EMPLOYEE COSTS OF DISTRIBUTION TRADE OF THE EUROPEAN UNION AND SERBIA

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Abstract
The issue of distribution trade cost analysis is continuously topical, significant and complex. Due to the fact that costs, in addition to sales revenue, affect the realization of the target profit in the distribution trade, it is necessary to manage costs in distribution trade as efficiently as possible by applying modern concepts. Starting from here, this paper comparatively analyzes the impact of employee costs (personnel costs) on the efficiency of distribution trade between the European Union and Serbia. In this context, it was determined that Germany, France and Italy (leading countries of the European Union) are in the first three places according to the efficiency cost of employees in the distribution trade. Serbia's distribution trade is ranked twenty-fifth in terms of efficiency cost of employees. From this aspect, it is better than the countries in the region (Croatia, Slovenia). According to the results of the linear regression analysis, the efficiency cost of employees in the distribution trade of Serbia is greatly influenced by: number of employees, assets (as a measure of company size), capital, sales and profit (Adjusted R Square .999). In this context, capital, i.e. financial indebtedness, has a special influence on efficiency cost (Sig. .014 <.05). Given that, in order to achieve the target costs of employees, as a factor of performance, in the distribution trade of Serbia, it is necessary to manage human resources, assets, capital, sales and profits as efficiently as possible.
Keywords: efficiency, costs, profit, trade of European Union and Serbia, determinants
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1. INTRODUCTION

It is specific, due to the very nature of business, the size and cost structure of distributive trade in relation to production (Berman, 2018; Levy, 2019; Lukić, 2011, 2020; Lovreta, 2021; van der Laken et al., 2020). The structure of distribution trade costs consists of: costs of sold products (purchase value of sold goods) and operating costs (operating costs). In the structure of operating costs of distribution trade, the share of employee costs (personnel costs) is significant, despite the increasing digitalization of the entire business (Riegger et al., 2021) . This is quite understandable given the fact that distribution trade belongs to the tertiary (service) activity whose general characteristic is a high share of "living labour" in the overall business (Pandey et al., 2021). Knowing the size and structure of the costs of distribution trade is a prerequisite for achieving (more efficient management, in addition to sales revenue) target profit. Given

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this, the paper comparatively analyses the impact of employee costs (personnel costs) on the efficiency of distribution trade between the European Union and Serbia. The goal and purpose of this is to investigate this issue as complex as possible, empirically in the function of achieving the target profit by taking relevant measures. This, among other things, reflects the scientific and professional contribution of this paperwork. Given the importance of the literature, the paper is very rich in analysis of the specifics and factors of the size and structure of the costs of distribution trade. In this context, employee cost analysis (Berenguer-Contrí et al., 2009; Edvardsson, Ókarsson, 2021; Hamermesh, 2021; Krisnadewi et al., 2020; Malenkov et al., 2021; Sokolov Mladenović et al., 2019; Berman et al., 2018; Levy et al., 2019; Lukić, 2011, 2020; Lovreta, Petković, 2021). The existing relevant literature in this paper serves as a theoretical-methodological and empirical basis for a complex comparative empirical analysis of the costs of employees of the distribution trade of the European Union and Serbia (Horobet et al., 2021). The basic research hypothesis in this paper is based on the fact that employee costs are a significant factor in the efficiency and profitability of distribution trade. Therefore, efficient human resource management (training, flexible working hours, flexible employment, remuneration, career advancement, health and pension insurance) can significantly affect the achievement of target profits in distribution trade. The research methodology in this paper, consequently given the hypothesis, is based on the application of multi-criteria decision-making methods (i.e. AHP and ARAS methods) (Ersoy, 2017; Zolfani, Banihashemi, 2014; Zolfani et al., 2021). Also, for the purpose of complex methodological and empirical analysis, ratio analysis, as well as statistical analysis are used in parallel. Empirical data for the purposes of research on the problem treated in this paper were collected from Eurostat and the Business Registers Agency of the Republic of Serbia. They are "manufactured" in accordance with relevant international standards. There are no limitations in terms of international comparability.

2. METHODOLOGY

We will rank the distribution trade of the European Union and Serbia according to the cost efficiency of employees on the basis of the AHP-ARAS method. With that in mind, we will briefly outline their characteristics.

The ARAS (*Additive Ratio Assessment*) method is one of the techniques of multi-criteria analysis. It was developed by Zavadskas and Turskis (Zavadskas, Turskis, 2010). Unlike other multi-criteria decision-making methods, the ranking of the alternatives is based on the value of the utility function (Chatterjee, Chakraborty, 2013; Sliogeriene et al. 2013; Rostamzadeh, 2017; Koc, 2017; Dahooie, 2019; Jovčić, 2020; Liu, 2021) .

The ARAS method procedure consists of several steps (Zavadskas, Turskis, 2010):

Step 1: Formulate a decision matrix.

The decision matrix is formulated as follows:

$$X = \begin{bmatrix} x_{01} & \cdots & x_{0j} & \cdots & x_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{i1} & \cdots & x_{ij} & \cdots & x_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mj} & \cdots & x_{mn} \end{bmatrix}; i = \overline{0, m}; j = \overline{1, n} \quad (1)$$

where:

m is the number of alternatives,

n is the number of criteria that describe each alternative,

x_{ij} is the performance value of the *i*-th alternative in relation to the *j*-th criterion,

x_{01} is the optimal value of the *j*-th criterion.

