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AUTHORS: Deniz Sarica

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Araştırma Makalesi

Competitiveness and Self-Sufficiency of the Turkish Broiler Sector: A Comparative Analysis with Selected Countries
Deniz Sarıca^{1*}

ABSTRACT

This research aims to determine the competitiveness and self-sufficiency of Türkiye in international broiler trade and to compare it with Brazil, the United States of America (USA), China, and the European Union's 27-member (EU-27) countries that are prominent in world chicken meat exports and production. The research data was obtained from the Food and Agricultural Organization of the United Nations (FAO) database (2061–2021). The competitiveness of countries was calculated using the Revealed Symmetric Comparative Advantage (RSCA) index, and their self-sufficiency was calculated using the Self-Sufficiency Ratio (SSR). According to the findings, Türkiye's RSCA index scores increased gradually, particularly in recent years, and reached 0.42 in 2021. Brazil and the USA have a significant comparative advantage in the broiler trade, whereas the EU-27 and China do not. Furthermore, Türkiye has been self-sufficient in the sector for many years, with the self-sufficiency index reaching a high of 132.24% in 2021. Except for China, all of the countries included in the study are self-sufficient in this sector. These statistics demonstrate that Türkiye, like its competitors, has benefited from a high level of self-sufficiency and a clear comparative advantage in the chicken meat sector.

Keywords: Broiler sector, Competitiveness, Revealed symmetric comparative advantage, Self-sufficiency, Türkiye

**Türk Etlik Piliç Sektörünün Rekabet Gücü ve Kendi Kendine Yeterliliği:
Seçilmiş Ülkelerle Karşılaştırmalı Bir Analiz**

ÖZ

Bu araştırma, Türkiye'nin uluslararası etlik piliç ticaretindeki rekabet gücünü ve kendine yeterliliğini belirlemek ve dünya piliç eti ihracatında ve üretiminde öne çıkan Brezilya, Amerika Birleşik Devletleri (ABD), Çin ve Avrupa Birliği (AB-27) ülkeleri ile karşılaştırmayı amaçlamaktadır. Çalışmada kullanılan araştırma verileri, Birleşmiş Milletler Gıda ve Tarım Örgütü (FAO) veri tabanından (2061-2021) elde edilmiştir. Ülkelerin rekabet gücü Açıklanmış Simetrik Karşılaştırmalı Üstünlük (RSCA) endeksi kullanılarak, kendi kendine yeterlilikleri ise Kendi Kendine Yeterlilik Oranı (SSR) kullanılarak hesaplanmıştır. Elde edilen bulgulara göre, etlik piliç ticaretinde özellikle son yıllarda Türkiye'nin RSCA endeks skorları kademeli olarak artarak 2021 yılında 0.42'ye ulaşmıştır. Brezilya ve ABD ise önemli bir karşılaştırmalı üstünlüğe sahipken, AB-27 ve Çin bu üstünlüğe sahip değildir. Ayrıca Türkiye uzun yıllardır sektörde kendi kendine yeterli durumda olup, kendi kendine yeterlilik endeksi 2021'de %132.24 gibi yüksek bir seviyeye ulaşmıştır. Çin dışında araştırmaya dâhil edilen ülkelerin tamamı bu sektörde kendi kendine yeterlidir. Bu istatistiksel sonuçlar, rakipleri gibi Türkiye'nin de piliç eti sektöründe yüksek düzeyde kendi kendine yeterlilikten ve açık bir karşılaştırmalı üstünlüğe sahip olma avantajından yararlandığını göstermektedir.

Anahtar Kelimeler: Etlik piliç sektörü, rekabet gücü, açıklanmış simetrik karşılaştırmalı üstünlük, kendi kendine yeterlilik, Türkiye

ORCID ID

0000-0001-8206-4718

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¹ Department of Agricultural Economics, Faculty of Agriculture, Isparta University of Applied Sciences, Isparta, Türkiye.

