

Vietnam Rice Competitiveness in the International Trade Market in Recent Years, Opportunities and New Challenges for Vietnam Rice Export

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Abstract

Vietnam is a top agricultural nation. Agriculture makes up 24% of GDP, 20% of exports, and 70% of employment. The agricultural industry is vital to the country's economy, especially rice farming, which accounts for 30% of the total output. Currently, rice is the main food consumed by most Vietnamese citizens. Millions of tiny farmers make their living producing rice. In the area of rice, Vietnam is regarded as a nation with a very strong comparative advantage. Vietnam used to have a comparative advantage over other major rice exporters like India, Thailand, and Pakistan. However, in recent years, this advantage has decreased and is now less favorable than in other nations. This is also regarded as a warning for the country's rice industry, which faces numerous difficulties and obstacles due to the process of integrating the world and the rise of the COVID-19 pandemic. In addition to figuring out opportunities and new challenges in Vietnam's rice export, by using the Revealed Comparative Advantage Index (RCA), this study will analyze the international competitiveness of Vietnam's rice exports and assist the country in locating alternative rice export markets. The research will also make some recommendations on how to boost exports of the country's rice while maintaining or even enhancing its international competitiveness. Additionally, this article will use the Export Competitive Advantage index (XCA) as a complement to the RCA index's bias.

Keywords

Rice Export, Vietnam, International Market, Comparative Advantage, Competitiveness

1. Introduction

Vietnam relies heavily on rice as both a staple meal and a valuable export. The Mekong Delta, the country's primary rice bowl, is responsible for more than half of Vietnam's annual rice output and more than 90 percent of the country's rice exports. This area produces an average of 26 - 28 million tons of rice annually. Vietnam's economic growth depends on the success of its rice exports. The rice sector has made significant advancements and accomplished a great deal in recent years. Approximately fifteen percent of the world's rice supply is via Vietnam's exports. Over 150 nations and territories across the world stock up on Vietnamese rice. The two largest markets in Asia for rice exports are China and the Philippines, respectively. Integrating markets and the COVID-19 pandemic provide significant obstacles and hurdles for the rice business. The purpose of this article is to provide solutions to the issue of increasing rice exports for the nation by making the most of opportunities to do so. This article analyzes the competitiveness of Vietnam's rice exports on the worldwide market using the revealed comparative advantage index (RCA) and the export competitive advantage index (XCA).

2. Literature Review

2.1. Domestic and Foreign Research Status Summary

2.1.1. Overseas Research Status

1) The research team concentrated on evaluating the rice industry's level of competitiveness

Eng et al. (2004) evaluated Thailand, Vietnam, Cambodia, Burma, Malaysia, and the Philippines. The author evaluated the rice industry's competitiveness using labor productivity, production costs, and industry productivity. High worker productivity gives Cambodia, Thailand, and Vietnam an advantage in rice production, according to the study.

Irshad et al. (2018) studied Pakistan's export potential and the rice industry's worldwide competitiveness. The author examined the Pakistan rice industry's worldwide competitiveness from 2003 to 2016 utilizing export market share and competitive advantage. Pakistan enjoys the world's greatest comparative advantage in rice exports, but its growers and exporters are struggling due to high taxes, production expenses, high pricing, and a lack of electricity. The lack of R & D also hurts Pakistan's rice exports.

Ilyas et al. (2009) used Balassa's (1965) competitive advantage index to measure Asian exporting nations' competitiveness in the rice market with similar findings to Irshad et al. (2018). India, Pakistan, Thailand, and Vietnam outcompete China. Thailand and Vietnam share a competitive advantage in the agricultural trade, as do India and Vietnam in merchandise commerce. Pakistan dominates the Asian market.

World Bank and IBRD study the rice industries of Cambodia, Laos, Myanmar, Thailand, and Vietnam. This analysis examines rice's competitiveness utilizing

input supply, productivity, and the rice value chain. To compete internationally in branding and marketing, these countries must focus on quality, safety, and supply reliability in addition to industrial process development.