If the optimal value of the *j*-th criterion is unknown, then:

$$x_{0j} = \max_i x_{ij}, if\ is\ \max_i x_{ij}\ preferably; \quad x_{0j} = \min_i x_{ij}^*, if\ is\ \min_i x_{ij}^*\ preferably \quad (2)$$

Step 2: Normalize the value of the criteria

In this phase, the initial values of the criteria are normalized - by defining the values of the $\bar{x}_{ij}$ normalized decision matrix - $\bar{X}$.

$$\bar{X} = \begin{bmatrix} \bar{x}_{01} & \cdots & \bar{x}_{0j} & \cdots & \bar{x}_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \bar{x}_{i1} & \cdots & \bar{x}_{ij} & \cdots & \bar{x}_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \bar{x}_{m1} & \cdots & \bar{x}_{mj} & \cdots & \bar{x}_{mn} \end{bmatrix}; i = \overline{0, m}; j = \overline{1, n} \quad (3)$$

If a maximum value is desired, the normalization is as follows:

$$\bar{x}_{ij} = \frac{x_{ij}}{\sum_{i=0}^{m} x_{ij}} \quad (4)$$

If a minimum value is desired, the procedure consists of two phases:

$$x_{ij} = \frac{1}{x_{ij}^*};\ \bar{x}_{ij} = \frac{x_{ij}}{\sum_{i=0}^{m} x_{ij}} \quad (5)$$

Step 3: Determination of weight normalized matrix - $\hat{X}$

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Weighting coefficients are usually determined by the method of expert assessment. You should definitely use only well-founded weights because they are always subjective in nature, and affect the final solution. The sum of the weighting coefficients is limited (i.e. equal to 1):

$$\sum_{j=1}^{n} w_j = 1 \qquad (6)$$

$$\hat{X} = \begin{bmatrix} \hat{x}_{01} & \cdots & \hat{x}x_{0j} & \cdots & \hat{x}_{0n} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \hat{x}_{i1} & \cdots & \hat{x}_{ij} & \cdots & \hat{x}_{in} \\ \vdots & \ddots & \vdots & \ddots & \vdots \\ \hat{x}x_{m1} & \cdots & \hat{x}_{mj} & \cdots & \hat{x}_{mn} \end{bmatrix}; i = \overline{0,m}; j = \overline{1,n} \qquad (7)$$

The weight-normalized value of the criterion is determined as follows:

$$\hat{x}_{ij} = \bar{x}_{ij} w_j; i = \overline{0,m} \qquad (8)$$

where:

w_j is the weight (significance) of the j-th criterion,

and the evaluation of the $\bar{x}_{ij}$`s j-th criterion is normalized.

The optimal value function is defined as follows:

$$S_i = \sum_{j=1}^{n} \hat{x}_{ij};\ i = \overline{0,m} \qquad (9)$$

where:

S_i is a function of the optimal value of the i-th alternative.

If S_i is the largest, the criterion is the best.

The calculation of the degree of utility (K_i) of alternative a is performed (using the previous equation) as follows:

$$K_i = \frac{S_i}{S_0}, \qquad i = \overline{0,m} \qquad (10)$$

where:

S_i and S_0 are the optimal values of the criterion.

The value of K_i is in the interval $[0, 1]$. The relative efficiency (position, rank) of the alternative is determined by the value of the utility function. It is the best with the greatest value.

Since the weight coefficients of the criterion in the application of the **ARAS** method are determined using the **AHP** method, we will briefly review its theoretical and methodological characteristics. The method of *analytical hierarchical* process (AHP) takes place through the following steps (Saaty, 2008):

Step 1: Forming a matrix of comparison pairs

$$A = [a_{ij}] = \begin{bmatrix} 1 & a_{12} & \cdots & a_{1n} \\ 1/a_{12} & 1 & \cdots & a_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ 1/a_{1n} & 1/a_{2n} & \cdots & 1 \end{bmatrix} \quad (11)$$

Step 2: Normalize the matrix of comparison pairs

$$a_{ij}^{*} = \frac{a_{ij}}{\sum_{i=1}^{n} a_{ij}}, i,j = 1, \ldots, n \quad (12)$$

Step 3: Determining the relative importance, i.e. vector weight

$$w_i = \frac{\sum_{i=1}^{n} a_{ij}^{*}}{n}, i,j = 1, \ldots, n \quad (13)$$

Consistency index - CI (consistency index) is a measure of deviation *n* from λ_{max} and can be represented by the following formula:

$$CI = \frac{\lambda_{max} - n}{n} \quad (14)$$

If CI <0.1 is the estimated value of the coefficient a_{ij} are consistent, and the deviation of λ_{max} from *n* is negligible. This means, in other words, that the AHP method accepts an inconsistency of less than 10%. The consistency index can be used to calculate the CR = CI / RI consistency ratio, where RI is a random index.

