



Munich Personal RePEc Archive

## **Considerations concerning the analysis of the wage costs efficiency**

Maria-Daniela Bondoc and Florea Radu

University of Pitesti, Romania

April 2008

Online at <http://mpa.ub.uni-muenchen.de/14008/>

MPRA Paper No. 14008, posted 12. March 2009 02:43 UTC

# CONSIDERATIONS CONCERNING THE ANALYSIS OF THE WAGE COSTS EFFICIENCY

Maria-Daniela BONDOC\*, Ph.D. Lecturer

\*University of Pitești

Florea RADU\*, Ph.D. Professor

\* University of Pitești

**Key words:** staff costs, efficiency, labour efficiency, average wage

**Abstract:** In this article, the authors sought to study the efficiency of the staff costs and its reflection upon the main economic and financial indicators of a company. In the performed study, the application of the factor analysis models was made at the level of an industrial trading company the social object of which is manufacturing automotive subassemblies. The efficiency of the wage costs was monitored by the correlation between the average wage and the labour efficiency as well as by means of the indicators used for the general expression of their efficiency, such as: staff costs at an operating income, turnover or added value of 1,000 Lei. Moreover, highlighting the economic and financial consequences of their modification on the main key performance indicators of the company was considered. The conclusions that were drawn are useful for the management company for the substantiation of the decisions related to the improvement of the usage of the human resources, with direct positive consequences upon the reduction of the wage costs to 1,000 Lei and of the wage costs per product unit, as well as upon the profit increase.

## A. General Aspects Concerning the Efficiency of the Wage Costs

The staff costs represent a significant percentage in the total costs of any entity. In the vast majority of cases, the staff costs sum up to more than half of the operating expenses and for this reason, the correct substantiation of the wage costs and the monitoring of their efficiency constitutes an important concern of the management of any trading company.

The dynamics of the staff costs ( $Chp$ ) must be compared to the dynamics of the volume of the activity performed by the company (expressed either by the turnover - CA, or by the operating incomes - Ve, or by the added value - VA). A normal activity is characterized by a dynamicity of the activity volume that exceeds or is at least equal to the one registered by the staff costs:  $I_{CA} \geq I_{Chp}$ ,  $I_{CA} \geq I_{Ve}$ ,  $I_{CA} \geq I_{VA}$ .

The aforementioned correlation allows for the assessment of the admissible level of the staff costs:

$$Chp_a = \frac{Chp_0 \cdot I_{CA}}{100} \text{ or } Chp_a = \frac{Chp_0 \cdot I_{Ve}}{100} \text{ or } Chp_a = \frac{Chp_0 \cdot I_{VA}}{100} \quad (1)$$

The amount of the admissible staff costs ( $Chp_a$ ) can be compared to the amount of the staff costs that were actually registered ( $Chp_1$ ), and the evolution of the efficiency of the staff costs can be characterized as follows: [David Sobolevski, 2004]:

- If  $Chp_1 < Chp_a$ , an increase in the efficiency of the staff costs takes place, as compared to the previous exercise;
- If  $Chp_1 = Chp_a$ , the same level of the efficiency of the staff costs is maintained;
- If  $Chp_1 > Chp_a$ , a decrease in the efficiency of the staff costs takes place, as compared to the previous exercise.

Similarly to the staff costs, the evolution of the wage costs represented by the wages fund (Fs) is assessed, as correlated with the one of the volume of activity. The result of the comparison between the actual wages fund and the one that is recalculated on the basis of the activity volume index (the admissible wages fund) is called relative modification of the wages fund ( $Fs'$ ) and can be materialized in economy or relative overrun:  $\Delta Fs = Fs_1 - Fs_a$ .

I have analysed this correlation at the level of an industrial company having as an object the manufacturing of automotive subassemblies, hypothetically called S.C. „X”, by taking into account the operating incomes (Ve) as an indicator expressing the volume of activity.

