

Comparative Analysis of Export Competitiveness Specialization Levels of Türkiye and Leading Countries in the Cereal Sector ¹

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Submitted by: 25.08.2023

Accepted by: 25.11.2024

Article Type: Research Article

Abstract

The aim of this study is to determine the export competition specialization level of the cereal sector of Türkiye and the ten countries (USA, Germany, France, India, Canada, Brazil, Argentina, Ukraine, Australia and Russia) that have the largest share in cereal exports and to analyze them from a comparative perspective. In this direction, the export and import values of the said countries for the period 2013-2022 were taken from the WITS (World Integrated Trade Solution) database. Analyzes, SITC Rev. it was made using the Revealed Comparative Advantages (RCA) method for 3 cereal sub-product groups in the product group "04- Cereals, cereal products" belonging to 3 groups. According to the Net Export Index results, it has been detected that Germany, India, Brazil, Türkiye, Ukraine (except 0481), Russia, Argentina and Australia (except 0471) specialize in the export of all sub-product groups. However, it is concluded that the USA could not specialize in the export of any of the aforementioned sub-product groups. In addition, it has been determined that France and Canada only specialize in the export of the 0472 coded product group. Balassa Index results show that these countries have a competitive disadvantage in all cereal sub-product groups.

Keywords: Cereal Export, Competitiveness, RCA, Balassa Index

Citation: Yalçın, M. (2024). Comparative analysis of export competitiveness specialization levels of Türkiye and leading countries in the cereal sector. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 24(4), 1751-1766.

¹ This study does not require ethics committee permission.

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Türkiye'nin ve Hububat Sektöründe Lider Ülkelerin İhracat Rekabet Uzmanlaşma Düzeylerinin Karşılaştırmalı Analizi

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Başvuru Tarihi: 25.08.2023

Kabul Tarihi: 25.11.2024

Makale Türü: Araştırma Makalesi

Öz

Bu çalışmanın amacı, Türkiye ve tahıl ihracatında en büyük paya sahip on ülkenin (ABD, Almanya, Fransa, Hindistan, Kanada, Brezilya, Arjantin, Ukrayna, Avustralya ve Rusya) tahıl sektöründeki ihracat rekabet uzmanlaşma düzeyini belirlemek ve bunları karşılaştırmalı bir perspektiften analiz etmektir. Bu doğrultuda, söz konusu ülkelerin 2013-2022 dönemi ihracat ve ithalat değerleri WITS veri tabanından alınmıştır. Analizler, SITC Rev. 3 grubuna ait "04- Tahıllar, tahıl ürünleri" ürün grubunda yer alan 3 tahıl alt ürün grubu için Açıklanmış Karşılaştırmalı Üstünlükler (RCA) metodu kullanılarak yapılmıştır. Net İhracat İndeksi sonuçlarına göre, Almanya, Hindistan, Brezilya, Türkiye, Ukrayna (0481 hariç), Rusya, Arjantin ve Avustralya'nın (0471 hariç) tüm alt ürün gruplarının ihracatında uzmanlaştığı tespit edilmiştir. Ancak ABD'nin söz konusu alt ürün gruplarının hiçbirinin ihracatında uzmanlaşma gösteremediği sonucuna varılmıştır. Ayrıca, Fransa ve Kanada'nın sadece 0472 kodlu ürün grubunun ihracatında uzmanlaştığı belirlenmiştir. Balassa İndeksi sonuçları, söz konusu ülkelerin tüm tahıl alt ürün gruplarında rekabet dezavantajına sahip olduğunu göstermektedir.

Anahtar Kelimeler: Tahıl İhracatı, Rekabet Gücü, RCA, Balassa İndeksi

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Introduction

Due to globalization, production and trade structures have gone through various changes in recent times. It is getting harder and harder for the countries of the world to keep up with these developments and changes and to integrate into the world market. This difficulty paves the way for the concept of competition to come to the fore. As a matter of fact, it is an undeniable reality that countries must have a high competitive power in order not to fall behind their competitors and to hold on to the world market. In this context, it is necessary for companies and/or sectors to have an innovative structure in order to increase their competitiveness. In addition, a positive performance in the basic macroeconomic indicators of the countries is very important in terms of increasing the competitiveness of the countries and having a say in the world market.

