

## Evaluating Competitive Advantages and Market Dynamics in the Global Raisin Industry

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### ABSTRACT

Raisins are a key export commodity due to their nutritional value and global demand. This study evaluates the worldwide raisin industry's competitive advantages and market structure using data from the International Trade Center (2004–2023). Employing Revealed Comparative Advantage (RCA), Revealed Symmetric Comparative Advantage (RSCA), Concentration Ratio (CR), Herfindahl-Hirschman Index (HHI), and Trade Competitiveness Index (TCI), the analysis identifies Turkey, the United States, Iran, and Chile as leading exporters, accounting for 64.5% of the market share. Results indicate an oligopolistic market structure with concentrated competition among a few nations. Turkey, the United States, Afghanistan, Uzbekistan, and Iran exhibit strong RSCA values (near 1), reflecting expertise in raisin exports, while Turkey, Iran, Uzbekistan, Afghanistan, and Argentina show high TCI scores, indicating robust competitiveness. The study highlights shifts in market dynamics, with emerging exporters like Afghanistan challenging traditional leaders. To enhance their global position, exporters should improve production efficiency, diversify markets, and invest in branding. These findings contribute to understanding trade competitiveness and market evolution in agricultural exports, offering strategic insights for policymakers and industry stakeholders.

**Keywords:** Global competitiveness index, Global raisin trade, Leading raisin exporters, Revealed comparative advantage, Market structure analysis.

### INTRODUCTION

Dried fruits, particularly raisins derived from grape desiccation, are widely consumed globally and hold significant economic value. The global raisin industry contributes substantially to production and trade, with worldwide grape output exceeding 77 million tons in 2018 (OIV, 2019), of which 7% yielded 1.21 million tons of raisins (USDA, 2019). As a key agricultural commodity, raisins enhance the grape value chain and bolster exporting nations' economies (Soltani and Saghayan, 2012). However, competitiveness in this market is shaped by grape production fluctuations, market structure, and trade policies (Aminizadeh *et al.*, 2015). Traditional exporters like Turkey, the United

States, and Iran face challenges such as declining market share and price volatility, necessitating a detailed analysis of market dynamics and strategic opportunities.

Global grape production rose 20.1% from 72.9 Mt in 2004 to 87.6 Mt in 2022, peaking at 93.8 Mt in 2018 before declining (FAO, 2024; Figure 1). Climate change and economic factors drive these shifts (Protzman, 2022). Raisin exports grew 44% from 713.7 thousand tons in 2004 to 1 Mt in 2021, dropping to 946.4 thousand tons in 2022 (International Trade Centre, 2024; Figure 2). Post-2015 stability (9% growth) highlights the need for robust trade policies to sustain market share amidst rising competition.

Competitiveness, rooted in theories by Smith, Ricardo, and Balassa (Maneschi,

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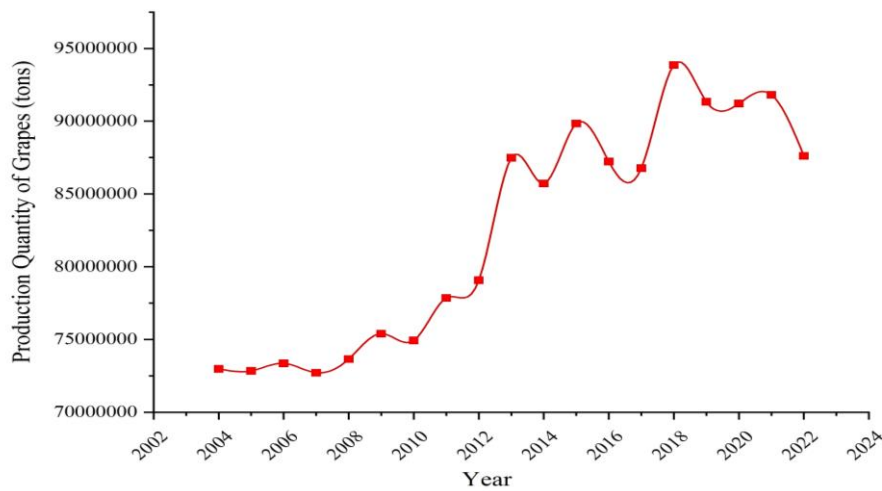


Figure 1. Global grape production volume (2004–2022).

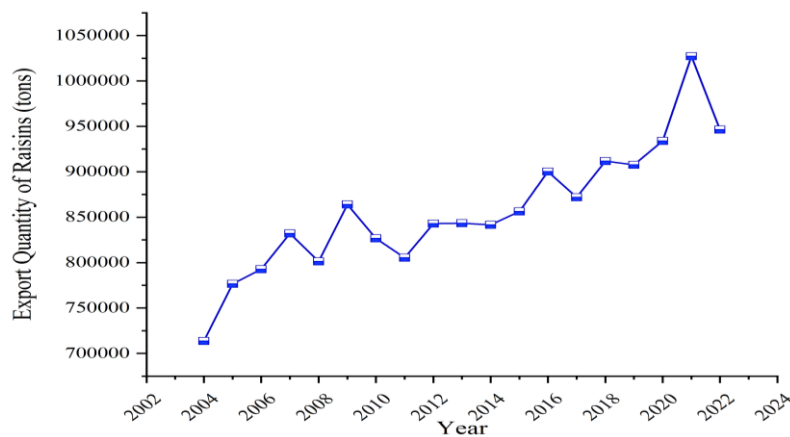


Figure 2. Global raisin export volume (2004–2022).