2) The research team concentrated on the rice industry's business environment and production-related aspects

Li and Luo et al. (2018) study the Hunan rice sector, in China. In the study, the authors used Porter's diamond model, export market share, and relative export performance to assess Hunan's rice industry's level of competitiveness. According to the study, water source, soil quality, and environment affect the regional rice company's competitiveness.

Sampaathon et al. (2016) compare Thai and Vietnamese rice in China. Thailand's rice sector is more productive and better than Vietnam's. Low productivity, expensive labor and logistics, and low awareness are issues. The report stresses inputs. Thailand is better at using IT in the industry than Vietnam. Vertical integration and economies of scale increase resources and lower prices, research shows.

3) The research team concentrated on ancillary and associated sectors

Jafar et al. (2015) found Pakistan's rice sector competitive. Agriculture is Pakistan's top export. Exporting rice helps agriculture and the economy. Rice exports have fallen in recent years due to falling conventional markets, an energy crisis, and a lack of agricultural R & D investment. Foreign rivals hold 30% of Pakistan's market share. Imports' lower transaction costs harm exports' competitiveness. The report advises Pakistan to build export chains, enter new markets like Europe, and implement government reforms to boost its rice business. Trade policy can boost competitiveness.

Mukhopadhyay and Chakrabarti et al. (2016) say India's agribusiness changed the rice industry. The Indian economy faces economic convergence, changing food demand in rapidly expanding cities, and declining rice production profitability. Policymakers struggle to grow food production, ensure food security, and create jobs. According to research, the Indian rice industry lacks links to other sectors, preventing it from developing a value chain and reaching its goals. The authors argue India must improve its processing sector, infrastructure, rice varieties, and value chains to boost rice production and trading.

Ogbe et al. (2011) studied rice and maize value chains. He studies Nigeria's rice and maize competitiveness. PAM1 polled 122 rice and maize farmers. Producing ecosystems are competitive on farms, says research. Boosting output and the local currency by 50% will boost industry competitiveness and comparative advantage. The author has urged the Nigerian government to provide rice and maize policy stability, help farmers with irrigation systems, guarantee water delivery, and increase seed supply.

Codjo et al. (2016) use PAM to evaluate rice industry competitiveness. Randomly selected 265 Benin rice farmers. 64.4% of rice farmers made money. Rice farmers aren't favored. Research shows 63.4% of rice farmers are competitive. Government subsidies and policies boost rice business competitiveness, says PAM.

Government aid boosts rice production. Cheap inputs increase competitiveness. Producer income increases production and competitiveness.

The 2019 study on Indian agricultural exports by [Narayan and Bhattacharya \(2019\)](#) is now available. This paper studied India's export competitiveness from 1961 to 2012. All four commodities are more competitive now, but still behind. The researchers looked at crop aggregates, domestic prices, export prices, GDP, preferential trade agreements, and the Indian Green Revolution. Export restrictions hurt wheat, rice, and cotton. Size and labor don't affect competition. Regulations, trade agreements, and the green revolution affect rice and cotton. A study found the WTO boosted rice industry competition. Wheat and rice RECs drop, but cotton and sugar rise.

2.1.2. Domestic Research Status

Different fields and nations around the world have studied competitiveness; Vietnam has also researched competitiveness in a variety of fields:

1) The research team concentrated on the value chain

[Chau Thanh et al. \(2017\)](#) study Southeast Vietnam's export value chains. The authors emphasized the importance of the Southeast and boosting agriculture. The authors emphasized developing this region's agricultural export value chain. The research recommends ways to overcome challenges in value chain formation so the region's agricultural exports meet export market needs and develop sustainable value chains. This study didn't focus on agricultural competitiveness to improve the Southeast's value chain.

[Meinertz et al. \(2015\)](#) researched Vietnam's competitiveness, value creation, and trade facilitation. Volume 2 of this research on the Vietnamese economy includes a case study on trade facilitation in six important Vietnamese commodity sectors, including rice, coffee, and agricultural products. The analysis highlighted rice industry competitiveness, trade concerns, and value chain position.