The rapid increase in the world population has significantly increased the need for food. In this context, cereal products have formed one of the cornerstones of global food security. Cereal, while maintaining its place as one of the main food sources of people, is also an important foreign trade product for many countries. Especially for countries that play an important role in the agricultural sector, cereal exports have become a critical element in terms of economic development and foreign exchange earnings. In this context, evaluating the competitiveness of cereal exports can help the agricultural sector to achieve its sustainability and development goals. It also plays a critical role in global food security and balanced nutrition. In addition, increasing the competitiveness of cereal exports makes it possible to gain resistance against global economic fluctuations and to encourage rural development by increasing agricultural incomes.

In the study, with the Revealed Comparative Advantage (RCA) technique, which is frequently used in determining export competitiveness by using post-trade data, both Türkiye and countries that have the maximum share in cereal exports (USA, Germany, France, India, Canada, Brazil, Argentina, Ukraine, Australia, Russia) analyzes were made to detect the cereal export competition specialization levels. Net Export Index (NEI) and Balassa Index were used to detect the export competitiveness of the countries in the cereal sector for the period 2013-2022. In the literature, there are many studies conducted for different sectors using these indexes. However, this study differs from other studies in that it primarily focuses on a specific sector (cereals). Another point where this study differs from other studies is that the subcategories of the product group "04 Cereals, cereal products" are determined and analyzes are made separately for the three sub-cereal product groups. Therefore, the sector is calculated not only as a whole, but separately for the "Cereal flours (excluding wheat and meslut flour)" product group, which is one of the cereal sub-product groups, and for the other two sub-product groups, using indices. In addition, it is thought that the study will contribute to the literature, considering that the export competitiveness of Türkiye and the countries that have a say in the cereal sector has not been analyzed comparatively by going down to the sub-product groups.

Literature Review

As a result of the literature review, a limited number of studies on the subject are found. Some of these studies, which are most similar to the subject, are discussed in the context of purpose, method and result. If we list these studies chronologically from past to present;

Peker (2015), aimed to examine the export competitiveness of Türkiye's cereals and legumes sector in the period 1994-2011 against EU-27 countries. Accordingly, the Revealed Comparative Advantage technique was used. According to the results of the analysis, it has been detected that Türkiye has a high competitive power in the wheat flour trade in the EU market, especially after 2001. In addition, it has been detected that the corn sector does not have a competitive advantage against the EU market.

Sharif et al. (2015), aimed to analyze the export competitiveness of products in the cereal sector of Pakistan for the period 2008-2013. For this purpose, the Revealed Comparative Advantage method was used. According to the analysis results; it has been determined that Pakistan has a high RCA value in rice and corn products, while it does not have a high enough value in wheat and millet products.

Abbas and Waheed (2017), aimed to detect the export competitiveness of Pakistan's selected agricultural products in the 2003-2014 period. For this, the Revealed Comparative Advantage method developed by Balassa was used. As a result of the analysis, it has been detected that Pakistan has a high competitive power in raw cotton, cereals, raw hides and fruits. In addition, it was determined that the highest competitive power among the products in question was obtained in raw cotton with a value of 54.46.

Maqbool et al. (2020), aimed to analyze the cereal export competitiveness of Pakistan for the period 2003-2018. For this, indices such as the Balassa Index, Revealed Trade Advantage Index, Vollrath Index and Net Export Index were used. As a result of the analysis; it has been detected that Pakistan has a comparative advantage in the cereal sector. Apart from that, according to the Revealed Trade Advantage Index; it was concluded that Pakistan has a clear comparative advantage in cereal exports and should focus on cereal production and export.

Bashimov (2022), aimed to analyze the export competitiveness of Kazakhstan's selected cereal products for the period 2001-2020. For this, the Revealed Comparative Advantage and Revealed Symmetric Comparative Advantage indices were used. According to the index results, it has been detected that Kazakhstan has a comparative and competitive advantage especially in wheat and barley exports in the mentioned period.

Paksoy and Şahin (2023), aimed to compare the export competitiveness of Türkiye's wheat and cotton sector in the 2015-2021 period with the G7, OECD and EU27 country groups. For this, the Revealed Comparative Advantage method developed by Balassa was used. According to the results of the analysis, it has been detected that the competitiveness of Türkiye's cotton export tends to decrease since 2016, but it has a comparative advantage according to the selected country groups. It has been determined that the wheat export competitiveness is in a continuous decrease over the years.