3. RESULTS AND DISCUSSION

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Based on the **ratio analysis**, it is possible to determine the cost efficiency of employees in the distribution trade of the European Union and Serbia. It is important, in order to evaluate as accurately as possible, to compare the obtained empirical results using ratio analysis and AHP-ARAS methods.

Table 1 shows the indicators of cost efficiency of employees in the distribution trade of the European Union and Serbia for 2019.

TABLE 1. RATIO ANALYSIS OF COST EFFICIENCY OF EMPLOYEES IN THE DISTRIBUTION TRADE OF THE EU AND SERBIA

	Turnover per employee (mill. €)	Adjusted labour productivity (Gross value added per employee - mill. €)	Gross value added per employee (mill. €)	Average staff costs (per employee – mill. €)	Personnel employment by company (number)	Share of personnel costs in the total procurement of goods and services (%)	Share of personnel expenses in turnover (%)*	Investments per employee (mill. €)	Share of gross operating surplus in gross value added (%)	Gross operating surplus / Turnover [gross operating surplus rate] (%)
Belgium	793.2	90.6	106.1	51.5	4.8	6.3	5.5	13.8	51.5	5.9
Bulgaria	132.7	13.3	17.1	8.2	3.6	5.3	4.8	2.4	52.3	5.2
Czech Republic	232.3	28.1	38.6	20.5	3.2	7.2	6.4	4.7	46.8	5.7
Denmark	399.5	64.4	66.5	45.4	11.4	12.9	11.0	4.5	31.8	5.1
Germany	321.9	50.8	55.5	34.0	11.5	11.4	9.7	5.0	38.7	6.1
Estonia	327.6	29.5	31.8	19.0	5.4	5.9	5.4	4.5	40.5	3.6
Ireland	493.2	66.3	70.2	33.0	8.3	7.8	6.3	7.5	53.0	7.1
Greece	147.1	17.5	24.8	16.7	3.4	8.9	8.0	1.8	32.5	3.9
Spain	242.8	36.3	44.8	29.4	4.4	11.3	9.8	3.4	34.4	5.1
France	411.2	57.3	61.7	45.7	5.0	12.2	10.3	7.5	25.9	3.6
Croatia	158.2	24.6	26.6	14.1	6.6	9.3	8.3	3.0	46.8	7.3
Italy	293.7	42.5	67.0	34.9	3.2	8.7	7.5	3.8	47.9	6.9
Cyprus	181.0	28.6	29.8	19.5	4.3	12.1	10.3	3.7	34.4	5.4
Latvia	196.1	20.7	21.5	11.9	5.8	6.5	5.9	3.1	44.7	4.7
Lithuania	166.0	21.5	24.3	13.1	4.2	7.9	7.0	3.0	45.8	5.9
Luxembourg	1576.0	99.4	102.3	49.2	7.2	3.2	3.0	13.2	51.9	3.3
Hungary	180.3	22.3	27.1	13.3	4.3	7.0	6.1	3.7	51.1	6.3
Malta	259.5	29.2	35.6	19.6	4.3	7.0	6.2	3.8	44.7	5.0
Netherlands	453.8	62.0	69.4	34.5	6.0	7.8	6.8	4.8	50.3	6.9
Austria	370.7	57.3	64.6	42.6	8.8	12.3	10.2	7.2	34.0	5.3
Poland	177.5	22.3	27.9	13.8	4.5	7.1	6.2	3.3	50.4	6.3
Portugal	187.5	24.7	29.4	18.6	3.7	9.3	8.3	4.7	36.8	4.9
Romania	140.5	20.2	21.3	10.0	5.3	7.7	6.7	4.7	53.2	7.7
Slovenia	303.4	39.2	44.1	25.2	4.7	8.4	7.4	5.7	42.9	5.5
Slovakia	178.5	21.5	28.0	16.2	3.2	7.9	7.0	4.9	42.0	5.0
Finland	398.9	55.6	59.9	40.5	0.0	10.7	9.4	5.2	32.4	4.5
Sweden	386.6	60.5	71.5	50.1	6.2	12.9	11.0	5.5	29.9	4.7
North Macedonia	89.3	11.3	11.6	5.5	4.6	6.6	5.9	2.1	53.2	6.8

Serbia	133.9	14.6	16.0	8.7	8.9	0.0	5.9	2.1	45.7	5.0
Bosnia and Herzegovina	121.2	16.2	17.9	7.4	0.0	6.2	5.5	2.9	58.4	7.8
Median	237. 5500	9/ 28000	33. 7000	19. 5500	4. 6500	7. 8500	6. 9000	4. 5000	45. 2000	5. 3500

