

## EXPORT COMPETITIVENESS AND COMPARATIVE ADVANTAGE OF REPUBLIC OF SERBIA

**Summary:** *The paper deals with the analysis of Serbian export competitiveness, i.e. the identification of comparative advantages and the degree of specialization in international trade from 2011 to 2020. The Standard International Trade Classification (SITC Rev. 4) was used to classify the sectors. Results were obtained by calculating the RCA, RSCA and TSI indices and constructing a competitiveness matrix. The results show that Serbia achieves comparative advantages in several industries, but their export share in total exports of Serbia is extremely low. On the other hand, in most sectors, which dominate in total exports with their share, there is no comparative advantage. Also, the results of the TSI are discouraging and show that Serbia does not specialize in exports or that its economy is predominantly dependent on imports. In addition, the competitiveness matrix, which presents export growth rates in Serbia and the world, shows that all sectors are promising and have accelerated growth. Based on the analysis of all indicators, it was concluded that Serbia has low export competitiveness with the identification of industries that have the potential for improvement.*

**Key words:** *export competitiveness, revealed comparative advantage, trade specialization index, competitiveness matrix, Republic of Serbia*

### 1. INTRODUCTION

Serbian foreign trade is conditioned by the fact that Serbia is a developing country, and it mainly conducts foreign trade with neighboring countries or with those countries with which it has concluded free trade agreements. Its export partners are dominated by European Union countries, followed by Russia and China and neighboring countries. Serbia is a country at a lower level of economic development in relation to its foreign trade partners and all European Union countries whose accession it seeks to join, so it is important to find out which segments Serbian export have potential and how it can improve export.

Export competitiveness is just one dimension of competitiveness. It should be developed at the same time as improving the competitiveness of companies and the national competitiveness. In that way, country can achieve better position of its products on the international market. Export competitiveness can be measured and analyzed by

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different methods: qualitative methods, quantitative methods or monitoring structural changes in exports. Numerous indices have been developed in quantitative studies of export competitiveness. Some of which will be applied in this research as well.

The paper deals with the issue of discovering comparative advantages and the degree of specialization in the export of the Republic of Serbia by applying the indicators of export competitiveness. The paper aims to analyze the export competitiveness of the Republic of Serbia at the sectoral level from 2011 to 2020. The research starts with the following research question: Does Serbia have comparative advantages and specialization of exports, and in which sectors?

The paper consists of several interconnected sections. After the introductory remarks, a literature review will be presented, with an emphasis on studies that have dealt with the export competitiveness of individual sectors or the entire economy. After that, the applied methodology will be presented. The research results will be presented together with a discussion in the third part. In the end, based on all the above, certain conclusions will be drawn.

## 2. LITERATURE REVIEW

The country's competitive position is important from the aspect of its economic development because foreign trade is one of the key determinants of economic progress. Its positioning on the international market depends on export competitiveness. Export competitiveness can be defined as the ability to produce and sell products and services on the international market at competitive prices relative to competitors (Sharples & Milham, 1990).

For developing countries, export is the main item of connection with foreign countries. Therefore, it is important to assess its national competitiveness as well as the competitiveness of individual sectors to determine which industry has the most potential. There are studies that confirm that export competitiveness is one of the factors in achieving global competitiveness (Dhiman & Sharma, 2020; Gnanngnon, 2019). The economic growth of Serbia can accelerate most effectively through export expansion. The Republic of Serbia is a small economy, and its long-term growth cannot be based only on the placement of goods on the domestic market (Stevanović & Đurđević, 2021, 158). Mitrović and Mitrović (2014) emphasize that the competitiveness growth is reflected in the reduction of import dependence and the improvement of the export structure. For this reason, it is important to ensure dynamic export growth through reindustrialization in those sectors that are potentially competitive. Then, through the improvement of cooperation with other countries and international organizations, and new technological solutions adoption and innovations. In this way, there will be a change in the export structure and an improvement in export performance. In order to be able to improve the competitiveness of industries, it is necessary to find right way to measure it. Numerous models of competitiveness assessment have been developed in the literature. The focus is mainly on measuring competitiveness at the national level and at the company level. Bruneckiene and Paltanaviciene (2012) believe that the same methods can be applied to the assessment of export competitiveness. They point out that the analysis should include several competitiveness indicators or a composite competitiveness index. In

addition, the factors that affect competitiveness should be assessed. Export competitiveness is analyzed from the economic, financial, social, political and institutional aspects, both qualitatively and quantitatively.