*E-posta: denizsarica@isparta.edu.tr

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Introduction

Policy choices for achieving sustainable food supply systems to meet rising food demand without compromising future generations' resources include measures to promote production and delivery efficiency, as well as maximising the gains of international trade. Other policy regulations, in addition to ensuring food supply, include addressing poverty, vulnerability to food insecurity, and a country's population's ability to purchase adequate and nutritious food. In a liberal economy, countries would export goods for which they have a comparative advantage and import goods for which they have a comparative disadvantage. In other words, an international order based on free trade is considered mutually beneficial for trading partners (Rutten et al., 2013). Furthermore, it is suggested that comparative advantage aids international trade, and so higher levels of trade lead to greater food security, greater economic wealth, and lower destitution (Wegren and Elvestad, 2018).

The inverse of comparative advantage is self-sufficiency, which is often associated with economic nationalism and autarky (Kofman, 1997). However, countries may try to achieve self-sufficiency for several purposes. Clapp (2017) argued that developing countries with undiscovered natural resources may pursue more comprehensive self-sufficiency policies to address food insecurity issues, such as aspiring direct foreign investment from other countries for agricultural development and conceiving initiatives aimed at improving food security. Furthermore, according to Clapp (2017), there is no conflict between support for domestic production and openness to food trade, and that it should also be allowed for the pursuit of policies to increase domestic food production that makes political and economic sense.

Another important issue is the intense promotion of balanced and healthy nutrition in recent years. Thus, new trends in healthy food consumption have emerged (Leek et al., 2000). Chicken meat is an important source of animal protein that should be consumed for a healthy and balanced diet as well as physical and mental development because it contains sufficient and balanced amounts of all the amino acids required in human nutrition. It is an advantageous food item for a healthy diet in terms of some minerals, in addition to being rich in vitamins such as B2, B6, and B12 (Sarica et al., 2018).

Chicken meat consumption is increasing globally, and this trend is expected to continue in the coming years, regardless of region or income level. Türkiye's consumption of chicken meat is expected to rise to 1.7 million metric tonnes (MT) by 2023 (USDA, 2022). Broiler production is also increasing as the world's population grows, consumer preferences change, and technology advances in production (Tumer et al., 2018). In 2021, world broiler production increased by nearly 107% compared to 2000, reaching 121.5 million MT. Today, the United States of America (USA), China, and Brazil are the leading countries with a large share in the export and production of chicken meat. As of 2021, a total of 41.1% of the production was supplied by these three countries, of which 17% was in the USA, 12.09% was in China, and 12.01% was in Brazil. Regarding Türkiye, it ranked tenth in 2021 with 2.3 million MT of chicken meat production. Furthermore, with an 8.88% share, the European Union's 27 member countries (EU-27) were among the leading countries producing chicken meat in 2021 (FAO, 2023) (see Table I).

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Table I. Descriptive data on chicken meat for selected countries

