What did Türkiye do in terms of export competitiveness after 2000?

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Abstract

Competitiveness relates to an economy's ability to produce products efficiently and effectively, enabling it to compete in domestic and global markets. It encompasses productivity, innovation, quality, cost-efficiency, and market access. Competitive economies are more likely to attract investment, create jobs, and achieve higher levels of economic development. Competitiveness rankings, primarily, provide opportunities for benchmarking, practical policy guidance, attractive investment, global comparison, and evaluation. This study was conducted to examine Turkiye's export structure from 2001 to 2021 in the context of the Harmonized Commodity Description and Coding System. The aim is to determine and compare its competitiveness using the Revealed Symmetric Comparative Advantage Index (RSCA). Data used to calculate the RSCA values is taken from TradeMap, the database of the International Trade Centre (ITC). Comparison was made with Turkiye's highest trading partners, the countries with the largest share of Turkiye's exports. Measuring Turkiye 's competitiveness in the products it exports and allocating its resources (capital, labor force, raw materials, etc.) accordingly will help Turkiye to achieve global significance in the long run. Therefore, in this study, Turkiye 's export competitiveness is compared with the countries with which Turkiye does the most trade. While Turkiye had RSCA in 37 products in 2001, it increased to 45 products in 2021. Similar to Podoba et al. (2021), product groups are

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categorized according to observable trends in RSCA values. In 2001, five products with RSCA decreased, and in 2021, twelve products with comparative advantage replaced them.

Keywords: Export Competitiveness, Revealed Symmetric Comparative Advantage, Harmonized Commodity Description and Coding System, Turkiye

JEL Classification: F10 – F14 – F40 – F43

1. Introduction

Competitiveness has been one of the most important and researched topics of the 20th century. Competition is one of the basic requirements of a market economy. The interest in competitiveness comes from this basic necessity. Competitiveness refers to the ability to compete, operate in a competitive environment, and ensure continuity (Gorynia, 2019). To compete at the international level, macroeconomic indicators of countries gain importance. Among these indicators, the specialization of countries in the products they export effectively increases global competitiveness.

It has been stated in both theoretical and applied studies that the trade in goods mentioned in international trade theories makes the macroeconomic indicators of countries favorable. With the developments in financial markets, the structure of international trade has also started to develop. Today, international trade between countries includes not only trade in goods but also trade in services and ideas. However, measuring competitiveness is a concept that is more related to trade in goods. With the effect of globalization, the key to success in international marketing activities is competitiveness. Countries should increase their competitiveness to market their goods and services.

The more competitive an economy is, the faster it can grow (Dirsehan, 2015). Porter (1998) states that the competitiveness levels of the sectors should be

evaluated periodically with the most up-to-date data and indicators (Cele et al., 2022). Measuring Turkiye's competitiveness in the products it exports and allocating its resources (capital, labor force, raw materials, etc.) accordingly will help Turkiye to achieve global significance in the long run. Therefore, in this study, Turkiye's export competitiveness is compared with the countries with which Turkiye does the most trade. Countries function like companies. Hence, they need to decide which strategies to adopt to exceed their competitors by measuring their competitiveness in this way. On the other hand, various indicators such as inflation, developments in wages, labor productivity, unemployment, exchange rate are used to measure competitiveness among countries.

This study aims to examine Turkiye's export competitiveness and specialization in 2001-2021 within the framework of the Harmonised Commodity Description and Coding System. To measure international competitiveness, the study uses the Revealed Symmetric Comparative Advantage Index (RSCA) proposed by Dalum et al. (1998) based on Balassa's Revealed Comparative Advantage Index (RCA). In this context, the export structure of Turkiye is initially outlined, along with an overview of existing literature on the subject. The analysis encompasses the RSCA index and chapters of the Harmonised Commodity Description and Coding System.

There is no study in the literature that measures Turkiye's competitiveness in 99 chapters and classifies them as increased, newly emerged, diminished and lost as in this study. In the studies that have been conducted, competitiveness has generally been evaluated through one sector. Of course, it should be said that the study is open to improvement in different aspects. This indicates the limitations of the study. The years analyzed may be investigated on the basis of different years. The number of countries compared may be increased,

different countries may be compared, and thus the competitiveness of other countries in the world may be revealed. At the same time, other competitiveness indices in the literature can be used in other studies.

2. Turkiye's Export Structure

Turkiye, mentioned in the Emerging Seven, is expressed as one of the countries on the path of development. The other E7 (Emerging Seven) countries are China, Russia, India, Brazil, Indonesia, and Mexico. While it was stated that these countries have surpassed the developed countries (G7) in terms of economic power over the years, it was estimated that they may exceed the G7 countries in the future (Kavacık, 2021).

Before 1980, Turkiye followed the import substitution policy, and as of that year, it switched to an export-oriented growth policy. Until the 1990s, the economy experienced revitalization through economic growth. In 1994, the economic crisis, recession, the Gulf War, inflation, and the rise in foreign debt slowed economic growth. In 1996, with the Customs Union agreement with the EU, Turkish foreign trade was positively affected for a short time. The volume of foreign trade increased from around 41 billion in 1994 to 73 billion in 1998. On the other hand, exports increased from 18 billion to about 27 billion. After the 1997 Asian Crisis and the stabilization program implemented in 1999, the appreciation of the Turkish Lira (TL) and the rise in crude oil prices contributed to a slowdown in export growth. After the 2000-2001 crises, export figures have been on an upward trend again (Orkunoglu Sahin, 2022).

In 2002, the Turkish economy entered a period of solid growth, which continued since 2003 with the support of the global environment. The tight monetary and fiscal policies implemented in conjunction with structural reforms that will ensure sustained macroeconomic stability and make the

economy flexible, efficient, and productive have provided confidence and stability in the economy to a great extent. From 2002 to 2007, the Turkish economy experienced high growth rates, witnessed significant increases in exports and production, saw a decrease in inflation rates, and achieved fiscal discipline, albeit to a relative extent. In 2009, although the mortgage crisis had financial origins, its effects were primarily felt in the real sector. However, the structural reforms implemented by Turkiye after the 2001 crisis strengthened the country's public finance and banking sector infrastructure and ensured that it was affected by the crisis to a lesser extent. The government took a series of measures to minimize the effects of the global crisis. Thanks to the tax incentives provided by the government, the real sector emerged from the crisis with minimal losses. In this period, Asset Peace was introduced, tax debts were allowed to be paid in installments, SCT and VAT reductions were made, and SMEs were exempted from corporate tax (Acar, 2013).