1992; Balassa, 1965), is assessed via the Revealed Comparative Advantage (RCA) index, where values above 1 indicate export strength (Borodin, 2006). Recent studies (e.g., Majidian *et al.*, 2022; Israrullah *et al.*, 2023) analyze raisin trade but often focus narrowly.

This study advances prior work by integrating RCA, RSCA, HHI, CR, and TCI across a 20-year dataset (2004–2023), offering a global perspective on market structure and competitiveness (Tables 1 and 2). Unlike single-country analyses, it compares leading exporters and identifies strategic shifts, aiding policymakers and exporters in enhancing market position and fostering sustainable trade development.

## MATERIALS AND METHODS

The international competitiveness of a given industry or product is typically evaluated using a range of indicators, including international market share, trade competitiveness, revealed symmetric comparative advantage, and market concentration. In the present study, five principal indicators, namely, RCA, RSCA, Concentration Ratio (CR), Herfindahl-Hirschman Index (HHI), and Trade Competitiveness Index (TCI), were systematically selected to facilitate a comprehensive and multi-dimensional assessment of the export performance of raisins. Collectively, these indicators provide valuable insights into static

**Table 1.** Overview of methods and approaches in previous studies.

Study	Data	Findings	Methods <sup>a</sup>
Yu <i>et al.</i> , 2022	Export value, import value, export quantity, (2010–2019)	Iran, Uzbekistan, and Kazakhstan mainly export raw licorice materials, while China, with its processing and trade capabilities, plays a key role in the global market. The United States, France, and Germany are among the main consumers of this product.	MS, TC, AEP
Israrullah <i>et al.</i> , 2023	Export volumes (2006–2021)	Afghanistan demonstrated significant growth in its comparative advantage for raisin exports and maintained a high level. The transition probability matrix shows that Russia, UAE, India, and Turkey retained 72.03%, 47.33%, 35.83%, and 13.11% of their market shares, respectively.	NPC, RCA, Direction of Foreign Trade
Han <i>et al.</i> , 2022	Export and import volumes and values (2010–2019)	The USA held the largest market share and Revealed Symmetric Comparative Advantage (RSCA) for licorice extract exports, followed by China and France with moderate competitiveness, while Germany faced challenges due to lower RSCA and competitiveness.	MS, RCA, RSCA, TC
Tian <i>et al.</i> , 2024	Export/import volumes (2012–2021)	Vietnam surpassed China in agricultural product competitiveness. Chinese exports to Vietnam matched Vietnam's imports in category 0, while Vietnam's exports to China showed more complementarity in category 2.	RCA, TC
Nabi <i>et al.</i> , 2019	Export volumes (1995–2017)	India demonstrated comparative export advantages in fish, fish products, fruits, vegetables, sugar, sugar products, miscellaneous foods, wood, and metals against the USA, UK, UAE, Singapore, and China.	RCA, RSCA
Montes Ninaquispe <i>et al.</i> , 2024	Export volumes and values (2013–2022)	Peru's fresh grape exports grew at a compound annual growth rate of 12.02% and 12.13% in value and volume, respectively. Exports reached an average of 151.2 destinations, with the highest export share to Mexico (63.2%) and the lowest to the Netherlands (1.6%). The Herfindahl index indicated market concentration in the USA and stability in the number of destinations.	RCA, HHI

<sup>a</sup> MS: Market Share; TC: Trade Complementarity; AEP: Aggregate Export Performance; NPC: Net Production Capacity; RCA: Revealed Comparative Advantage; RSCA: Revealed Symmetric Comparative Advantage; HHI: Herfindahl-Hirschman Index.

**Table 2.** Comparison of this study with existing research.<sup>a</sup>

Source	Dataset Size	Global scope	RCA	RSCA	HHI	Market Structure	CR	TC	MS
Yu <i>et al.</i> , 2022	Insufficient	✓	×	×	×	×	×	✓	✓
Nabi <i>et al.</i> , 2019	Insufficient	✓	✓	✓	×	×	×	×	×
Han <i>et al.</i> , 2022	Insufficient	✓	✓	✓	×	×	×	✓	✓
Israrullah <i>et al.</i> , 2023	Intermediate	×	✓	×	×	×	×	×	×
Tian <i>et al.</i> , 2024	Intermediate	×	✓	×	×	×	×	✓	×
Montes Ninaquispe <i>et al.</i> , 2024	Intermediate	×	✓	×	✓	×	×	×	×
Present Study	Large	✓	✓	✓	✓	✓	✓	✓	✓

<sup>a</sup> RCA: Revealed Comparative Advantage; RSCA: Revealed Symmetric Comparative Advantage; HHI: Herfindahl-Hirschman Index; CR: Concentration Ratio; TC: Trade Complementarity, MS: Market Share.

comparative advantage (RCA, RSCA), the strength of trade balance (TCI), and structural characteristics of the market (CR,

HHI). By integrating these indices, the study endeavors to capture both the depth of individual countries' competitiveness and



the broader structural trends prevailing in the global raisin market. This methodological approach is closely aligned with the study's overarching objective of analyzing long-term trade competitiveness and the evolving dynamics of a strategically significant agricultural sector.