By estimating first the operating income index, the admissible wages fund in 2006, respectively in 2007 was:

$$I_{Ve_{2006/2005}} = \frac{Ve_{2006}}{Ve_{2005}} \cdot 100 = \frac{25927850}{24824949} \cdot 100 = 104.44\%$$

$$I_{Ve_{2007/2006}} = \frac{Ve_{2007}}{Ve_{2006}} \cdot 100 = \frac{42409812}{25927850} \cdot 100 = 163.57\%$$

$$Fsa_{2006} = \frac{Fs_{2005} \times I_{Ve_{2006/2004}}}{100} = \frac{4230852 \times 104.44}{100} = 4418701.83 \text{ Lei}$$

$$Fsa_{2007} = \frac{Fs_{2006} \times I_{Ve_{2007/2006}}}{100} = \frac{4605828 \times 163.57}{100} = 7533752.86 \text{ Lei}$$

The relative modification of the wages fund ( $Fs'$ ), calculated for the years 2006 and 2007 had the following values:

$$\Delta Fs'_{2006} = 4605828 - 4418701.83 = 187126.17 \text{ Lei}$$

$$\Delta Fs'_{2007} = 5350368 - 7533752.86 = -2183384.86 \text{ Lei}$$

The results prove that in 2006 the company registered a relative wages fund overrun (correlated with the dynamics of the operating income). On the other hand, in 2007, the situation was positive from the economic point of view, with a relative saving of over two million Lei, which will be reflected in a positive manner into the wage cost efficiency indicators, respectively on the reduction of the wages fund to operating incomes of 1000 Lei, as well as on the company profit.

**Table 1**

**The effect of the correlation between the dynamics of the wages fund and the dynamics of the average number of employees**

Period	Wages Fund Index $I_{Fs}$ (%)	Index of the average number of employees $I_{Ns}$ (%)	Found Inequality	Effect on the annual average wage
2006/2005	108.86	91.09	$I_{Fs} > I_{Ns}$	increase
2007/2006	116.17	114.99	$I_{Fs} > I_{Ns}$	increase

Moreover, estimations concerning the evolution of the annual average wage can be made by comparing the dynamics of the wage costs (the wages fund - Fs) with the one of the average number of employees as follows: :

- If  $I_{Fs} > I_{Ns}$ , an increase in the annual average wage is registered;
- If  $I_{Fs} = I_{Ns}$ , the annual average wage remains unchanged;
- If  $I_{Fs} < I_{Ns}$ , a decrease in the annual average wage is registered.

The situation of this comparison between the dynamics of the wages fund and the dynamics of the average number of employers at the company that is being studied is presented in Table 1.

From the data in the table we can notice that the annual average wage increased in 2006 as compared to the one in 2005 by 19.51%, respectively with 1,531.06 Lei, while in 2007 as compared with 2006, it increased by 14.99%, respectively with 1,406.52 Lei.

### **B. The correlation between the dynamics of labour efficiency and that of the average wage and its effects**

In the conditions of the market economy, the evolution of the average wage must be monitored by its comparison with the evolution of labour efficiency, since, as we know, other production factors also contribute to the increase in labour efficiency, besides the work factor represented by the company personnel. In this way, a faster increase in the labour efficiency as compared to the increase in the average wage constitutes a critical condition of the provision of the efficiency of the performed activity.

In the analysis of the general situation of this correlation, the correlation index ( $I_c$ ) is used as a ratio between:

- The dynamics of the average wage and of the labour efficiency:  $I_c = \frac{I_s}{I_w}$ , in this case, the correlation is observed when the correlation index is mathematically proper ( $I_c < 1$ );

- The dynamics of the labour efficiency and of the average wage:  $I_c = \frac{I_w}{I_s}$ , the correlation is observed when the correlation index is mathematically improper ( $I_c > 1$ ),

Where:  $I_s$  – the average wage index;  $I_w$  – the average labour efficiency index.

The correlation index can also be estimated as a ratio between the relative increases in the two indices:  $I_c = \frac{I_s - 1}{I_w - 1}$  or  $I_c = \frac{I_w - 1}{I_s - 1}$ .

The usage of any of the above-mentioned relations should reflect the same tendency in the comparative evolution of average wage index and of the labour efficiency:  $I_s < I_w$ .

By calculating the correlation index as a ratio between the annual average wage index and the one of the annual labour efficiency ( $I_c = \frac{I_s}{I_w}$ ), at the studied trading company, the values presented in Table 2 were obtained, which allow for a positive appreciation only in 2007 as compared to 2006 because in 2006 as compared to 2005 this correlation was not observed since, irrespective of the indicator used for the estimation of the labour efficiency, the correlation index was improper.