The most recent OECD (2018) report on Turkiye's export structure highlights the country's dependence on a narrow range of goods and markets. According to the report, Turkiye's exports are highly concentrated in a few product categories, with the top 20 product groups accounting for over 80% of total exports. In addition, Turkiye's exports are heavily focused on a small number of trading partners, with the top five destinations accounting for more than 50% of total exports. This concentration leaves Turkiye vulnerable to external shocks, such as changes in global demand or trade policy shifts. The report also notes that Turkiye's export structure is dominated by low- and medium-technology products, such as textiles, clothing, and automotive parts. While these products have been successful in the past, the report suggests that Turkiye should focus on upgrading its export structure to higher-value-added products to remain competitive in the global market. Specifically, the report

recommends that Turkiye invest in research and development, improve its business environment, and promote innovation to diversify its export base and increase its competitiveness in high-tech industries.

Figure 1 Turkiye's Export-Import Figures 2001-2021
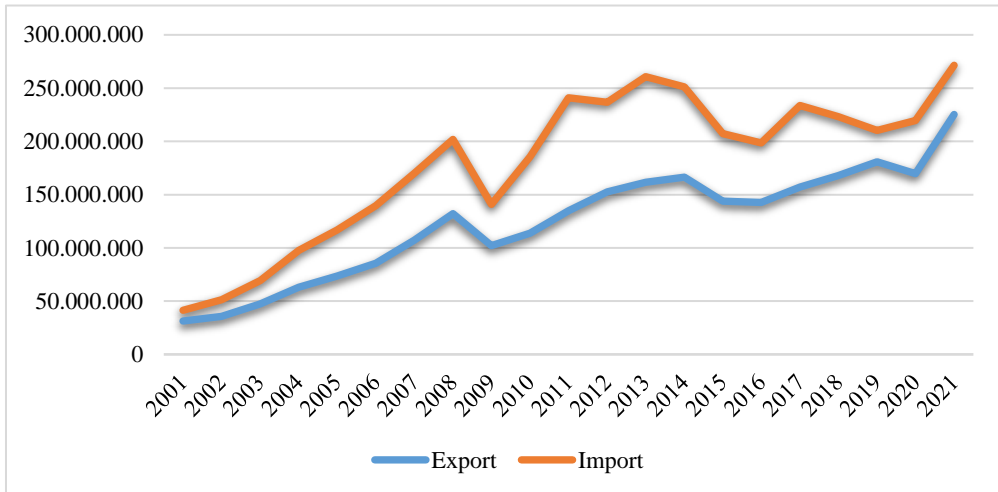
Source: TradeMap (2022)

Between 2002 and 2008, Turkiye's imports and exports continued to increase steadily. Towards the end of 2008, foreign trade figures started to decline. The slowdown in economic activities due to the global crisis, which deepened with the collapse of financial institutions, was also reflected in foreign trade. The worldwide crisis significantly affected all sectors, with a notable impact on industries such as automotive, iron, and steel, which hold a significant share in exports. Since October 2008, imports have declined faster than exports, and, coupled with the decrease in oil prices, this has had a positive impact on the foreign trade balance. In 2010, 2016, and 2020, both Turkiye's exports and imports decreased due to different reasons. As a result of the measures taken, it is seen that the figures increased again in the following years. In 2021, while world exports increased by 25.54%, Turkiye's exports increased by 32.78%.

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World imports increased by 25.35% and Turkiye's imports by 23.65% in the same year.

Table 1 Export Figures for the Top 10 Countries in Turkiye's Export (2001-2021)

	Germany	United States of America	United Kingdom	Italy	Iraq	Spain	France	Netherlands	Israel	Russian Federation
2001	5.366.680	3.125.804	2.174.892	2.342.203	0	950.362	1.895.290	892.416	805.218	924.107
2002	5.835.207	3.336.810	3.005.840	2.361.212	0	1.115.226	2.123.543	1.043.866	850.859	1.168.309
2003	7.484.931	3.753.865	3.670.093	3.194.797	829.058	1.792.155	2.826.141	1.525.929	1.082.998	1.367.591
2004	8.745.282	4.848.743	5.543.924	4.641.199	1.820.802	2.619.040	3.668.418	2.138.004	1.313.890	1.859.187
2005	9.455.050	4.910.817	5.917.163	5.618.164	2.750.080	3.011.041	3.805.760	2.469.582	1.466.913	2.377.050
2006	9.686.235	5.061.330	6.814.301	6.752.991	2.589.352	3.721.542	4.604.349	2.539.246	1.529.158	3.237.611
2007	11.993.232	4.177.593	8.626.776	7.480.711	2.844.767	4.580.228	5.974.462	3.018.878	1.658.195	4.726.853
2008	12.951.755	4.316.424	8.158.669	7.820.270	3.916.685	4.047.280	6.617.511	3.143.835	1.935.235	6.483.004
2009	9.793.006	3.250.109	5.937.997	5.889.622	5.123.406	2.818.592	6.211.415	2.127.297	1.522.436	3.189.607
2010	11.479.066	3.766.034	7.235.861	6.507.052	6.036.362	3.536.247	6.054.499	2.461.371	2.080.148	4.628.153
2011	13.950.825	4.585.849	8.151.430	7.854.463	8.310.130	3.917.600	6.805.821	3.243.080	2.391.148	5.992.633
2012	13.124.375	5.606.487	8.693.599	6.373.488	10.822.144	3.717.345	6.198.536	3.244.429	2.329.531	6.680.777
2013	14.832.546	6.647.525	9.126.733	7.474.685	12.949.891	4.554.381	6.654.651	3.783.681	2.810.289	7.213.894
2014	16.275.367	6.921.399	10.216.479	7.486.545	13.154.131	4.977.490	6.860.107	3.654.059	3.063.444	6.170.452
2015	13.417.478	6.395.899	10.556.863	6.887.778	8.550.298	4.742.576	5.850.226	3.154.911	2.698.141	3.588.657
2016	14.004.848	6.627.394	11.690.650	7.583.132	7.640.287	4.993.394	6.027.992	3.589.553	2.956.451	1.733.569
2017	15.118.910	8.654.268	9.603.189	8.473.629	9.054.612	6.302.135	6.589.874	3.864.486	3.407.436	2.734.316
2018	16.137.388	8.304.672	11.107.336	9.560.597	8.346.276	7.708.490	7.293.603	4.760.826	3.894.506	3.399.827
2019	16.624.070	8.971.874	11.281.350	9.754.698	10.224.285	8.141.147	7.952.702	5.762.607	4.464.351	4.153.202
2020	15.980.400	10.183.213	11.236.969	8.082.942	9.142.515	6.684.540	7.204.647	5.195.418	4.704.455	4.506.813
2021	19.317.751	14.719.306	13.705.148	11.474.990	11.131.282	9.627.056	9.132.265	6.768.766	6.356.140	5.775.897
Ave. growth rate	7%	9%	11%	10%	10%	14%	9%	12%	12%	15%

Source: TradeMap (2022)

Table 1 shows the export figures for 2001-2021 to the top 10 countries that Turkiye exports. When proportioned to Turkiye's total exports, Turkiye realized 48% of exports to these countries in 2021. Iraq experienced the most substantial growth in exports throughout this period, demonstrating a remarkable increase of 1243% in export figures since 2003. Following Iraq, Spain exhibited the second-highest surge in exports, boasting a remarkable increase of 913%, while Israel closely followed with a notable rise of 689%. According to the average growth rate in the exports of the top 10 countries that Turkiye exported to between 2001 and 2021, Russia experienced the highest increase (15%), while Germany had the smallest export growth (7%). In 2009, exports from Turkiye to these countries increased only to Iraq (38%), while

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exports to the others decreased. In the same year, exports to Russia decreased by 51%.