### Market Share (MS)

Market share reflects a country's export proportion of a product in global trade, indicating its competitive capacity. A higher MS suggests stronger competitiveness. It is calculated as follows (Sajid and Ertz, 2024):

$$MS_{ij} = \frac{X_{ij}}{X_{wj}} \times 100 \quad (1)$$

Where,  $X_{ij}$  is the export quantity of raisins (product  $j$ ) from country  $i$ , and  $X_{wj}$  is the global export quantity of raisins. This study analyzes MS for leading raisin exporters.

### Concentration Ratio (CR<sub>n</sub>)

The  $CR_n$  measures export concentration among the major countries, revealing market structure (perfect competition to monopoly). It is defined as follows (Schaen and Maijoor, 1997):

$$CR_n = MS_1 + MS_2 + \dots + MS_n = \sum_{i=1}^n MS_{i,2,\dots,k} \quad (k > n) \quad (2)$$

Where,  $k$  is the total number of raisin exporters,  $n$  is the number of top exporters, and  $MS_i$  is the Market Share of exporter  $i$ . This index assesses concentration among key raisin exporters.

### Herfindahl-Hirschman Index (HHI)

The  $HHI$  addresses  $CR_n$  limitations by summing squared market shares of all exporters (Straume *et al.*, 2024):

$$HHI = MS_1^2 + MS_2^2 + \dots + MS_n^2 = \sum_{i=1}^K MS_i^2 \quad (3)$$

Where,  $k$  is the number of raisin exporters globally, and  $MS_i$  is the Market Share of

exporter  $i$ . Low  $HHI$  values indicate competition, while values near 1 suggest monopoly. Combined with  $CR_n$  (Table 3),  $HHI$  evaluates raisin market concentration.

### Trade Competitiveness (TC)

TC measures a country's net export capacity relative to total trade, ranging from -1 (weak) to +1 (strong) (Han *et al.*, 2022):

$$TC_{ij} = \frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}} \quad (4)$$

Where,  $X_{ij}$  and  $M_{ij}$  are export and import values of raisins (product  $j$ ) for country  $i$ . This study uses TC to compare competitiveness among the major raisin exporters.

### Revealed Comparative Advantage (RCA)

Introduced by Balassa (1965), RCA quantifies export advantage:

$$RCA_{ij} = \frac{\frac{X_{ij}}{\sum_i X_{ij}}}{\frac{\sum_j X_{ij}}{\sum_i \sum_j X_{ij}}} \quad (5)$$

Where,  $X_{ij}$  is the export value of raisins from country  $i$ ,  $\sum_i X_{ij}$  is country  $i$ 's total exports,  $\sum_j X_{ij}$  is global raisin exports, and  $\sum_i \sum_j X_{ij}$  is total world exports. Values  $> 1$  indicate advantage (Panico *et al.*, 2024).

The Revealed Symmetric Comparative Advantage (RSCA) adjusts RCA asymmetry (Dalum *et al.*, 1998):

$$RSCA_{ij} = \frac{RCA_{ij} - 1}{RCA_{ij} + 1} \quad (6)$$

RSCA ranges from -1 (no advantage) to +1 (strong advantage). Data on raisin exports, imports, and grape production (2004–2023) were sourced from FAO and ITC databases, with indices calculated using Excel.

The 2004–2023 period was selected based on the availability of consistent and complete trade data from international databases. A 20-year span allows for the detection of structural patterns, long-term

shifts in competitiveness, and the evaluation of market concentration dynamics over time.

## RESULTS

### International Raisin Trade Status

#### Global Raisin Trade Status

Figure 3-A shows global raisin export values from 2004 to 2023. Exports rose 147.2% from \$822 million in 2004 to \$2,032.6 million in 2012, then declined 24.6% to \$1,531.9 million by 2023, with fluctuations noted in 2018–2019 (International Trade Centre, 2024).

Figure 3-B details the top 12 exporters' trends. Turkey's exports grew 148% from \$231.4 million (2004) to \$574.2 million (2019), dropping to \$508.2 million in 2023

Iran's exports surged 228% to \$354.4 million in 2012, then fell 78.5% to \$76.2 million in 2023. Chile, South Africa, and Afghanistan showed varied trends, with Afghanistan rising since 2016. Post-2015 declines reflect economic recessions, production issues, and supply chain disruptions, though emerging exporters offset some losses, signaling market appeal and opportunities (International Trade Centre, 2024).

Figure 3-C highlights 2023 trade flows. Turkey exported to the UK, Netherlands, Germany, Italy, France, and Australia; South Africa to Germany and Russia; Afghanistan to India and Pakistan; Iran to Iraq and UAE; and Argentina to Brazil. The top five (Turkey, Iran, Afghanistan, South Africa, and Argentina) held 58% of exports, with Turkey at 35.1%. Top importers (UK, Netherlands, Germany, India, and Iraq) accounted for 27.4%, with Germany and Netherlands at

**Table 3.** Types of market structure based on CR<sub>n</sub> and HHI Indices.

Main feature market	Herfindahl-Hirschman Index (HHI)	Concentration ratio (Percentage)	Market type
More than 50 competing firms exist without any single firm holding a significant market share.	$HHI \rightarrow 0$	$CR_1 \rightarrow 10$	Perfect competition
No competing firm holds more than 10% of the market share.	$(1/HHI) \rightarrow 10$	$CR_1 < 10$	Exclusive competition
Four firms collectively hold a monopoly of up to 40% of the market.	$6 < (1/HHI) \leq 10$	$CR_4 < 40$	Open multilateral monopoly
Firms collectively hold at least 60% of the market share.	$3 < (1/HHI) \leq 6$	$CR_4 > 60$	Closed multilateral monopoly
One firm monopolizes more than 50% of the market.	$1 < (1/HHI) \leq 3$	$CR_1 \geq 50$	Dominant enterprise
One firm monopolizes the entire market.	$HHI \rightarrow 1$	$CR_1 \rightarrow 100$	Monopoly

(11.5% decline). The U.S. peaked at \$409.7 million in 2014 (107% rise from 2004), falling 57.4% to \$174.6 million by 2023.