When this correlation is observed, the labour efficiency grows with a higher rate than the one of the average wage, which confirms the efficiency of the wage costs and their direction towards the reduction to 1,000 Lei of the operating income, turnover, added value or exercise production.

Consequently, an optimum correlation between the labour efficiency and wages assumes that dynamics of the labour efficiency should be superior to that of the average wage. “Only the faster increase of the labour efficiency as compared to the wages allows for the reduction of the wage costs per product unit, leading to the cost reduction and to the profitability increase” [Troie, 2001].

**Table 2**

**The correlation between the average wage index and the labour productivity index**

Indicators		Period	
		2006/2005	2007/2006
1. The annual average wage index ( $I_{\bar{S}a}$ )		1.1951	1.1499
2. The annual labour efficiency index ( $I_{Wa}$ ) calculated on the basis of:	- the exercise production	1.1127	1.4397
	- the turnover	1.1244	1.3435
	- the added value	1.0730	1.1601
	- the operating incomes	1.1465	1.6192
3. The correlation index $Ic = \frac{I_{\bar{S}a}}{I_{Wa}}$ , when the labour efficiency is calculated on the basis on:	- the exercise production	1.0741	0.7987
	- the turnover	1.0629	0.8559
	- the added value	1.5683	0.4364
	- - the operating incomes	1.0424	0.7102

The economic consequences of the observance of the correlation analysed in the period 2007/2006 manifest themselves on the level of providing a balance between production, costs and wages, with positive effects on other economic and financial indicators of the studied company.

We used the correlation index in the version of calculating the labour efficiency on the basis of the turnover ( $Ic_{2007/2006}=0.8559$ ).

The influence of the annual labour efficiency modification ( $Wa$ ) and that of annual average wage ( $\bar{S}a$ ) on the wage costs for a turnover of 1,000 Lei ( $Cs/1000$ ) is found by starting from the model:

$$Cs/1000 = \frac{\bar{S}a}{Wa} \cdot 1000 \quad (2)$$

The amount of the wage costs for a turnover of 1,000 Lei in the years 2006 and 2007 is as follows:

$$Cs/1000_{2006} = \frac{\bar{S}a_{2006}}{Wa_{2006}} \cdot 1000 = \frac{9380.51}{44768.83} \cdot 1000 = 209.53 \text{ Lei}$$

$$Cs/1000_{2007} = \frac{\bar{S}a_{2007}}{Wa_{2007}} \cdot 1000 = \frac{10787.03}{60145.75} \cdot 1000 = 179.35 \text{ Lei}$$

The modification of the wage costs for a turnover of 1,000 Lei in 2007 as compared to 2006 was:

$$\Delta Cs/1000 = 179.35 - 209.53 = -30.18 \text{ Lei}$$

The result is a reduction in the wage costs for a turnover of 1,000 Lei with 30.18 Lei in 2007 as compared to 2006 because the dynamics of the labour efficiency ( $I_{Wa} = 1.3435$ ) outran the dynamics of average wage ( $I_{\bar{S}a} = 1.1499$ ), and the correlation index was proper ( $Ic = 0.8559$ ).

The influences of the two factors on the modification of the wage costs for a turnover of 1,000 Lei were calculated by using the method of the chain substitutions or that of successive iterations as follows:

1. The influence of the annual labour efficiency:

$$\begin{aligned}\Delta_{Cs/1000}^{Wa} &= \frac{\overline{Sa}_{2006}}{Wa_{2007}} \cdot 1000 - \frac{\overline{Sa}_{2006}}{Wa_{2006}} \cdot 1000 = \frac{Cs/1000_{2006}}{I_{Wa_{2007/2006}}} - Cs/1000_{2006} = \\ &= \frac{209.53}{1.3435} - 209.53 = 155.96 - 209.53 = -53.57Lei\end{aligned}$$