Bashimov (2024), the study the comparative advantage of Uzbekistan in agricultural and food products exports was analyzed. In the study, agricultural and food products classified between 1-24 chapters according to the Harmonized System classification were included in the analysis. The study covers the years 2002-2020, and the data were compiled from the International Trade Center database. The Revealed Comparative Advantages index was used as the method in this study. According to the results obtained, Uzbekistan has a comparative advantage in the chapter group of living trees and other plants, edible fruits, edible vegetables, milling products and lac, gum, resin and other plant sap and extracts. When the RCA index values are examined by years, it is understood that Uzbekistan's competitive advantage does not exhibit a stable trend.

Duru (2024), the study the production, export and import structure of vegetable oils obtained from the most prominent oilseeds in terms of demand in Turkey in the period 2001-2022 was tried to be revealed. Based on foreign trade data related to vegetable oils, international competitiveness was analyzed with Revealed Comparative Advantages, Revealed Symmetric Comparative Advantages and Trade Balance Index indexes. As a result, although oilseed and crude oil imports are high, the competitiveness index values of vegetable oils that are refined and offered for direct consumption, except for palm oil, are positive and continue to provide added value to the country's economy.

Data and Method

Working Data

In the study, analyzes were made with the export and import values (US\$) of the mentioned countries for the period 2013-2022. The export and import values used for the analysis were taken from the WITS database. Since Russia does not have data for 2022, it could not be used in the analysis. Net Export Index and Balassa Index SITC Rev. 3 it is calculated by using export and import data of 3 cereal goods groups within the scope of 4 digits from 3 classifications. The aforementioned 4-digit 3 cereal product groups and codes are given in Table 1.

Table 1
SITC Rev. 3, 4 Digit Cereal Product Codes

0471	Cereal flour(non-wheat)
0472	Cereal meal/gr non-wheat
0481	Cereals/breakfast foods

Source: (WITS, 2023).

Study Method

Revealed Comparative Advantages Approach

The basis of competitiveness measurement goes back to Ricardo's "Theory of Comparative Advantage" and Hecksher-Ohlin's "Factor Endowment Theory". Ricardo assumes that for two countries to specialize in trade, there must be a relative price difference between product prices, while the Hecksher-Ohlin model assumes that the relatively more affordable factor must be used for specialization. However, since there is no coefficient determining the competitiveness of the countries in both models, the Revealed Comparative Advantage (ACU) coefficients were needed to determine the comparative advantage of the countries. In order to obtain the mentioned coefficients, the foreign trade data of the countries are used (Demir, 2001, p.50; Sariçoban, 2022, p.2000).

While the revealed comparative advantage method is a fundamental concept used in international trade, empirical measurement of the concept is arduous. The main reason why the concept is difficult to measure is that it is defined by relative autarky prices, which cannot be determined in the post-trade balance. In this context, if the concept of comparative advantage is to be evaluated empirically, it should be measured using post-trade data (Veeramani, 2008, p.150). The revealed comparative advantage approach is based on the idea of "specialization". Countries strive to specialize in the production of goods and services, just as people strive to specialize. The production of goods and services in question occurs in sectors where countries have a comparative advantage. Both classical foreign trade theory and modern foreign trade theory defend this preference and argue that countries first prefer the goods and services in which they have a comparative advantage in specialization (Utkulu, 2005, p.3).

Balassa Index

Before Balassa presented the famous RCA (Revealed Comparative Advantage) index in 1965, Liesner (1958) contributed to the empirical literature of RCA. Therefore, Liesner (1958) is considered the first empirical study in the field of RCA. The simple RCA measurement proposed by Liesner is based on the ratio of a country's total exports of a good to the total exports of other exporting countries of that good. Later, Balassa (1965)

introduced a comprehensive and advanced measure of RCA. This RCA measure, which was introduced by Balassa (1965), is an RCA coefficient that has been frequently used in the literature and has been modified later (Utkulu and Seymen, 2004, p.8-9).

$$RCA_{ij} = (X_{ij} / X_{it}) / (X_{wj} / X_{wt}) \quad (1)$$

In the formula, X_{ij} and X_{wj} represent country i goods j and world goods j exports, while X_{it} and X_{wt} represent the country's total and world total exports. If the result obtained from the formula is less than 1, it indicates that the country is in a disadvantageous position in terms of comparative advantage in the product in question, and if it is greater than 1, the country is in an advantageous position and has a comparative advantage (Balassa, 1965, p.99-124). In terms of interpreting the coefficient values in question in more detail, the obtained results can be evaluated by dividing them into 4 groups (Hinloopen and Marrewijk, 2001, p.13):

Group 1 $\rightarrow 0 < RCA \leq 1$ No Competitiveness. (Disadvantage)

Group 2 $\rightarrow 1 < RCA \leq 2$ There is weak competitiveness.