Country	Year	Production (tonne)	Import (tonne)	Export (tonne)	Consumption (kg/capita/yr)
Türkiye	1961-1970	71 444	0	0	2.44
	1971-1980	168 373	0	0	4.403
	1981-1990	312 651	8	2 669	6.454
	1991-2000	464 321	318	6 658	8.369
	2001-2010	980 799	266	55 696	13.717
	2011-2021	1 963 148	12 755	399 167	20.047
	2018	2 156 671	5 869	455 336	20.84
	2019	2 138 451	44 003	480 968	20.65
	2020	2 138 451	44 420	522 322	19.99
	2021	2 245 770	40 699	588 227	-
USA	Year	Production (tonne)	Import (tonne)	Export (tonne)	Consumption (kg/capita/yr)
	1961-1970	3 118 114	11	59 049	18.547
	1971-1980	4 395 083	0	118 551	23.099
	1981-1990	6 831 200	1 014	312 339	32.39
	1991-2000	11 733 118	2 724	1 685 990	44.432
	2001-2010	15 958 301	28 287	2 845 335	50.796
	2011-2021	18 768 830	59 078	3 384 281	54.235
	2018	19 568 042	63 960	3 305 143	56.92
	2019	20 197 091	60 508	3 342 729	58.60
	2020	20 514 869	66 141	3 546 799	58.69
	2021	20 652 971	69 962	3 616 604	-
China	Year	Production (tonne)	Import (tonne)	Export (tonne)	Consumption (kg/capita/yr)
	1961-1970	507 400	0	6 015	1.00
	1971-1980	768 900	0	30 135	1.19
	1981-1990	1 416 800	15 484	29 560	1.84
	1991-2000	5 507 900	290 811	223 764	6.38
	2001-2010	9 687 680	563 059	175 236	10.5
	2011-2021	13 263 727	684 022	171 730	13.54
	2018	13 958 000	502 221	177 285	13.98
	2019	13 800 000	779 584	166 327	14.94
	2020	14 600 000	1 527 148	161 083	14.98
	2021	14 700 000	1 462 453	186 637	-
Brazil	Year	Production (tonne)	Import (tonne)	Export (tonne)	Consumption (kg/capita/yr)
	1961-1970	224 776	52	0.2	2.687
	1971-1980	698 900	289	35 744	6.094
	1981-1990	1 732 400	139	265 196	10.899
	1991-2000	4 097 810	431	533 233	22.123
	2001-2010	8 555 226	567	2 554 493	32.393

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	2011-2021	12 988 108	3 603	3 818 013	45.169
	2018	13 511 750	3 396	3 822 702	47.79
	2019	13 516 525	5 030	3 951 372	46.94
	2020	13 787 480	5 156	3 899 503	48.39
	2021	14 636 478	5 282	4 201 040	-
	Year	Production (tonne)	Import (tonne)	Export (tonne)	Consumption (kg/capita/yr)
EU	1961-1970	2 215 313	209 492	272 903	6.924
	1971-1980	4 135 478	255 299	570 352	11.8
	1981-1990	5 315 614	324 506	916 673	14.645
	1991-2000	7 368 861	718 314	1 396 044	17.051
	2001-2010	7 514 516	1 332 461	2 040 244	19.837
	2011-2021	9 926 106	2 232 923	3 549 631	21.854
	2018	10 640 967	2 550 026	3 981 605	22.35
	2019	10 894 174	2 557 122	4 108 487	22.21
	2020	11 036 941	2 388 262	3 902 058	22.92
	2021	10 763 707	2 617 477	3 883 108	-

Source: Author's calculation with the data obtained from FAO (2023).

Chicken meat has an important place in international trade as well as its importance in nutrition. The global chicken meat trade increased from 6.9 million MT in 2000 to 14.9 million MT in 2021 (FAO, 2023). For many years, Brazil has been the world's leading exporter of chicken meat. Brazil's chicken meat exports increased from \$805 million in 2000 to \$6.8 billion in 2021. Other major exporters of chicken meat include the USA (\$4.2 billion), the Netherlands (\$2.6 billion), and Poland (\$1.9 billion). Türkiye ranked 7th in the world in terms of chicken meat exports in 2021, with approximately \$826 million (FAO, 2023). Regarding chicken meat import, 14.5 million MT of broiler chickens were imported around the world in 2021, an increase of 145% compared to 2000. As of the same year, China (10.1% of the world's imports) ranks first in the world's broiler imports with 1.5 million MT. When Türkiye's chicken meat imports are examined, it is seen that they are very low compared to exports. In 2021, Türkiye imported 40.7 thousand MT of chicken meat. In terms of value, China ranked first with \$3.5 billion, followed by Germany with \$1.2 billion, and Japan with \$1.1 billion. For Türkiye, the import value was \$54.2 million in 2021 (FAO, 2023).

The broiler sector is essential in animal production activities for the following reasons: it meets the animal protein deficit, allows for intensification, benefits from scientific advances in breeding and feeding, does not require large areas, and contributes to rural development (Demircan et al., 2013). In Türkiye, the fact that the broiler sector creates large amounts of workforce employment, is one of the best-organized food sub-sectors, and is determined to be one of the few sub-sectors that can compete with the EU-27 reveals the importance and value of the broiler sector for Türkiye (Keskin and Demirbaş, 2012).

