Measurement and Analysis of the Dynamics of Financial Performance and Efficiency of Trade in Serbia Based on the DEA Super-Radial Model

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Abstract

The issue of measuring and analyzing the dynamics of financial performance and trading efficiency is continuously current, significant and complex. Based on that, this paper measures and analyzes the financial performance and efficiency of trade in Serbia using the strategic profit model and the DEA (Data Envelopment Analysis) Super-Radial model. According to the strategic profit model, the financial performance of trade in Serbia has recently improved. According to the results of the Super-CCR-I model in the period 2002 - 2020 trade in Serbia was not efficient in any year. According to the results of the Super-CCR-O model, trade in Serbia in the period 2002-2020 was not efficient in any year. According to the results of the Super-BCC-I model in the period 2002 - 2020, trade in Serbia was efficient in 2020. According to the results of the Super-BCC-O model, trade in Serbia in the period 2002 - 2020 was efficient in 2002 and 2015. In order to to improve the financial performance and efficiency of trade in Serbia in the future, it is necessary to manage input - output elements (human resources, assets, capital, sales and net profit) as efficiently as possible. Digitization of the entire business plays a significant role in this.

1. Introduction

It is very challenging to research the dynamics of financial performance and efficiency of all economic sectors, which means trade, based on the strategic profit model (Berman, 2018; Levy, 2019, Lovreta, 2021, Lukić, 2011), DEA (Data Envelopment Analysis) model, as and the multi-criteria decision-making method (Ersoy, 2017). Based on that, the subject of research in this paper is the measurement and analysis of the dynamics of financial performance and trade efficiency in Serbia based on the strategic profit model and the DEA (Data Envelopment Analysis) Super-Radial model. The aim and purpose of this is to indicate in which years trade in Serbia was and was not financially efficient in order to improve it in the future by taking appropriate measures.

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There is a very rich literature dedicated to the specifics and effects of applying the strategic profit model in trade (Berman, 2018; Levy, 2019; Lovreta, 2021; Lukić 2011). Profit is related to the way the organizations create value for society (Cristache, et al., 2019). There is also a rich literature devoted to the development of DEA models (Andersen, 1993; Banker, 1984; Chen, 2021, Chang, 2020; Guo, 2020; Lee, 2011; Lin, 2020; Pendharkar, 2021; Tone, 2002; Dobrović, 2021; Podinovski, 2021; Rostamzadeh, 2021). Likewise, an increasing number of works are dedicated to the specifics of the efficiency analysis of trading companies based on the DEA model (Ko, 2017; Baviera-Puig, 2020; Fenyves, 2020; Shuangyan, 2018; Pachar, 2021). In the relevant literature in Serbia, special attention has recently been paid to the application of the DEA model in the evaluation of the efficiency of trading companies in Serbia (Lukic, 2019, 2020, 2021, 2022). In this paper, all relevant literature serves as a theoretical-methodological and empirical basis for measuring and analyzing the dynamics of financial performance and trade efficiency in Serbia using the strategic profit model and the DEA Super-Radial model.

The main research hypothesis in this paper is based on the fact that knowing the real situation regarding financial performance and efficiency of trade in Serbia is a prerequisite for improvement in the future and taking appropriate measures.

Strategic profit model and DEA models play a significant role in this. In addition to the strategic profit model and the DEA Super-Radial model, statistical analysis is also used in this work.

For the purposes of researching the problem treated in this paper, empirical data were collected from the Agency for Business Registers of the Republic of Serbia. It should be especially emphasized that there are no restrictions in terms of international comparability because they are "produced" in accordance with relevant international standards.

2. Methodology

The research on the efficiency of trading companies in Serbia in this paper is based on the application of the **DEA Super-Radial** model. Considering that, we will briefly point out its methodological characteristics.