14.35% each, reflecting concentrated exports and diverse imports (International Trade Centre, 2024).

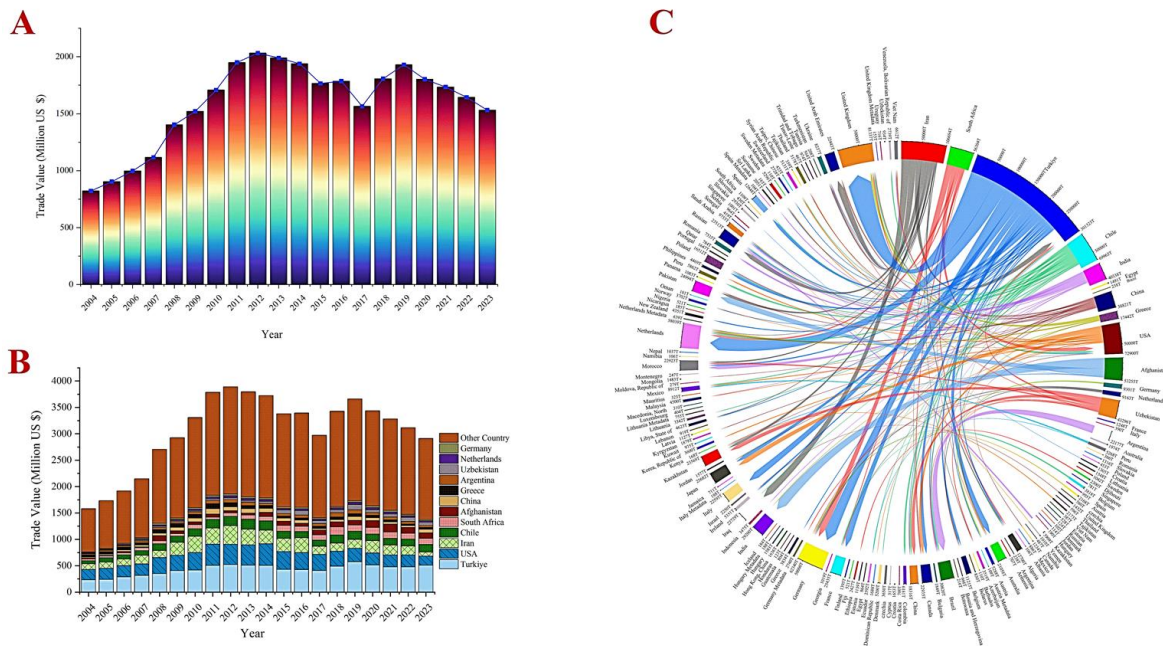


Figure 3. (A) Global Raisin Export Value (2004–2023); (B) Trends in Raisin Exports for Leading Countries (2004–2023), and (C) Global Raisin Trade Flow (2023). Source: (ITC, 2024).

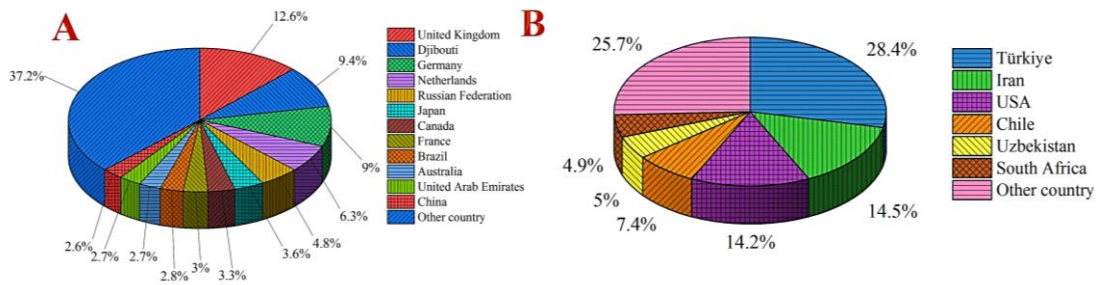


Figure 4. A) Average Import Volumes of Top Importers, and (B) Average Export Volumes of Top Exporters (2004–2023). Source: (ITC, 2024).

Figure 4 shows average import/export volumes (2004–2023). The UK led imports at 12.6%, followed by Djibouti (9.4%) and Germany (9%) (Figure 4-A). Turkey dominated exports at 28.4%, with Iran (14.5%) and the U.S. (14.2%) next (Figure 4-B), underscoring key players in the supply chain.

Table 4 analyzes market structure via CR1, CR4, HHI, and 1/HHI. Turkey’s share ranged from 25–35%, with CR4 (Turkey, U.S., Iran, Chile) averaging 56–75%. HHI (0.12–0.17) suggests moderate concentration, with slight increases in competition in 2021–2023. The 1/HHI indicates 6–9 active exporters, with new

entrants like Afghanistan, forming a multi-oligopoly structure.