Source: Eurostat

Note: * Author's calculation. Statistics were calculated using SPSS software

Based on the presented ratio analysis, we will especially consider the relationship between the distribution trade of Germany, France and Italy, on one hand, and Serbia, on the other hand, in terms of cost efficiency of employees. Also, to be considerate the relationship between the distribution trade between Serbia, Croatia and Slovenia. Labour productivity (turnover per employee, adjusted labour productivity, gross value added per employee) in the distribution trade of Germany, France and Italy is (among other things, due to a higher degree of digitalization of the entire business), higher than in Serbia. Labour productivity in the distribution trade between Croatia and Slovenia is higher than in Serbia. The average personnel costs (as a measure of personnel income of employees) in the distribution trade of Serbia are, as a consequence, lower compared to Germany, France, Italy, Croatia and Slovenia. The share of personnel costs in the distribution trade of Serbia is lower than in Germany, France, Italy, Croatia and Slovenia. In the distribution trade of Serbia, investments per employee are lower, as a significant factor of labour productivity, compared to Germany, France, Italy, Croatia and Slovenia. All this is reflected in a winning way on the financial performance of distribution trade in Serbia. Thus, for example, profitability (measured by the rate of gross operating surplus) in the distribution trade of Serbia is lower compared to Germany, Italy, Croatia and Slovenia, except France. Correlation analysis showed the following: there is a strong correlation between the average personnel costs and labour productivity (i.e. turnover per employee) and investment per employee at the level of statistical significance. This means, in other words, that by increasing labour productivity and investment, the size of personnel costs in the function of achieving the target profit of distribution trade in the European Union and Serbia can be significantly influenced. Therefore, in order to improve the cost efficiency of employees in the distribution trade of the European Union and Serbia in the future, it is necessary, among other things, more efficient human resource management (training, remuneration, flexible working hours, flexible employment, career advancement, social and pension insurance).

We will consider **the impact of employee costs on the efficiency of distribution trade between the European Union and Serbia by applying the AHP-ARAS method**.

The selected criteria are:

C1 - number of companies,

C2 - number of employees,

C3 - personnel costs,

C4 - turnover,

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C5 - value added at factor costs, C6 - gross operating surplus,

C7 - gross investment in inventories of goods.

Alternatives are EU member states, Serbia and other observed countries (Northern Macedonia and Bosnia and Herzegovina). Initial data for measuring the impact of employee costs on the efficiency of distribution trade between the European Union and Serbia using the AHP-ARAS method are shown in Table 2 for 2019.

TABLE 2. INITIAL DATA FOR MEASURING THE IMAPCT OF EMPLOYEE COSTS ON THE EFFICIENCY OF DISTRIBUTION TRADE BETWEEN THE EU AND SERBIA

	Number of companies	Number of employees	Personnel costs (mill. €)	Turnover (mill. €)	Value added at factor cost (mill. €)	Gross operating surplus (mill. €)	Gross investment in inventories of goods (mill. €)
	C1	C2	C3	C4	C5	C6	C7
Belgium	128,309	618,127	27,165.1	490,294.2	55,978.1	28,812.9	8,525.8
Bulgaria	142,317	517,483	3,283.1	68,652.6	6,886.9	3,603.8	1,241.1
Czech Republic	225,467	720,996	10,793.6	167,451.4	20,285.7	9,492.1	3,358.3
Denmark	40,776	465,062	20,421.9	185,796.9	29,932.8	9,510.8	2,107.6
Germany	574,827	6,588,606	205,313.0	2,120,631.8	334,928.6	129,615.7	33,021.6
Estonia	17,464	93,691	1,652.0	30,692.1	2,761.6	1,117.5	418.4
Ireland	46,786	390,546	12,154.5	192,617.2	25,884.1	13,729.6	2,912.6
Greece	227,004	761,625	9,011.6	112,053.0	13,342.3	4,330.7	1,390.3
Spain	739,923	3,221,353	76,716.9	782,063.6	116,891.9	40,175.0	11,053.4
France	674,915	3,364,306	142,725.3	1,383,306.8	192,661.0	49,935.6	25,085.4
Croatia	36,919	243,616	3,192.8	38,540.3	6,002.3	2,809.4	728.0
Italy	1,057,841	3,418,330	75,728.3	1,003,893.9	145,338.7	69,610.4	12,946.6
Cyprus	17,074	73,576	1,377.5	13,319.4	2,101.1	723.7	270.5
Latvia	26,081	151,686	1,740.2	29,738.3	3,144.8	1,404.6	476.3
Lithuania	57,734	243,850	2,834.9	40,472.0	5,235.6	2,398.8	743.2
Luxembourg	7,561	54,369	2,600.9	85,686.1	5,403.2	2,802.3	716.4
Hungary	136,333	592,554	6,463.8	106,833.8	13,206.6	6,742.8	2,195.1
Malta	8,774	37,897	611.9	9,833.0	1,107.4	495.5	144.9
Netherlands	262,873	1,578,722	48,595.9	716,465.0	97,816.9	49,221.0	7,588.2
Austria	77,725	685,256	25,895.7	253,998.2	39,256.3	13,360.6	4,900.1
Poland	538,931	2,427,588	26,862.5	430,837.1	54,125.1	27,262.6	7,933.0
Portugal	218,441	808,515	12,614.2	151,595.8	19,967.6	7,353.4	3,774.7
Romania	171,275	914,741	8,650.9	128,519.6	18,488.4	9,837.5	4,264.1
Slovenia	26,051	122,344	2,735.8	37,113.5	4,790.2	2,054.4	699.3
Slovakia	105,353	340,775	4,247.9	60,837.8	7,318.0	3,070.1	1,674.7
Finland	0.000	295,443	11,094.1	117,864.2	16,416.2	5,322.1	1,550.4
Sweden	112,205	697,888	29,609.7	269,772.6	42,239.5	12,629.9	3,808.4
North Macedonia	22,618	103,253	548.5	9,223.6	1,171.3	622.9	217.6
Serbia	30,136	267,810	2,121.8	35,858.9	3,906.9	1,785.0	562.8
Bosnia and Herzegovina	0.000	153,513	1,031.5	18,611.7	2,480.1	1,448.5	452.3
Median	91539.0000	491272.5000	8831.2500	114958.6000	14879.2500	6032.4500	1891.1500