Quantitative competitiveness measurement must consider all the norms and specifics of the analyzed problem without deviating from the defined methodological rules. To this should be added an assessment of the qualitative aspect of competitiveness. However, quantitative methods are widely accepted in empirical studies on the export competitiveness of sectors and product groups, and even individual products. Indices are considered a relevant indicator of a country's export competitiveness.

Due to its importance, the competitiveness of Serbian industries is the subject of numerous studies. Marković et al. (2019) examined the competitiveness of the agro-food sector of Serbia in the EU market using the net trade index and the Grubel-Lloyd index from 2012 to 2018. Raičević et al. (2012) examined the export competitiveness of the Serbian food industry using the RCA index, Lafay index, modified comparative advantage index and Grubel-Lloyd index from 2005 to 2009. The competitiveness of the technological products of Serbia in the EU-28 market from 2007 to 2018 was also analyzed using the RCA index (Ćorović et al., 2019). Matkovski et al. (2022) examined the export competitiveness of the Western Balkan countries in the EU market from 2005 to 2019 using the RCA index and its modifications, i.e. RMA and RC index. Jovović and Jovović (2018) studied the export competitiveness of the Serbian food industry in the period from 2005 to 2016 using the Revealed comparative advantage (RCA), net business performance (RCA2), Index of contribution to the trade balance (CTB), Grubel-Lloyd index (GLI) and Michaely index (MI). In their study, Ćorović and Jestratićević (2021) dealt with the export competitiveness of the textile industry by calculating the RCA and TSI indices. Milićević et al. (2017) analyzed the export competitiveness of the Serbian wood industry from 1995 to 2015 by calculating several competitiveness indices: Revealed comparative advantage (RCA), Competitiveness growth index (RCA1), Index of net business performance (RCA2), Index of contribution to the trade balance (CTB), Grubel-Lloyd index (GLI) and Michaely index (MI). Halilbašić et al. (2015) compared the export competitiveness of ex-Yu countries through several export competitiveness indices: RCA, MI, TPI, and HHI. They showed that countries achieve comparative advantages mostly in traditional industries. Also, the best export competitiveness is achieved by EU member states. Marković et al. (2022) investigated how the crisis caused by the COVID-19 virus affected the export competitiveness of the Serbian agricultural sector, following it from 2007 to 2020 by calculating the net value of exports, CTB and relative coverage of imports by exports. The crisis did not negatively affect the growth of this sector, but even the importance of the agricultural sector increased. Ignjatijević et al. (2014), among other indicators, applied the RCA index in the analysis of export competitiveness of the Serbian food industry and proved that Serbia has comparative advantages in the export of many food products.

### **3. METHODOLOGICAL FRAMEWORK**

The research deals with the analysis of export competitiveness of the Republic of Serbia according to the classification of SITC Rev. 4 (Table 1) from 2011 to 2020. Several

competitiveness indicators were selected for analysis: Revealed comparative advantage (RCA), Revealed symmetric comparative advantage (RSCA), Trade specialization index (TSI) and competitiveness matrix.

**Table 1.** Sectors by SITC (Rev. 4)

	Section
0	Food and live animals
1	Beverages and tobacco
2	Crude materials, inedible, except fuels
3	Mineral fuels, lubricants and related materials
4	Animal and vegetable oils, fats and waxes
5	Chemicals and related products, n.e.s
6	Manufactured goods classified chiefly by material
7	Machinery and transport equipment
8	Miscellaneous manufactured articles
9	Commodities and transactions not classified elsewhere in the SITC

**Source:** UN (2006). *Standard International Trade Classification Revision 4*, United Nations.

The Revealed Comparative Advantage (RCA) was formulated by the Bella Balassa in 1965. Because of that, it is often called the Balassa Index. Its analytical importance is reflected in the fact that it shows the ability of the economy to compete with its products on the international market with products from the same sectors of other countries. There have been various modifications of this index over time, but this study will use a formula that relates the share of exports of a particular industry in total exports of the country and the export share of the same industry in total exports of the world. The RCA index is calculated according to the following formula (Balassa & Noland, 1989):

$$RCA = \frac{\frac{x_{ij}}{x_j}}{\frac{x_{iw}}{x_w}}$$

where is:  $x_{ij}$  export of sector  $i$  in country  $j$ ;  $x_j$  total export in country  $j$ ;  $x_{iw}$  world export of sector  $i$ ; and  $x_w$  total world export.

