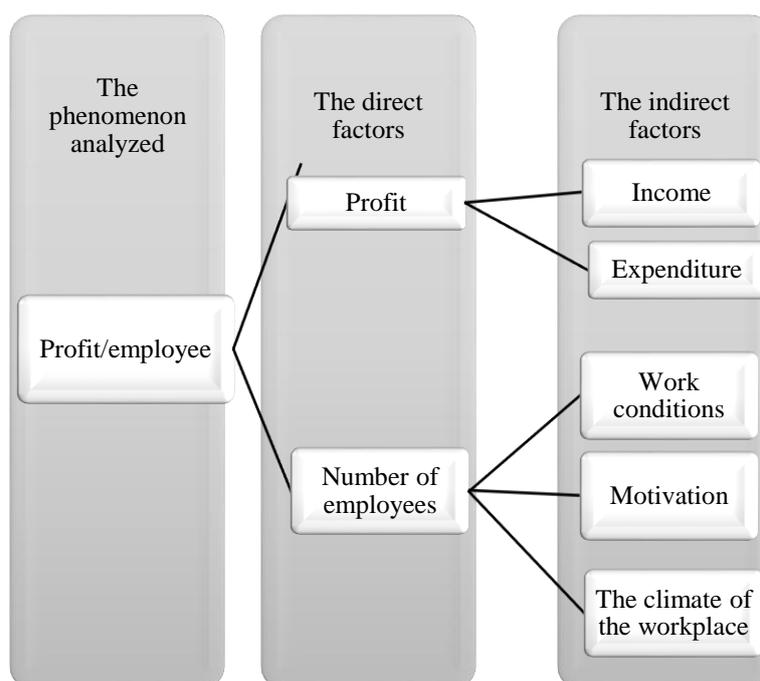
Fig.2 Direct and indirect factors of profit / employee
Source: own design and conception.

Table 4. Evolution of the influence of direct and indirect factors on profit / employee

Indicators	The factor type	2015/2014	2016/2015
Profit	**Direct**	**11,005.3**	**-860.8**
Number of employees	**Direct**	**-2,610.1**	**-1,150.3**
Income	Indirect I	22,124,836	4,028,708
Expenditure	Indirect I	-18,911,281	-4,298,995

Source: own calculation, based on http://www.mfinante.gov.ro [8]

Figure 2 shows direct and indirect first-degree factors for the profit / employee. Table 3 shows the evolution of profit / employee in S.C. Avicod S.A. in 2014-2016 period. Table 4 shows the influence of direct and indirect factors on the analyzed phenomenon. Their evolution taking into account Figure 2 and Tables 3 and 4 are presented below.

In 2015 compared to 2014 the profit/ employee increases by 8,395.2 lei / employee, respectively 104.6% (Table 3). At this growth the influences of the direct and indirect factors contribute, according to the Table 4.

The direct factor profit determines the increase of the economic efficiency of the labor force, respectively the increase of the profit/employee by 11,005.3 lei.

At this increase, the indirect factors of the first degree, the incomes have a favorable influence, causing it to increase by 22,124,836 lei, while the expenditures have a negative influence on the profit / employee, causing it to decrease by 18,911,281 lei.

The unfavorable influence of spending is due to higher prices for inputs needed for broiler.

The direct factor average number of employees has a negative influence on the profit / employee, causing it a decrease by 2,610.1 lei. The negative influence is due to an increase of the number of employees by 48% in 2015 compared to 2014.

In 2016 compared to 2015 the profit / employee decreases with 2,011.1 lei / employee, respectively 12.2% (Table 3). To this fall the influences of the direct and indirect factors contribute, according to the Table 4.

The direct factor benefit determines the decrease of the profit / employee by 860.8 lei. At this decrease, the indirect factors of the first degree, the incomes have a favorable influence, causing the profit/employee increase by 4,028,708 lei, while the expenditures have a negative influence, causing the profit/employee decrease by 4,298,995 lei.

The direct factor number of employees has a negative impact on the profit / employee, causing it to decrease by 1,150.3 lei, due to the increase of the number of employees by 7.5%. Indirect factors of the first degree, working conditions, motivation and the working climate are factors of a subjective nature, difficult to quantify, but which are reflected in the average productivity of labor.

CONCLUSIONS

Analyzing the labor productivity at S.C. Avicod S.A. with the help of the indicator the profit / employee it is noticed:

-The indirect first-tier factor the expenditure has the negative impact on profit / employee because the inputs are increase during the analyzed period.

-The technical efficiency indicators, respectively specific consumption and daily growth gains, improved over the period under review, contributing to lower spending and increased income.

-The number of employees had the negative impact on the profit / employee, due to the increase of the hired personnel. However, it can be seen that the value of the profit has increased.

The three conditions of a profitable business, including under normal economic conditions, are: cheap inputs, good technical and economic results, and a better capitalization of production.

REFERENCES

[1]Angelescu, C., Apostol, G., Dobrota, N., Pugna, D., Sabau, G., 2001, Dicţionar de economie, Editura Economică, Bucureşti, pag. 97

[2]Covaşă, A. M.,, Cofas, V., 2017, Performanţe şi recorduri avicole 2016, Avicultorul (1), 2017, 43-45

[3]Dobrotă, N., Ciucur, D., 1995, Economia politică, Editura Economica, Bucureşti, 167-178.

[4]Estevez Inma, Poultry welfare issues, Poultry Digest Online Volume 3, Number 2, available onlineat:http://ansc.umd.edu/extension/poultry/docume nts/Poultry_Welfare_Behavior/publications/PoultryWel fareIssues,PoultrDigestOnineVolume3Number2.pdf

[5]Goschin, Z., Danciu, A., Labour Productivity Disparities in The European Union, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10. 1.1.547.4766&rep=rep1&type=pdf, Accessed at 4 October 2017

[6]Igwe, O.O., Nwaogu, D.C., Onyegbule, F., 2017, Technical efficiency of poultry enterpreneurs in Abia State: a stochastic frontier approach. Scientific Papers. Series "Management, Economic Engineering in Agriculture and rural development", Vol. 17(1):241-248.

[7]Keramidou, I., Mimis, A., Papppa, E., 2011, Performance evalution af the poultry sector in Greece, Journal of Food, Agriculture and Environment, Vol.9 (2), http://www.isfae.org/scientficjournal/2011/issue2/pdf/a griculture/a59.pdf, Accesed at 25 June 2012

[8]Ministry of Public Finance from Romania, http://www.mfinante.gov.ro, Accesed at 2 october 2017

[9]Niculae, I., Costaiche, G. M., 2014, Managementul in unitatile de prelucrare a produselor agricole, Editura Ceres, Bucuresti 2014, 84-85

[10]Oancea, M., 2007, Managementul, gestiunea economică şi strategia unităţilor agricole, Editura Ceres, Bucureşti, 528-530

[11] Rogers, M., 1998, The definition and measurement of productivity. The university of Melbourne, Australia, Melbourne institute of applied economics and social research. Working Paper 9/98

[12]Zahiu, L., 1999, Management agricol, Editura Economică, Bucureşti, pag. 272.