The emergence of new exporters, such as Afghanistan and Uzbekistan, introduces significant competitive pressures for traditional market leaders like Turkey, the United States, and Iran. These newcomers, often benefiting from lower production costs, favorable climatic conditions, and growing governmental support, are capable of capturing market share in price-sensitive regions. This trend not only intensifies competition but also compels established exporters to innovate and adapt, particularly in areas of quality differentiation, technological modernization, and supply chain efficiency.

**Table 4.** Export market structure of dried grapes (HS 080620) Worldwide (2004–2023).

Year	CR <sub>1</sub>	CR <sub>4</sub>	HHI	1/HHI	Active business competitors	Market structure
2004	0.30	0.75	0.17	5.74	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2005	0.29	0.73	0.16	6.06	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2006	0.31	0.72	0.16	6.09	Turkiye, Iran, USA, Chile	Closed Multilateral monopoly
2007	0.29	0.70	0.16	6.42	Turkiye, Iran, USA, Chile	Closed Multilateral monopoly
2008	0.25	0.63	0.13	7.46	Turkiye, USA, Iran, Afghanistan	Closed Multilateral monopoly
2009	0.31	0.70	0.16	6.35	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2010	0.26	0.68	0.14	7.02	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2011	0.27	0.69	0.15	6.81	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2012	0.27	0.67	0.14	7.22	Turkiye, Iran, USA, Chile	Closed Multilateral monopoly
2013	0.27	0.66	0.14	7.33	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2014	0.28	0.68	0.15	6.83	Turkiye, USA, Iran, Chile	Closed Multilateral monopoly
2015	0.26	0.61	0.13	7.93	Turkiye, USA, Iran, Uzbekistan	Closed Multilateral monopoly
2016	0.26	0.63	0.13	7.75	Turkiye, Iran, USA, Uzbekistan	Closed Multilateral monopoly
2017	0.31	0.65	0.15	6.75	Turkiye, USA, Iran, Uzbekistan	Closed Multilateral monopoly
2018	0.31	0.60	0.14	7.14	Turkiye, Iran, USA, Uzbekistan	Closed Multilateral monopoly
2019	0.29	0.60	0.13	7.43	Turkiye, Iran, USA, Uzbekistan	Closed Multilateral monopoly
2020	0.28	0.62	0.14	7.22	Turkiye, Iran, USA, South Africa	Closed Multilateral monopoly
2021	0.25	0.56	0.12	8.60	Turkiye, Iran, Djibouti, USA	Between closed Multilateral monopoly
2022	0.29	0.57	0.13	7.61	Turkiye, Iran, Uzbekistan, USA	Between closed Multilateral monopoly
2023	0.35	0.58	0.16	6.27	Turkiye, Chile, South Africa, Afghanistan	Between closed Multilateral monopoly

Source: Research findings.

Additionally, the entry of emerging players contributes to market fragmentation, potentially leading to price volatility and reduced profit margins for dominant suppliers. As these markets gain a foothold, their sustained presence could alter long-standing trade flows and necessitate strategic repositioning among global leaders.

### Raisin Trade Status in Iran

As shown in Figure 5, Iran serves as a major exporter of raisins, with minimal imports of this product. This chart underscores Iran's significant role as one of the key producers and suppliers of raisins in global markets. The primary importing countries of Iranian raisins include both regional and extra-regional nations, such as Iraq, Russia, the UAE, and Turkey, which are pivotal to the Iranian raisin market. Additionally, exports to European countries like Germany and the Netherlands are noteworthy, reflecting robust demand for Iranian raisins in international markets.

Moreover, Iran's lack of reliance on raisin imports not only signifies adequate domestic production but also highlights its competitive advantage in producing high-quality raisins in substantial volumes. This positioning enables Iran to leverage high demand in global markets, enhance its share of global raisin exports, and boost its export revenues.

### Competitive Analysis of International Raisin Trade

Given the relative stability of major raisin-supplying countries over an extended period, this study analyzes the international competitiveness of the twelve leading exporting nations in this sector. To achieve this, five prominent countries have been selected from the following countries: Turkey, the United States, Iran, Chile, South Africa, Afghanistan, China, Greece, Argentina, Uzbekistan, the Netherlands, and Germany, covering the period from 2004 to 2023.