Table 2 Import Figures for the Top 10 Countries in Turkiye's Import (2001-2021)

	China	Russian Federation	Germany	United States of America	Italy	India	France	Korea	Spain	Belgium
2001	925.620	3.435.673	5.335.443	3.261.380	3.484.130	354.875	2.283.939	759.499	1.066.141	984.547
2002	1.365.933	3.863.179	7.014.695	3.067.892	4.132.123	564.130	3.047.501	899.998	1.388.799	1.147.102
2003	2.610.298	5.451.315	9.452.964	3.496.592	5.471.591	722.855	4.164.120	1.312.442	2.003.792	1.523.584
2004	4.476.077	9.033.138	12.515.655	4.745.221	6.865.903	1.046.398	6.201.348	2.572.537	3.253.677	1.991.728
2005	6.885.400	12.905.620	13.633.888	5.375.593	7.566.806	1.280.473	5.887.817	3.485.389	3.555.111	2.241.112
2006	9.669.110	17.806.239	14.768.220	6.260.882	8.663.700	1.579.405	7.239.953	3.556.269	3.832.593	2.476.928
2007	13.234.092	23.508.494	17.539.955	8.166.788	9.968.687	2.299.732	7.849.709	4.369.903	4.342.998	2.868.671
2008	15.658.210	31.364.477	18.687.197	11.977.015	10.682.698	2.457.908	9.022.015	4.091.711	4.548.192	3.150.747
2009	12.676.573	19.450.086	14.096.963	8.575.892	7.594.949	1.902.607	7.091.795	3.118.214	3.776.924	2.371.516
2010	17.180.806	21.600.641	17.549.112	12.322.789	10.140.671	3.409.938	8.176.600	4.764.057	4.840.127	3.213.606
2011	21.693.336	23.952.914	22.985.567	16.042.073	13.452.359	6.498.651	9.229.558	6.298.483	6.196.466	3.959.279
2012	21.295.242	26.625.286	21.400.614	14.130.625	13.345.874	5.843.638	8.589.896	5.660.093	6.023.718	3.690.309
2013	25.260.751	26.046.541	25.598.452	13.350.844	13.533.284	6.739.652	8.650.205	6.357.876	6.624.006	3.983.785
2014	25.732.865	25.411.700	23.482.150	13.465.362	12.948.320	7.196.350	8.584.304	7.731.590	6.293.257	4.017.369
2015	24.873.457	20.401.756	21.351.883	11.141.465	10.641.582	5.613.570	7.597.687	7.057.423	5.588.528	3.146.940
2016	25.440.454	15.160.961	21.473.789	10.867.491	10.220.724	5.757.156	7.364.555	6.384.206	5.678.913	3.200.738
2017	23.370.620	19.514.094	21.301.869	11.951.744	11.306.054	6.216.639	8.070.897	6.608.874	6.372.911	3.728.941
2018	20.719.061	21.989.574	20.407.294	12.377.681	10.155.669	7.534.783	7.413.025	6.343.174	5.492.454	3.571.445
2019	19.127.972	23.116.867	19.279.082	11.847.481	9.350.999	6.635.225	6.760.052	5.776.952	4.446.670	3.229.469
2020	23.040.812	17.829.236	21.732.800	11.525.182	9.201.429	4.830.121	6.988.092	5.734.339	5.039.416	3.716.088
2021	32.239.211	28.959.030	21.757.477	13.148.129	11.563.790	7.936.138	7.931.527	7.597.099	6.311.613	5.628.382
Ave. growth rate	**23%**	**15%**	**9%**	**9%**	**8%**	**21%**	**8%**	**15%**	**11%**	**11%**

Source: TradeMap (2022)

Table 2 shows the import figures of the top 10 countries that Turkiye imports from for the 2001-2021 period. In 2021, Turkiye made 53% of its total imports from these countries when compared to Turkiye's overall imports. China experienced the highest increase in imports during this period, with a growth rate of 3383%. China was followed by India with an increase of 2136% and Korea with a rise of 900%. Based on the average increase rate of the first ten countries that Turkiye imported from during the 2001-2021 period, it is evident that Turkiye's imports from China recorded the highest growth (23%), while imports from Italy and France saw the least increase (8%). In 2012, Turkiye's imports from these countries increased only from Russia (11%), while the others decreased.

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3. Literature Review

Numerous studies in the literature have explored the Revealed Symmetric Comparative Advantage Index (RSCA) developed by Dalum et al. (1998). Table 3 below provides an overview of earlier research conducted on Turkiye, focusing on the utilization of the Revealed Symmetric Comparative Advantage Index (RSCA).

Table 3 Studies Analysing Turkiye's Competitiveness Using the RSCA Index

Author	Method	Period	Industry	Results
Erkan and Sarıcoban (2014)	Trade openness index (TOI), export similarity index (ESI), RCA, LnRCA, RSCA, comparative export performance (CEP)	1993-2012	SITC technology classification	Turkiye does not have a competitive advantage in the export of science-based goods. Turkiye's competitiveness is weaker than that of the EU+13 countries. Also, Turkiye has low export competitiveness in research-oriented and high-value-added products.
Topcu and Sarıgul (2015)	RCA, Vollrath indices, RSCA, TBI, and Product Mapping	2000-2014	Textile, clothing, iron and steel, road vehicles, electrical machines and appliances	Turkiye has the highest comparative advantage in apparel and clothing accessories and the lowest comparative advantage in electrical machines and appliances.
Sahin (2016a)	RCA, RSCA, TBI, and Product Mapping	2000-2015	Forest-based sectors	Competitiveness within the forest-based sector has been noted to be either minimal or absent.
Sahin (2016b)	RCA, RSCA, TBI, and Product Mapping	2000-2015	Furniture	In this period, Turkiye's furniture industry has sometimes had a low comparative advantage and

