



## Foreign trade and trade competitiveness in agri-food products between the Republic of Srpska (Bosnia and Herzegovina) and North Macedonia

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### Abstract

Foreign trade in agri-food products holds significant importance for both North Macedonia and the entity of the Republic of Srpska (Bosnia and Herzegovina), given the substantial role this sector plays in their overall trade exchange. As formal trade partners under the Central European Free Trade Agreement, understanding their trade dynamics is important. This paper aims to analyze the foreign trade exchange of agri-food products between the Republic of Srpska and North Macedonia in the 2013-2022 period. It first outlines export and import trends of the Republic of Srpska and North Macedonia in agri-food products, and then delves into the analysis of their export competitiveness. Descriptive analysis measures were employed to analyze the trade exchange involving agri-food products. The research determined the export competitiveness levels based on the trade competitiveness index for total foreign trade exchange, as well as for the agri-food sectors and its main product groups in both the Republic of Srpska and North Macedonia. The research results have shown almost an equal average share of 10.91% in exports and 10.93% in imports of agri-food sector of North Macedonia, while the Republic of Srpska recorded

an average share of 17.41% in agri-food imports, and 8.13% in exports. Regarding export competitiveness, the agri-food sector of North Macedonia had characteristics of "poor export competitiveness", while the Republic of Srpska recorded "very poor export competitiveness" in the analyzed period. The calculated values of the trade competitiveness index for the main product groups of the agri-food sector of the Republic of Srpska have shown different levels of export competitiveness, from "no export competitiveness" to "strongest export competitiveness" compared with North Macedonia. However, North Macedonia and the Republic of Srpska exhibit room for improvement in enhancing export competitiveness to capitalize on market opportunities.

**Key words:** agri-food sector, foreign trade exchange, trade competitiveness, Republic of Srpska, North Macedonia

## Introduction

The agricultural and food sector stands as a cornerstone of economic activity in both the Republic of North Macedonia and Republic of Srpska, significantly contributing to gross domestic product (GDP) formation and driving trade exchanges within this state and region. In the structure of GDP, in the case of the Republic of Srpska, an average share of agriculture, forestry, and fishery was 8.33% (Institute of Statistics of Republic Srpska, 2023), and in North Macedonia it was 8.67% from 2013 to 2022 (SSO, 2024b). Beyond its economic implications, this sector holds considerable social significance, particularly for rural populations.

The interconnection of agricultural and food trade intertwines the food systems of nations, playing a pivotal role in ensuring global consumers have access to sufficient, safe, and nutritious food. Moreover, it serves as a vital source of income and employment for farmers, workers, and traders across agriculture and the food industry (Zimmermann & Rapsomanikis, 2023).

In contemporary times, the pervasive effects of globalization and liberalization extend their influence across various sectors in developing countries such as North Macedonia and Bosnia and Herzegovina, i.e. the Republic of Srpska entity, profoundly impacting agriculture. The development of the agri-food sector in these nations is not only crucial for enhancing food availability, food, and nutrition security, employment, foreign exchange inflows, GDP, and capital accumulation (Johnston & Mello, 1961; Pawlak & Kołodziejczak, 2020), but also serves as a linchpin for broader economic stability and political equilibrium within a country (Dube & Vargas, 2013). However, certain studies suggest that globalization poses challenges for developing countries, rendering them vulnerable to even minor external influences, shocks,

and market disturbances or crises (Nguyen et al., 2018; Pinilla & Rayes, 2019). These dynamics underscore the intricate interplay between global economic forces and local agricultural economies, necessitating nuanced policy responses to safeguard against potential vulnerabilities and ensure sustainable development pathways.

Trade in agri-food products has been intensively developed and expanded in the new millennium, especially under the influence of trade liberalization agreements at the world, multilateral, and regional levels. FAO concludes that today more countries trade with each other, with developing countries and economies becoming important players, while low-income countries are better integrated into global markets (FAO, 2022).

For the most ex centrally planned economies in Central Eastern Europe as well as South East Europe, precisely Western Balkan countries, the first reforms during the transition process were related to foreign trade policy and the beginning of negotiations with the World Trade Organization (WTO). Bosnia and Herzegovina finished the negotiations with the WTO, still without a membership status in this global trade organization, while North Macedonia has been a signatory to an agreement with the WTO since April 2003, further underlining its dedication to international trade standards and practices. For both countries, the negotiations with the WTO presented an important prerequisite for accessing the Central European Free Trade Agreement (CEFTA) and Stabilization and Association Agreement (SAA) with the EU.