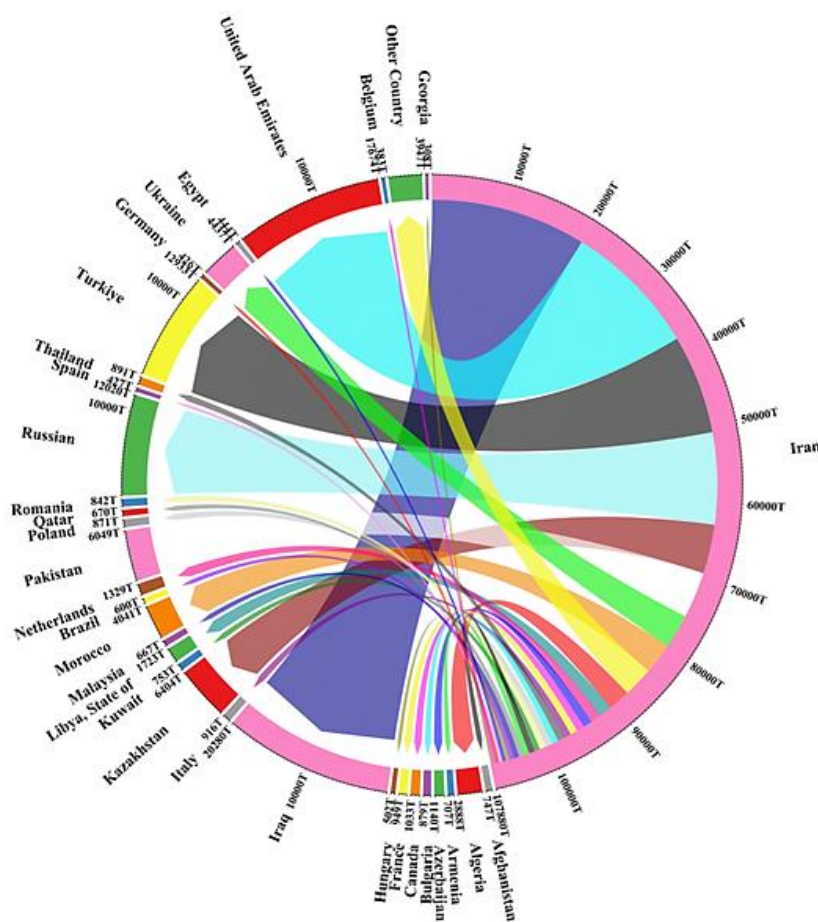


Figure 5. Raisin Trade Flow in Iran (2023); (Source: ITC, 2024).

### Market Share

Figure 6-A shows Turkey's share consistently above 25%, peaking at 35% in 2023. The U.S. dropped from 19.7% (2004) to 6.5% (2023), and Iran from 19.3% to 6.1%. Chile, South Africa, and Afghanistan grew, with South Africa at 7.2% in 2023, indicating rising competition.

### Revealed Symmetric Comparative Advantage (RSCA)

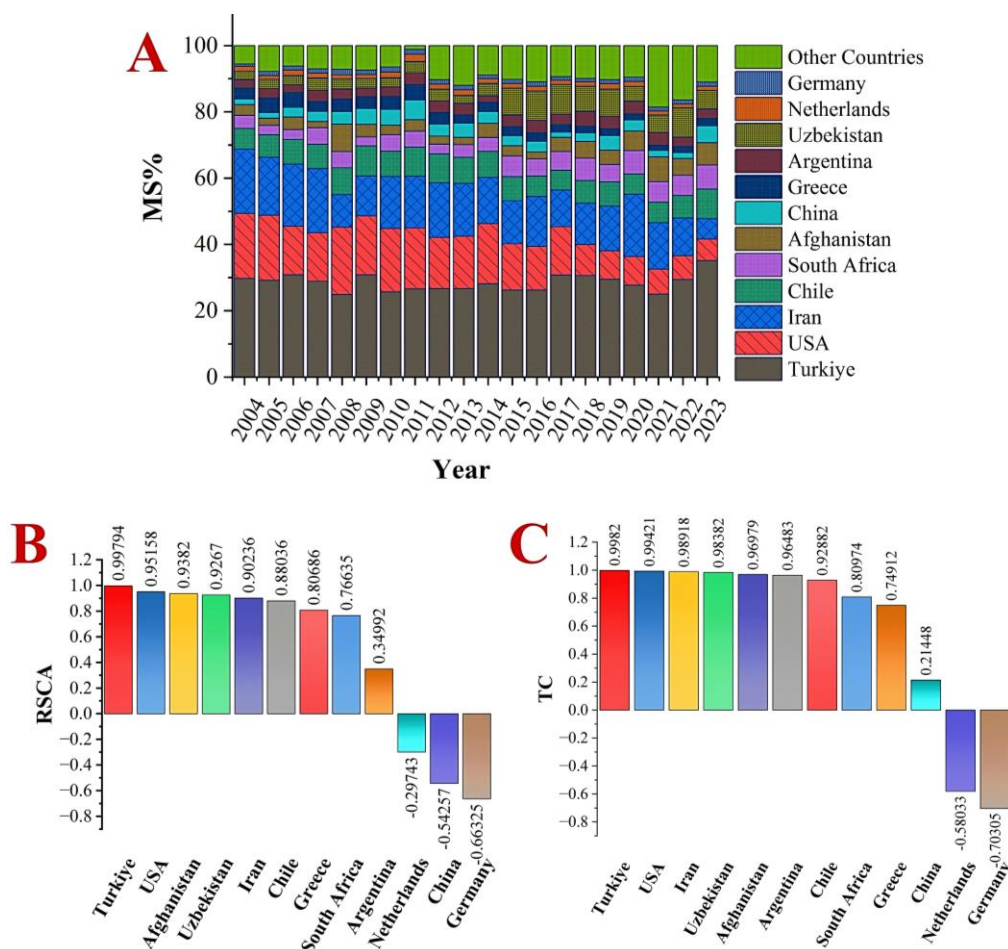
Figure 6-B reveals Afghanistan's top RSCA (1), followed by Turkey, Iran, Uzbekistan, and Chile (> 0.9). Argentina and Greece (~0.8) show stable competition, while China, Germany, and the Netherlands

have negative values, indicating weak advantage.

### Trade Competitiveness (TC)

Figure 6-C shows Iran's TC at 1, with Afghanistan (0.989), Uzbekistan (0.99), Argentina (0.984), Chile (0.97), and Turkey (0.93) also high. The U.S. and Greece are moderate, while China (0.21), Netherlands, and Germany are low, reinforcing import-focused roles.