Group 3 $\rightarrow 2 < RCA \leq 4$ Moderately competitive.

Group 4 $\rightarrow 4 < RCA$ It has a strong competitive power.

Net Export Index (NEI)

Another analysis method in the study is the Net Export Index. This index is calculated as the ratio of net exports to the sum of exports and imports for a certain sector or group of goods (Balassa and Noland, 1989, p.9). Net Export Index takes values between “-1” and “1”. A negative value for the index indicates that the relevant country specializes in the import of the product group in question and has a competitive disadvantage, while a positive value indicates that the country specializes in the export of the relevant product group and has a competitive advantage (Donges and Riedel, 1976, p.68-69; Sarıçoban and Kaya, 2017, p.114).

$$NEI_{jkt} = \frac{X_{kt}^j - M_{kt}^j}{X_{kt}^j + M_{kt}^j} \quad (2)$$

A value of “1” for the Net Export Index indicates that the country in question is a full exporter in the relevant product group, a value of “-1” indicates that the country is a full importer of the relevant product group, and a value of “0” indicates that the country has a balanced trade in the product group in question, or in other words, the export and import values are the same (Erkan, 2009, p.14-15).

In the study, the RCA coefficients are considered as two periods. In this context, the years 2013-2017 are expressed as the first period and the years 2018-2022 as the second period. Except for this, appropriate average values for the period 2013-2022 are shown. Appropriate mean is defined as calculating the mean by subtracting abnormal or extreme values in the data. In this context, the appropriate average is known as the statistical method that best summarizes the central aspect of the data (TCMB(Central Bank of Türkiye), 2021, p.1).

Cereal Exports and Total Export Values Of The Countries

In Table 2, SITC Rev. according to the 3 classification, Türkiye and the top ten countries that have a say in the cereal export (04- Cereals, cereal products) for the period 2013-2022 are included. Based on the year 2022, in the cereal group exports, the USA was the first, Canada was the second, France was the third, Argentina was the fourth, and Türkiye was the last. When the table is examined, it is noteworthy that the USA maintained its export leadership in the cereal sector as of the mentioned years.

Table 2
Countries Total Cereal Exports (x1000 US\$)

2022		2021		2020		2019		2018	
US	36,093,137	US	34,565,033	US	23,227,904	US	20,776,554	US	24,837,680
DE	11,162,571	DE	10,354,179	DE	9,532,765	DE	8,349,269	DE	8,431,909
FR	16,796,017	FR	12,942,403	FR	11,698,247	FR	11,467,025	FR	11,375,622
IN	15,044,440	IN	13,103,074	IN	9,308,865	IN	7,646,946	IN	8,279,305
CAN	16,856,289	CAN	14,067,966	CAN	12,449,810	CAN	11,301,979	CAN	11,483,826
BR	14,250,470	BR	5,185,927	BR	6,781,028	BR	8,011,691	BR	4,719,381
AR	16,269,433	AR	13,425,919	AR	9,510,926	AR	9,913,612	AR	8,035,582
UA	9,424,395	UA	12,222,238	UA	9,758,194	UA	9,994,322	UA	7,561,569
AU	14,326,683	AU	10,617,113	AU	4,420,169	AU	4,094,859	AU	5,474,060
RU	--	RU	10,179,731	RU	10,123,052	RU	8,664,658	RU	11,056,551
TR	4,954,786	TR	3,836,753	TR	3,399,131	TR	3,399,475	TR	3,303,486
2017		2016		2015		2014		2013	
US	22,363,631	US	22,744,581	US	22,765,381	US	26,789,089	US	24,160,345
DE	8,430,365	DE	8,578,940	DE	8,952,261	DE	10,185,347	DE	10,512,234
FR	9,420,348	FR	9,870,220	FR	11,533,603	FR	13,130,811	FR	15,142,271
IN	7,882,883	IN	6,096,395	IN	7,379,829	IN	10,598,397	IN	11,405,160
CAN	10,154,482	CAN	9,332,843	CAN	10,924,081	CAN	12,203,419	CAN	11,339,394
BR	5,226,988	BR	4,295,145	BR	5,905,791	BR	4,675,666	BR	7,281,216
AR	7,565,444	AR	7,551,100	AR	5,489,213	AR	5,932,033	AR	8,939,906
UA	6,817,811	UA	6,322,779	UA	6,302,944	UA	6,895,280	UA	6,832,160
AU	7,157,721	AU	5,649,281	AU	7,024,173	AU	8,101,266	AU	8,766,591
RU	8,048,347	RU	6,147,342	RU	6,198,056	RU	7,626,525	RU	5,284,728
TR	3,220,960	TR	3,121,110	TR	2,914,590	TR	2,969,832	TR	2,862,028
US: United States		DE: Germany		FR: France		IN: India		CAN: Canada	
BR: Brazil		AR: Argentina		UA: Ukraine		AU: Australia		RU-TR: Russia-Türkiye	

Source: Prepared using WITS data.