The value of the RCA index can range between 0 and  $+\infty$ . If the value of the RCA index is less than 1, it indicates that the country does not have a comparative advantage. More precisely, its comparative advantage is below the world average. An RCA index value between 1 and 2 indicates a weak comparative advantage. A moderate comparative advantage exists when the value of the RCA index ranges between 2 and 4. Values above 4 mean a strong comparative advantage in the exports of a particular sector (Hinloopen & Marrewijk, 2001).

The main disadvantage of the RCA index is its asymmetry, i.e. its range from 0 to infinity. The index was modified, and a new one was formed to avoid this situation. It is called Revealed Symmetric Comparative Advantage, whose value ranges from -1 to 1.

A positive value of the index indicates the existence of a comparative advantage, while a negative one means that there is no comparative advantage. The RSCA index is calculated by the following formula (Zhang et al., 2012. p. 207):

$$RSCA = \frac{RCA - 1}{RCA + 1}$$

The trade specialization index (TSI) is an index that shows the stage of product development in international trade, i.e. whether the products are exported or imported more. The TSI compares the difference between exports and imports and the country's total foreign trade. It is calculated according to the following formula:

$$TSI = \frac{x_{ij} - m_{ij}}{x_{ij} + m_{ij}}$$

where is:  $x_{ij}$  export of sector  $i$  in country  $j$ , a  $m_{ij}$  import of sector  $i$  in country  $j$ .

The analytical significance of the TSI is reflected in the fact that it respects the importance of imports, in contrast to the RCA index, which focuses exclusively on exports. The value of the index ranges from -1 to 1. If the value of TSI is -1, the country only imports products or no exports. On the other hand, if the value of TSI is 1, there are only exports, without imports. If the TSI ranges from -1 to -0.5, it means the product group does not have a competitive advantage. The reason can be products are in the initial stage of appearance on the international market or because the product is mostly imported. If the TSI is between -0.4 and 0, the product group is in the import substitution phase. The TSI in the range of 0.1 to 0.7 refers to the expansion of exports of these products, while values of 0.8 to 1 indicate the achievement of a high degree of specialization in exports (Firmansyah et al., 2017, p. 293).

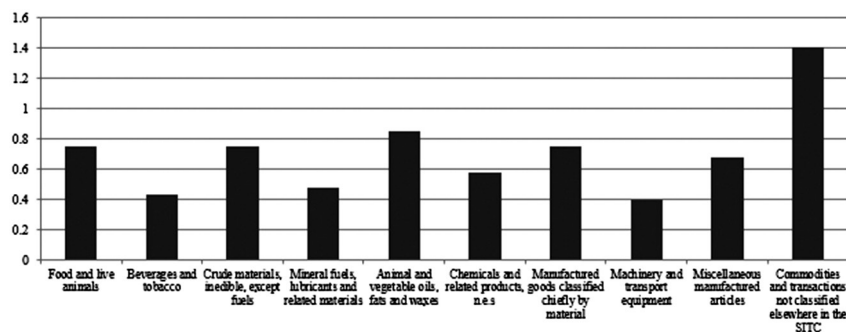
The competitiveness matrix of a sector is a coordinate system which shows the degree of competitiveness and perspectives of the development of exports of that sector. It depends on the sector's position in a certain quadrant. The competitiveness matrix was primarily designed to select a firm's strategy and was later modified to identify export-promising sectors. The x-axis shows the average export growth rate at the global level, while the y-axis presents the average export growth rates of the Serbian sector. The size of the bubble refers to the share of a specific sector's export in the total export of Serbia. The matrix shows the following:

- quadrant +, + indicates that both world markets and exports of the country are growing faster than average;
- quadrant +, - shows faster world growth than the average in relation to the export growth in the country;
- quadrant -, - means that world exports and Serbian exports are growing slower than average or even declining;
- quadrant -, + shows that world exports are growing slower than domestic exports.

The research uses export data from the UNCTAD database accessed on <https://unctadstat.unctad.org/>.