				sometimes had a comparative disadvantage based on RSCA.
Bashimov (2017)	RCA, RSCA, TBI, and Product Mapping	2001-2015	Agricultural and food products	Turkiye has a comparative advantage in agricultural products (HS01-15) and food (HS16-24). Its competitiveness had decreased until 2015.
Bakkalci (2018)	RCA, RSCA, TBI, and Product Mapping	2001-2016	Textile	According to RSCA indices, Turkiye has a comparative advantage in chapters HS51, HS52, HS54, HS55, HS56, HS57, HS58, HS59, HS60, HS61, HS62, and HS63. It has a comparative disadvantage in chapters HS50, HS53, and HS64.
Kathuria (2018)	RCA, Dynamic RCA, RSCA, and Correlation	2003-2013	Textile and clothing (HS61-62)	Turkiye demonstrates a comparative advantage in eleven products within the HS61 category and nine products within the HS62 category.
Keskingoz (2018)	RCA, RSCA, TBI, and Product Mapping	2001-2017	Agricultural Industry	Turkiye exhibited competitiveness in 11 out of the 24 chapters within the agricultural sector. As per the World Trade chapters, the agricultural sector in Turkiye has a competitiveness rating of 46%.
Bashimov (2020)	RCA and RSCA	2001-2018	Ceramic Industry	Turkiye has a competitive advantage in the ceramic industry. However, in this period, it is seen that

				the competitiveness has weakened.
Keskingoz et al (2020)	RCA, RSCA, TBI, and Product Mapping	2001-2017	Iron-steel	This industry in Turkiye has a comparative advantage
Baskol and Bektas (2021)	RCA, RSCA, TBI, and Product Mapping	2000-2019	Iron and steel	Turkiye has a comparative advantage in raw materials or semi-finished and flat products. Also, it has a comparative advantage in long products and pipes.
Kılıcarslan (2021)	RCA, RSCA, and TBI	2010-2019	Steel	Turkiye has a comparative advantage in the top 10 leading countries in steel production.
Akdeniz and Kantar (2022)	RCA, RSCA, and TBI	2002-2021	Naturel honey	In the first years, despite holding a comparative advantage based on RSCA indices, Turkiye exhibited a declining trend in advantage.
Duru et al (2022)	RCA, RSCA, and RXA	2000-2020	Stone fruits	According to RSCA indices, all stone fruits except sour cherry pointed to high competitiveness with positive values.
Kadakoglu et al (2022)	RCA, RSCA, and RXA	2010-2021	Fig trade	Turkiye has high competitiveness in fig exports. Nevertheless, this advantage tends to decrease over the years.
Topcu (2022)	RCA, NRCA, RSCA, TBI, and Product Mapping	2011-2020	Wooden furniture	Turkiye's comparative advantage in the wooden furniture sector experienced variations throughout the period from 2011 to 2020.

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				Nevertheless, it appears to be gaining an increasingly pronounced comparative advantage over time.
Yıldız (2022)	RCA and RSCA	2002-2020	Vegetables	Turkiye has a low comparative advantage in Chapter HS7 (Edible vegetables and certain roots and tubers) based on RSCA in this period.
Kantur and Turkekul (2023)	RCA, RC, RSCA, and TSI	2000-2021	Yarn and weaving industry	Turkiye has a comparative advantage based on RSCA in this period.

4. Material And Methodology

4.1 Material

This section provides details on the data sources devoted to the study's analysis and explains the analytical methodology to be employed. Competitiveness is assessed by extracting data on Turkiye and other nations from TradeMap, the International Trade Centre's (ITC) database, based on the Harmonised Commodity Description and Coding System. The study covers the period 2001-2021.

4.2 Methodology

As a methodology in the study, the Revealed Symmetric Comparative Advantage Index (RSCA) proposed by Dalum et al. (1998) based on the RCA index found by Balassa, which forms the basis of the international competitiveness indexes in the literature, was used. The categorization of products relies on the approach introduced by Podoba et al. (2021), which

considers the values of the RSCA index. The formula of Balassa's Revealed Comparative Advantage (RCA) Index follows the formula outlined below:

$$RCA = \frac{X_{ij} \, / \, X_{it}}{X_{wj} \, / \, X_{wt}} \qquad (1)$$

In this formula, 'X_{ij}' represents the export of product j for the country (i), 'X_{it}' represents the total export of country (i), 'X_{wj}' represents the export of product j for the world, and 'X_{wt}' represents the total world exports. If the RCA value is less than 1, the country is disadvantaged in terms of revealed comparative advantage in the relevant good or sector group. If the value is greater than 1, the country has a revealed comparative advantage in the relevant good and sector group (Gürpınar ve Barca, 2007).

According to Laursen (2015), if the export value of any product or sector is 0, an asymmetry problem arises, which, in turn, affects the evaluation of the analyses. Therefore, the RCA index should be adjusted symmetrically within the neutral value. Dalum et al. (1998) proposed the Revealed Symmetric Comparative Advantage Index (RSCA) for adjustments (Widodo, 2009). Laursen proposed the following formula to make the RCA index symmetric (Laursen, 2015):

$$RSCA = \frac{RCA - 1}{RCA + 1} \qquad (2)$$

The Revealed Symmetric Comparative Advantage Index (RSCA) values range from "-1 to +1". If RSCA>0, the country has a comparative advantage in the product or sector. Otherwise, RSCA<0 indicates the country has a comparative disadvantage in the product or sector (Widodo, 2009).

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5. Results

During the 2001-2021 period, an examination of Turkiye's export structure within the Harmonised Commodity Description and Coding System involved the derivation of RSCA Index values. These values were computed by leveraging Balassa's RCA Index values in the assessment of competitiveness. The analysis compared the values with Turkiye's highest trading partners and the countries holding the largest share in Turkiye's exports. The index results are compared for 2001 and 2021. The results of the analysis are presented in the tables below.

The number of product groups with RSCA for Turkiye has increased from 37 in 2001 to 45 in 2021. These products constitute approximately 70% of Turkiye's exports. During this period, Turkiye converted to comparative disadvantages in HS05, HS21, HS36, HS42 and HS51 as a category of Lost RSCA. Germany, the USA, the UK, Italy, and Spain stand out as the most trading partners. According to RSCA indices, Germany has competitiveness in 35, the USA in 34, the UK in 25, Italy in 46, and Spain in 47 product groups in 2021. It was 35 product groups for Germany, 34 for the USA, 27 for the UK, 45 for Italy, and 43 for Spain in 2001. Table 4 displays the RSCA indices at the two-digit HS level for Turkiye and its most trading partners. The table provides information on the share in world exports, ranking in world exports, and share in Turkiye's exports for the years 2001 and 2021. The comparison is made for the years 2001 and 2021. Products are categorized as having increased RSCA, newly emerged RSCA, diminished RSCA, and lost RSCA. If the RSCA index value has changed from a negative to a positive value, it is called "Newly Emerged". If the RSCA index value has changed from a positive to a negative value, it is called "Lost". If the RSCA index value has changed from a positive to a higher positive value, it is called "Increased". If the RSCA

index value has changed from a positive to a lower positive value, it is called "Diminished".