Considering Table 2, Türkiye's cereal export amount was US \$ 2,862,028 in 2013, while in 2022, this value became US \$ 4,954,786. From here, it is seen that Türkiye does not have high enough export values to compete with other countries, but there is an increase in its exports.

Table 3

Total exports of Countries (x1000 \$)

2022		2021		2020		2019		2018	
US	1,743,810,748	US	1,478,599,018	US	1,207,117,361	US	1,394,462,542	US	1,413,253,590
DE	1,665,635,727	DE	1,635,599,574	DE	1,385,852,260	DE	1,493,266,564	DE	1,562,418,816
FR	618,298,750	FR	585,148,037	FR	488,562,446	FR	556,364,114	FR	568,535,880
IN	452,684,214	IN	394,813,673	IN	275,488,745	IN	323,250,726	IN	322,291,568
CAN	556,732,127	CAN	462,329,471	CAN	355,462,063	CAN	409,345,227	CAN	414,776,434
BR	334,463,079	BR	280,814,577	BR	209,180,242	BR	221,126,808	BR	231,889,523
AR	88,445,719	AR	77,934,315	AR	54,883,822	AR	65,114,128	AR	61,558,357
UA	44,443,201	UA	65,870,276	UA	49,230,800	UA	50,054,402	UA	47,334,680
AU	410,252,834	AU	342,036,103	AU	247,159,346	AU	270,260,836	AU	256,565,262
RU	--	RU	492,313,791	RU	337,103,970	RU	426,720,333	RU	451,494,828
TR	254,201,009	TR	225,214,458	TR	169,657,940	TR	180,832,722	TR	177,168,756
2017		2016		2015		2014		2013	
US	1,307,563,089	US	1,226,742,501	US	1,286,401,095	US	1,399,065,754	US	1,370,671,887
DE	1,430,628,657	DE	1,337,236,558	DE	1,328,500,249	DE	1,498,238,432	DE	1,450,937,515
FR	523,385,133	FR	488,885,072	FR	493,941,214	FR	566,656,165	FR	567,987,698
IN	294,364,490	IN	260,326,912	IN	264,381,004	IN	317,544,642	IN	336,611,389
CAN	385,170,033	CAN	352,807,627	CAN	375,606,739	CAN	444,952,882	CAN	456,598,271
BR	214,988,108	BR	179,526,128	BR	186,774,916	BR	220,920,757	BR	232,543,660
AR	58,384,195	AR	57,879,346	AR	56,783,953	AR	68,404,347	AR	75,962,981
UA	43,428,391	UA	36,361,032	UA	38,127,040	UA	53,913,302	UA	63,320,469
AU	230,536,737	AU	189,629,975	AU	187,792,151	AU	240,444,684	AU	252,155,105
RU	379,206,606	RU	301,780,443	RU	343,907,652	RU	497,833,529	RU	527,265,919
TR	164,494,619	TR	149,246,999	TR	150,982,114	TR	166,504,862	TR	161,480,915

Source: Prepared using WITS data.

Table 3 shows the total export values of these countries for the period 2013-2022. When the table is examined, it is seen that the USA is the first, Germany is the second, France is the third, Canada is the fourth, and Türkiye is the seventh, based on the year 2022 in terms of total exports.