Suppose we have n DMUs $\{DMU_j (j = 1, 2, ..., n)\}$. Each consumes a set of m inputs, $x_{ij} (i = 1, 2, ..., m)$, in the production of a set *of s* outputs, $Y_{rj} (r = 1, ..., s)$. Based on VRS (variable return to scale) model (Banker et al., 1984), the input-oriented VRS super-efficient efficiency measurement model can be expressed as:

$$\min \quad \theta$$

$$s.t \sum_{j=1}^{n} \lambda_j x_{ij} \leq \theta x_{ik}, \qquad i = 1, ..., m$$

$$j \neq k$$

$$\sum_{j=1}^{n} \lambda_j y_{rj} \geq y_{rk}, \qquad r = 1, \ldots, s \qquad (1)$$

$$j \neq k$$

$$\sum_{j=1}^{n} \lambda_j = 1$$

$$j \neq k$$

$$\lambda \geq 0, \quad j \neq k$$

3. Results and discussion

When measuring and analyzing the financial performance and efficiency of trade in Serbia, the following elements are used as input elements: number of employees, assets and capital, and as output elements: sales and net profit. DMU units were observed in the period 2002 - 2020. Given input and output elements in the DEA analysis are components (statistical variables) of the strategic profit model that is used in the analysis of the dynamics of the financial performance of trade in Serbia. Table 1 shows the initial data.

Table 1. Initial data

	(I) Number of employees	(I) Assets	(I) Capital	(O) Sales	(O) Net profit
2002	159881	408777	155219	538446	7291
2003	173615	511466	176372	678953	12444
2004	173529	739522	214201	956885	23540
2005	179895	1267296	582530	1220051	45310
2006	187028	1440435	676899	1531190	70878
2007	205215	1832673	790197	1971676	90281
2008	215540	2101239	796758	2364978	84995
2009	208595	2206975	803361	2243762	74201
2010	202585	2080584	596110	2495934	80709
2011	199718	2152946	664968	2689107	91637
2012	193954	2979785	716558	2979785	93687
2013	193210	2160474	746992	2891518	89730
2014	191621	2157564	761305	2594602	86955
2015	159621	2197931	805009	2731999	95265
2016	206092	2324843	859749	3009651	105238
2017	208020	2375290	920992	3172393	122727
2018	219373	2524897	1007972	3361094	121816
2019	222049	2682931	1073056	3608329	139409
2020	227618	2837599	1183026	3664505	171010
Statistics					
Mean	196166.2632	1946485.6320	712172.3158	2352887.2630	84585.4210

	(I) Number of employees	(I) Assets	(I) Capital	(O) Sales	(O) Net profit
Median	199718.0000	2157564.0000	761305.0000	2594602.0000	89730.0000
Std. Deviation	19941.52316	744708.76260	280639.04740	960139.51630	41373.79346
Skewness	-.399	-.930	-.735	-.620	-.176
Std. Error of Skewness	.524	.524	.524	.524	.524
Kurtosis	-.611	.080	.393	-.651	.351
Std. Error of Kurtosis	1.014	1.014	1.014	1.014	1.014
The minimum	159621.00	408777.00	155219.00	538446.00	7291.00
Maximum	227618.00	2979785.00	1183026.00	3664505.00	171010.00

Note: Data are expressed in millions of dinars. The number of employees is expressed as a whole number. I - input. O – output. Capital = Net worth. Author's statistics
Source: Agency for Economic Registers of the Republic of Serbia

Table 2 shows the correlation matrix of input - output elements.

Table 2. Correlation

Correlations		1	2	3	4	5
1 Number of employees	Pearson Correlation	1	.727 **	.792 **	.737 **	.790 **
	Sig. (2-tailed)		.000	.000	.000	.000
	N	19	19	19	19	19
2 Assets	Pearson Correlation	.727 **	1	.899 **	.960 **	.909 **
	Sig. (2-tailed)	.000		.000	.000	.000
	N	19	19	19	19	19
3 Capital	Pearson Correlation	.792 **	.899 **	1	.910 **	.962 **
	Sig. (2-tailed)	.000	.000		.000	.000
	N	19	19	19	19	19
4 Sales	Pearson Correlation	.737 **	.960 **	.910 **	1	.952 **
	Sig. (2-tailed)	.000	.000	.000		.000
	N	19	19	19	19	19
5 Net profit	Pearson Correlation	.790 **	.909 **	.962 **	.952 **	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	19	19	19	19	19
**. Correlation is significant at the 0.01 level (2-tailed).						

Note: Author's calculation

Therefore, the correlation between input-output elements is high at the level of statistical significance.

Dynamics of the financial performance of trade in Serbia based on the strategic profit model (Berman, 2018; Levy, 2019).