Until the end of the 1960s, backyard poultry farming in Türkiye was only carried out to meet the needs of the family. However, today, chicken meat production has become a commercial sector and is done by commercial chicken farms. The proliferation of integrated facilities and the implementation of the contracted production model in the mid-1980s accelerated the development that began in the 1970s. Despite the fluctuations that have occurred over the years, the sector's development continues at the same rate today (Askan and Dagdemir, 2017). It should be taken into account that the broiler industry, where the return period of the investment is shorter, will

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be the cornerstone of the production of cheap and high-quality animal protein sources in our country as well as around the world in the future (Ozlu and Turkoglu, 2020).

Competitiveness and self-sufficiency have emerged as critical components of Türkiye's domestic and foreign food policies. Therefore, our goal is to evaluate Türkiye's competitiveness and self-sufficiency in the broiler industry, which is very influential for the food sector of Türkiye. In addition, these calculations will be made for Brazil, China, the USA, and the EU-27, which are Türkiye's competitors and the leaders in this sector, to make a comparison while making this evaluation. Thus, we will address two major subjects in this research.

Materials and method

Data

The data on broiler export value (\$), export quantity (tonnes), import value (\$), import quantity (tonnes), and production amount (tonnes) was collected to analyse the Revealed Symmetric Comparative Advantage (RSCA) index and the Self-Sufficiency Ratio (SSR) for a period of 61 years from 1961 to 2021 by FAO (2023). Broiler consumption (kg/per capita/yr) was also collected from the FAO (2023) database. Furthermore, academic studies were used from national and international scientific journals and books.

Revealed symmetric comparative advantage

The notion of comparative advantage was first pioneered by David Ricardo. According to this theory, some persons or countries are more productive than others. Also, a country gains from trade by exporting the goods and services for which it has the highest comparative advantage in terms of productivity and by importing the goods and services for which it has the lowest comparative advantage. Following that, using trade flows, Balassa (1965) developed a method for defining a country's relative advantage or disadvantage in a specific product group. This method, known as the Revealed Comparative Advantages (RCA) index, is the foundation for calculating comparative advantages. The RCA index is frequently used to assess a country's international competitiveness in specific

products or sectors. This index is commonly used in agricultural research (Mirzaei et al., 2012; Bashimov, 2015; Girik Allo et al., 2017; Leua et al., 2019; Tandra et al., 2022). The comparative advantage of a country specifies its productivity level and describes the country's pattern of specialisation in the international market (Rossato et al., 2018). As a result, it is critical to conduct an investigation.

The following equation represents Balassa's (1965) RCA index:

$$RCA_j^i = \frac{x_j^i / \sum x^i}{\sum x_j^w / \sum x^w} \quad (1)$$

where

RCA_j^i : The Revealed Comparative Advantage index of country i in product j ,

x_j^i : The export value of product j of country i ,

$\sum x^i$: Total agricultural export value of country i ,

$\sum x_j^w$: Total world export value of product j ,

$\sum x^w$: Total world agricultural export value.

When $RCA_j^i > 1$, the country is said to have a comparative advantage. However, if $RCA_j^i < 1$, the country is considered to be at a comparative disadvantage for the specific product. The problem with this index is its asymmetrical distribution of values. For this reason, Dalum et al. (1998) suggested the Revealed Symmetric Comparative Advantage (RSCA) index to reduce the consequences of this issue. As a result, the RSCA index was used to calculate the competitiveness of the broiler sector in Türkiye. The formula is:

$$RSCA_j^i = \frac{\left(\frac{x_j^i}{\sum x^i} \right) - 1}{\left(\frac{\sum x_j^w}{\sum x^w} \right) + 1} \quad (2)$$

The outcome ranges between -1 and +1. As a result, if the RSCA value is between 0 and 1, the country is a net exporter; otherwise, it is a net importer. According to Laursen (2015), RSCA should be employed in place of RCA. The RCA index varies from 0 to 1 if a country is not specialised in a specific sector and from 1 to infinity if a country is specialised. This results in an incorrect interpretation of the results. Hence, RSCA values were used in the study rather than RCA values.