The main activity in the foreign trade policy of the countries from South East Europe during the last decades was their integration in the CEFTA. As a regional free trade agreement among countries in Central and South East Europe, Albania, Bosnia and Herzegovina, Kosovo<sup>1</sup>, Moldova, Montenegro, North Macedonia, and Serbia, it aims to promote trade and economic cooperation among its member states by reducing or eliminating tariffs and other barriers to trade in goods and services. The Agreement's purpose is to harmonize its Parties' regulatory framework with the EU and international standards, making an efficient basis for joining the EU (Begović, 2011). All these countries are at different stages of accession talks, but have some common economic characteristics that make them good partners that can jointly continue the increase in mutual trade. Furthermore, through resolving their pending political issues, they could become more eligible to join the EU. Moreover, the advantages of CEFTA are reflected in overcoming political tensions in the region, reducing the costs of production, introducing modern technologies and compliance with international standards, strengthening competition, and increasing the competitiveness of domestic products (Despotović et al., 2015). Therefore, the

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<sup>1</sup> The UNMIK in Kosovo established pursuant to Security Council Resolution 1244.

process within the CEFTA is extremely important in the context of harmonizing these countries' economies in relation with their future EU membership (Bošković & Jovanović, 2011). The CEFTA as a multilateral trade agreement has replaced 32 different bilateral agreements and provided free trade in the market of over 30 million people.

In August 2006 Macedonia joined the CEFTA-2006, as a means of regional cooperation and proof of the political and organizational maturity of the countries applying to join the EU, while in Bosnia and Herzegovina the CEFTA started to be implemented in November 2007. After EU countries, the second most important trade partner of Bosnia and Herzegovina, i.e. Republic of Srpska and North Macedonia in agri-food products are the CEFTA countries. In 2023, North Macedonia recorded the total value of trade of 638 million euros and a share of 37.5% in exports and 29.1% in imports of agricultural, food, and fish products (SSO, 2024a). The most significant trading partner from the CEFTA member states is Serbia with 13.8% of total exports and 22.3% of total imports of agri-food products, followed by Bosnia and Herzegovina (5.2% of total exports and 3.4% of total imports) and Kosovo\* (12.5% of total exports and 1.6% of total imports). The other CEFTA members (Albania, Montenegro, and Moldova) have a smaller participation in trade. In 2021, the Republic of Srpska recorded 250 million euros of the trade value in agri-food products compared with the CEFTA countries, i.e. an average share of the agri-food sector in trade with this country group was 27.71%. The structure of export and import of the agri-food sector of the Republic of Srpska points to Serbia as the most important trade partner within the CEFTA, with a share of export in agri-food products of 61.08% and import of 90.37% in the 2013-2021 period. About 26.03% of agri-food products from the Republic of Srpska were exported to Montenegro and 8.56% to North Macedonia, while the share of imported agri-food products from Montenegro was 1.55% and 7.17% from North Macedonia.

Furthermore, one of the most important institutional arrangements for Western Balkan countries aspiring towards the EU membership was the signing of the Stabilization and Association Agreement (SAA) with the European Union. The SAA confirms the status of the candidate country, opens the negotiation process, and after the closing of all chapters, the country obtains membership in the EU. As candidate countries for membership in the European Union (EU), both countries signed the Stabilization and Association Agreement (SAA) with the EU<sup>2</sup>. Within the SAA, the Interim Agreement on Trade and Trade Issues was signed with the EU. The Interim Agreement on Trade and Trade Issues was implemented until the completion of SAA ratification procedures with signatory

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<sup>2</sup> Bosnia and Herzegovina signed the SAA with the EU in June 2008, which entered into force in 2015, while North Macedonia signed it in April 2001, namely the SAA entered into force in April 2004.

countries of the European Union. Thanks to the SAA and its trade component (Interim Agreement on Trade and Trade Issues), the possibility of trading with the EU as their second most important partner was opened for both Western Balkan countries.

Generally, the negotiations with the WTO, and the accession to the CEFTA and the SAA had a significant influence on the opening of the economy and agri-food sectors of Bosnia and Herzegovina, i.e. the Republic of Srpska and North Macedonia. In conditions of the open market, improving the level of export competitiveness of the national economy and certain economic sectors which significantly contribute to GDP generation, like the agri-food sector, is a priority. The competitiveness of the country's agricultural products is not only related to its capacity to export agricultural products, but also to the sustainability of its agricultural sector (Long, 2021). According to Farinha et al. (2018), the export competitiveness of a country or a region refers to its market development and possession ability as well as profit-making ability in the foreign markets where its products are traded. The issue related to export competitiveness of the national economy, and especially its agri-food sector in South East Europe start to become more relevant from the moment the CEFTA enters into force. That is why there is considerable literature on the export competitiveness of agri-food sectors in the CEFTA region (Nikolić et al., 2010; Mrdalj, 2015; Mrdalj et al., 2017; Božić & Nikolić, 2019; Matkovski & Lovre, 2019; Matkovski et al., 2019; Matkovski et al., 2021; Matkovski et al., 2022), and for certain agricultural products (Mrdalj et al. 2019; Mrdalj et al., 2022).