The return on assets is:

$$\frac{Neto\ profit}{Total\ assets} = \frac{Neto\ profit}{Net\ sales}\ x\ \frac{Net\ sales}{Total\ assets}\ (2)$$

Return on equity (capital) is:

$$\frac{Neto\ profit}{Net\ worth} = \frac{Neto\ profit}{Net\ sales}\ x\ \frac{Net\ sales}{Total\ assets}\ x\ \frac{Total\ assets}{Net\ worth}\ (3)$$

The target profit can be achieved by effective control of the components of the strategic profit model (Table 3, Figure 1). Thus, for example, the return on trade capital in Serbia can be increased, with the same return on assets, with an increase up to a certain limit of financial indebtedness.

Table 3. Strategic profit model

	Revenue from sales, Net profit / Sales, %	Asset turnover ratio, Sales / Assets	Return on assets, Net profit / Assets, %	Financial leverage, Assets / Capital	Return on capital, Net profit / Capital	Net profit per employee in 000 dinars, Net profit / Number of employees
2002	1.35	1.317212	1.78	2.63355	4.70	45.60267
2003	1.83	1.327465	2.43	2.899927	7.06	71.67583
2004	2.46	1.293924	3.18	3.452468	10.99	135.6546
2005	3.71	0.96272	3.58	2.175503	7.78	251.8691
2006	4.63	1.063005	4.92	2.127991	10.47	378.97
2007	4.58	1.075847	4.93	2.319261	11.43	439.9337
2008	3.59	1.125516	4.04	2.637236	10.6	394.3352
2009	3.31	1.016669	3.36	2.747177	9.24	355,718
2010	3.23	1.199631	3.88	3.490269	13.54	398.3957
2011	3.41	1.249036	4.26	3.237669	13.78	458,832
2012	3.14	1	3.14	4.15847	13.07	483.0372
2013	3.10	1.338372	4.15	2.892232	12.01	464.417
2014	3.35	1.202561	4.03	2.834034	11.42	453.7864
2015	3.49	1.242987	4.33	2.730319	11.83	596.82
2016	3.50	1.294561	4.53	2.704095	12.24	510,636
2017	3.87	1.335581	5.17	2.579056	13.33	589.9769
2018	3.62	1.331181	4.82	2.504928	12.09	555.2917
2019	3.86	1.344921	5.20	2.500271	12.99	627.8299
2020	4.67	1.29141	6.03	2.398594	14.46	751.3026

|	Revenue from sales, Net profit / Sales, %	Asset turnover ratio, Sales / Assets	Return on assets, Net profit / Assets, %	Financial leverage, Assets / Capital	Return on capital, Net profit / Capital	Net profit per employee in 000 dinars, Net profit / Number of employees
Statistics						
Mean	3.4053	1.2112	4.0926	2.7907	11.2121	419.1623
Std. Error of Mean	.19419	.02978	.23594	.11455	.57453	42.78928
Median	3.4900	1.2490	4.1500	2.7041	11.8300	453.7864
Std. Deviation	.84647	.12982	1.02844	.49932	2.50430	186.51413
Skewness	-.795	-.734	-.434	1.261	-1,220	-.592
Std. Error of Skewness	.524	.524	.524	.524	.524	.524
Kurtosis	1.208	-.956	.335	1.917	1.317	.125
Std. Error of Kurtosis	1.014	1.014	1.014	1.014	1.014	1.014
The minimum	1.35	.96	1.78	2.13	4.70	45.60
Maximum	4.67	1.34	6.03	4.16	14.46	751.30

Note: Author's calculation
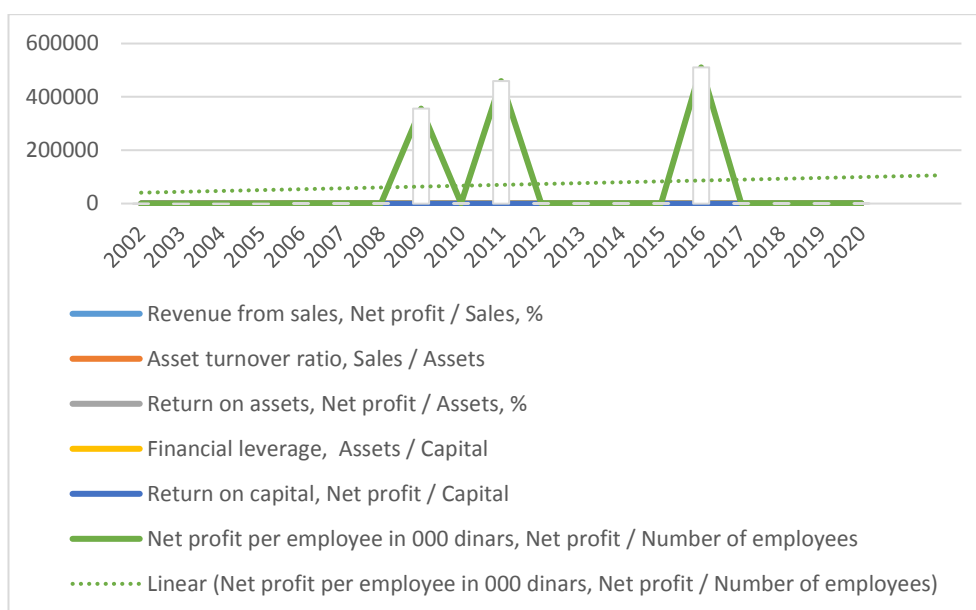
Figure 1. Financial indicators
Source: Author's picture