Self-sufficiency index

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Food self-sufficiency appears to be a simple notion. A country is food self-sufficient if it can meet its own food needs through production. Food self-sufficiency became popular in the 1960s and was successful even in developed countries. The primary component of food self-sufficiency is self-production. Food self-sufficiency, on the other hand, is associated with both food supply and food source. In theory, a country's ability to become fully self-sufficient is dependent on its natural, financial, and economic resources for food production, as well as its effective governance, advanced infrastructure and logistics systems, technological development, and efficient agricultural plans and initiatives (Clapp, 2017, p. 89; Wegren and Elvestad, 2018).

Countries may seek food self-sufficiency for a variety of purposes, including boosting national pride, reducing vulnerability to international markets or particular nations, creating employment or reducing unemployment, or due to the upsurge of economic nationalism and patriotic rulers in a state. As can be seen, food self-sufficiency is quite important for many reasons. Therefore, it is important to analyse the self-sufficiency rate of the Turkish broiler industry in the study.

The calculation of the Self-Sufficiency Ratio (SSR) is defined as follows (Fathelrahman et al., 2021):

$$SSR = \frac{P \times 100}{P + M - X} \quad (3)$$

where P is production, and M and X denote imports and exports, respectively.

It is concluded that a country is self-sufficient in broiler production when the SSR is 100 or above and insufficient when it is below 100.

Results and Discussion

Descriptive analysis of the Turkish broiler sector

It is natural for general economic conditions and trade policies to impact the food sector, including the chicken meat sector. In order to examine this sector more closely, descriptive data on chicken meat for Türkiye, Brazil, China, the USA, and the EU-27 are given in Table I. When Türkiye's chicken meat consumption data for the last three years were examined, it was discovered that the average annual consumption of chicken meat per person

was nearly 20.5 kg. Brazil (58.69 kg/per capita/yr) and the USA (48.96 kg/per capita/yr) had higher consumption in 2020 than Türkiye (19.99 kg/per capita/yr). Brazil consumed about three times more than Türkiye. However, China's consumption of 14.98 kg/per capita/yr of chicken meat remained below Türkiye's annual consumption. The EU-27 (22.9 kg/per capita/yr) consumed more than Türkiye, but it was close. In addition, the consumption of chicken meat in Türkiye has increased from 10.42 kg in 2000 to 19.99 kg in 2020.

As mentioned in the Introduction section, Türkiye ranked tenth in 2021 with 2.3 million MT of chicken meat production. The leading producer, the USA, produced 20.7 million MT of chicken meat in 2021, while the second- and third-most important countries, China and Brazil, produced 14.7 million MT and 14.6 million MT, respectively. The EU-27 produced 10.7 million MT in the same year. All of the countries mentioned above have increased their production significantly over the years.

Furthermore, Türkiye's exports accounted for 26.19% of total production in 2021. Its export quantity was 588 thousand MT in 2021, and in the 2000–2010 period, it increased from 55 thousand MT of exports to this level. Brazil has long been the world's leading exporter of chicken meat. Brazil's exports of chicken meat increased from 533 thousand MT in the 1991–2000 period to 3.8 million MT in the 2011–2021 period. Other major exporters of chicken meat included in the study are the EU-27 (3.8 million MT in 2021) and the USA (3.6 million MT in 2021). Regarding China (87 thousand MT in 2021), it was seen that it was not a leading exporter of chicken meat.

Finally, this section reveals that Türkiye's imports of chicken meat are extremely low in comparison to its exports. Türkiye imported 40.7 thousand MT of chicken meat in 2021. The EU-27 imported 2.5 million MT, followed by China, which imported 1.5 million MT. On the other hand, the USA imported 70 thousand MT and Brazil only 5 thousand MT in 2021.