Given the historical economic interdependence between Bosnia and Herzegovina, i.e. the Republic of Srpska and North Macedonia, this paper aims to analyze foreign trade including the agri-food sector and to ascertain their trade competitiveness.

## Material and Methods

The foreign trade and competitiveness analysis of the Republic of Srpska compared with North Macedonia was based on secondary data from the Institute of Statistics of the Republic of Srpska. Besides the data about the total foreign trade recorded between the Republic of Srpska and North Macedonia, the sample for this research was composed of agri-food product groups classified from 01 to 24 according to the Harmonized System classification. The research included the period from 2013 to 2022. The measures of descriptive statistics (minimum, maximum and average values, coefficient of variation), as well as average annual growth rate were used to analyze and explain the trends in foreign trade between the Republic of Srpska and North Macedonia. The level of export competitiveness of the Republic of Srpska in total foreign trade and in agri-food

products compared with the market of North Macedonia was determined by calculating the trade competitiveness index (TC).

The formula for measuring trade competitiveness (TC) is as follows:

$$TC_{ij} = \frac{(X_{ij} - M_{ij})}{(X_{ij} + M_{ij})}$$

where  $TC_{ij}$  refers to the ratio of "export minus imports" of product groups  $j$  in country  $i$  to the total import and export of product groups.  $X_{ij}$  represents the export value of  $j^{\text{th}}$  product groups in the  $i^{\text{th}}$  country.  $M_{ij}$  represents the import value of  $j^{\text{th}}$  product groups in the  $i^{\text{th}}$  country (Wei, 2005; Long 2021). The value of the TC index is between -1.000 and 1.000. The results of the calculation of this index in this research can be interpreted as follows: if a country  $i$  imported smaller quantities of certain product groups than it exported, the export competitiveness of its product groups was considered stronger. The following table shows the export competitiveness level of product groups of the agri-food sector.

Tab 1. The trade competitiveness (TC) index level of the export competitiveness

Index range	Export competitiveness level of products
TC = - 1.000	Imports but does not export competitiveness
-1.000 < TC ≤ -0.500	Very poor export competitiveness
-0.500 < TC ≤ 0.000	Poor export competitiveness
0.000 < TC ≤ 0.500	Strong export competitiveness
0.500 < TC < 1.000	Very strong export competitiveness
TC = 1.000	Exports but does not import – strongest export competitiveness

Source: Long, 2021.

## Results and Discussion

In terms of the whole trade, both the Republic of Srpska and North Macedonia have experienced growth in exports and imports over the years, albeit with intermittent fluctuations. The Republic of Srpska's proportion of exports in GDP has generally seen an upward trend, averaging 32.26% and peaking in 2022 (37.38%). Similarly, North Macedonia has shown an increasing trend in the share of exports in GDP, averaging 51.16%, reaching its highest level in 2022 (63.68%). However, both regions also demonstrate a significant share of imports in their GDP, with fluctuations over time. The average share of imports in of the Republic of Srpska's and North Macedonia's GDP stands at 47.45% and 71.24%,

respectively. This indicates a notable dependency on imports relative to the overall GDP of each country.

However, North Macedonia generally boasts higher volumes of both exports and imports compared with the Republic of Srpska. Republic of Srpska's exports and imports have displayed an increasing trend, with an average of 4,361 million EUR, with a particularly noteworthy surge in 2022 (6,449 million EUR) (Table 2). On the other hand, North Macedonia has seen steady growth in both exports and imports, with a significant uptick observed from 2021 (16,618 million EUR) to 2022 (20,425 million EUR) (Table 3). Consistently, both the Republic of Srpska and North Macedonia exhibited negative trade balances throughout the period, indicating that imports surpassed exports. Nevertheless, North Macedonia's trade deficit is notably larger compared with that of the Republic of Srpska, amounting to -2,096 million EUR and pointing to a higher dependency on imports relative to exports.

The trade competitiveness index has fluctuated over the years for both countries, occasionally showing negative values indicative of a trade deficit. The Republic of Srpska tended to exhibit a more negative TC averaging at - 0.19, compared with North Macedonia's average of -0.17, suggesting very poor export competitiveness according to Long (2021).