Therefore, in the period 2002 - 2020, it was: the return from sales was lower in 2002, and the highest in 2020; the asset turnover ratio was the lowest in 2005 and the highest in 2019; return on assets lowest in 2002 and highest in 2020; financial indebtedness was the lowest in 2006 and the highest in 2012; the lowest return on capital in 2002 and the highest in 2020; net profit per employee was the lowest in 2002, and to be announced in 2020. According to the obtained results of the strategic profit model, it is noticeable that in 2020, compared to 2019, the values of all components of the strategic profit model increased, and financial liabilities decreased. Labor productivity, measured by net profit per employee, also increased. All in all, the financial performance (liquidity, solvency and profitability) and efficiency (use of assets) of trade in Serbia have improved recently. This was influenced, among other things, by effective management of human resources, assets, capital, sales and profits. Accelerated digitization of the entire business plays a significant role in this.

By applying the DEA Super-Radila methods of input and output orientation with constant and variable returns, we will look at **the dynamics of** trade efficiency in Serbia. Table 4 and Figure 2 show the results of the Super-CCR-I model.

Table 4. Results of the Super-CCR-I model

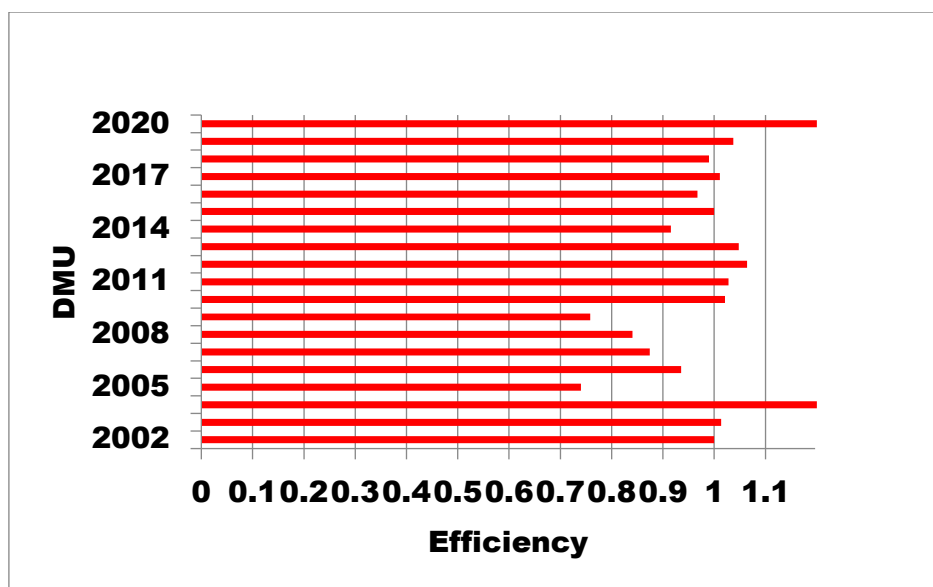| No.	DMU	Score	Rank
Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-CCR-I) Returns to Scale = Constant (0 =< Sum of Lambda < Infinity)			
1	2002	0.981182	12
2	2003	0.992389	10
3	2004	1.072036	2
4	2005	0.715819	19
5	2006	0.821597	17
6	2007	0.829457	16
7	2008	0.839017	15
8	2009	0.758381	18
9	2010	1.018263	8
10	2011	1.023369	7
11	2012	1.060618	3
12	2013	1.038632	5
13	2014	0.907438	14
14	2015	1.053254	4
15	2016	0.966966	13
16	2017	1.007458	9
17	2018	0.98985	11
18	2019	1.02944	6
19	2020	1.196666	1
	Average of scores =	0.963254	
	No. of efficient DMUs =	0	
	No. of inefficient DMUs =	19	
	No. of over iteration DMUs =	0	

Note: Author's calculation

Figure 2. Super-CCR-I model
Source: Author's picture

According to the results of the Super-CCR-I model in the period 2002 -2020 trade in Serbia was not efficient in any year. Therefore, it was necessary to manage the observed input-output elements more effectively.