[Loc and Khoi \(2011\)](#) used Kaplinsky and Morris, M4P, and face-to-face interviews with 564 rice farmers and ten groups of rice growers from four Mekong Delta provinces which has the biggest rice planting area and has the highest production to study the rice value chain. It analyzes domestic and export rice value chains include logistics, risk, and policy analysis. Chain economic analysis looks at benefits, costs, added value, and total profit for each factor and the chain as a whole. SWOT analyzes chain product quality issues. The Mekong Delta and Vietnam could benefit from chain upgrading methods and regulatory changes that boost added value, revenue, and profit while boosting the industry's competitive advantage.

[Ha and Phuong et al. \(2014\)](#) studied Vietnamese rice exports. Perspectives, government guidelines, and publications (articles, scientific journals) were used to analyze and compare the objectives. Rice-related products boost Vietnam's economy and position. Despite rising exports, Vietnam's rice industry isn't reaching its potential. Vietnam's rice exports are high, but the price is lower than in Thailand, India, etc. Their research suggested that in order to increase global rice

exports successfully, it needs the cooperation of the government, entrepreneurs, scientists, and farmers.

Anh et al. (2015) study Mekong Rice Value Chain. The two authors used the Kaplinsky and Morris value chain theory to evaluate the industry's structure, behavior, consequences, and policies. The study's authors made 19 recommendations to improve chain effectiveness and farmer earnings.

Dung, V. H. (2017) VCCI Can Tho improves rice exports in Vietnam. The author describes the Mekong Delta, a major rice export hub, and its evolution. In the 1990s, Vietnam's rice exports improved with the creation of smaller clusters in the Mekong Delta. The author examined the growth of the rice industry through value chain links to understand how different actors participate and to pinpoint their strengths and weaknesses to increase capacity.

2) The research team concentrated on industries that are supportive and linked

Huy, V. K. (2014) studies Mekong Delta rice exports. In a complex and competitive international climate, the author emphasized the importance of the rice industry. The Mekong Delta rice industry's competitiveness was measured by RCA, market share, and pricing. Vietnam's rice exports, especially from the Mekong Delta, face fierce competition from other rice-exporting nations in the region and worldwide. The report suggests linking corporations, farmers, scientists, and the state to boost Mekong Delta rice exports.

Dieu et al. (2010) study on repositioning rice export strategies. Special Subject Agro Monitor JSC covers the latest information and trends in the Vietnamese rice export market. According to the dilemma, the new contract will be drastically lowered and it will be difficult to meet the goal if VFA maintains the high floor price of Vietnamese rice. An agreement with Indonesia has revived Vietnamese rice exports, but exports to the Philippines are declining. The move is due to Vietnamese rice's competition with Thai rice. Since initial capital expenses, land prices, and labor costs aren't included in the current method of calculating rice prices, it's impossible to make a profit with the current price. The three authors suggest repositioning the Vietnamese rice market, using rice as a maize substitute in animal feed, and merging rice production and trading firms to create economies of scale.

Loc and Khoi (2011) found many intermediate rice stages. Rice farmers and the industry lose from ineffective supply chain management. The government has no market analysis or data on rice production and consumption. Lack of rice storage and drying causes losses, decreased rice quality, inactivity, and missed high-priced sales opportunities. Supply chain management is threatened by insufficient rice logistics (machinery, transportation, warehouses, technology) and agent restrictions. Taxes and conditions balance rice production and exports. Cost-cutting, quality improvements, and technology investments will boost the rice business.

Khai et al. (2010) research the Mekong Delta rice export and production. Rice export rules, management practices, and market connections are problematic, the author found. The author studied export rice production, consumption, and eco-

conomic and technical relationships among rice industry actors to develop policy recommendations. The author suggests changing rice export policy: a) The state must maintain the national reserve, stabilize prices, control export taxes, and boost rice input variables. b) Tax exports. c) The rice export business must be conditional to encourage fair purchasing, storing, processing, and exporting processes.

It can be seen from an overview of competitiveness research from domestic and international studies that:

a) Domestic and international studies agree on M. Porter's competitive framework as a research basis. The studies haven't been theoretically systematized, but they've made comments and assessments on the rice industry's competitiveness.

b) Studies have examined the relationship between factors affecting an industry's competitiveness, focusing on factors such as: i) infrastructure, production lines, factory scale, technology improvement, etc., in the rice industry; ii) supporting industries, policies, and value chains: state support, inter-sectoral links... Most studies haven't examined how marketing capacity affects rice industry competitiveness.

c) The research proposes a theory and practical solutions to help subjects improve their competitiveness. The author emphasizes policy development, technology investment, and production-technology links.