These figures demonstrate that China and the EU-27 may be unable to meet domestic consumption due to their overpopulation, and they compensate for this shortfall through

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imports. Also, it is evident that Türkiye has begun to tap into its current export potential.

The competitiveness of the Turkish broiler sector

As mentioned in the Materials and Methods section, the RSCA index was employed to analyse the competitiveness of the Turkish

broiler industry. Türkiye (0.42), the USA (0.26), and Brazil (0.65) had a symmetric comparative advantage in broiler exports in 2021, according to the RSCA index results. However, China and the EU-27 had a comparative disadvantage of -0.26 and -0.03, respectively, in the same year (see Table II).

Table II. Revealed Symmetric Comparative Advantage indices of chicken meat for selected countries

Year	Türkiye	USA	China	Brazil	EU
1961-1970	-1	-0.005	-0.25	-0.99	0.52
1971-1980	-1	-0.27	0.32	-0.47	0.40
1981-1990	-0.72	-0.004	-0.08	0.55	0.20
1991-2000	-0.81	0.25	0.39	0.56	-0.02
2001-2010	-0.48	0.26	-0.13	0.70	-0.08
2011-2021	0.33	0.23	-0.28	0.67	-0.05
2018	0.36	0.18	-0.30	0.64	-0.02
2019	0.33	0.19	-0.30	0.67	-0.04
2020	0.31	0.23	-0.28	0.64	-0.04
2021	0.42	0.26	-0.26	0.65	-0.03

Source: Author's calculation with the data obtained from FAO (2023).

Brazil has the highest revealed symmetric comparative advantage over the observed period. According to Valdes et al. (2015), Brazil has evolved into the world's largest exporter of chicken meat and the world's third-largest producer of it over the past fifteen years. They stated that the reasons for this improvement were large-scale production, high technology usage, integration contracts, low labour costs, abundant feed availability, opportune foreign investment regulations, an extensive domestic market, and the government's provision of subsidised credits. Although the EU-27 is one of the world's four largest producers of chicken meat, it has had a comparative disadvantage since 1994. According to Horne (2018), EU-27 broiler meat producers must follow environmental, animal welfare, and food quality and safety legislation. This legislation has raised the cost of producing chicken meat. Furthermore, the EU-27 is one of the top broiler importers. These may affect the competitiveness of the broiler sector.

According to the findings of the study, Türkiye lacked competitiveness in the chicken meat trade until 2010. However, it gained a

comparative advantage in the following years. For instance, the RSCA index was -0.88 in 1981 and rose to 0.05 in 2010. The RSCA index reached its maximum level of 0.42 in 2021 (see Table I). Since the 1980s, Türkiye has pursued a trade-oriented growth strategy. Import restrictions were lifted, protectionist policies were reduced, and foreign exchange transactions were liberalised as a result of the economic reforms implemented. The volume and structure of foreign trade have changed significantly as a result of recent economic reforms (Daysal and Demirbas, 2017). These can be listed among the reasons for this observed increase in the RSCA index for the broiler sector during the studied period.

The self-sufficiency of the Turkish broiler sector

The self-sufficiency index was used to measure the extent of countries' self-sufficiency. Table III shows the results of the self-sufficiency indices for the broiler sector in Türkiye, the USA, China, Brazil, and the EU-27 for the years 1961–2021. As the table shows, all of the countries except China are self-sufficient in the broiler sector. Brazil was not self-sufficient

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until 1975; however, the country's self-sufficiency index has gradually increased over the years, and it reached 140.19% in 2021. Similarly, the self-sufficiency indices of the USA and the EU-27 have increased to 120.73% and 113.33% over time. On the other hand, China was self-sufficient in chicken meat until 1998, but after that, its self-sufficiency index dropped below 100, and it became non-self-

sufficient in chicken meat. Increasing pressure to supply chicken meat in China can be a factor in non-self-sufficiency. This is caused by the demand for chicken meat products growing day by day as a result of rising population, urbanization, and income in both urban and rural areas (Xin et al., 2016). In addition to this, inefficient use of input resources can be cited as another contributing factor to this situation.