In Table 5 and Figure 3 the results of the Super-CCR-O model are presented.

Table 5. Super-CCR-O model results

Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-CCR-O) Returns to Scale = Constant (0 =< Sum of Lambda < Infinity)			
No.	DMU	Score	Rank
1	2002	0.981182	12
2	2003	0.992389	10
3	2004	1.072036	2
4	2005	0.715819	19
5	2006	0.821597	17
6	2007	0.829457	16
7	2008	0.839017	15
8	2009	0.758381	18
9	2010	1.018263	8
10	2011	1.023369	7
11	2012	1.060618	3
12	2013	1.038632	5
13	2014	0.907438	14
14	2015	1.053254	4
15	2016	0.966966	13
16	2017	1.007458	9
17	2018	0.98985	11

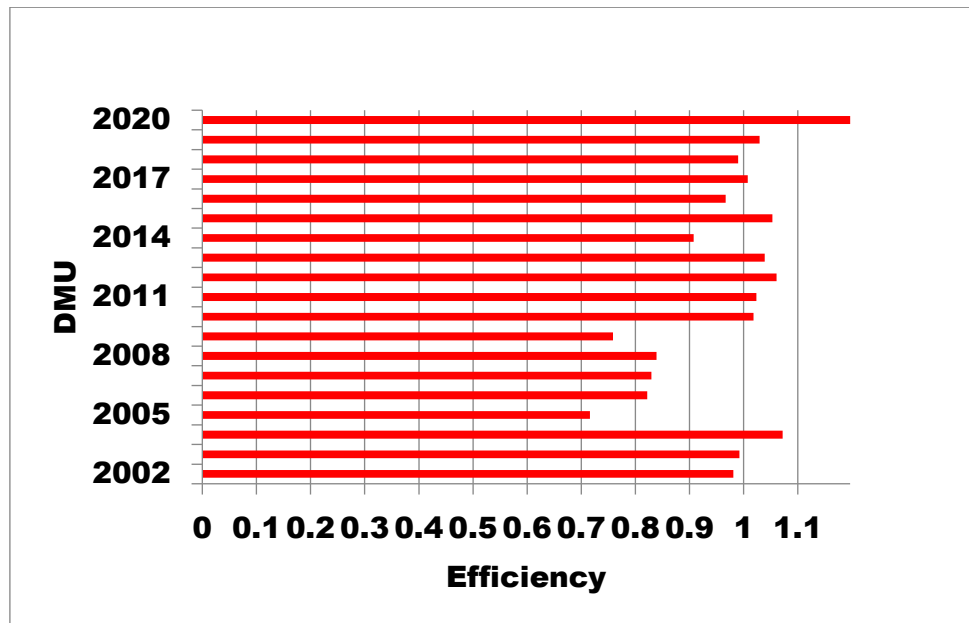| Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-CCR-O) Returns to Scale = Constant (0 =< Sum of Lambda < Infinity)			
18	2019	1.029679	6
19	2020	1.196666	1
	Average of scores =	0.963267	
	No. of efficient DMUs =	0	
	No. of inefficient DMUs =	19	
	No. of over iteration DMUs =	0	

Note: Author's calculation

Figure 3. Super-CCR-O
Source: Author's picture

According to the results obtained , the Super-CCR-O model shows that Serbia's trade in the period 2002-2020 was not efficient in any year. So, it was necessary to manage the analyzed input - output elements more efficiently.

Table 6 and Figure 4 show the obtained results of the Super-BCC-I model.