#### 4. RESULTS AND DISCUSSION

The exports of the Republic of Serbia increased significantly in the end compared to the beginning of the observed period, from 11,779,477.58 thousand USD in 2011 to 19,500,829.9 thousand USD in 2020, or 65.55%. The relative export growth rate (Figure 1) shows that the greatest export increase from 2011 to 2020 was recorded for commodities and transactions not classified elsewhere in the SITC (Rev. 4). The smallest export growth is for machinery and transport equipment and the export of beverages and tobacco. Exports of food and live animals, crude materials, inedibles, except fuels, animal and vegetable oils, fats and waxes, manufactured goods classified by material, also have good growth rates.



**Figure 1.** Relative export growth of Republic of Serbia by sector from 2011. to 2020. godine

**Source:** Author

The RCA shows a comparative advantage of the sector over the world average. Observing the overall situation related to comparative advantages measured by the RCA index, it can be noticed that from 2011 to 2020, it did not change significantly, i.e. there was no change in the sectors in which Serbia achieves comparative advantages. The results based on the RCA index show that the Republic of Serbia has a comparative advantage in the export of beverages and tobacco (1), food and live animals (0), animal and vegetable oils, fats and waxes (4), manufactured goods classified chiefly by material (6) and exports of miscellaneous manufactured articles (8). There is a declining trend in the competitiveness of exports of manufactured good classified chiefly by material (6) and exports of miscellaneous manufactured articles (8). The Republic of Serbia has the lowest comparative advantage in the export of mineral fuels, lubricants and related materials (3) for which the RCA index does not exceed 0.3 during the entire observed period. Low export competitiveness also exists in exports of commodities and transactions not classified elsewhere in the SITC (Rev. 4) (9). In the export of crude materials, inedible, except fuel (2), there was a loss of comparative advantage because the value of the RCA index decreased below 1 after 2013. It means that Serbia previously had a higher export share of these products in total exports compared to the world average. These results suggest that Serbia actually has the greatest potential in exporting mostly primary products.



**Table 2.** The RCA of Republic of Serbia from 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0	2.74839	3.25709	2.38848	2.56085	2.41071	2.2197	2.03671	2.00584	2.03523	2.13550
1	3.06584	3.26558	2.78512	3.40810	3.93582	4.19870	3.46302	3.32958	3.44360	4.14949
2	1.24920	1.22561	1.11811	0.95981	0.94826	0.92004	0.88011	0.89109	0.82716	0.96200
3	0.22245	0.19256	0.27392	0.22812	0.25041	0.27033	0.23257	0.23852	0.22428	0.26801
4	2.81267	2.97418	2.43792	1.97451	2.22427	2.32151	1.88081	1.74442	2.32464	1.91716
5	0.79974	0.77887	0.82686	0.75823	0.76749	0.78402	0.82306	0.84714	0.80019	0.798
6	2.26860	1.87528	1.63680	1.68236	1.68913	1.63661	1.91811	2.03166	2.04859	1.75100
7	0.52285	0.71081	0.97012	0.90939	0.80858	0.80505	0.76961	0.77801	0.7893	0.77082
8	1.22206	1.28522	1.14104	1.13267	1.05107	1.05149	1.11115	1.10902	1.08783	1.05146
9	0.71712	0.19086	0.14590	0.17571	0.30439	0.33798	0.43190	0.42716	0.36071	0.29542

Source: Author

It is useful to observe the export share of sectors in which Serbia has comparative advantages in its total export. The Table 3 shows the export share of these sectors in total exports. The largest export share in total exports has the export of manufactured goods classified chiefly by material (6), exports of food and live animals (0) and exports of miscellaneous manufactured articles (8). The average export share of these sectors in the total exports of Serbia from 2011 to 2020 is 55.17%. What is noticeable is that the cumulative export share of these sectors decreases in the observed period. In 2011. Its share in total exports was 62.03%, and in 2020 it was 53.97%. The greatest decline in the export share in total exports was recorded in exports of manufactured goods classified chiefly by material (6). Serbia achieves exceptional comparative advantages, measured by the RCA index, in the export of beverages and tobacco (1) and animal and vegetable oils, fats and waxes (4). However, the export share of these sectors is extremely low in the total exports of the Republic of Serbia. It averaged 2.9% and 1.27% in 2011 and 2020, respectively. On the other hand, the export of machinery and transport equipment (7) has a high share in the total export of Serbia during the entire observed period. It was 28.35% in 2020, but this sector does not have good results in the RCA index, which means that Serbia mostly exports products which are not competitive for it.