5.1 Chapters With Increased RSCA

In the category of *Increased RSCA*, Turkiye had positive indices in 2001 and 2021 but enhanced them until 2021. There are 11 goods as HS57, HS60, HS54, HS68, HS11, HS73, HS19, HS89, HS56, HS74 and HS28.

HS57 has the highest RSCA index value (0.89) in 2021. Since 2001, Turkiye has increased its comparative advantages in the export of this product group. Capturing a 17.5 percent share in global HS57 exports, Turkiye secures the second position, following China. After Turkiye, India, Belgium, and the Netherlands chase in ranking. Turkiye's largest trading partners have negative RSCA indices and do not have comparative advantages for HS57.

HS11 is the second product group in the increased RSCA category and have gone up during 2001-2021. Turkiye has a 6.4% share in the world export of these goods and ranks fourth. Turkiye stands among the leading three global exporters of this particular product group. The main trade partners of Turkiye do not have a comparative advantage in HS11. Since 2004, Iraq has consistently held the largest share of Turkiye's exports within this product group.

HS60 is the third product group in the increased RSCA category. Turkiye has a 5% share in the world export of these goods and ranks fourth. China accounts for over half of the world's exports in this product group. Turkiye's main trade partners have negative RSCA index values for HS60. This product group creates more than 10% of Turkiye's total value added. The largest share of Turkiye's exports in this product group in the last ten years belongs to Italy,

one of the most important trade partners. On the other hand, China holds the largest share, accounting for more than 40% of Turkiye's imports in HS60.

HS73 had 3.11% percent of Turkiye's total exports in 2001 and increased to 3.91% in 2021. Turkiye's main trading partners are the foremost countries in terms of exports within this product group. Due to RSCA index values, Italy is the main competitor. Turkiye has an RSCA index value of 0.41, while Italy has an RSCA index value of 0.37. Germany and Spain also acquired competitiveness in the export of HS73. Certainly, the iron-steel sector is significantly influenced by global developments. The historical outcomes in this sector, closely tied to various industrial fields, have played a crucial role in shaping the socio-economic structures of societies. The iron-steel sector, which has traditionally been at the heart of industrial processes, continues to be a vital component even in the transition to the information society. Its significance extends beyond its historical role and now plays a crucial role in shaping the manufacturing industry, as well as the production of durable consumer goods and investment goods. This sector serves as a fundamental input for a wide range of industrial branches, reaffirming its pivotal position in the overall industrial landscape (Ersoz et al, 2015).

The share of HS56 in Turkiye's exports increased from 0.18% in 2001 to 0.48% in 2021. On the other hand, the RSCA index value rose from 0.08 in 2001 to 0.53 in 2021. Germany, Italy, and Spain have a comparative advantage in this product group. Moreover, the RSCA index values of Germany and Italy have decreased until 2021. Italy emerged as the main rival of Turkiye based on these values. China accounts for a quarter of world exports of the HS56 product group.

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5.2 Chapters With The Newly Emerged RSCA

In the category of *Newly Emerged RSCA*, Turkiye has 12 product groups that have changed from negative to positive values until 2021. These goods are HS93, HS76, HS87, HS83, HS94, HS41, HS71, HS39, HS32, HS48, and HS53. The product groups in the newly emerged category contributed to 27.91% of Turkiye's exports in 2021. It was 14.48% in 2001.

HS93, HS76, HS87, HS94, HS71and HS39 significantly increased their share in Turkiye's exports from 2001 to 2021. HS93 has the highest RSCA index value (0,71) in 2021 and indicated the highest increase among the newly emerged products. In chapter HS93, the USA, UK, Italy, and Spain have a comparative advantage. With a 5.8 percent share in global HS93 exports, Turkiye ranks among the top five countries, along with the USA, Italy, Israel, and Korea, respectively.

The RSCA index value for HS76 also exposes that Turkiye has been getting a comparative advantage in this product group. Extrusion products are first placed in the sub-product groups produced, followed by ingots, flat products, foil, conductors, and other products. In recent years, thanks to new investments, especially in rolling and extrusion products, capacities that can compete in the world market reached, and significant progress made in export (Eroglu & Sahiner, 2018). In this product group, Turkiye has more comparative advantage than the countries to which Turkiye exports the most. Bars, rods, and profiles of aluminum, n.e.s. (HS7604) constitutes nearly 35% of the export of the chapter HS76 according to 2021. Aluminum, used in a wide range of areas such as automotive, white goods, air, land, and sea vehicles, as well as the construction sector, is becoming increasingly common daily. It's

often referred to as the futuristic metal. In chapter HS76, Italy, Spain, and Germany have a weak comparative advantage compared to Turkiye.

The share of HS87 in Turkiye's exports increased from 7.45% in 2001 to 11.11% in 2021. RSCA index value has risen from -0.10 in 2001 to 0.24 in 2021. In this product group, all the most significant trading partners have a comparative advantage. Moreover, only Spain's RSCA index value has decreased by 2021, albeit higher than Turkiye's. Turkiye's export-oriented production has made it the 14th largest producer in the world. As of the end of 2019, Turkiye ranks 4th in Europe. Among EU-28 countries, Turkiye ranks third in commercial vehicle production. Turkiye needs to develop its exports in other markets as well. The automotive supply industry in Turkiye has experienced substantial expansion, driven by advancements within the automotive industry. With its high capacity, wide product range, and high standards, the Turkish automotive sub-industry provides parts to the automotive industry. It also has high export potential. The sub-industry segment, boasting a solo export figure of $10 billion, manufactures components for global industry leaders (UIB, 2021). Germany has a more comparative advantage in trading countries.

5.3 Chapters With Diminished RSCA

This category means that the RSCA index value of the products decreased in the relevant period. Turkiye has 22 chapters that have diminished RSCA until 2021. These are HS63, HS61, HS8, HS14, HS58, HS25, HS55, HS20, HS62, HS43, HS52, HS24, HS17, HS72, HS7, HS69, HS70, HS34, HS15, HS59, HS40, and HS18.