Table 6. Results of the Super-BCC-I model

Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-BCC-I) Returns to Scale = Variable (Sum of Lambda = 1)			
No.	DMU	Score	Rank
1	2002	1.251198	1
2	2003	1.013354	9
3	2004	1.141902	3
4	2005	0.903617	17
5	2006	0.974572	13
6	2007	0.925599	16

| Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-BCC-I) Returns to Scale = Variable (Sum of Lambda = 1)			
7	2008	0.858315	18
8	2009	0.800295	19
9	2010	1.022192	8
10	2011	1.023868	7
11	2012	1.098506	4
12	2013	1.040834	6
13	2014	0.935661	15
14	2015	1.220704	2
15	2016	0.969169	14
16	2017	1.009035	10
17	2018	0.990062	12
18	2019	1.066818	5
19	2020	1	11
	Average of scores =	1.012932	
	No. of efficient DMUs =	1	
	No. of inefficient DMUs =	18	
	No. of over iteration DMUs =	0	

Note: Author's calculation
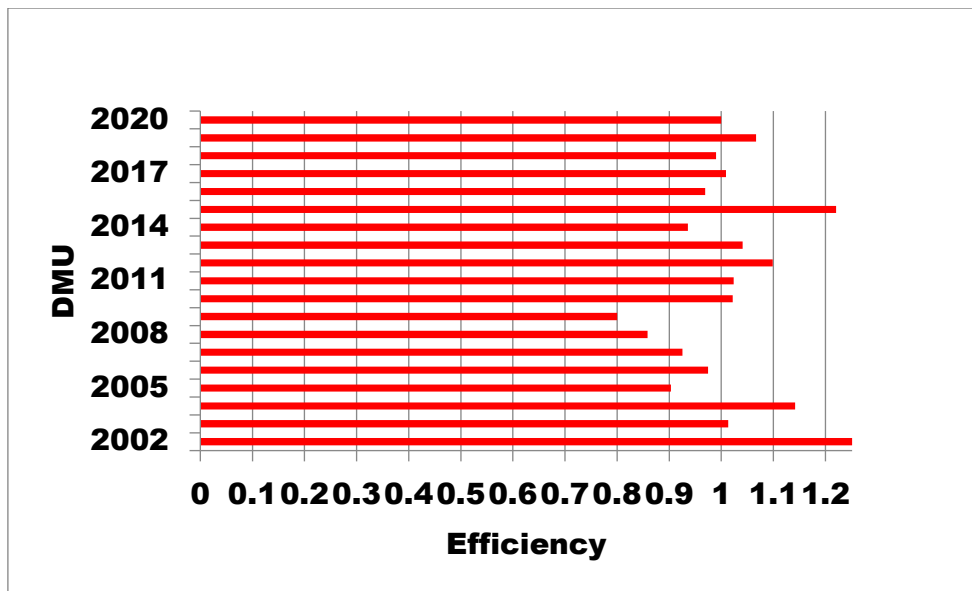
Figure 4. Super-BCC-I
Source: Author's picture

According to the results obtained , the Super-BCC-I model has a Super-BCC-I model in the period 2002 - 2020. Trade in Serbia was efficient in 2020. In other years, it was ineffective due to poor management of the observed input - output elements.

Table 7 and Figure 5 show the obtained results of the Super-BCC-O model.

Table 7. Results of the Super-BCC-O model

No.	DMU	Score	Rank
Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-BCC-O) Returns to Scale = Variable (Sum of Lambda = 1)			
1	2002	1	10
2	2003	1.013734	8
3	2004	1.287215	1
4	2005	0.740392	19
5	2006	0.935362	14
6	2007	0.874211	16
7	2008	0.840632	17
8	2009	0.758465	18
9	2010	1.021063	7
10	2011	1.027744	6
11	2012	1.064282	3
12	2013	1.048022	4
13	2014	0.915602	15
14	2015	1	10
15	2016	0.967248	13
16	2017	1.011095	9
17	2018	0.989973	12
18	2019	1.037114	5
19	2020	1.226678	2
	Average of scores =	0.987307	
	No. of efficient DMUs =	2	
	No. of inefficient DMUs =	17	
	No. of over iteration DMUs =	0	