Moreover, the coverage of imports by exports ratio varied over time for both regions. The Republic of Srpska has generally demonstrated a lower coverage ratio averaging 68.53%, compared with 71.74% of North Macedonia, implying that its exports are less sufficient in covering the costs of imports.

Tab. 2 Main indicators of the Republic of Srpska's foreign trade (million EUR) in the 2013-2022 period

Indicators	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
GDP RS (million EUR)	4,507	4,556	4,716	4,935	5,164	5,471	5,753	5,692	6,392	7,433	5,462
Export (million EUR)	1,331	1,376	1,336	1,467	1,777	1,913	1,846	1,735	2,265	2,779	1,783
Share of export in GDP (%)	29.54	30.21	28.34	29.73	34.42	34.97	32.09	30.48	35.43	37.38	32.26
Import (million EUR)	2,330	2,529	2,234	2,263	2,505	2,670	2,445	2,287	2,853	3,670	2,579
Share of import in GDP (%)	51.71	55.51	47.37	45.87	48.51	48.80	42.50	40.17	44.64	49.38	47.45
Total trade (million EUR)	3,662	3,905	3,570	3,730	4,282	4,583	4,291	4,022	5,118	6,449	4,361
Balance (million EUR)	-999	-152	-897	-797	-728	-757	-599	-552	-589	-892	-796
Covering import of export (%)	57.14	54.43	59.83	64.81	70.95	71.65	75.50	75.87	79.37	75.71	68.53
TC index	-0.27	-0.30	-0.25	-0.21	-0.17	-0.17	-0.14	-0.14	-0.12	-0.14	-0.19

Tab. 3. Main indicators of North Macedonia's foreign trade (million EUR) in the 2013-2022 period

Indicators	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
GDP RS (million EUR)	8,150	8,562	9,072	9,657	10,038	10,744	11,262	10,852	11,836	13,033	10,065
Export (million EUR)	3,235	3,747	4,088	4,390	5,019	5,872	6,433	5,781	6,970	8,300	5,383
Share of export in GDP (%)	39.70	43.76	45.05	45.46	50.00	54.66	57.12	53.27	58.89	63.68	51.16
Import (million EUR)	4,983	5,505	5,801	6,177	6,835	7,676	8,441	7,599	9,648	12,125	7,479
Share of import in GDP (%)	61.14	62.29	63.94	63.96	68.09	71.45	74.95	70.03	81.52	93.03	71.24
Total trade (million EUR)	8,218	9,251	9,889	10,567	11,854	13,549	14,874	13,381	16,618	20,425	12,863
Balance (million EUR)	-1,748	-1,758	-1,714	-1,786	-1,816	-1,804	-2,008	-1,818	-2,678	-3,826	-2,096
Covering import of export (%)	64.92	68.06	70.46	71.08	73.43	76.50	76.21	76.07	72.24	68.45	71.74
TC index	-0.21	-0.19	0.17	-0.17	-0.15	-0.13	-0.13	-0.14	-0.16	-0.19	-0.17



The data in Tables 4 and 5 provide insights into the foreign trade dynamics within the agri-food sector of the Republic of Srpska and North Macedonia from 2013 to 2022. According to the data, the Republic of Srpska's average annual export value was 140 million EUR, whereas North Macedonia's average export value was higher, namely 560 million EUR, indicating that North Macedonia exports more in this sector. Similarly, North Macedonia's average annual import volume was higher, i.e. almost double at 797 million EUR compared with the Republic of Srpska's 447 million EUR, suggesting that North Macedonia also imports more in this sector.

In terms of the share of the agri-food sector in GDP, the Republic of Srpska's agri-food sector contributes around 2-3% to its GDP, while the North Macedonia's agri-food sector contributes around 5-6% to its GDP, indicating that the agri-food sector had a relatively larger impact on North Macedonia's economy. Both countries faced trade deficits in the agri-food sector, with the Republic of Srpska averaging at -307 million EUR and North Macedonia averaging at -237 million EUR. However, North Macedonia's trade deficit is relatively smaller compared with the RS. The Republic of Srpska's trade competitiveness index averaged at around -0.52, whereas North Macedonia's averaged at around -0.17, suggesting that North Macedonia had relatively higher trade competitiveness in the agri-food sector compared with Republic of Srpska. While both countries demonstrated poor export competitiveness according to their TC index averages, North Macedonia's trade deficit was relatively smaller compared with the Republic of Srpska, suggesting slightly better trade performance in this regard.