Table III. Self-sufficiency indices of chicken meat for selected countries

Year	Türkiye	USA	China	Brazil	EU
1961-1970	100	102.06	101.16	99.98	102.49
1971-1980	100	102.63	104.04	103.68	108.11
1981-1990	100.91	104.69	101.57	118.97	112.56
1991-2000	101.39	116.30	99.21	114.98	110.09
2001-2010	105.47	121.47	96.26	142.07	110.38
2011-2021	124.32	121.73	96.29	141.73	115.31
2018	126.33	119.85	97.73	139.41	115.55
2019	125.68	119.41	95.75	141.24	116.61
2020	128.78	120.44	91.44	139.36	115.89
2021	132.24	120.73	92.01	140.19	113.33

Source: Author's calculation with the data obtained from FAO (2023).

When global broiler production amounts are examined, it is clear that these countries are the leading countries in global broiler production. Brazil is the leader in the world chicken meat market thanks to its natural resources, cheap labour, and raw material opportunities. The USA, on the other hand, is able to sell breast meat at a very good price in the country, so it gives away the remaining thigh meat cheaply and is one of the world's largest exporters of chicken meat (Tandogan, 2014).

While Türkiye was a self-sufficient country in chicken meat until 1991, this rate decreased slightly and was calculated at 99.98% and 99.73% in 1991 and 1992, respectively. In 1993, the rate increased and reached 100.23%, and by 2021, it had increased to 132.24%. These figures show that Türkiye, like its competitors, has had a high level of self-sufficiency in the chicken meat sector since 1961.

Conclusion

In the research, it has been revealed that Türkiye's export market share in the international chicken meat trade is gradually

increasing; it has a comparative advantage; and it is a net exporter in the international broiler sector. Furthermore, it has been demonstrated that it is a self-sufficient country in the sector.

In the last forty years, chicken meat production and consumption have shown a constant increasing trend in Türkiye as well as the rest of the world. The production reached 2.3 million MT, the per capita consumption amount increased from 2.31 kg/per capita/yr to more than 19 kg/per capita/yr and the population growth occurred more than three times. During this period, chicken meat exports increased year over year and reached 558 thousand MT. Imports have also increased over the years, reaching 40.7 thousand MT in 2021.

Türkiye trailed Brazil (0.65) as the world's leading exporter and producer of chicken meat in 2021 with an index of 0.42. However, China and the EU-27 had a comparative disadvantage of -0.26 and -0.03, respectively, in the same year. They have not had any competitiveness for twenty years. Furthermore, Türkiye has been self-sufficient in the sector for years, and the self-sufficiency index reached its highest

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level of 132.24% in 2021. Within the countries included in the study, all other countries except China are self-sufficient in this sector.

These results show that the broiler sector is one of the best-organized food sub-sectors, capable of competing with countries such as Brazil and the USA while also creating significant employment. These features demonstrate the importance of the broiler sector to Türkiye. However, the increase in costs and the shrinkage of the export market, especially the currency crisis, reduce Türkiye's competitiveness compared to other leading exporters. Therefore, there is a need to diversify target markets and implement special export incentive practices to meet the broiler export targets. Türkiye's proximity to a significant portion of potential export markets and positive developments in relations with neighbouring countries provide a great advantage to the sector. On the other hand, it is thought that adopting new approaches based on innovation, research and development, food safety, animal welfare, consumer preferences, and new marketing techniques in the sector rather than production-oriented and cost control will be beneficial in reaching a leading position in this sector.

As a result, Türkiye's self-sufficiency and competitiveness in the broiler sector can yield favourable outcomes, including economic growth, enhanced food security, increased exports, and job creation. Specifically, as the product's competitiveness, driven by self-sufficiency, grows along with increased production, the potential for greater international market demand also rises, thus leading to increased exports. Consequently, this is anticipated to contribute to economic growth by bolstering foreign exchange inflows into the country's economy. Nonetheless, to sustain these comparative advantages and self-sufficiency, it is imperative to take into account environmental and social responsibilities as well as international trade policies.

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