This influence can be broken down function of the modification of the average time worked by a person over one year ( $\bar{t}$ ) expressed in man-hours and of the modification of the hourly labour efficiency ( $Wh$ ), as follows:

$$1.1. \Delta_{Cs/1000}^{\bar{t}} = \frac{\overline{Sa}_{2006}}{t_{2007} \cdot Wh_{2006}} \cdot 1000 - \frac{\overline{Sa}_{2006}}{t_{2006} \cdot Wh_{2006}} \cdot 1000 = \frac{9380.51}{1838.72 \cdot 27.61} \cdot 1000 - \frac{9380.51}{1621.50 \cdot 27.61} \cdot 1000 = 184.78 - 209.53 = -24.75Lei$$

$$1.2. \Delta_{Cs/1000}^{Wh} = \frac{\overline{Sa}_{2006}}{t_{2007} \cdot Wh_{2007}} \cdot 1000 - \frac{\overline{Sa}_{2006}}{t_{2007} \cdot Wh_{2006}} \cdot 1000 = \frac{9380.51}{1838.72 \cdot 32.71} \cdot 1000 - \frac{9380.51}{1838.72 \cdot 27.61} \cdot 1000 = 155.96 - 184.78 = -28.82Lei$$

2. The influence of annual average wage:

$$\begin{aligned}\Delta_{Cs/1000}^{\overline{Sa}} &= \frac{\overline{Sa}_{2007}}{Wa_{2007}} \cdot 1000 - \frac{\overline{Sa}_{2006}}{Wa_{2007}} \cdot 1000 = Cs/1000_{2007} - \frac{Cs/1000_{2006}}{I_{Wa_{2007/2006}}} = \\ &= 179.35 - 155.96 = 23.39Lei\end{aligned}$$

We find that the modification of the annual labour efficiency led to a reduction of the wage costs for a turnover of 1,000 Lei with 53.57 Lei, while the modification of the annual average wage led to their increase with 23.37 Lei.

The fact that the annual labour efficiency index outran the average wage index ( $I_{Wa} > I_{\overline{Sa}}$ ) means that through the more rapid increase of the labour efficiency the negative influence produced by the increase in the annual average wage was compensated, and eventually, a reduction of the wage costs with 30.18 Lei for a turnover of 1,000 Lei was registered.

In what the influence of the average time per employee is concerned, it was positive from the economic point of view, leading to the reduction of the wage costs at 1,000 Lei with 24.75 Lei, while the increase in the hourly labour efficiency caused their reduction with 28.82 Lei.

In the analysis process, it is necessary for us to study the effect of the modification of the wage costs for a turnover of 1,000 Lei on the gross profit (Pb) afferent to the turnover, calculated as follows:

$$\begin{aligned}\Delta_{Pb}^{cs/1000} &= -(Cs/1000_{2007} - Cs/1000_{2006}) \cdot \frac{CA_{2007}}{1000} = \\ &= -(179.35 - 209.53) \cdot \frac{29832292}{1000} = 900338.57lei\end{aligned}$$

The influence of the modification of the annual average labour efficiency and of the annual average wage on the gross profit of the company was calculated as follows:

1. The influence of the annual average labour efficiency:

$$\Delta_{pb}^{Wa} = -\left(\frac{Cs/1000_{2006}}{I_{Wa_{2007/2006}}} - Cs/1000_{2006}\right) \cdot \frac{CA_{2007}}{1000} =$$

$$= +53.57 \cdot \frac{29832292}{1000} = 1598115.88 \text{ Lei}$$

2. The influence of annual average wage:

$$\Delta_{pb}^{\bar{S}a} = -\left(Cs/1000_{2007} - \frac{Cs/1000_{2006}}{I_{Wa_{2007/2006}}}\right) \cdot \frac{CA_{2007}}{1000} =$$

$$= -23.39 \cdot \frac{29832292}{1000} = -697777.31 \text{ Lei}$$

We can see that the observance of the correlation between the dynamics of the labour efficiency and that of average wage, by increasing the labour efficiency at a superior rate as compared to that of the average wage in 2007 as compared to 2006, led to the increase in the gross profit of the company with 900,338.57 Lei, and the increase in the labour efficiency compensated the negative effects of the increase in the average wage, leading to the reduction of the wage costs for a turnover of 1,000 Lei and at the increase in the profit afferent to the turnover.

### C. The component/factor analysis of the wage expenses for operating expenses, turnover or added value of 1,000 Lei

For the component/factor analysis of the efficiency of the of the wage costs at operating income, turnover, or added value of 1,000 Lei both the correlation models as well as the multiplicative models can be used.