Tab. 4. Foreign trade of the agri-food sector of the Republic of Srpska in the 2013-2022 period

Indicators	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
GDP (million EUR)	4,507	4,556	4,716	4,935	5,164	5,471	5,753	5,692	6,392	7,433	5,462
Export (million EUR)	112	111	127	164	175	144	138	132	139	154	140
Share of export in GDP (%)	2.47	2.45	2.69	3.33	3.39	2.64	2.41	2.31	2.17	2.08	2.59
Share of agri-food export in total export (%)	8.38	8.10	9.48	11.21	9.85	7.54	7.50	7.59	6.14	5.56	8.13
Import (million EUR)	394	402	413	418	451	450	445	419	475	600	447
Share of import in GDP (%)	8.74	8.82	8.75	8.47	8.73	8.23	7.73	7.36	7.43	8.08	8.23
Share of agri-food import in total import (%)	16.90	15.89	18.48	18.46	17.99	16.86	18.19	18.31	16.64	16.36	17.41
Total trade (million EUR)	505	513	540	582	626	594	583	550	614	755	586
Balance (million EUR)	-282	-290	-286	-253	-275	-306	-306	-287	-336	-446	-307
Covering import of export (%)	28.32	27.75	30.68	39.37	38.87	32.05	31.11	31.47	29.27	25.73	31.46
TC index	-0.56	-0.57	-0.53	-0.43	-0.44	-0.51	-0.53	-0.52	-0.55	-0.59	-0.52

Tab. 5. Foreign trade of the agri-food sector of North Macedonia in the 2013-2022 period

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
GDP (million EUR)	8,150	8,562	9,072	9,657	10,038	10,744	11,262	10,852	11,836	13,033	10,065
Export (million EUR)	496	480	481	526	530	541	622	590	625	711	560
Share of export in GDP (%)	6.08	5.61	5.30	5.45	5.28	5.04	5.52	5.44	5.28	5.45	5.44
Share of agri-food export in total export (%)	15.32	12.81	11.77	11.98	10.56	9.22	9.66	10.21	8.97	8.56	10.91
Import (million EUR)	649	644	696	714	756	788	833	819	940	1,135	797
Share of import in GDP (%)	7.96	7.53	7.67	7.39	7.53	7.33	7.39	7.55	7.94	8.71	7.70
Share of agri-food import in total import (%)	13.02	11.71	12.00	11.56	11.06	10.26	9.86	10.78	9.74	9.36	10.93
Total trade (million EUR)	1,144	1,124	1,177	1,240	1,286	1,329	1,454	1,409	1,565	1,845	1,357
Balance (million EUR)	-153	-164	-215	-188	-226	-246	-211	-229	-315	-424	-237
Covering import of export (%)	76.40	74.51	69.12	73.68	70.13	68.73	74.66	72.07	66.52	62.62	70.84
TC index	-0.13	-0.15	-0.18	-0.15	-0.18	-0.19	-0.15	-0.16	-0.20	-0.23	-0.17

The data presented in Table 6 give a comprehensive view of the foreign trade dynamics and descriptive analysis of agri-food products between the Republic of Srpska and North Macedonia from 2013 to 2022. The minimum export value observed was 3.56 million EUR in 2013, while the maximum was 27.32 million EUR in 2019, with an average of 9.48 million EUR in the observed period with a coefficient of variance of 89.72%, indicating considerable variability in export figures. From 2013 to 2015, the exports from the Republic of Srpska to North Macedonia showed an increasing trend characterized by an average annual growth rate of 14.29%. Notably, there was a significant increase in 2018 and 2019, with exports spiking to 23.46 and 27.32 million EUR respectively, before stabilizing around 5-6 million EUR annually till the end of the analyzed period. Similarly, the imports of agri-food products from North Macedonia fluctuated over the years, ranging from 9.98 million EUR in 2015 to 15.08 million EUR in 2022. The average import value during this period was 11.95 million EUR, with a relatively low coefficient of variance of 14.58%.