As detailed in Table 5, this analysis examines market share, trade competitiveness, and Revealed Symmetric Comparative Advantage (RSCA) for the top four raisin-exporting countries from 2004 to 2023. Turkey has consistently maintained a market share exceeding 25% during most of



**Figure 6.** (A) Market Share; (B) Average RSCA, and (C) Average TC (2004–2023); (Source: Research findings).

this period, solidifying its leadership in the global market. The country's sustained export advantages and competitiveness reflect its capacity to meet global demand and effectively manage exports.

Iran, the second-largest raisin exporter in this group, has shown strong competitiveness but has faced more pronounced fluctuations in market share and RSCA. The United States has experienced declines in market share, Trade Competitiveness (TC), and RSCA, reflecting a weakening global position, especially in recent years.

Although Chile holds a smaller market share, it has demonstrated steady improvement in TC and RSCA, enhancing

its role in the global market. This analysis underscores that each country has adopted distinct strategies to strengthen its position, offering valuable insights for policymakers and exporters aiming to boost international competitiveness.

### DISCUSSION

This study provides a comprehensive and longitudinal assessment of competitiveness and market structure in the global raisin industry by integrating multiple trade indices over the period 2004–2023. The findings confirm that the global raisin market is characterized by a moderately concentrated,



Table 5. MS, TC, and RSCA of Turkey, USA, Iran, and Chile (2004–2023).

Year	Turkiye			USA			Iran			Chile		
	MS	TC	RSCA	MS	TC	RSCA	MS	TC	RSCA	MS	TC	RSCA
2004	29.69	0.98	0.95	19.73	0.86	0.46	19.32	1.00	0.93	6.27	0.97	0.90
2005	29.18	0.98	0.95	19.57	0.70	0.46	17.54	1.00	0.91	6.79	0.94	0.92
2006	30.81	0.98	0.95	14.70	0.73	0.42	18.68	1.00	0.92	7.49	0.96	0.89
2007	28.92	0.98	0.95	14.62	0.67	0.40	19.31	1.00	0.92	7.37	0.98	0.88
2008	24.86	0.98	0.94	20.30	0.80	0.46	9.80	0.98	0.87	8.15	0.98	0.91
2009	30.86	0.98	0.94	17.73	0.81	0.38	12.05	0.99	0.93	9.06	0.97	0.90
2010	25.72	0.98	0.94	19.08	0.80	0.39	15.65	1.00	0.92	7.70	0.98	0.90
2011	26.58	0.98	0.94	18.42	0.84	0.43	15.59	1.00	0.91	8.72	0.99	0.90
2012	26.68	0.98	0.94	15.47	0.84	0.38	16.43	1.00	0.92	8.73	0.96	0.91
2013	26.64	0.86	0.94	15.84	0.83	0.40	15.83	1.00	0.94	7.96	0.96	0.92
2014	28.18	0.86	0.93	18.13	0.87	0.42	13.91	1.00	0.93	7.84	1.00	0.92
2015	26.19	0.96	0.93	13.96	0.76	0.35	13.06	1.00	0.95	7.24	0.98	0.90
2016	26.23	0.97	0.93	13.20	0.80	0.33	15.04	1.00	0.94	6.17	0.95	0.89
2017	30.80	0.97	0.93	14.55	0.81	0.38	11.06	1.00	0.90	5.94	0.95	0.90
2018	30.59	0.99	0.94	9.36	0.53	0.29	12.47	1.00	0.89	6.89	0.96	0.91
2019	29.47	0.83	0.94	8.66	0.72	0.21	13.42	1.00	0.94	7.31	0.98	0.91
2020	27.73	0.82	0.93	8.61	0.76	0.21	18.77	1.00	0.96	6.17	0.96	0.89
2021	25.04	0.83	0.93	7.50	0.72	0.24	14.02	1.00	0.94	6.17	0.96	0.89
2022	29.44	0.84	0.93	7.15	0.60	0.24	11.40	1.00	0.94	6.76	0.97	0.90
2023	35.11	0.82	0.94	6.50	0.54	0.14	6.13	0.99	0.98	9.00	0.98	0.91

Source: Research findings.

multi-oligopolistic structure dominated by a limited number of key exporters, particularly Turkey, the United States, Iran, and Chile. Despite this structural concentration, the consistent rise of emerging exporters such as Afghanistan and Uzbekistan indicates a gradual redistribution of competitive power within the market. The simultaneous presence of high RSCA and TCI values among several leading and emerging countries highlights that competitiveness in this sector is not static but evolves in response to cost structures, policy support, and production efficiency.

More importantly, the results suggest that future competitiveness in the global raisin market will depend less on traditional production dominance and more on strategic adaptability. Countries that successfully combine efficiency improvements, market diversification, and value-added strategies, such as branding and quality differentiation, are more likely to sustain or enhance their

global position. The observed shifts in market shares and trade patterns imply that the industry is entering a more dynamic and competitive phase, where resilience to external shocks and the ability to penetrate new markets will be critical determinants of long-term success. Overall, this study contributes to the literature by linking structural market analysis with trade competitiveness indicators, offering a more integrated understanding of how global agricultural export markets evolve over time.