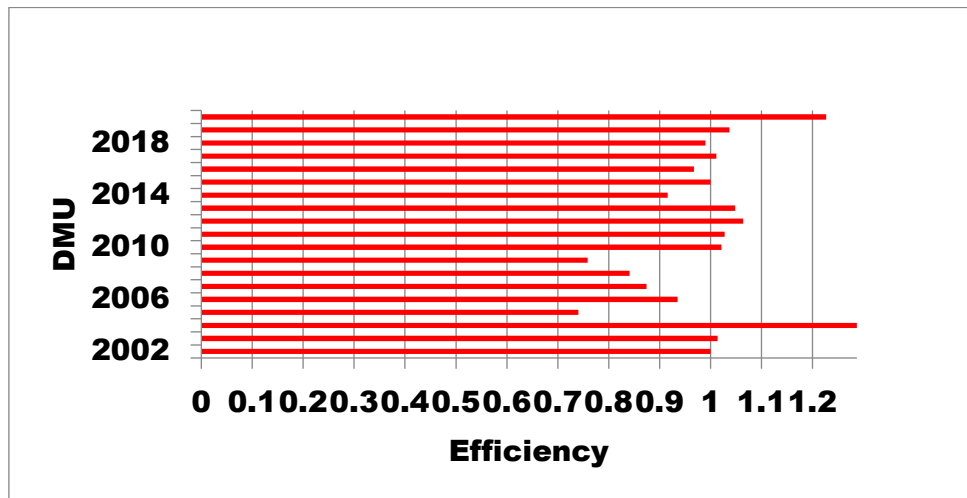*Note*: Author's calculation

Figure 5. Super-BCC-O
Source: Author's picture

According to the results of the Super-BCC-O model, Serbia's trade in the period 2002-2020 was efficient in 2002 and 2015. In other years, due to inadequate management of the observed input-output elements, it was ineffective.

Table 8 shows the projection of input - output elements, on the example of the Super-BCC-O model. The analysis of the projection of input - output elements is similar for the other applied DEA Super-Radil models.

Table 8. Projection

Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-BCC-O) Returns to Scale = Variable (Sum of Lambda = 1)

No.	DMU	Score	(I) Number of employees Projection	Change (%)	(I) Assets Projection	Change (%)	(I) Capital Projection	Change (%)	(O) Sales Projection	Change (%)	(O) Net profit Projection	Change (%)
1	2002	1	159881	0.00%	408777	0.00%	155219	0.00%	538446	0.00%	7291.129	0.00%
2	2003	1.013734	163720.8	-5.70%	511466	0.00%	176372	0.00%	669754.3	-1.35%	12299.28	-1.16%
3	2004	1.287215	173529	0.00%	633274.2	-14.37%	214201	-13.42%	825654	-13.71%	18287.54	-22.31%
4	2005	0.740392	179895	0.00%	1267296	0.00%	504366.8	-13.09%	1647844	35.06%	61197.27	35.06%
5	2006	0.935362	187028	0.00%	1440435	0.00%	588313.4	-4.10%	1862725	21.65%	75776	6.91%
6	2007	0.874211	199590.3	-2.74%	1832673	0.00%	757770.7	0.00%	2371097	20.26%	103271.4	14.39%
7	2008	0.840632	202309.6	-6.14%	2101239	0.00%	796758	0.00%	2813333	18.96%	101108.4	18.96%
8	2009	0.758465	200035.4	-4.10%	2206975	0.00%	803361	0.00%	2958292	31.85%	98894.24	33.28%
9	2010	1.021063	193826.4	-4.32%	2080584	0.00%	596110	0.00%	2444446	-2.06%	79994.97	-0.88%
10	2011	1.027744	199718	0.00%	2152946	0.00%	664968	0.00%	2616514	-2.70%	89163.24	-2.70%
11	2012	1.064282	193954	0.00%	2144807	-28.02%	716558	0.00%	2799809	-6.04%	88028.39	-6.04%
12	2013	1.048022	193210	0.00%	2160474	0.00%	746992	0.00%	2759024	-4.58%	98377.1	9.64%
13	2014	0.915602	191621	0.00%	2157564	0.00%	761305	0.00%	2833766	9.22%	94970.29	9.22%
14	2015	1	159621	0.00%	2186925	-0.50%	801011.7	-0.50%	2734021	0.07%	95265	0.00%
15	2016	0.967248	203147.3	-1.43%	2324843	0.00%	859749	0.00%	3111561	3.39%	108801.5	3.39%
16	2017	1.011095	208020	0.00%	2375290	0.00%	920992	0.00%	3137582	-1.10%	121380.3	-1.10%
17	2018	0.989973	218522.5	-0.39%	2524897	0.00%	1007798	-0.02%	3395136	1.01%	130169	6.86%
18	2019	1.037114	221937.7	-0.05%	2682931	0.00%	1073056	0.00%	3479201	-3.58%	142408.5	2.15%
19	2020	1.226678	222049	-2.45%	2682931	-5.45%	1073056	-9.30%	3608329	-1.53%	139409	-18.48%

Note: Author's calculation

Illustrations, work and analysis of the projection, we will look only at the projection in 2020. In order to achieve the projected efficiency of trade in Serbia in 2020, it was necessary, through more efficient management of input - output elements, to increase the number of employees by 2.45%, assets by 5.45%, capital by 9.30%, sales by 1.53% and net profit by 18.48%. The analysis of the projection for the other observed years is similar.