Tab. 6 Foreign trade and descriptive analysis of agri-food products between the Republic of Srpska and North Macedonia in the 2013-2022 period

Indicators	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Export (million EUR)	3.56	4.23	7.02	6.27	6.01	23.46	27.32	4.97	5.10	6.86
Import (million EUR)	10.20	11.06	9.98	11.11	10.65	11.93	14.09	11.80	13.62	15.08
Total trade (million EUR)	13.76	15.29	17.00	17.39	16.66	35.39	41.41	16.77	18.72	21.94
Balance (million EUR)	-6.64	-6.82	-2.96	-4.84	-4.64	11.53	13.22	-6.84	-8.52	-8.22
Covering import of export (%)	34.89	38.27	70.36	56.43	56.42	196.70	193.81	42.07	37.42	45.49
TC index	-0.48	-0.45	-0.17	-0.28	-0.28	0.33	0.32	-0.41	-0.46	-0.37
Descriptive analysis of foreign trade in agri-food products										
Indicators	Minimum (million EUR)		Maximum (million EUR)		Average (million EUR)		AAGR (%)		C <sub>v</sub> (%)	
Export	3.56		27.32		9.48		14.29		89.72	
Import	9.98		15.08		11.95		19.25		14.58	
Total trade	13.76		41.41		21.43		26.30		43.40	

The trade balance between the two countries fluctuated throughout the period, with the Republic of Srpska experiencing deficits ranging from -2.96 million EUR to -8.64 million EUR. However, there was a significant improvement in the trade balance in 2018 and 2019, with the Republic of Srpska experiencing surpluses of 11.53 million EUR and 13.22 million EUR, respectively. The coverage of imports by exports varied widely, ranging from

34.89% to 196.70%. Despite fluctuations, there was a notable increase in coverage in 2018 and 2019, indicating an improvement in the Republic of Srpska's ability to cover imports with exports during those years. The trade competitiveness index fluctuated over the years, with the Republic of Srpska experiencing negative values ranging from -0.17 to -0.48. Although the index improved slightly towards the end of the period, the Republic of Srpska still faced challenges in terms of trade competitiveness compared with North Macedonia.

Tab. 7 Descriptive analysis of agri-food product groups in export and import between the Republic of Srpska and North Macedonia in the 2013-2022 period

Product groups (export)	Minimum (million EUR)	Maximum (million EUR)	Aver. (million EUR)	AAGR (%)	C <sub>v</sub> (%)
07- Edible vegetables and certain roots and tubers	0.06	0.89	0.33	-9.97	74.68
08 <sup>3</sup> - Edible fruits and nuts; peel of citrus fruit or melons	0.03	0.25	0.13	-32.34	56.03
11 - Products of the milling industry; malt; starches; inulin; wheat gluten	0.73	1.29	0.98	-6.20	20.11
17 - Sugars and sugar confectionery	0.002	0.07	0.03	-46.69	82.83
18 - Cocoa and cocoa preparations	0.93	2.36	1.57	-184.78	29.86
19 - Preparations of cereals, flour, starch or milk; pastry products	0.73	1.96	1.23	2.33	29.86
21- Miscellaneous edible preparations	0.02	0.38	0.17	-10.60	76.27
Product groups (import)	Minimum (million EUR)	Maximum (million EUR)	Aver. (million EUR)	AAGR (%)	C <sub>v</sub> (%)
02 - Meat and edible meat offal	0.07	0.40	0.24	-33.25	53.72
07 - Edible vegetables and certain roots and tubers	0.35	1.31	0.98	-191.45	32.70
08 - Edible fruits and nuts; peel of citrus fruit or melons	4.95	8.96	7.12	-214.97	22.67
10 - Cereals	0.001	4.47	0.62	-8.49	227.21
16 - Preparations of meat, fish, crustaceans, molluscs, or other aquatic invertebrates	3.08	5.94	4.41	10.25	21.00
18 - Cocoa and cocoa preparations	0.08	0.21	0.13	-23.76	37.38
19 - Preparations of cereals, flour, starch or milk; pastry products	0.86	1.22	1.06	-23.64	11.93
20 - Preparations of vegetables, fruit, nuts, or other parts of plants	0.75	1.44	1.11	-14.31	19.25
21 - Miscellaneous edible preparations	0.18	0.37	0.30	-156.83	19.44
22 - Beverages, spirits, and vinegar	1.52	3.85	2.69	9.86	30.05

<sup>3</sup> Descriptive statistics refers to the 2015 -2022 period.

The descriptive analysis of exports and imports of the Republic of Srpska's main agri-food product groups to North Macedonia's market from 2013 to 2022 provides valuable insights into the trade dynamics within these sectors. Table 7 presents the agri-food products which the Republic of Srpska traded most with North Macedonia, i.e. agri-food product groups with significant share in its export and import.