Source: Eurostat

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Note: Statistics were calculated using SPSS software

Weighting coefficients (weight *i*) of the selected criteria were calculated using the AHP method (Saaty, 2008) and they are presented in Table 3. (Calculation was performed using AHP Software – Excel software). Tables 3 - 6 show the obtained comparative results of the empirical analysis of cost efficiency of employees in the distribution trade of the European Union and Serbia, including Northern Macedonia and Bosnia and Herzegovina. (The calculation was performed using ARAS Software – Excel software).

TABLE 3. INITIAL MATRIX

Initial Matrix							
Weights of criteria	0.1976	0.145	0.14	0.1512	0.1332	0.1282	0.1049
Kind of criteria	1	1	1	1	1	1	1
	C1	C2	C3	C4	C5	C6	C7
A1	128,309	618,127	27,165.1	490,294.2	55,978.1	28,812.9	8,525.8
A2	142,317	517,483	3,283.1	68,652.6	6,886.9	3,603.8	1,241.1
A3	225,467	720,996	10,793.6	167,451.4	20,285.7	9,492.1	3,358.3
A4	40,776	465,062	20,421.9	185,796.9	29,932.8	9,510.8	2,107.6
A5	574,827	6,588,606	205,313.0	2,120,631.8	334,928.6	129,615.7	33,021.6
A6	17,464	93,691	1,652.0	30,692.1	2,761.6	1,117.5	418.4
A7	46,786	390,546	12,154.5	192,617.2	25,884.1	13,729.6	2,912.6
A8	227,004	761,625	9,011.6	112,053.0	13,342.3	4,330.7	1,390.3
A9	739,923	3,221,353	76,716.9	782,063.6	116,891.9	40,175.0	11,053.4
A10	674,915	3,364,306	142,725.3	1,383,306.8	192,661.0	49,935.6	25,085.4
A11	36,919	243,616	3,192.8	38,540.3	6,002.3	2,809.4	728.0
A12	1,057,841	3,418,330	75,728.3	1,003,893.9	145,338.7	69,610.4	12,946.6
A13	17,074	73,576	1,377.5	13,319.4	2,101.1	723.7	270.5
A14	26,081	151,686	1,740.2	29,738.3	3,144.8	1,404.6	476.3
A15	57,734	243,850	2,834.9	40,472.0	5,235.6	2,398.8	743.2
A16	7,561	54,369	2,600.9	85,686.1	5,403.2	2,802.3	716.4
A17	136,333	592,554	6,463.8	106,833.8	13,206.6	6,742.8	2,195.1
A18	8,774	37,897	611.9	9,833.0	1,107.4	495.5	144.9
A19	262,873	1,578,722	48,595.9	716,465.0	97,816.9	49,221.0	7,588.2
A20	77,725	685,256	25,895.7	253,998.2	39,256.3	13,360.6	4,900.1
A21	538,931	2,427,588	26,862.5	430,837.1	54,125.1	27,262.6	7,933.0
A22	218,441	808,515	12,614.2	151,595.8	19,967.6	7,353.4	3,774.7
A23	171,275	914,741	8,650.9	128,519.6	18,488.4	9,837.5	4,264.1
A24	26,051	122,344	2,735.8	37,113.5	4,790.2	2,054.4	699.3
A25	105,353	340,775	4,247.9	60,837.8	7,318.0	3,070.1	1,674.7
A26	0.000	295,443	11,094.1	117,864.2	16,416.2	5,322.1	1,550.4
A27	112,205	697,888	29,609.7	269,772.6	42,239.5	12,629.9	3,808.4
A28	22,618	103,253	548.5	9,223.6	1,171.3	622.9	217.6
A29	30,136	267,810	2,121.8	35,858.9	3,906.9	1,785.0	562.8

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A30	0.000	153,513	1,031.5	18,611.7	2,480.1	1,448.5	452.3

MAX	1057841	6588606	205313	2120632	334928.6	129615.7	33021.6
MIN	0	37897	548.5	9223.6	1107.4	495.5	144.9
0 - Optimal Value	1057841	6588606	548.5	2120632	334928.6	129615.7	33021.6