Table 4
Ratio of Countries Cereal Exports in Total Exports (%)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
USA	1.8	1.9	1.7	1.9	1.7	1.8	1.5	1.9	2.3	2.0
Germany	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.7	0.6	0.7
France	2.7	2.3	2.3	2.0	1.8	2.0	2.0	2.3	2.2	2.7
India	3.3	3.3	2.8	2.3	2.7	2.6	2.4	3.3	3.3	3.3
Canada	2.4	2.7	2.9	2.6	2.6	2.8	2.8	3.5	3.0	3.0
Brazil	3.1	2.1	3.2	2.3	2.4	2.0	3.6	3.2	1.8	4.3
Argentina	11.7	8.6	9.6	13	13	13	15.2	17.3	17.2	18.4
Ukraine	10.8	12.8	16.6	17.4	15.7	16	20	20	19	21.2
Australia	3.5	3.4	3.7	3.0	3.1	2.1	1.5	1.8	3.1	3.5
Russia	1.0	1.5	1.8	2.0	2.1	2.4	2.0	3.0	2.0	--
Türkiye	1.7	1.8	1.9	2.0	2.0	1.9	1.9	2.0	1.7	1.9

Source: Prepared using WITS data.

In Table 4, the ratios of the cereal group exports of the said countries within the total exports are shown by calculating as a percentage. Considering the table, it is seen that the country with the highest cereal product group in total exports is Ukraine, and the country with the least is Germany. Apart from this, it is understood that the share of the cereal product group in total exports is low in Türkiye, although not as much as Germany.

Determining the Export Competitiveness of the Cereal Sector of the Countries

Analysis with Net Export Index

In this part of the study, the Net Export Index (NEI) is used to determine only the own commercial performance of the countries and the analysis results are shown in the table. Negative results indicate that a competitive advantage is gained in the import of the said good and more importance is given to its import; positive results indicate that a competitive advantage is gained in the export of the relevant good and more importance is given to its export (Donges and Riedel, 1976, p.68-69). A result of "1" indicates that the country is a full exporter in the relevant goods group, while a result of "-1" indicates that it is a full importer (Erkan, 2009, p.14-15).

Table 5
Analysis results by Net Export Index

	USA				Germany			
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
047 1	-0.03	-0.31	-0.18	X	0.08	0.17	0.12	✓
047 2	-0.23	-0.20	-0.22	X	0.16	0.26	0.21	✓
048 1	0.04	-0.19	-0.06	X	0.41	0.26	0.33	✓
	France				India			
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
047 1	-0.05	-0.14	-0.09	X	0.93	0.98	0.96	✓
047 2	0.73	0.53	0.62	✓	0.91	0.99	0.95	✓
048 1	-0.02	-0.07	-0.05	X	0.45	0.38	0.41	✓
	Canada				Brazil			
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
047 1	-0.48	-0.38	-0.44	X	0.96	0.95	0.96	✓
047 2	0.74	0.70	0.72	✓	0.97	0.96	0.97	✓
048 1	-0.05	0.07	0.00	E	0.53	0.63	0.57	✓
	Argentina				Ukraine			
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
047 1	0.69	-0.86	-0.09	X	0.26	-0.18	0.02	✓
047 2	1.00	-1.00	0.14	✓	0.98	0.96	0.97	✓
048 1	0.46	0.50	0.48	✓	0.01	-0.07	-0.04	X
	Australia				Russia			
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2021 ave.	Average	
047 1	-0.62	-0.59	-0.61	X	-0.67	-0.10	-0.44	X
047 2	0.25	0.34	0.29	✓	0.66	0.61	0.69	✓
048 1	0.08	0.09	0.08	✓	0.33	0.42	0.40	✓
Türkiye								
	2013-2017 ave.	2018-2022 ave.	Average					
047 1	0.93	0.95	0.95	✓				
047 2	0.99	0.99	0.99	✓				
048 1	0.55	0.63	0.58	✓				

When Table 5 is examined, it has been detected that all sub-product groups of Germany, India, Brazil, Türkiye, Ukraine (except 0481), Russia, Argentina and Australia (except 0471) have specialized in their exports (✓: there is specialization). From this, it can be concluded that the exports of the said countries in the relevant product groups are higher than their imports and that the countries have a competitive advantage by specializing in the export of these product groups. A striking point in the table is that Türkiye's 0472 product group RCA value is 0.99. This means that Türkiye exports almost all of the product group in question and is a full exporter. It is understood that France only specializes in the export of the 0472 coded product group. However, it is determined that the USA could not show specialization in all of the exports of these sub-product groups (X: no specialization). Except for this, it is detected that Canada showed in 0481 sub-product group (E: balanced trade).

Analysis with Balassa Index

The RCA values of the countries in question and the export amounts of three sub-product groups within the scope of cereal exports is measured using the Balassa Index and these are discussed in Table 6. When Table 6 is examined, it has been determined that the countries in question are in a disadvantageous (X) situation in all three sub-cereal product groups.