For the Republic of Srpska, the minimum export value across all product groups ranged from 0.002 to 0.93 million EUR, while the maximum export value varied from 0.07 to 2.36 million EUR. The highest average export value was observed in the "Cocoa and cocoa preparations" group, with an average of 1.57 million EUR, followed by "Preparations of cereals, flour, starch or milk; pastry products" with an average of 1.23 million EUR and "Products of the milling industry; malt; starches; inulin; wheat gluten" with an average of 0.98 million EUR. However, certain product groups exhibited negative average annual growth rates, indicating a decline in exports over the observed period. The "Cocoa and cocoa preparations" group experienced the highest negative AAGR of -184.78%, followed by "Edible fruits and nuts; peel of citrus fruit or melons" with -32.34%. The coefficient of variation ranged from 20.11% for "Products of the milling industry; malt; starches; inulin; wheat gluten" to 82.83% for "Sugars and sugar confectionery", indicating varying degrees of dispersion in export values across different product groups. In terms of imports, the Republic of Srpska witnessed a broader range of minimum and maximum import values across different product groups compared to exports. The highest average import value was observed in the "Edible fruits and nuts; peel of citrus fruit or melons" group, with an average of 7.12 million EUR, followed by "Preparations of meat, fish, crustaceans, molluscs, or other aquatic invertebrates" with an average of 4.41 million EUR. Similar to exports, certain product groups showed negative AAGR, such as "Edible vegetables and certain roots and tubers" with -191.45% and "Edible fruits and nuts; peel of citrus fruit or melons" with -214.97%. The coefficient of variation for import values ranged from 11.93% for "Preparations of cereals, flour, starch or milk; pastry products" to very high variability of group 10 - Cereals with 227.21%, indicating varying levels of dispersion in import values across different product groups. Table 8 presents the trade competitiveness index for the main agri-food product groups of the Republic of Srpska from 2013 to 2022.

Tab. 8 The TC index for main agri-food products of the Republic of Srpska from 2013 to 2022

Year	02	07	08	10	11	16	17	18	19	20	21	22
2013	-1.00	-0.91	-1.00	-1.00	1.00	-0.91	0.30	0.87	-0.08	-1.00	-0.90	-0.90
2014	-0.38	-0.80	-1.00	-1.00	1.00	-0.93	-0.65	0.78	-0.23	-1.00	-0.67	-0.87
2015	0.83	-0.69	-0.94	-1.00	1.00	-1.00	1.00	0.90	-0.01	-0.86	-0.61	-0.78
2016	0.40	-0.73	-0.74	-1.00	1.00	-1.00	0.65	0.90	-0.03	-0.93	-0.27	-0.79
2017	-0.13	0.44	-0.62	-1.00	1.00	-1.00	1.00	0.87	0.05	-0.91	-0.57	-0.86
2018	-1.00	-0.18	-0.66	-1.00	1.00	-1.00	1.00	0.90	0.06	-0.98	-0.64	-0.89
2019	0.62	-0.57	-0.46	-1.00	1.00	-1.00	1.00	0.90	0.09	0.37	-0.13	-0.97
2020	0.07	-0.25	-0.53	-1.00	1.00	-0.99	-0.99	0.86	0.07	0.71	-0.004	-1.00
2021	-0.26	-0.78	-0.78	-1.00	1.00	-0.98	0.22	0.71	0.27	-0.75	0.30	-0.99
2022	0.58	-0.31	-0.71	-1.00	1.00	-0.97	0.32	0.70	0.35	-1.00	0.06	-1.00
Average	-0.03	-0.48	-0.74	-1.00	1.00	-0.98	0.39	0.84	0.05	-0.63	-0.34	-0.91

According to the average values calculated for the TC index, there are five groups of main agri-food product groups in terms of export competitiveness level presented in Table 9.

Tab. 9 The TC index range and export competitiveness level for main agri-food products of the Republic of Srpska from 2013 to 2022

Index range	Export competitiveness level of products	Product groups
$-1.000 < TC \leq -0.500$	Very poor export competitiveness	08 - Edible fruits and nuts; peel of citrus fruit or melons 10 - Cereals 16 - Preparations of meat, fish, crustaceans, molluscs, or other aquatic invertebrates 20 - Preparations of vegetables, fruit, nuts, or other parts of plant 22 - Beverages, spirits, and vinegar
$-0.500 < TC \leq 0.000$	Poor export competitiveness	02 - Meat and edible meat offal 07 - Edible vegetables and certain roots and tubers 21 - Miscellaneous edible preparations
$0.000 < TC \leq 0.500$	Strong export competitiveness	17 - Sugars and sugar confectionery 19 - Preparations of cereals, flour, starch or milk; pastry products
$0.500 < TC < 1.000$	Very strong export competitiveness	18 - Cocoa and cocoa preparations
$TC = 1.000$	Exports but does not import – strongest export competitiveness	11 - Products of the milling industry; malt; starches; inulin; wheat gluten

Five product groups displayed the average TC index within a range of very poor export competitiveness (08, 10, 16, 20, and 22), while three product groups

highlighted poor export competitiveness (02, 07, and 21). According to average TC values calculated, two product groups (17 and 19) indicated moderate to strong export competitiveness. Only one product group (18) consistently demonstrated TC values between 0.500 and 1.000, indicating very strong export competitiveness. Product group 11 (products of the milling industry; malt; starches; inulin; wheat gluten) consistently showed 1.00 level of the TC index, indicating that the Republic of Srpska exported but not imported these products from North Macedonia throughout the period observed in this research.