To strengthen their position in the global raisin market, exporting countries must implement targeted strategies that align with market dynamics and trade competitiveness indicators. Improving production efficiency through modern agricultural technologies, such as precision irrigation and enhanced grape varieties, can increase yields while reducing costs. Streamlining post-harvest processes and optimizing supply chain

logistics will minimize losses and ensure consistent quality, which is essential for maintaining competitiveness in international markets. Furthermore, reinforcing trade agreements with emerging markets such as East Asia and Africa can reduce reliance on traditional buyers and create new growth opportunities. Lowering tariff barriers and simplifying export regulations will further facilitate market expansion and enhance global reach.

Differentiating products through quality enhancement, branding, and innovative packaging is essential. Offering premium varieties, such as organic and seedless raisins, alongside advanced packaging solutions that extend shelf life, can attract high-value consumers. Furthermore, investing in digital marketing and e-commerce platforms can enhance visibility and provide direct access to international buyers, thereby reducing reliance on intermediaries. Aligning with global food safety standards, such as HACCP and ISO 22000, will ensure compliance with regulatory requirements in key importing countries. By implementing these strategies, raisin-exporting nations can strengthen their competitive advantage, expand market presence, and secure long-term sustainability in international trade.

This study focuses on quantitative indicators of international competitiveness but does not fully address non-economic factors influencing the global raisin trade. Elements such as institutional frameworks, product quality, sanitary standards, and trade regulations significantly shape market dynamics yet remain underexplored. Future research should incorporate comparative analyses of import/export tariffs and the timeline of sanitary regulations in key importing countries. Additionally, climate conditions, adherence to international quality standards, and trade policy impacts deserve further investigation for a more holistic view of competitiveness. A further limitation is the absence of econometric modeling. Applying methods like panel data regression, Autoregressive Distributed Lag

(ARDL), or Vector Autoregression (VAR) in future studies could better capture the influence of exchange rates, tariffs, and transport costs, enhancing the accuracy of competitiveness evaluations.

## CONCLUSIONS

This study provides a comprehensive and longitudinal assessment of competitiveness and market structure in the global raisin industry by integrating multiple trade indices over the period 2004–2023. The findings confirm that the global raisin market is characterized by a moderately concentrated, multi-oligopolistic structure dominated by a limited number of key exporters, particularly Turkey, the United States, Iran, and Chile. Despite this structural concentration, the consistent rise of emerging exporters such as Afghanistan and Uzbekistan indicates a gradual redistribution of competitive power within the market. The simultaneous presence of high RSCA and TCI values among several leading and emerging countries highlights that competitiveness in this sector is not static but evolves in response to cost structures, policy support, and production efficiency.

More importantly, the results suggest that future competitiveness in the global raisin market will depend less on traditional production dominance and more on strategic adaptability. Countries that successfully combine efficiency improvements, market diversification, and value-added strategies, such as branding and quality differentiation, are more likely to sustain or enhance their global position. The observed shifts in market shares and trade patterns imply that the industry is entering a more dynamic and competitive phase, where resilience to external shocks and the ability to penetrate new markets will be critical determinants of long-term success. Overall, this study contributes to the literature by linking structural market analysis with trade competitiveness indicators, offering a more integrated understanding of how global



agricultural export markets evolve over time.)

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## ارزیابی مزیت‌های رقابتی و پویایی‌های بازار در صنعت جهانی کشمش

### مرتضی مجیدیان، و اسماعیل پیش‌بهار

#### چکیده

کشمش به دلیل ارزش غذایی و تقاضای جهانی، یکی از کالاهای مهم صادراتی به شمار می‌رود. این مطالعه به ارزیابی مزیت‌های رقابتی و ساختار بازار صنعت جهانی کشمش با استفاده از داده‌های مرکز تجارت بین‌المللی طی دوره 2004 تا 2023 می‌پردازد. با به‌کارگیری شاخص‌های مزیت نسبی آشکار (RCA)، مزیت نسبی متقارن آشکار (RSCA)، نسبت تمرکز (CR)، شاخص هرفیندال-هیرشمن (HHI) و شاخص رقابت‌پذیری تجاری (TCI)، نتایج نشان می‌دهد که کشورهای ترکیه، ایالات متحده، ایران و شیلی به‌عنوان صادرکنندگان اصلی شناسایی شده و در مجموع 64.5 درصد از سهم بازار را در اختیار دارند. یافته‌ها حاکی از ساختار بازار انحصار چندجانبه (الیگوپولی) با تمرکز رقابت در میان تعداد محدودی از کشورها است. همچنین، کشورهای نظیر ترکیه، ایالات متحده، افغانستان، ازبکستان و ایران دارای مقادیر بالای RSCA (نزدیک به 1) هستند که بیانگر تخصص در صادرات کشمش است، در حالی که ترکیه، ایران، ازبکستان، افغانستان و آرژانتین از مقادیر بالای TCI برخوردارند که نشان‌دهنده رقابت‌پذیری قوی آن‌ها می‌باشد. این مطالعه تغییرات در پویایی‌های بازار را برجسته ساخته و نشان می‌دهد که صادرکنندگان نوظهوری همچون افغانستان در حال به چالش کشیدن صادرکنندگان سنتی هستند. به‌منظور ارتقای جایگاه جهانی، کشورهای صادرکننده باید نسبت به بهبود کارایی تولید، تنوع‌بخشی به بازارها و سرمایه‌گذاری در برندسازی اقدام نمایند. این یافته‌ها به درک بهتر رقابت‌پذیری تجاری و تحول ساختار بازار در صادرات محصولات کشاورزی کمک کرده و بینش‌های راهبردی ارزشمندی را برای سیاست‌گذاران و فعالان این صنعت فراهم می‌آورد.