Table 6
Analysis Results by Balassa Index

USA								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
0471	0.05	0.06	0.05	X	0.02	0.04	0.03	X
0472	0.02	0.02	0.02	X	0.01	0.00	0.01	X
0481	0.14	0.12	0.13	X	0.15	0.14	0.14	X
Germany								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
0471	0.04	0.05	0.04	X	0.03	0.06	0.04	X
0472	0.04	0.02	0.03	X	0.03	0.03	0.03	X
0481	0.18	0.18	0.18	X	0.05	0.05	0.05	X
France								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
0471	0.03	0.04	0.03	X	0.16	0.12	0.14	X
0472	0.11	0.10	0.10	X	0.01	0.01	0.01	X
0481	0.28	0.34	0.31	X	0.03	0.03	0.03	X
Canada								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
0471	0.04	0.00	0.02	X	0.03	0.03	0.02	X
0472	0.01	0.00	0.00	X	0.07	0.06	0.06	X
0481	0.12	0.16	0.13	X	0.12	0.16	0.14	X
Argentina								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2022 ave.	Average	
0471	0.01	0.02	0.01	X	0.00	0.01	0.01	X
0472	0.00	0.00	0.00	X	0.01	0.01	0.01	X
0481	0.14	0.14	0.14	X	0.05	0.07	0.06	X
Australia								
	2013-2017 ave.	2018-2022 ave.	Average		2013-2017 ave.	2018-2021 ave.	Average	
0471	0.02	0.03	0.03	X				
0472	0.14	0.07	0.10	X				
0481	0.27	0.33	0.29	X				
Türkiye								

Conclusions

In the study, the export competition specialization levels of Türkiye and the countries that have the largest share in cereal exports were analyzed from a comparative perspective using the Revealed Comparative Advantages method. In this direction, the global specialization levels of these countries in cereal sub-product groups were analyzed using the Net Export Index and Balassa Index.

According to the Net Export Index results, it is detected that Germany, India, Brazil, Türkiye, Ukraine (except 0481), Russia, Argentina and Australia (except 0471) showed specialization in all sub-product groups. It is understood that France only specializes in the export of the product group with the code 0472. However, it is determined that the USA could not show specialization in all exports of these sub-product groups. Apart from this, it is detected that Canada showed in the sub-product group coded 0481 (E: balanced trade). Finally, according to the results of the Balassa Index, which is used to determine the global export competition specialization of the countries in question, it has been detected that the said countries do not have competitive power in all three groups.

When the situation of Türkiye is summarized in the light of the results, it is in the position of exporter in all product groups (0471, 0472, 0481) in terms of its own commercial performance. However, according to the Balassa Index, which shows the level of export competition specialization on a global scale, Türkiye could not gain a competitive advantage in the export of these product groups. In this context, it is very important for the country to maintain a strong position among its competitors in today's competitive market, to implement efficient policies in order to maintain and improve its position in the cereal product groups that Türkiye is an exporter. However, the fact that Türkiye is an exporter of all 3 cereal sub-product groups according to its own commercial performance shows that the country has a substantial and/or significant competitive power. Considering that Türkiye generally specializes in labor-intensive fields and has a competitive advantage, it is extremely important to support the labor-intensive sector (04- Cereals, cereal products) with efficient policies. In this framework, subsidies such as clustering, division of labor and specialization, seed and fuel support and tax reductions will be extremely important policies in terms of providing competitive advantage in cereal product groups, where competitive advantage cannot be obtained (0471, 0472 and 0481).

In order to increase the competitiveness of cereal exports, first of all, agricultural research and innovation should be encouraged and training and consultancy services on modern agricultural techniques should be provided. Agricultural infrastructure should be strengthened and infrastructure investments such as irrigation and storage should be supported. Market diversity should be targeted and trade and logistics processes should be facilitated. Trade barriers should be reduced and sustainable, environmentally friendly farming practices should be encouraged. Financial and logistical support should be provided to exporters, and measures should be taken for quality control and compliance with international standards. In addition, strengthening cooperation and associations among all stakeholders in the sector is important for success. This policy will contribute to the economic development of the agricultural sector and cereal security by increasing Türkiye's cereal export competitiveness.

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Genişletilmiş Özet

Amaç

Bu çalışmanın amacı, Türkiye ve tahıl ihracatında en fazla paya sahip on ülkenin (ABD, Almanya, Fransa, Hindistan, Kanada, Brezilya, Arjantin, Ukrayna, Avustralya ve Rusya) tahıl sektöründeki ihracat rekabet uzmanlaşma düzeyini belirlemek ve bunları karşılaştırmalı perspektiften analiz etmektir.