Source: Author

TABLE 4. NORMALIZED MATRIX

Normalized Matrix							
Weights of criteria	0.1976	0.145	0.14	0.1512	0.1332	0.1282	0.1049
Kind of criteria	1	1	1	1	1	1	1
	C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**
0-Optimal Value	0.1558	0.1803	0.1577	0.1891	0.2062	0.2022	0.1857
A1	0.0189	0.0169	0.0032	0.0437	0.0345	0.0450	0.0480
A2	0.0210	0.0142	0.0263	0.0061	0.0042	0.0056	0.0070
A3	0.0332	0.0197	0.0080	0.0149	0.0125	0.0148	0.0189
A4	0.0060	0.0127	0.0042	0.0166	0.0184	0.0148	0.0119
A5	0.0847	0.1803	0.0004	0.1891	0.2062	0.2022	0.1857
A6	0.0026	0.0026	0.0524	0.0027	0.0017	0.0017	0.0024
A7	0.0069	0.0107	0.0071	0.0172	0.0159	0.0214	0.0164
A8	0.0334	0.0208	0.0096	0.0100	0.0082	0.0068	0.0078
A9	0.1090	0.0882	0.0011	0.0697	0.0720	0.0627	0.0622
A10	0.0994	0.0921	0.0006	0.1234	0.1186	0.0779	0.1411
A11	0.0054	0.0067	0.0271	0.0034	0.0037	0.0044	0.0041
A12	0.1558	0.0935	0.0011	0.0895	0.0895	0.1086	0.0728
A13	0.0025	0.0020	0.0628	0.0012	0.0013	0.0011	0.0015
A14	0.0038	0.0042	0.0497	0.0027	0.0019	0.0022	0.0027
A15	0.0085	0.0067	0.0305	0.0036	0.0032	0.0037	0.0042
A16	0.0011	0.0015	0.0333	0.0076	0.0033	0.0044	0.0040
A17	0.0201	0.0162	0.0134	0.0095	0.0081	0.0105	0.0123
A18	0.0013	0.0010	0.1413	0.0009	0.0007	0.0008	0.0008
A19	0.0387	0.0432	0.0018	0.0639	0.0602	0.0768	0.0427
A20	0.0114	0.0188	0.0033	0.0227	0.0242	0.0208	0.0276
A21	0.0794	0.0664	0.0032	0.0384	0.0333	0.0425	0.0446
A22	0.0322	0.0221	0.0069	0.0135	0.0123	0.0115	0.0212
A23	0.0252	0.0250	0.0100	0.0115	0.0114	0.0153	0.0240
A24	0.0038	0.0033	0.0316	0.0033	0.0029	0.0032	0.0039
A25	0.0155	0.0093	0.0204	0.0054	0.0045	0.0048	0.0094
A26	0.0000	0.0081	0.0078	0.0105	0.0101	0.0083	0.0087
A27	0.0165	0.0191	0.0029	0.0241	0.0260	0.0197	0.0214
A28	0.0033	0.0028	0.1577	0.0008	0.0007	0.0010	0.0012
A29	0.0044	0.0073	0.0408	0.0032	0.0024	0.0028	0.0032
A30	0.0000	0.0042	0.0838	0.0017	0.0015	0.0023	0.0025

Source: Author

TABLE 5. NORMALIZED WEIGHTED MATRIX

Normalized Weighted Matrix							
	C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**
0-Optimal Value	0.0308	0.0261	0.0221	0.0286	0.0275	0.0259	0.0195

A1	0.0037	0.0025	0.0004	0.0066	0.0046	0.0058	0.0050
A2	0.0041	0.0021	0.0037	0.0009	0.0006	0.0007	0.0007
A3	0.0066	0.0029	0.0011	0.0023	0.0017	0.0019	0.0020
A4	0.0012	0.0018	0.0006	0.0025	0.0025	0.0019	0.0012
A5	0.0167	0.0261	0.0001	0.0286	0.0275	0.0259	0.0195
A6	0.0005	0.0004	0.0073	0.0004	0.0002	0.0002	0.0002
A7	0.0014	0.0015	0.0010	0.0026	0.0021	0.0027	0.0017
A8	0.0066	0.0030	0.0013	0.0015	0.0011	0.0009	0.0008
A9	0.0215	0.0128	0.0002	0.0105	0.0096	0.0080	0.0065
A10	0.0196	0.0133	0.0001	0.0187	0.0158	0.0100	0.0148
A11	0.0011	0.0010	0.0038	0.0005	0.0005	0.0006	0.0004
A12	0.0308	0.0136	0.0002	0.0135	0.0119	0.0139	0.0076
A13	0.0005	0.0003	0.0088	0.0002	0.0002	0.0001	0.0002
A14	0.0008	0.0006	0.0070	0.0004	0.0003	0.0003	0.0003
A15	0.0017	0.0010	0.0043	0.0005	0.0004	0.0005	0.0004
A16	0.0002	0.0002	0.0047	0.0012	0.0004	0.0006	0.0004
A17	0.0040	0.0024	0.0019	0.0014	0.0011	0.0013	0.0013
A18	0.0003	0.0002	0.0198	0.0001	0.0001	0.0001	0.0001
A19	0.0077	0.0063	0.0002	0.0097	0.0080	0.0098	0.0045
A20	0.0023	0.0027	0.0005	0.0034	0.0032	0.0027	0.0029
A21	0.0157	0.0096	0.0005	0.0058	0.0044	0.0055	0.0047
A22	0.0064	0.0032	0.0010	0.0020	0.0016	0.0015	0.0022
A23	0.0050	0.0036	0.0014	0.0017	0.0015	0.0020	0.0025
A24	0.0008	0.0005	0.0044	0.0005	0.0004	0.0004	0.0004
A25	0.0031	0.0014	0.0029	0.0008	0.0006	0.0006	0.0010
A26	0.0000	0.0012	0.0011	0.0016	0.0013	0.0011	0.0009
A27	0.0033	0.0028	0.0004	0.0036	0.0035	0.0025	0.0022
A28	0.0007	0.0004	0.0221	0.0001	0.0001	0.0001	0.0001
A29	0.0009	0.0011	0.0057	0.0005	0.0003	0.0004	0.0003
A30	0.0000	0.0006	0.0117	0.0003	0.0002	0.0003	0.0003