The share of these chapters in Turkiye's exports was 53% in 2001 but fell to 30.42% in 2021. Certain chapters within this category, such as HS25, HS55,

HS61, HS20, HS8, HS58, HS52, HS62, HS63, and HS72, exhibit decreased RSCA indices, yet they consistently retain high values. Turkiye has also gained a comparative advantage in the diminished RSCA category against most trading countries. Their RSCA index values are mostly negative in the respective years.

On the other hand, Turkiye's RSCA index values decreased the most in the HS14, HS59, and HS63 chapters. With a share of 6.4 percent in world HS25 exports, Turkiye ranks second after China, followed by the USA, Germany, and India. It was the chapter indicating the slightest decrease. However, Turkiye has a more tremendous comparative advantage than the countries to which Turkiye exports the most. Cement, including cement clinkers, whether or not colored (HS2523) constitutes nearly 40% of exports in chapter HS25 as of 2021. Nowadays, Turkiye ranks among the leading cement-exporting countries. It has a share of 10.7% of world cement exports and is among the top five countries (Kavacık, 2022).

Upon a comprehensive analysis of Turkiye's HS61 export, HS6109 (cotton t-shirts, undershirts, etc.) is the most exported product. The RSCA index value of HS61 obtained 0.79 in 2001 and decreased to 0.59 in 2021, but it is still more than trading partners. Italy and Spain have a weak comparative advantage in this product group by 2021. In 2021, HS61, a category that Newly Emerged RSCA for Spain, turned into a positive value. Germany is the biggest market in Turkiye's HS61 export. About one-fifth of the exports in this product group are made to Germany. In addition, Germany, the USA, the UK, Japan, and France are the most important importers of HS61 worldwide.

The RSCA index value of HS52 for Turkiye decreased between 2001 and 2021, but it was still high in 2021. While the share of cotton in Turkiye's

exports was 2.69% in 2001, it became 1.01% in 2021. However, Turkiye ranks 7th in world cotton export. Turkiye is a net cotton importer country. It is trying to meet domestic consumption needs, so import is much more than export. Price instability and high production costs are other reasons. The Turkish textile and apparel industry utilizes cotton as a primary input. On the other hand, RSCA index values of HS43, HS58, HS59, HS62, and HS63 have also decreased to respectively 0.66, 0.58, 0.03, 0.52, and 0.51 until 2021. They were 0.40, 0.76, 0.39, 0.67 and 0.83 in 2001. However, Turkiye is still ahead of its largest trading partners in these product groups. In particular, Turkiye is the EU's first-ranked supplier of textiles and apparel. Germany, France, Italy, Netherlands, and Spain rank first in Turkiye's export of these sectors.

5.4. Chapters With Lost RSCA

In the category of *Lost RSCA*, Turkiye has 5 product groups that have changed from positive to negative values until 2021. These are HS5, HS21, HS36, HS42, and HS51. In 2021, the product groups within this category make up 0.67% of Turkiye's export share. It was 1.83% in 2001.

In 2001, in the HS42, Turkiye had a comparative advantage with an RSCA indice of 0.44. In 2021, the RSCA index value of HS42 was -0.38. On the other hand, the RSCA index value of HS51 decreased sharply until 2021. It was 0.29 in 2001 and then became -0.14. For these chapters, Italy has a comparative advantage among the most trading partners of Turkiye. Especially Italy has been the first in world HS51 export for many years. With industrialization, a significant portion of the annually produced wool, amounting to 70%, has become an unutilized waste material. Over the past 25 years, there has been a substantial decline in wool prices, leading to a gradual reduction in income for wool producers (Tufekci & Olfaz, 2014).

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In the chapter HS36, Turkiye had a comparative advantage in 2001 and 2002. However, the RSCA index value decreased since then. The Export/Import Coverage Ratio was over 100%, but after 2005, it worsened and declined by half. Turkiye is trying to progress in producing gunpowder and cartridges with the facilities it has set up in recent years.

Table 4 RSCA Index Values of Turkiye and Most Trading Partners

TYPE	HS Code	Product label	Share in world export (%)	Ranking in world export	Share in export in 2001	Share in export in 2021	Turkiye RSCA 2001	Turkiye RSCA 2021	Germany RSCA 2001	Germany RSCA 2021	USA RSCA 2001	USA RSCA 2021	UK RSCA 2001	UK RSCA 2021	Italy RSCA 2001	Italy RSCA 2021	Spain RSCA 2001	Spain RSCA 2021
Increased RSCA	'57	Carpets and other textile floor coverings	17,7	2	0,84%	1,44%	0,73	0,89	-0,30	-0,37	-0,13	-0,31	-0,06	-0,17	-0,50	-0,42	-0,54	-0,34
	'11	Products of the milling industry, malt, starches, inulin, wheat gluten	6,4	4	0,20%	0,64%	0,37	0,72	0,05	0,11	-0,13	-0,26	-0,05	-0,09	-0,03	-0,06	0,07	0,00
	'60	Knitted or crocheted fabrics	5,1	4	0,76%	0,96%	0,52	0,66	-0,21	-0,59	-0,30	-0,61	-0,53	-0,77	0,18	0,00	-0,04	-0,26
	'54	Artificial filaments, strips, and the like of man-made textile materials	3,4	6	1,50%	0,83%	0,52	0,54	-0,16	-0,49	-0,27	-0,50	-0,12	-0,40	0,22	0,12	0,05	-0,09
	'56	Wadding, felt and nonwovens, unique yarns, twine, cordage, ropes, and cables and articles thereof	3,3	6	0,18%	0,48%	0,08	0,53	0,32	0,13	-0,03	0,00	-0,12	-0,25	0,41	0,36	-0,07	0,10
	'68	Articles of stone, plaster, cement, asbestos, mica or similar materials	3	9	0,63%	0,83%	0,40	0,49	0,06	0,13	-0,22	-0,13	-0,02	-0,10	0,59	0,34	0,47	0,38
	'19	Preparations of cereals, flour, starch, or milk, pastrycooks' products	2,5	13	0,42%	0,96%	0,19	0,42	0,06	0,11	-0,16	-0,24	0,20	0,11	0,47	0,51	0,16	0,23
	'73	Articles of iron or steel	2,5	11	3,11%	3,91%	0,36	0,41	0,13	0,12	-0,13	-0,20	-0,11	-0,09	0,35	0,37	0,15	0,17
	'89	Ships, boats, and floating structures	1,6	11	0,99%	0,91%	0,14	0,26	-0,13	-0,13	-0,48	-0,61	-0,53	-0,26	0,09	0,37	-0,11	-0,18
	'28	Inorganic chemicals, organic or inorganic compounds of precious metals, rare-earth metals, ...	0,9	25	0,68%	0,97%	0,00	0,15	-0,01	0,11	0,11	0,04	0,12	0,07	-0,26	-0,50	-0,32	-0,23
	'74	Copper and articles thereof	1,2	27	0,64%	1,15%	0,05	0,08	0,06	0,03	-0,34	-0,25	-0,27	-0,32	-0,10	0,00	-0,06	0,09
Newly Emerged RSCA	'93	Arms and ammunition, parts and accessories thereof	5,8	4	0,07%	0,48%	-0,03	0,71	-0,45	-0,31	0,59	0,50	0,36	0,58	0,25	0,27	-0,06	0,30
	'76	Aluminum and articles thereof	2,2	14	1,02%	2,30%	-0,01	0,36	0,09	0,03	-0,21	-0,23	-0,16	-0,22	0,06	0,10	-0,02	0,14