Table 9 shows Slack.

Table 9. Slack

No.	DMU	Score	Excess Number of employees	Excess Assets	Excess Capital	Shortage Sale	Shortage Net profit
Model Name = DEA-Solver LV(V7)/ Super-Radial (Super-BCC-O) Returns to Scale = Variable (Sum of Lambda = 1)							
			S-(1)	S-(2)	S-(3)	S+(1)	S+(2)
1	2002	1	0	0	0	0	0.12939
2	2003	1.013734	9894.161	0	0	0	23.87354
3	2004	1.287215	0	106247.8	0	82278.06	0
4	2005	0.740392	0	0	78163.16	0	0
5	2006	0.935362	0	0	88585.56	225723	0
6	2007	0.874211	5624.694	0	32426.35	115719.1	0
7	2008	0.840632	13230.39	0	0	0	0
8	2009	0.758465	8559.641	0	0	0	1063.799
9	2010	1.021063	8758.6	0	0	0	950.8819
10	2011	1.027744	0	0	0	0	0
11	2012	1.064282	0	834978.4	0	0	0
12	2013	1.048022	0	0	0	0	12758.67
13	2014	0.915602	0	0	0	0	0
14	2015	1	0	11006.08	3997.286	2022.002	0
15	2016	0.967248	2944.659	0	0	0	0
16	2017	1.011095	0	0	0	0	0
17	2018	0.989973	850.5321	0	174.1565	0	7119.178
18	2019	1.037114	111.3309	0	0	0	7988.384
19	2020	1.226678	5569	154668	109970	620989.2	0

Note: Author's calculation

Slack shows what measures should be taken in order to convert inefficient DMU units into efficient ones. This is achieved by more efficient management of input - output elements. Thus, on average, in 2020, the number of employees should be reduced by 5,569, assets by 154,668 and capital by 109,970, and sales should be increased by 620,989.2 monetary units in order to achieve the target efficiency of trade in Serbia.

As far as we know, there are no similar studies in other countries. It is recommended that, for the purpose of international comparison, they be carried out

in other countries as well. Likewise, in addition to the strategic profit model and the DEA model, multi-criteria decision-making methods are also applied at the same time. In this way, a more complete picture of the financial performance and efficiency of trade is obtained, in the specific case of Serbia.

4. Conclusion

Based on the results of empirical research on financial performance and trade efficiency in Serbia using the strategic profit model and the DEA Super-Radila model, the following can be concluded:

1. According to the obtained results of the strategic profit model in 2020 compared to 2019, the values of all components of the strategic profit model (return on sales, asset turnover ratio, return on assets, return on capital) increased, and financial indebtedness in the trade of Serbia decreased. Labor productivity has also increased. This means, in other words, that the financial performance (liquidity, solvency and profitability) and efficiency (use of assets) of trade in Serbia have improved.

2. According to the results of the Super-CCR-I model in the period 2002-2020 trade in Serbia was not efficient in any year. And according to the results of the Super-CCR-O model, Serbia's trade in the period 2002-2020 was not efficient in any year. So, it was necessary to manage the analyzed input-output elements more efficiently.

3. According to the results of the Super-BCC-I model in the period 2002 - 2020, trade in Serbia was efficient in 2020. According to the results of the Super-BCC-O model, trade in Serbia in the period 2002 - 2020 was efficient in 2002 and 2015. In other years, due to inadequate management of the analyzed input-output elements, it was ineffective.

Recently, the financial performance and efficiency of trade in Serbia, as well as in other countries, has been affected by the Covid-19 pandemic. It is greatly mitigated with e-commerce.

Generally speaking, the financial performance and efficiency of trade in Serbia have improved recently. In order to improve them in the future, it is necessary to manage human resources, assets, capital, sales and profits as efficiently as possible. It is also necessary to apply new business models (multichannel sales, sales of organic products, private label) and modern concepts of cost management (for example, costing by activity), product categories and customers. The digitalization of the entire business plays a significant role in this.

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