Source: Author

TABLE 6. RANKING OF ALTERNATIVES

		S	**K**	**K**	
	0-Optimal Value	0.1805	1.0000	1.0000	**Ranking**
Belgium	**A1**	0.0286	0.1586	0.1586	7
Bulgaria	**A2**	0.0128	0.0711	0.0711	19
Czech Republic	**A3**	0.0183	0.1017	0.1017	10
Denmark	**A4**	0.0117	0.0650	0.0650	20
Germany	**A5**	0.1444	0.8001	0.8001	1
Estonia	**A6**	0.0093	0.0516	0.0516	24
Ireland	**A7**	0.0131	0.0725	0.0725	18
Greece	**A8**	0.0153	0.0846	0.0846	15
Spain	**A9**	0.0692	0.3832	0.3832	4
France	**A10**	0.0923	0.5115	0.5115	2
Croatia	**A11**	0.0078	0.0434	0.0434	27
Italy	**A12**	0.0915	0.5072	0.5072	3

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Cyprus	**A13**	0.0102	0.0567	0.0567	22
Latvia	**A14**	0.0095	0.0529	0.0529	23
Lithuania	**A15**	0.0088	0.0488	0.0488	26
Luxembourg	**A16**	0.0077	0.0425	0.0425	28
Hungary	**A17**	0.0134	0.0740	0.0740	16
Malta	**A18**	0.0206	0.1141	0.1141	9
Netherlands	**A19**	0.0462	0.2558	0.2558	5
Austria	**A20**	0.0177	0.0978	0.0978	14
Poland	**A21**	0.0462	0.2557	0.2557	6
Portugal	**A22**	0.0179	0.0992	0.0992	12
Romania	**A23**	0.0177	0.0983	0.0983	13
Slovenia	**A24**	0.0074	0.0409	0.0409	29
Slovakia	**A25**	0.0103	0.0570	0.0570	21
Finland	**A26**	0.0072	0.0398	0.0398	30
Sweden	**A27**	0.0183	0.1015	0.1015	11
North Macedonia	**A28**	0.0236	0.1308	0.1308	8
Serbia	**A29**	0.0091	0.0506	0.0506	25
Bosnia and Herzegovina	**A30**	0.0134	0.0740	0.0740	17

Source: Author

The following figure shows the ranking of alternatives.