Tasarım ve Yöntem

Çalışmada, söz konusu ülkelerin 2013-2022 dönemi ihracat ve ithalat değerleri WITS veri tabanından alınmıştır. Analizler, SITC Rev. 3 grubuna ait "04- Tahıllar, tahıl ürünleri" ürün grubunda yer alan 3 tahıl alt ürün grubu için Açıklanmış Karşılaştırmalı Üstünlükler (RCA) yöntemi kullanılarak yapılmıştır.

Findings / Bulgular

Net İhracat İndeksi sonuçlarına göre, Almanya, Hindistan, Brezilya, Türkiye, Ukrayna (0481 hariç), Rusya, Arjantin ve Avustralya'nın (0471 hariç) tüm alt ürün gruplarının ihracatında uzmanlaştığı tespit edilmiştir. Ancak ABD'nin söz konusu alt ürün gruplarının hiçbirinin ihracatında uzmanlaşma göstermediği sonucuna varılmıştır. Ayrıca, Fransa ve Kanada'nın sadece 0472 kodlu ürün grubunun ihracatında uzmanlaştığı belirlenmiştir. Balassa İndeksi sonuçları, söz konusu ülkelerin tüm tahıl alt ürün gruplarında rekabet dezavantajına sahip olduğunu göstermektedir.

Research Limitations / Sınırlılıklar

Rusya'nın 2022 yılı verileri bulunmadığından analizlerde söz konusu yıl verileri kullanılmamıştır.

Öneriler

Türkiye'nin durumu sonuçlar ışığında özetlendiğinde, kendi ticari performansı açısından Net İhracat İndeksine göre tüm ürün gruplarında (0471, 0472, 0481) ihracatçı konumundadır. Ancak küresel ölçekte ihracat rekabetinde uzmanlaşma düzeyini gösteren Balassa İndeksi'ne göre Türkiye, bu ürün gruplarının ihracatında rekabet avantajı sağlayamamıştır. Bu bağlamda, günümüzün rekabetçi pazarında ülkelerin rakipleri arasında güçlü konumunu koruması ve özellikle Türkiye'nin ihracatçısı olduğu tahıl ürün gruplarında konumunu korumak ve geliştirmek için etkin politikalar uygulaması büyük önem taşımaktadır. Türkiye'nin kendi ticari performansına göre 3 tahıl alt ürün grubunun da ihracatçısı olması, ülkenin önemli bir rekabet gücüne sahip olduğunu göstermektedir. Türkiye'nin genel olarak emek yoğun alanlarda uzmanlaştığı ve rekabet avantajına sahip olduğu dikkate alındığında, emek yoğun sektörün (04- Hububat, tahıl ürünleri) etkin politikalarla desteklenmesi son derece önemlidir. Bu çerçevede rekabet avantajı elde edilemeyen tahıl ürün gruplarında (0471, 0472 ve 0481) kümelenme, işbölümü ve uzmanlaşma, tohum ve yakıt destekleri, vergi indirimleri gibi destekler rekabet avantajı sağlanması açısından son derece önemli politikalar olacaktır.

Özgün Değer

Literatürde bu endekslerin kullanıldığı farklı sektörlerle yönelik yapılmış pek çok çalışma bulunmaktadır. Ancak bu çalışma diğer çalışmalardan farklı olarak öncelikle belirli bir sektöre (tahıllara) odaklanması bakımından ayrılmaktadır. Bu çalışmanın diğer çalışmalardan farklılaştığı bir diğer nokta ise "04 Tahıllar, tahıl ürünleri" ürün grubunun alt kategorilerinin belirlenerek üç alt tahıl ürün grubu için ayrı ayrı analiz yapılmasıdır. Dolayısıyla sektör, tahıl alt ürün gruplarından "Tahıl unları (buğday ve meslut unu hariç)" ürün grubu ile diğer iki alt ürün grubu için sadece bir bütün olarak değil ayrı ayrı hesaplanmaktadır. Ayrıca Türkiye'nin ve tahıl sektöründe söz sahibi olan ülkelerin ihracat rekabet gücünün alt ürün gruplarına inilerek karşılaştırmalı olarak analiz edilmediği göz önünde bulundurulduğunda, çalışmanın literatüre katkı sağlayacağı düşünülmektedir.

Araştırmacı Katkısı: Mahsun YALÇIN (%100).