	Code	Description																
	'87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	1,7	18	7,45%	11,11%	-0,10	0,24	0,32	0,38	-0,05	0,01	-0,08	0,12	-0,05	0,05	0,44	0,34
	'96	Miscellaneous manufactured articles	1,6	13	0,12%	0,42%	-0,32	0,21	0,09	0,03	-0,19	-0,35	-0,13	-0,42	0,14	-0,04	-0,08	-0,07
	'83	Miscellaneous articles of base metal	1,5	15	0,25%	0,55%	-0,19	0,18	0,26	0,20	0,06	-0,15	-0,13	-0,18	0,40	0,29	0,24	0,09
	'94	Furniture, bedding, mattresses, mattress supports, cushions, and similar stuffed furnishings, ...	1,5	11	0,78%	2,13%	-0,23	0,17	-0,04	-0,11	-0,20	-0,48	-0,29	-0,35	0,53	0,27	0,17	-0,15
	'41	Raw hides and skins (other than fur skins) and leather	1,3	20	0,22%	0,11%	-0,26	0,13	-0,37	-0,31	-0,01	0,11	-0,37	-0,15	0,62	0,75	0,13	0,32
	'71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	1,3	17	1,51%	4,87%	-0,17	0,13	-0,55	-0,41	-0,03	0,11	0,41	0,58	0,02	-0,04	-0,71	-0,64
	'39	Plastics and articles thereof	1,2	21	1,95%	4,45%	-0,22	0,10	0,17	0,12	0,08	0,07	-0,11	-0,14	0,10	0,08	0,07	0,05
	'32	Tanning or dyeing extracts, tannins and their derivatives, dyes, pigments and another coloring ...	1,1	20	0,30%	0,50%	-0,31	0,08	0,29	0,34	-0,02	0,03	0,19	0,27	-0,01	0,18	0,25	0,35
	'48	Paper and paperboard, articles of paper pulp, paper or paperboard	1,2	21	0,80%	0,96%	-0,34	0,06	0,13	0,25	-0,04	0,02	-0,19	-0,16	0,00	0,23	0,03	0,20
	'53	Other vegetable textile fibers, paper yarn, and woven fabrics of paper yarn	1,1	12	0,01%	0,03%	-0,53	0,04	-0,51	-0,80	-0,83	-0,91	-0,06	-0,39	0,43	0,36	-0,30	0,00
Diminished RSCA	'25	Salt, sulfur, earth and stone, plastering materials, lime, and cement	6,4	2	1,71%	1,52%	0,73	0,72	-0,17	-0,23	-0,10	-0,21	-0,08	-0,23	-0,15	-0,13	0,30	0,25
	'55	Artificial staple fibers	3,7	6	2,04%	0,77%	0,69	0,64	-0,03	-0,46	-0,29	-0,17	-0,21	-0,51	0,21	-0,01	0,15	0,05
	'61	Articles of apparel and clothing	4	6	11,62%	4,79%	0,79	0,59	-0,51	-0,21	-0,43	-0,76	-0,44	-0,43	0,24	0,19	-0,28	0,16

Code	Description																
	accessories, knitted or crocheted																
'20	Preparations of vegetables, fruit, nuts, or other parts of plants	3,8	8	1,69%	1,20%	0,68	0,57	-0,20	-0,22	-0,06	-0,06	-0,55	-0,46	0,33	0,41	0,52	0,51
'08	Edible fruit and nuts, peel of citrus fruit or melons	3,8	8	3,83%	2,38%	0,78	0,57	-0,70	-0,64	0,08	0,14	-0,88	-0,90	0,26	0,07	0,72	0,65
'58	Special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery	3,7	6	0,92%	0,21%	0,76	0,56	-0,16	-0,25	-0,04	-0,43	-0,27	-0,32	0,07	0,21	-0,17	-0,14
'52	Cotton	3,6	7	2,69%	1,01%	0,64	0,56	-0,42	-0,72	-0,04	0,18	-0,65	-0,73	0,26	-0,15	0,05	-0,21
'62	Articles of apparel and clothing accessories, not knitted or crocheted	3,2	7	8,42%	3,34%	0,67	0,52	-0,36	-0,17	-0,65	-0,79	-0,40	-0,29	0,32	0,36	-0,22	0,35
'63	Other made-up textile articles, sets, worn clothing, and worn textile articles; rags	3,2	5	3,37%	1,29%	0,83	0,51	-0,34	-0,25	-0,39	-0,43	-0,32	-0,34	-0,16	-0,44	-0,13	-0,28
'72	Iron and steel	3,1	12	6,61%	7,58%	0,57	0,50	0,03	-0,11	-0,46	-0,41	-0,17	-0,17	-0,02	0,11	0,12	0,04
'43	Fur skins and artificial fur, manufactures thereof	2,4	7	0,32%	0,07%	0,66	0,40	-0,35	-0,73	-0,38	-0,56	-0,51	-0,72	0,13	0,41	0,37	-0,22
'14	Vegetable plaiting materials, vegetable products not elsewhere specified or included	2,3	8	0,06%	0,01%	0,76	0,39	-0,27	-0,79	-0,44	-0,56	-0,93	-0,78	-0,87	-0,69	-0,22	-0,23
'69	Ceramic products	2,2	8	1,04%	0,72%	0,53	0,37	-0,01	-0,10	-0,39	-0,43	-0,08	-0,48	0,67	0,53	0,71	0,60
'07	Edible vegetables and certain roots and tubers	2,1	10	1,20%	0,78%	0,53	0,35	-0,65	-0,64	-0,17	-0,15	-0,65	-0,61	-0,04	-0,05	0,73	0,71
'17	Sugars and sugar confectionery	2,1	12	1,07%	0,44%	0,60	0,33	-0,19	-0,04	-0,46	-0,31	-0,19	-0,45	-0,47	-0,49	0,16	-0,01
'24	Tobacco and manufactured tobacco substitutes	2	16	1,39%	0,35%	0,60	0,32	0,03	0,02	0,24	-0,46	0,17	-0,98	-0,61	0,40	-0,48	-0,44
'40	Rubber and articles thereof	1,5	21	1,46%	1,53%	0,24	0,20	0,04	0,04	0,01	-0,16	-0,08	-0,31	0,05	-0,06	0,32	0,07
'70	Glass and glassware	1,5	17	1,31%	0,60%	0,45	0,19	0,08	0,08	0,02	-0,12	-0,15	-0,19	0,18	0,10	0,12	0,06
'15	Animal or vegetable fats and oils and their cleavage products,	1,4	16	0,75%	0,92%	0,41	0,15	-0,24	-0,43	-0,23	-0,47	-0,56	-0,56	0,09	-0,15	0,51	0,41