**Table 3.** The export share of the most successful sectors in the total exports of the Republic of Serbia from 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Prosek
0	15.86	18.66	14.36	15.94	15.61	15.08	13.45	12.63	13.21	15.15	14.99
1	2.32	2.55	2.19	2.68	3.29	3.70	2.92	2.80	2.97	3.54	2.90
4	1.73	1.77	1.31	1.04	1.19	1.32	1.12	0.89	1.15	1.15	1.27

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Prosek
6	29.42	22.92	19.94	20.94	21.46	20.49	23.81	24.95	24.41	21.44	22.98
8	12.69	13.82	12.50	13.08	13.16	13.29	13.29	12.82	13.08	12.69	13.04
Ukupno	62.03	59.72	50.30	53.68	54.71	53.88	54.59	54.09	54.80	53.97	55.17

**Source:** Author's calculation

The RSCA index reveals the sector comparative advantage, eliminating the problem of asymmetry or the fact that the RCA index moves to infinity. Because of that, RCA can not accurately assess the degree of success of the sector's export. Table 4 shows the data for the RSCA index of Serbian exports by sector from 2011 to 2020. Regarding sectoral competitiveness, the results of the RSCA index show the same results as the RCA index. They show that Serbia has a comparative advantage in the export of food and live animals (0), beverages and tobacco (1), animal and vegetable oils, fats and waxes (4) and miscellaneous manufactured articles (8). However, the RSCA index shows more precisely how much competitive these sectors are. Thus, the RSCA of exports of miscellaneous manufactured articles (8) has, although positive values, extremely close to zero. It indicates an extremely low comparative advantage or the danger of losing it. The situation is similar with chemicals and related products, n. e. s. (5). On the other hand, the loss of comparative advantage in the export of crude, inedible, except fuels (2) is very low. Namely, the values of the RSCA index are negative but constantly less than -0.1 since 2014. It indicates that Serbian exports in this area are relatively close to the limit of world results, so there is a real chance that Serbia will regain a comparative advantage in this area. Serbia has the highest comparative advantage in the export of beverages and tobacco (1), whose share in the total export of Serbia was 2.32% in 2011 and 3.54% in 2020. The lowest level of competitiveness is achieved by the export of mineral fuels, lubricants and related products (3).

**Table 4.** The RSCA of Republic of Serbia from 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0	0.46644	0.53020	0.40977	0.43834	0.41361	0.37882	0.34139	0.33463	0.34107	0.36214
1	0.50810	0.53113	0.47162	0.54629	0.59480	0.61529	0.55187	0.53806	0.54992	0.61161
2	0.11080	0.10137	0.05576	-0.0205	-0.0265	-0.0416	-0.0637	-0.0575	-0.0945	-0.0193
3	-0.6360	-0.6770	-0.5699	-0.6285	-0.5994	-0.5743	-0.6226	-0.6148	-0.6336	-0.5772
4	0.47543	0.49675	0.41825	0.32762	0.37971	0.39786	0.30575	0.27125	0.39843	0.31440
5	-0.1112	-0.1243	-0.0947	-0.1375	-0.1315	-0.1210	-0.0970	-0.0827	-0.1109	-0.1123
6	0.38812	0.30442	0.24151	0.25439	0.25627	0.24145	0.31463	0.34030	0.34396	0.27299
7	-0.3133	-0.1690	-0.0151	-0.0474	-0.1058	-0.1080	-0.1301	-0.1248	-0.1177	-0.1294
8	0.09994	0.12481	0.06588	0.06221	0.02490	0.02510	0.05265	0.05170	0.04207	0.02509
9	-0.1647	-0.6794	-0.74534	-0.70109	-0.53328	-0.49478	-0.39674	-0.40138	-0.46981	-0.54390

**Source:** Author's calculation

The trade specialization index of the Republic of Serbia shows worse results compared to previous indices. The TSI shows that exports of animal and vegetable oils, fats and waxes (4)