On the basis of a research overview, inheriting previous studies as research methods, in terms of approach, this study of the author will perform:

a) Research on competitiveness for Vietnam's rice industry, and systematize the theoretical basis of the industry's competitiveness.

b) Using available reliable data from trusted sources such as FAOSTAT, UN Comtrade, International Trade Centre (ITC), Trademap, the final report of the General Statistics Office, the final report of the Ministry of Agriculture and Rural Development, and others to analyze the competitiveness of the rice industry.

c) Using the Revealed Comparative Advantage Index (RCA) and the Export Competitive Advantage Index (XCA) to analyze the data. Use RCA and XCA Indexs to calculate RCA and XCA figures to come up with the findings. From that, determine the competitiveness of Vietnam's rice exports and predict what will happen in the future for the Vietnamese rice industry and finds alternative markets for Vietnam's rice. The Export Competitive Advantage index (XCA) complements the bias of the RCA index.

3. Materials and Methodology

The paper is based on secondary data collected from websites including FAOSTAT, UN Comtrade, International Trade Centre (ITC) and Trademap. Revealed Comparative Advantage is a well-known strategy for attaining comparative advantage (Yuan, 2008).

3.1. The Concept of Competitiveness

Competition is an attempt to win more, and the winner is the competitor. Com-

petition can be found in almost all human activities, regardless of age. Development is competitive. To establish and maintain a comparative advantage, subjects involved in economic operations must be competitive and creative (Vi & Liu, 2019). So, how is competitiveness defined? Competitiveness is defined as an economy's ability to meet "rising aggregate demand while maintaining exports" (Law, 2016). Furthermore, an organization's ability to successfully compete with its commercial rivals is a measure of an organization's microeconomic competitiveness. Another definition of "competitiveness" is "a nation's or region's ability to generate welfare" (Aiginger, 2006).

3.2. The Origin of the Term "International Trade Evaluation", Absolute Advantage Theory, and Comparative Advantage Theory

International trade first appears in Adam Smith's *Wealth of Nations*. Trade barriers reduce citizens' wealth because import taxes make buying a single good more expensive. Smith compared French and English wine production and concluded that France's superior natural environment for growing wine grapes lowers production costs (Smith, 2010). France's lower production costs trump England's. David Ricardo developed comparative advantage based on Smith's idea of absolute advantage by attributing lower production costs to technology. Smith's idea of absolute advantage in international trade is based on the relationship between eliminating aggregate costs and taking advantage of efficient allocation. In economics, absolute advantage refers to the ability of parties (individuals, organizations, or nations) to produce more efficiently and at a lower cost than their competitors. In 1817, Ricardo developed the classical theory of comparative advantage to explain why nations should trade despite the fact that they can create every good with their own labor. Ricardo demonstrated that when two countries are able to produce two items, the trade will only occur for the goods in which one country has a comparative advantage. In a well-functioning global economy, countries with a comparative advantage will be motivated to develop goods that are relatively simpler to trade with other nations if they have the opportunity to do so. Everyone should sell things for which they possess a market edge. If one nation is more powerful and specialized in one field, trade is mutually advantageous. The concentration of resources should occur in industries where a country has a comparative advantage in terms of resources. Ricardo also showed that skilled labor and superior equipment lower production costs (comparative advantages) (Ricardo, 1821). Numerous studies on international commerce have been influenced by comparative advantage, including Grubel and Lloyd's GL-index, Heckscher and Ohlin's H-O Model, and Bela Balassa's Revealed Comparative Advantage index. Import and Export Dependency Index, Trade Intensity Index, and Revealed Comparative Advantage Index are used to measure international trade patterns (RCA). In this study, the RCA index and the Export Competitive Advantage Index (XCA) are used to assess exporters' comparative and competi-

tive advantage in the global market.