A first type of **correlation model** is constituted by the level of the wages fund (Fs) afferent to operating incomes (Ve), turnover (CA) or added value (VA) of 1,000 Lei, calculated as follows:

$$Cs/1000 = \frac{Fs}{Ve, CA, VA} \cdot 1000 \quad (3)$$

The values of these indicators in the period 2005-2007 at the studied company are calculated in Table 3.

**Table 3**  
**The wage costs at a Ve, CA and VA of 1,000 Lei**  
(Lei)

Indicators	2005	2006	2007
1. Wages fund – Fs	4230852	4605828	5350368
2. Operating income – Ve	24824949	25927850	42409812
3. Turnover – CA	21460610	21981496	29852292
4. Added value – VA	7578850	7407762	8681420
5. Cs/1000 <sub>Ve</sub>	170.43	177.64	126.16
6. Cs/1000 <sub>CA</sub>	197.15	209.53	179.35
7. Cs/1000 <sub>VA</sub>	558.24	621.76	616.30

The dynamics of the wage costs for an operating income, turnover and added value of 1,000 Lei in the period 2005-2007 is presented in Table 4.

**Table 4**  
**The dynamics of the wage costs at a  $V_e$ , CA and VA of 1,000 Lei**  
 (Lei)

Indicators	2006/2005		2007/2006	
	$\Delta$ (Lei)	Index (%)	$\Delta$ (Lei)	Index (%)
1. $Cs/1000_{V_e}$	7.21	104.23	-51.48	71.02
2. $Cs/1000_{CA}$	12.38	106.28	-30.18	85.60
3. $Cs/1000_{VA}$	63.52	111.38	-5.46	99.12

We can see that in 2006 the level of the three indicators expressing the efficiency of the wage costs increased, while in 2007 a reduction of the wage costs at an operating income, turnover or added value of 1,000 Lei with 51.48 Lei, with 30.18 Lei, and respectively with 5.46 Lei was achieved. This reduction reflects an increase in the efficiency of the staff costs, as a result of a more accentuated increase in the operating income, in the turnover or in the added value as compared to the increase in the wages fund (Fs) or to the staff costs, which shows that in 2007 as compared to 2006 the correlation:  $I_{V_e, VA, CA} > I_{Fs}$  was observed.

In the case of the expression of the efficiency of the staff costs through the wage costs at an operating income of 1,000 Lei ( $Cs/1000_{V_e}$ ), the correlation model is:

$$Cs/1000_{V_e} = \frac{F_s}{V_e} \cdot 1000 \quad (4)$$

The data necessary for the application of this model are presented in Table 5.

**Table 5**  
**The indicators necessary for the analysis of the wage costs at a  $V_e$  of 1,000 Lei**

Indicators	2006	2007	$\Delta$ (2007/2006)
1. The wages fund at an operating income of 1,000 Lei - $Cs/1000_{V_e}$ (Lei)	177.64	126.16	-51.48
2. Average number of employees - $\bar{N}_s$	491	496	5
3. Operating income - $V_e$ (Lei)	25927850	42409812	16481962
4. Total time worked - T (man-hours)	796158	912007	115849
5. The wages fund - $F_s$ (Lei)	4605828	5350368	744540
6. The relative employee requirement in order to obtain an operating income of one Leu - $Nr' = \frac{\bar{N}_s}{V_e}$	0.000018937	0.000011695	-0.000007242
7. Average time worked per employee - $\bar{t} = \frac{T}{N_s}$ (man-hours)	1621.50	1838.72	217.22



According to the presented model, a reduction the wage costs at an operating income of 1000 Lei was registered in 2007 as compared to 2006 with 51.48 Lei, which is explained as follows:

1. The influence of the operating income:

$$\Delta_{Cs/1000Ve}^{Ve} = \frac{Fs_{2006}}{Ve_{2007}} \cdot 1000 - \frac{Fs_{2006}}{Ve_{2006}} \cdot 1000 = \frac{4605828}{42409812} \cdot 1000 - 177.64 =$$

$$= 108.60 - 177.64 = -69.04Lei$$

2. The influence of the wages fund:

$$\Delta_{Cs/1000Ve}^{Fs} = \frac{Fs_{2007}}{Ve_{2007}} \cdot 1000 - \frac{Fs_{2006}}{Ve_{2007}} \cdot 1000 = 126.16 - 108.60 = 17.56Lei$$

These results prove that the efficiency of the wage costs increased in 2007 as compared to 2006, due to a more accentuated increase in the operating income as compared to the increase in the wages fund, which lead to the reduction with 51.48 Lei of the wage costs at operating incomes of 1,000 Lei.