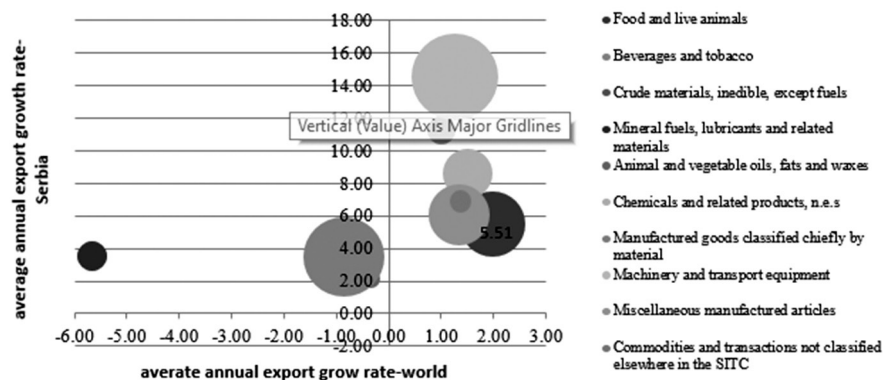
are expanding because their values are above 0.4. Export of food and live animals shows the trend of expansion, but with significantly lower index values. It is worrying that most sectors record negative TSI values. Exports of mineral fuels, lubricants and related materials (3) do not show a degree of specialization, i.e. the high value of the TSI shows that the country mainly imports these products. The same situation is with the export of commodities and transactions not classified elsewhere in the SITC (Rev. 4) (9). Negative values of the TSI are also recorded in the sectors of beverages and tobacco (1), chemical and related products, n. e. s (5), and manufactured goods classified chiefly by material (6), machinery and transport equipment (7), indicating that the country is in the phase of import substitution of these products.

**Table 5.** TSI of Republic of Serbia from 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
0	0.3083	0.3141	0.2728	0.3100	0.2926	0.3875	0.3139	0.2452	0.2521	0.2437
1	0.1623	0.2160	0.2044	0.3166	0.3237	0.3218	0.2551	0.2200	0.2078	0.3084
2	-0.0920	-0.0455	0.0086	-0.0755	-0.2493	-0.2021	-0.2864	-0.2540	-0.3452	-0.0815
3	-0.7748	-0.7844	-0.6307	-0.6791	-0.6928	-0.6327	-0.6844	-0.6759	-0.6913	-0.6223
4	0.6221	0.5800	0.4628	0.4478	0.4920	0.6215	0.5126	0.4504	0.6317	0.5403
5	-0.4964	-0.5504	-0.4343	-0.4270	-0.4146	-0.3432	-0.3223	-0.3069	-0.3415	-0.3617
6	-0.0419	-0.1493	-0.0989	-0.0769	-0.0687	-0.0429	-0.0028	-0.0022	-0.0242	-0.0760
7	-0.3958	-0.2742	-0.1177	-0.0713	-0.1321	-0.0500	-0.0586	-0.1133	-0.1132	-0.1103
8	0.0100	0.0714	0.0792	0.1036	0.1401	0.1651	0.1610	0.1365	0.1201	0.0764
9	-0.5615	-0.8405	-0.8317	-0.8977	-0.7619	-0.8414	-0.7873	-0.7581	-0.7791	-0.8240

**Source:** Author's calculation

The competitiveness matrix (Figure 2) shows that most sectors are in the first quadrant. It presents that growth both at the global level and in Serbia is faster than average. On the other hand, two sectors are located in the second quadrant. These are manufactured goods classified chiefly by material and mineral fuels, lubricants and related products. The position in the second quadrant indicates that the country's export of the sector is growing faster than the average, while at the global it is growing slower than the average. This sector can represent the country's export potential, given the growth rate of its exports. The competitiveness matrix in this case does not show precise results, given that these are sectors that cover a wide range of products because some of the sectors are too heterogeneous. It would be useful to create a competitiveness matrix for individual products. Nevertheless, it certainly provides useful guidance of the future export perspective of all sectors. The encouraging result is that the exports of all sectors of Serbia follow the growth rate of exports of the same sectors at the world level.