## Conclusion

Trade and international competitiveness are pivotal drivers of modern economic development for sectors and countries alike. In assessing the foreign trade dynamics between the Republic of Srpska and North Macedonia several key observations emerge. While both the Republic of Srpska and North Macedonia grapple with trade deficits and exhibit poor export competitiveness, North Macedonia's larger agri-food economy, stronger export presence, and relatively smaller trade deficit suggest slightly better trade performance in the agri-food sector compared with the Republic of Srpska. Nevertheless, the data indicate fluctuating trends in the foreign trade between the two countries, with notable improvements in trade balance and coverage during certain years, alongside persistent challenges in trade competitiveness.

Both the Republic of Srpska and North Macedonia exhibit a significant level of economic interdependence, particularly in the agri-food sector. This underscores the importance of fostering continued trade relations between them. Despite the strong trade ties, both countries face trade deficits in the agri-food sector. While North Macedonia's trade deficit is relatively smaller compared with the RS's, addressing trade imbalances should be a priority for both regions to ensure sustainable trade growth. The trade competitiveness index indicates that North Macedonia generally demonstrates higher export competitiveness in the agri-food sector compared with the Republic of Srpska. However, both regions exhibit room for improvement, especially in enhancing export competitiveness to capitalize on market opportunities.

Detailed analysis of export and import agri-food product groups highlights areas of strength and weakness for each country. Identifying and leveraging export competitiveness in specific product groups can contribute to enhancing the overall trade performance and economic growth. Policymakers in the Republic of Srpska and North Macedonia should focus on implementing measures to promote trade diversification, enhance export competitiveness, and address trade imbalances. Additionally, fostering regional cooperation and

integration initiatives could further strengthen trade relations and stimulate economic development in the Republic of Srpska as well as in North Macedonia.

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# Спољна трговина и трговинска конкурентност у пољопривредно- прехранбеним производима између Републике Српске (Босна и Херцеговина) и Сјеверне Македоније

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## Сажетак

Спољна трговина у пољопривредно-прехранбеним производима има значајан значај и за Сјеверну Македонију и за ентитет Републику Српску (Босна и Херцеговина) с обзиром на значајну улогу коју овај сектор има у њиховој укупној трговинској размјени. Као формални трговински партнери према Средњоевропском споразуму о слободној трговини, важно је разумјети њихову трговинску динамику. Овај рад има за циљ анализирати спољнотрговинску размјену пољопривредно-прехранбених производа између Републике Српске и Сјеверне Македоније у периоду 2013-2022. У раду се прво приказују трендови извоза и увоза Републике Српске и Сјеверне Македоније у пољопривредно-прехранбеним производима, а затим се задира у анализу њихове извозне конкурентности. За анализу трговинске размјене пољопривредно-прехранбених производа кориштене су мјере дескриптивне анализе. Истраживањем су утврђене разине извозне конкурентности на темељу индекса трговинске конкурентности за укупну вањскотрговинску размјену, као и за пољопривредно-прехранбени сектор и његове главне производне групе у Републици Српској и Сјеверној Македонији. Резултати истраживања су показали готово подједнак просјечан удио од 10,91% у извозу и 10,93% у увозу пољопривредно-прехранбеног сектора Сјеверне Македоније, док Република Српска биљежила просјечан удио у увозу пољопривредно-прехранбених производа од 17,41%, односно 8,13% у извозу. У погледу извозне конкурентности, пољопривредно-прехранбени сектор Сјеверне Македоније имао је карактеристике "слабе извозне конкурентности", док је Република Српска у анализираном периоду имала "врло лошу извозну конкурентност". Израчунате вриједности индекса трговинске конкурентности за главне групе производа пољопривредно-прехранбеног сектора Републике Српске показале су различите разине извозне конкурентности, од "непостојања извозне конкурентности" до "најјаче извозне конкурентности" у

односу на Сјеверну Македонију. Ипак, Сјеверна Македонија и Република Српска показују простор за побољшање у јачању извозне конкурентности како би се искористиле тржишне прилике.

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