**The multiplicative-type model** that we applied at the component/factor analysis of the wage costs at an operating income of 1,000 Lei is as follows:

$$Cs/1000Ve = \frac{Fs}{Ve} \cdot 1000 = \frac{\overline{Ns}}{Ve} \cdot \frac{Fs}{Ns} \cdot 1000 = \frac{\overline{Ns}}{Ve} \cdot \frac{T}{Ns} \cdot \frac{Fs}{T} \cdot 1000 \quad (5)$$

where:  $\frac{\overline{Ns}}{Ve}$  represents the relative employee requirement ( $Nr'$ ) necessary in order to obtain operating incomes of one leu, i.e. a reversed form of expressing the labour efficiency;

$\frac{Fs}{Ns}$  - annual average gross wage per employee ( $\overline{Sa}$ );

$\frac{T}{Ns}$  - annual average work time per employee, expressed in man-hours ( $\bar{t}$ );

$\frac{Fs}{T}$  - hourly average wage ( $\overline{Sh}$ ).

In this case, the modification of the wages fund for an operating income of 1,000 Lei is explained by:

1. The influence of the relative employee requirement:

$$\Delta_{Cs/1000Ve}^{Nr'} = \left( \frac{\overline{Ns}_{2007}}{Ve_{2007}} - \frac{\overline{Ns}_{2006}}{Ve_{2006}} \right) \cdot \frac{Fs_{2006}}{Ns_{2006}} \cdot 1000 = -0.000007242 \cdot 9380.51 \cdot 1000 =$$

$$= -67.92Lei$$

2. The influence of the annual average gross wage per person:

$$\Delta_{Cs/1000Ve}^{\overline{Sa}} = \frac{\overline{Ns}_{2007}}{Ve_{2007}} \cdot \left( \frac{Fs_{2007}}{Ns_{2007}} - \frac{Fs_{2006}}{Ns_{2006}} \right) \cdot 1000 = 0.000011695 \cdot 1406.52 \cdot 1000 =$$

$$= 16.44Lei$$

from which:

2.1. The influence of the work time per employee:

$$\begin{aligned}\Delta_{Cs/1000Ve}^i &= \frac{\overline{Ns}_{2007}}{Ve_{2007}} \cdot \left( \frac{T_{2007}}{Ns_{2007}} - \frac{T_{2006}}{Ns_{2006}} \right) \cdot \frac{Fs_{2006}}{T_{2006}} \cdot 1000 = \\ &= 0.000011695 \cdot 217.22 \cdot 5.79 \cdot 1000 = 14.72Lei\end{aligned}$$

2.2. The influence of average hourly wage:

$$\begin{aligned}\Delta_{Cs/1000Ve}^{\bar{sh}} &= \frac{\overline{Ns}_{2007}}{Ve_{2007}} \cdot \frac{T_{2007}}{Ns_{2007}} \cdot \left( \frac{Fs_{2007}}{T_{2007}} - \frac{Fs_{2006}}{T_{2006}} \right) \cdot 1000 = \\ &= 0.000011695 \cdot 1838.72 \cdot 0.08 \cdot 1000 = 1.72Lei\end{aligned}$$

The only factor with a positive influence from the economic point of view was the relative staff requirement, which confirms the positive effect of the increase in the labour efficiency that compensated the negative economic effects of the other factors.

The modification of the wage costs at a Ve, CA or VA of 1,000 Lei is directly reflected on the main economic and financial indicators of the company. [Radu Florea, 2006].