**Figure 2.** Competitiveness matrix of the sector of the Republic of Serbia from 2011 to 2020

Source: Author

## 5. CONCLUSION

Based on the presented results, it can be concluded that Serbia has several sectors in which it achieves comparative advantages. The values of RCA and RSCA show that a comparative advantage is achieved in the export of food and live animals, beverages and tobacco, animal and vegetable oils, fats and waxes, and manufactured goods classified chiefly by material and miscellaneous manufactured articles. Although these sectors have the opportunity to achieve a good positioning of their products on the international market, it is critical that the share of exports of these sectors in total exports is very low. On the other hand, there are sectors whose share of exports in total exports is high, but the exports of these sectors do not show comparative advantages. Also, the TSI index shows that Serbia has a low level of export specialization. Most sectors have negative TSI values, which indicates greater import dependence of the Serbian economy. Even sectors that have positive TSI values are low. On the other hand, the competitiveness matrix shows that all sectors of Serbia are promising in terms of export growth rates. Namely, there is an increase in exports in all sectors that is faster than the world average or approximately equal. The good news is that none of the sectors is showing a tendency to slow down export growth. According to the average growth rates of exports, the products of all sectors of Serbia follow the export tendencies in the world, which means that Serbia does not lag behind in terms of development prospects of exports.

Based on all the above, it can be concluded that Serbia has low export competitiveness. Namely, most sectors do not have a comparative advantage. In those sectors where it exists, it is extremely low, or the share of exports of these products in the country's total exports is low, almost negligible. Reindustrialization would contribute to the better placement of Serbian products on the international market. It would provide a better export structure in the direction of a higher share of exports of high-tech products since the results showed that primary products are mostly exported.

The research limitation can be considered the classification of sectors on the level of 1 digit. Future research directions could be towards the competitiveness analysis of exports of specific sectors at the individual products level. In any case, the research contributes to sector identification that has opportunities for further development of exports to the international market. The sectors that are the carriers of export growth and contribute the most to Serbian export competitiveness improvement have been identified. Research can be seen as a guideline for economic and industrial policymakers to encourage the development of promising sectors.

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### LITERATURE

- Balassa Bela & Noland Marcus (1989): "The changing comparative advantage of Japan and the United States". *Journal of the Japanese and International Economies*, 3(2), 174–188. [https://doi.org/10.1016/0889-1583\(89\)90003-8](https://doi.org/10.1016/0889-1583(89)90003-8)
- Bruneckiene Jurgita & Paltanaviciene Dovile (2012): "Measurement of export competitiveness of the Baltic States by composite index". *Inžinerinė Ekonomika*, 23(1), 50–62.
- Ćorović Enes, Gligorijević Živorad & Manasijević Aleksandar (2019): "Revealed Comparative Advantages and Competitiveness of the Manufacturing Industry of the Republic of Serbia". *Economic Themes*, 57(3), 307–327. <https://doi.org/10.2478/ethemes-2019-0018>
- Ćorović Enes & Jestratić Iva (2021): "Assessing the Competitiveness of Serbian Textile and Apparel Industry Exports Using RCA Index and TPI Indicators". *FIBRES & TEXTILES in Eastern Europe*, 4(148), 15–23. <https://doi.org/10.5604/01.3001.0014.8226>
- Dhiman Rahul & Sharma Manoj (2020): "*The Textile Industry and Exports in Post-Liberalization India*". Routledge. <https://www.routledge.com/The-Textile-Industry-and-Exports-in-Post-Liberalization-India/Dhiman-Sharma/p/book/9781138347243>
- Firmansyah Firmansyah, Widodo, Wahyu, Karsinah Karsinah & Oktavilia Shanty (2017): "Export Performance and Competitiveness of Indonesian Food Commodities". *JEJAK*, 10, 289–301. <https://doi.org/10.15294/jejak.v10i2.11294>
- Gnanngnon S. Kimm (2019): "Effect of multilateral trade liberalization on export performance in developing countries: Does aid for trade matter?" *Review of International Business and Strategy*, 29(2), 117–138. <https://doi.org/10.1108/RIBS-09-2018-0079>
- Halilbašić Muamer, Brkić Snježana & Bosić Vedrana (2015): "The Comparative Analysis of Export Competitiveness of ex-Yu Countries". *Economic Analysis*, 48(1–2), 108–129.
- Hinloopen Jeroen & Marrewijk V. Charles (2001): "On the empirical distribution of the Balassa index". *Weltwirtschaftliches Archiv*, 137(1), 1–35. <https://doi.org/10.1007/BF02707598>