		prepared edible fats, animal ...																
	'18	Cocoa and cocoa preparations	1,4	20	0,29%	0,34%	0,20	0,14	0,04	0,23	-0,32	-0,40	-0,04	-0,05	-0,19	0,24	-0,20	-0,07
	'34	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial ...	1,4	20	0,74%	0,45%	0,43	0,14	0,23	0,28	0,04	0,13	0,14	0,20	0,14	0,21	0,39	0,20
	'59	Impregnated, coated, covered, or laminated textile fabrics, textile articles of a kind suitable ...	1,1	22	0,47%	0,14%	0,39	0,03	0,10	0,13	-0,07	-0,04	-0,08	-0,22	0,23	0,21	-0,01	-0,14
Lost RSCA	'21	Miscellaneous edible preparations	0,9	32	0,32%	0,39%	0,06	-0,05	-0,01	0,05	0,14	0,16	0,03	0,15	-0,04	0,19	0,20	0,17
	'05	Products of animal origin, not elsewhere specified or included	0,9	22	0,09%	0,04%	0,24	-0,09	-0,03	0,11	0,19	0,15	-0,47	-0,15	-0,45	-0,15	0,04	0,37
	'51	Wool, fine or coarse animal hair, horsehair yarn and woven fabric	0,8	20	0,35%	0,04%	0,29	-0,14	-0,08	-0,25	-0,83	-0,87	0,00	0,23	0,70	0,69	-0,08	-0,28
	'36	Explosives, pyrotechnic products, matches, pyrophoric alloys, certain combustible preparations	0,7	27	0,03%	0,01%	0,03	-0,22	-0,20	-0,12	0,23	0,29	0,01	0,05	-0,55	-0,36	-0,04	0,12
	'42	Articles of leather, saddlery and harness, travel goods, handbags, and similar containers, articles ...	0,5	23	1,05%	0,18%	0,44	-0,38	-0,55	-0,40	-0,64	-0,67	-0,51	-0,24	0,40	0,66	-0,21	-0,03

6. Discussion and Conclusion

The study examined Turkiye's export structure within the framework of the Harmonized Commodity Description and Coding System to assess its competitiveness from 2001 to 2021. This study used the Revealed Symmetric Comparative Advantage Index (RSCA), as proposed by Dalum et al. (1998), to measure export competitiveness. The RSCA index values are calculated based on Balassa's RCA Index values. The RSCA index values for Turkiye are compared with those of its largest trading partners and the countries with the largest share in Turkiye's exports. These countries and partners are Germany, the USA, the UK, Italy, and Spain. The study compares the index results for 2001 and 2021.

The number of product groups with RSCA for Turkiye has increased from 37 in 2001 to 45 in 2021. In 2001, five products with RSCA decreased, and in 2021, twelve products with comparative advantage replaced them. This research utilized the methodology introduced by Podoba et al. (2021) to categorize products, relying on the RSCA index values. The categorization was established as increased, newly emerged, diminished, and lost RSCA. Turkiye's overall share in world exports is gradually rising, and many Turkish products are getting high RSCA index values. While Turkiye had a 0.51% share in world exports in 2001, its share was 1.03% in 2021.

The results showed that nearly half of the product groups that have a comparative advantage according to the RSCA index for Turkiye are higher than the major trading partners. Turkiye's RSCA index values in 24 product groups are more prominent than for its trading partners, as Erkan and Sarıcoban (2014), Topcu and Sarigul (2015), Sahin (2016b), Bashimov (2017), Bakkalci (2018), Kathuria (2018), Keskingoz (2018), Keskingoz vd. (2020), Baskol and Bektas (2021), Kılıcarslan (2021), Duru et al. (2022), Topcu (2022), Yıldız (2022) and Kantur and Turkekul (2023) demonstrated before. This indicates that Turkiye has higher export potential in those products due to them. In the chapter HS7 (edible vegetables and certain roots and tubers), Turkiye's competitiveness has decreased during the mentioned period as Yıldız (2022) determined that Turkiye has a low comparative advantage.

On the other hand, although the USA accounts for 23% of world exports in chapter HS93, Turkiye's comparative advantage is higher due to the RSCA index value. Turkiye's exports in this chapter increased by an annual average of 19% from 2001 to 2021, while the RSCA index value of HS36 decreased until 2021. Turkiye is positioned within the top five countries in the global HS93 exports, holding a market share of 5.8%.

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The higher a country is a net exporter, the higher it has a comparative advantage in an industry or product. The higher a country is a net importer, the higher it has a comparative disadvantage in a sector or product. Turkey should invest in high-tech products and ensure that these products are branded worldwide.

In conclusion, Turkiye has a wide range of competitive industries that contribute significantly to its global competitiveness. The country has successfully established itself as a key player in several sectors, displaying its strengths and capabilities in the international market. The Turkish government has implemented various policies and incentives to support these industries, promote innovation, and enhance competitiveness. Moreover, Turkiye leverages its strategically advantageous geographical location to facilitate trade and transportation, providing an additional boost to its competitiveness. With these factors combined, Turkiye continues demonstrating competitiveness and holds promise for further growth and development in various industries. Turkiye should be able to export technologically advanced products and reduce its dependence on other countries for the raw materials used to produce these products. For this, Turkiye needs to invest significantly in research and development so that it should achieve the quality of raw materials imported from other countries.

There is no study in the literature that measures Turkiye's competitiveness in 99 chapters and classifies them as increased, newly emerged, diminished and lost as in this study. In the studies that have been conducted, competitiveness has generally been evaluated through one sector. Of course, it should be said that the study is open to improvement in different aspects. This indicates the limitations of the study. The years analyzed may be investigated on the basis of different years. The number of countries compared may be increased, different countries may be compared, and thus the competitiveness of other countries in the world may be revealed. At the same time, other competitiveness indices in the literature may be used in future studies.

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