In the case of the studied trading company, the modification of the wage costs at a turnover of 1,000 Lei had **effects** on the following indicators:

1. On the gross profit afferent to the turnover (Pb):

$$\begin{aligned}\Delta_{Pb}^{Cs/1000} &= -(Cs/1000_{2007} - Cs/1000_{2006}) \cdot \frac{CA_{2007}}{1000} = \\ &= -(179.35 - 209.53) \cdot \frac{29832292}{1000} = 900338.57Lei\end{aligned}$$

2. On the efficiency of the usage of the fixed assets (E<sub>Af</sub>):

$$\begin{aligned}\Delta_{E_{Af}}^{Cs/1000} &= -\frac{(Cs/1000_{2007} - Cs/1000_{2006}) \cdot \frac{CA_{2007}}{1000}}{Af_{2007}} \cdot 1000 = \frac{\Delta_{E_{Pb}}^{Cs/1000}}{Af_{2007}} \cdot 1000 = \\ &= \frac{900338.57}{8688053} \cdot 1000 = 103.6lei\end{aligned}$$

3. On the efficiency of the usage of the circulating assets (E<sub>Ac</sub>):

$$\begin{aligned}\Delta_{E_{Ac}}^{Cs/1000} &= -\frac{(Cs/1000_{2007} - Cs/1000_{2006}) \cdot \frac{CA_{2007}}{1000}}{Ac_{2007}} \cdot 1000 = \frac{\Delta_{Pb}^{Cs/1000}}{Ac_{2007}} \cdot 1000 = \\ &= \frac{900338.57}{10188553} \cdot 1000 = 88.4Lei\end{aligned}$$

4. On the gross profit per employee (Ps):

$$\Delta_{Ps}^{Cs/1000} = \frac{\Delta_{Pb}^{Cs/1000}}{Ns_{2007}} = \frac{900338.57}{496} = 1815.20 Lei$$

5. On the rate of return on equity (R<sub>Kpr</sub>):

$$\Delta_{R_{Kpr}}^{Cs/1000} = \frac{\Delta_{Pb}^{Cs/1000}}{Kpr_{2007}} \cdot 100 = \frac{900338.57}{13936340} \cdot 100 = 6.46\%$$

6. On the rate of the return on permanent funds ( $R_{Kper}$ ):

$$\Delta_{R_{Kper}}^{Cs/1000} = \frac{\Delta_{Pb}^{Cs/1000}}{Kper_{2007}} \cdot 100 = \frac{900338.57}{17449077} \cdot 100 = 5.16\%$$

The conclusion is that the reduction of the wage costs at turnover of 1,000 Lei with 30.18 Lei in 2007 as compared to 2006 was positively reflected on these indicators because it lead to the increase in the profit, in the efficiency of the usage of the fixed and circulating assets, of the average profit per employee, as well as of the rates of return of equity and permanent funds.

### **Conclusion**

The labour efficiency, as a synthetic indicator of estimation of the efficiency of usage of human resources, can actually be calculated in any activity field, which makes the object of specific analyses, on the basis of which the decisions of the management concerning the appropriate remuneration of the performed work must be substantiated. The estimation of the staff costs efficiency can be made by means of the correlation between the average wage index and the average labour efficiency index, as well as by means of the indicators used to generally express their efficiency, such as: the staff costs at an operating income, turnover or added value of 1,000 Lei.

As it can be noticed from the analysis of these indicators at the level of a company, the study of the correlations between the dynamics of these indicators, as well as of their reflection on the economic and financial performance of each trading company have special importance.

### **BIBLIOGRAPHIC REFERENCES**

1. David Sobolevschi Iulia (2006) - "Analiza dinamică și structurală a cheltuielilor cu personalul" ("Dynamic and Structural Analysis of the Staff Costs") – *Economic Tribune*, No.6, Bucharest;
2. Radu Florea, Cîrciumaru Daniel, Bondoc Daniela (2006) – "*Analiza economico-financiară a societăților comerciale*" ("*Economic and Financial Analysis of Trading Companies*"), Scrisul Românesc Publishing House, Craiova;
3. Samier Nathalie (1999) - *De la productivité du capital humain à la performance des ressources humaines : vers une pertinence des modèles d'évaluation*, (*From the Human Capital Efficiency the Human Resources Performance: towards a Relevance of Evaluation Models*.) Presses de l'Université d'Angers, Angers;
4. Troie Liviu, Zaharia Octavian, Roman Monica, Hurduzeu Miruna (2001) – *Analiza statistică a activității economice și a gestiunii financiare a întreprinderii* (*Statistical Analysis of the Economic activity and of the Financial Management of the company*), ASE Publishing House, Bucharest.