- Ignjatijević Svetlana, Čavlin Miroslav & Đorđević Dragomir (2014): "Measurement of Comparative Advantages of Processed Food Sector in the Increasing the Export". *Economics of Agriculture*, 61(3), 677–693. <https://doi.org/10.5937/ekoPolj1403677I>
- Jovović Dušanka & Jovović David (2018): "Competitiveness of Food Manufacturing of Republic of Serbia". *Economics of Agriculture* 65(1), 49–64. <https://doi.org/10.5937/ekoPolj1801049J>
- Marković Milan, Krstić Bojan & Popović Slavica (2022): "Competitiveness of Agri-Food Exports of the Republic of Serbia in the COVID-19 Conditions". *Economics of Agriculture*, 69(1), 227–239. <https://doi.org/10.5937/ekoPolj2201227M>
- Marković Milan, Krstić Bojan & Rađenović Žarko (2019): "Export competitiveness of the Serbian agri-food sector on the EU market". *Ekonomika Poljoprivrede*, 66(4), 941–953. <https://doi.org/10.5937/ekoPolj1904941M>
- Matkovski Bojan, Zekić Stanislav, Đokić Danilo, Jurjević Žana & Đurić Ivan (2022): "Export Competitiveness of Agri-Food Sector during the EU Integration Process: Evidence from the Western Balkans". *Food*, 10(11), 1–16. <https://doi.org/10.3390/foods11010010>
- Miličević Srđan, Nikolić Miroljub & Cvetanović Slobodan (2017): "The competitiveness of wood processing industry in the Republic of Serbia during the period 1995–2015". *Industrija*, 45(3), 131–150. <https://doi.org/10.5937/industrija45-14579>
- Mitrović Vladimir & Mitrović Ivana (2014): "Raising of Competitiveness of Export-Oriented Industries-Economic Priorities of National Importance". *Ekonomika, Journal for Economic Theory and Practice and Social Issues*, 60(3), 263–283.
- Raičević Vuk, Ignjatijević Svetlana & Matijašević Jelena (2012): "Economic and legal determinants of export competitiveness of the food industry of Serbia". *Industrija*, 40(1), 201–226.
- Sharples A. Jerry & Milham Nick (1990): "Long-run competitiveness of Australian agriculture". *Working Paper*, (147996) United States Department of Agriculture, Economic Research Service. New York
- Stevanović D. Miroslav & Đurđević Ž. Dragan (2021): "The problem of the Eurozone in the process of European integration from the aspect of entrepreneurship planning in the Republic of Serbia". *Megatrend revija*, 18(4), 129–146. <https://doi.org/10.5937/MegRev2104129S>
- UN (2006): „*Standard International Trade Classification Revision 4*“, United Nations
- Zhang Jianhong, Ebberts Haico & Mulder Rene (2012): "Competitiveness of Chinese Industries—A Comparison with the EU". *Review of European Studies*, 4(1), 203–219. <https://doi.org/10.5539/res.v4n1p203>
- <https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>

## IZVOZNA KONKURENTNOST I KOMPARATIVNA PREDNOST REPUBLIKE SRBIJE

**Sažetak:** Rad se bavi analizom izvozne konkurentnosti Srbije, odnosno identifikovanjem komparativnih prednosti i stepena specijalizacije u međunarodnoj trgovini u periodu od 2011. do 2020. godine. Za klasifikaciju sektora korišćena je Standardna međunarodna trgovinska klasifikacija (SMTK Rev. 4). Izračunavanjem RCA, RSCA i TSI indeksa uz konstruisanje matrice konkurentnosti dobijeni su rezultati koji pokazuju da Srbija ostvaruje komparativne prednosti u nekoliko sektora, ali da je učešće izvoza tih sektora u ukupnom izvozu Srbije izrazito nisko. S druge strane, u većini sektora, koji svojih učešćem dominiraju u ukupnom izvozu, ne postoji komparativna prednost. Takođe, rezultati TSI indeksa su nepovoljni i pokazuju da Srbija nema specijalizaciju u izvozu, odnosno da je njena privreda pretežno uvezno zavisna. Osim toga, matrica konkurentnosti, koja u obzir uzima stope rasta izvoza u Srbiji i svetu, pokazuje da su svi sektori perspektivni i da imaju ubrzan rast. Na osnovu analize svih pokazatelja, zaključeno je da Srbija ima nisku izvoznu konkurentnost uz identifikovanje sektora koji imaju potencijala za njeno unapređenje.

**Ključne reči:** izvozna konkurentnost, indeks otkrivene komparativne prednosti, indeks specijalizacije trgovine, matrica konkurentnosti, Republika Srbija