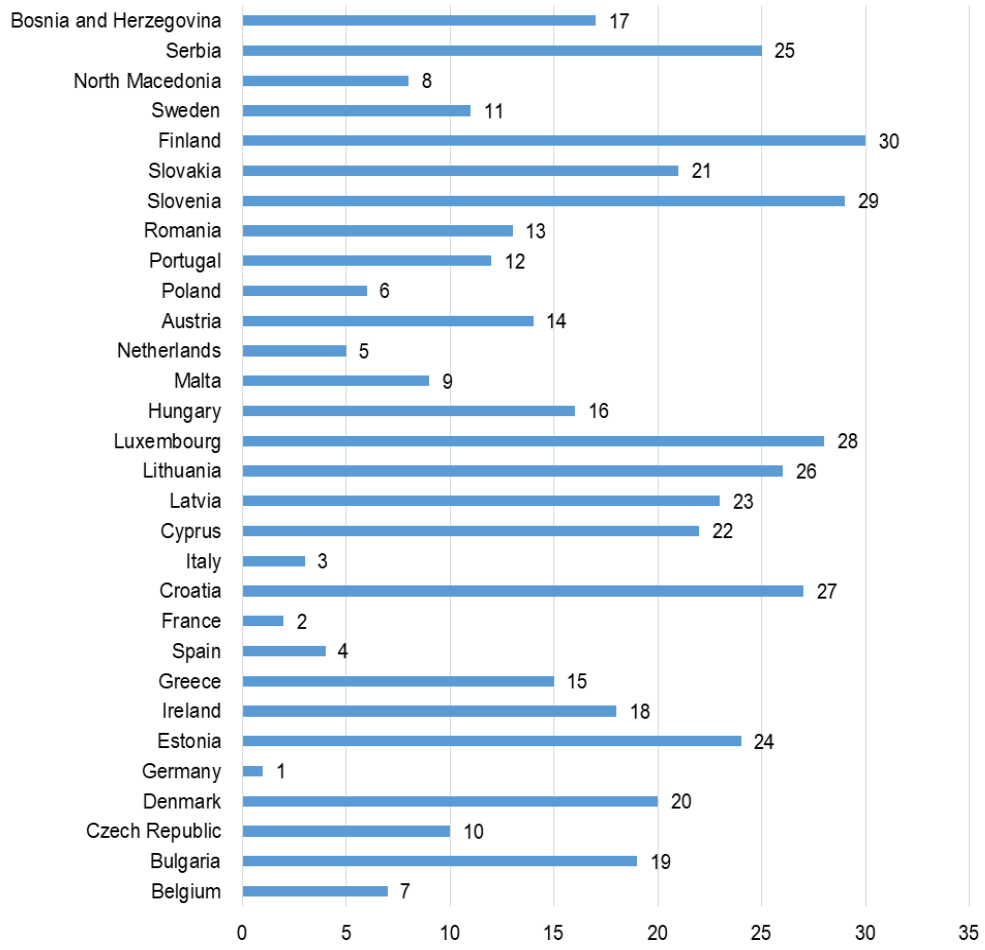

FIGURE 1. RANKING

Source: Author

So, in the first three places, according to the cost efficiency of employees, are the distribution trades of Germany, France and Italy (leading countries of the European Union), respectively. Serbia's distribution trade is ranked twenty-fifth in terms of cost efficiency of employees. However, it is better than the countries in the region (Croatia, Slovenia). In order to more fully address the treated problem in this paper, we will look more in detail at the dynamics of the size of employee costs and their efficiency in the distribution trade of Serbia. In the distribution trade of Serbia in 2020, compared to 2019, wages per employee increased, labour productivity decreased and profit per employee increased. The share of costs of employees in sales in 2020 has increased compared to 2019 in the distribution trade of Serbia. In 2020, compared to 2019, assets per employee and capital per employee increased, as an expression of material and technical equipment of work and financial support of distribution trade in Serbia. The increase in employee costs and the decrease in labour productivity in the distribution trade of Serbia in 2020 compared to 2019 is due in part, among other things, to the impact of the Covid-19 pandemic. The

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impact of the coronavirus pandemic on the entire distribution trade business in Serbia has been greatly mitigated by increased electronic sales, as is the case in other countries. Suppose that the earnings of employees in the distribution trade of Serbia are a function of the number of employees, alongside assets (as a measure of the size of the company), capital, sales and net profit, the costs of employees in the distribution trade of Serbia are greatly influenced by: the number of employees, assets (as a measure of company size), capital, sales and profit (Adjusted R Square .999). In this context, capital, i.e. financial indebtedness, has a special influence (Sig. .014 <.05). Given that, in order to achieve the target costs of employees (as a performance factor) in the distribution trade of Serbia, it is necessary, among other things, to more efficiently manage human resources, assets, capital, sales and profits. In 2020, the highest rate of return on sales was achieved by the company Lukoil Serbia (3.55%), followed by Delhaize Serbia (3.53%). The lowest rate of return on sales was achieved by the company Mercator-S (-6.85%). Lukoil Serbia and Delhaize Serbia are therefore efficient in managing human resources as a significant factor in financial performance. Therefore, there is a strong correlation between labour productivity and profit per employee in Serbian trade companies at the level of statistical significance, and also between investment per employee and profit per employee. This means, in other words, that efficient management of sales, investments and human capital can significantly affect the realization of target profits in Serbian trade companies.

4. CONCLUSION

We are able to conclude the following on the basis of the conducted empirical analysis of the costs of employees in the distribution trade of the European Union and Serbia: Labour productivity (turnover per employee, adjusted labour productivity, gross value added per employee) in the distribution trade of Germany, France and Italy (among other things, due to the higher degree of digitalization of the entire business) is higher than in Serbia. The situation is the same in relation to distribution trade in the region, i.e. Croatia and Slovenia. The average personnel costs (as a measure of personal income of employees) in the distribution trade of Serbia are, as a consequence, lower compared to Germany, France, Italy, Croatia and Slovenia. Therefore, the share of personnel costs in traffic is lower. In the distribution trade of Serbia, investments per employee are lower, as a significant factor of labour productivity, compared to Germany, France, Italy, Croatia and Slovenia. All this in its own way reflected on the financial performance of distribution trade in Serbia. Thus, for example, profitability (measured by the rate of gross operating surplus) in the distribution trade of Serbia is lower compared to Germany, Italy, Croatia and Slovenia, except France. According to the obtained results of the AHP-ARAS method, in the first three places in terms of cost efficiency of employees is the distribution trade of Germany,

France and Italy (leading countries of the European Union), respectively. Serbia's distribution trade is ranked twenty-fifth in terms of cost efficiency of employees. In this respect, it is better than the countries in the region (Croatia, Slovenia).

The costs of employees in Serbia's distribution trade are largely influenced, among other things (economic climate, foreign retail chains, digitalization of the entire business, etc.) by the number of employees, assets (as a measure of company size), capital, sales and profits (Adjusted R Square). .999). In this context, capital, i.e. financial indebtedness, has a special influence (Sig. .014 <.05). Given that, in order to achieve the target costs of employees, as a factor of performance, in the distribution trade of Serbia, it is necessary to manage human resources, assets, capital, sales and profits as efficiently as possible.

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