3.3. Revealed Comparative Advantage Index (RCA)

Developed by Bela Balassa (1965) in 1965, the RCA is used to evaluate a country's competitive edge in international trade. The figure is derived from a comparison of the amount of export trade for individual commodities with the average volume of export trade for all commodities globally. Following is the formula:

$$RCA_{ij} = \left(x_{ij} / X_{it} \right) / \left(x_{wj} / X_{wt} \right)$$

where X_{it} and X_{wt} are country i 's and the world's total exports, and x_{ij} and x_{wj} are country i 's and the world's export value for product j . A significant competitive advantage exists for country i in the market for product j if the RCA for product j from country i is more than 4 ($RCA > 4$). If $2 < RCA < 4$, then product j from country i has a median degree of comparative advantage. If $(1 < RCA < 2)$, product j from country i has a little comparative advantage. If the RCA is less than one ($RCA < 1$), it may be claimed that country i does not have a comparative advantage in exporting good j .

3.4. Export Competitive Advantage Index (XCA)

Export Competitive Advantage (XCA) is measured by taking the average of the export price in US dollars and the average of the trade volume in kilos. Export volume and export price are treated independently in the XCA to remove any potential price-related bias. The formula for XCA is as follows:

$$\frac{\frac{M_{iA}}{\sum_{i=1}^{n_i} M_{iA}}}{\frac{P_{iA}}{\sum_{i=1}^{n_i} P_{iA}}} = \frac{\frac{M_{iA}}{n_i}}{P_{iA} \sum_{i=1}^{n_i} M_{iA}}$$

where

i = Country i ; A = Product A , M = Export Volume, P = Average Price.

We divide a country's export price by the average export price of all other exporters globally for this product to get the XCA index's denominator. The percentage of total exports that are kilos is calculated by taking the export volume and dividing it by the typical global volume of this commodity. By dividing the denominator (in kilograms) by the numerator (in units of measure), we get a value indicating the XCA index (figure based on price). An XCA index value more than one (>1) indicates that the nation has a comparative export advantage over other countries in the same commodities market. An increase in export volumes or a drop in export prices may lead to a higher XCA index score for a nation. Both Smith's absolute advantage and Ricardo's idea of comparative advantage are in line with the XCA approach, with the latter implying that lower production costs and export prices will lead to higher benefits (Ling et al., 2021).

4. Results and Discussion

4.1. The Scenario of Vietnam Rice Production

Before 1986, Vietnam had to import rice to meet domestic demand. In the late 1960s and 1976, Vietnam imported over a million tons of rice. Vietnam was able to quickly boost its rice production after the policy shift in 1986, while also integrating into the global economy and implementing agricultural development programs. In 1989, Vietnam ended its rice shortage and began exporting. In the past 30 years, Vietnamese rice has been exported to 172 countries (1989-2021). Vietnam's rice production and exports are rising.

About 9 million farms and millions of poor people in rural areas depend on rice production as their main source of income. From 2017 to 2020, rice-growing land makes up 67.02 percent of all cropland and 51.01 percent of all tree-growing land. From 2017 to 2020, the total area planted with rice dropped from 7.705 million hectares to 7.279 million hectares. However, rice yield rose from 5.55 tons per hectare to 5.87 tons per hectare, keeping annual rice production at around 43 - 44 million metric tons. Vietnam's rice production in this period not only ensures food security but also meets the export demand of 6 - 7 million tons of rice per year. In the first 6 months of 2021, the rice cultivation area is 3.628 million hectares, the rice production is estimated at 21.769 million tons, and the rice production is estimated at 14.228 million tons, accounting for 5.48% of the world rice production.

The data in **Table 1** show that the average rice growing area of Vietnam is 7.506 million hectares, the average rice yield is 5.77 tons/hectare, the average raw rice production is 43.26 million tons, and the average rice output is 28.022 million tons in the period 2017-2020.

Table 1. Rice production of vietnam in the period of 2017-2020.

Production	Year				
	2017	2018	2019	2020	2021 Half Year
Rice Cultivation Area (Thousand/hectare)	7705.2	7570.9	7469.5	7279.0	3628.5
Rice Yield (Tons/hectare)	5.55	5.82	5.82	5.87	5.89
Raw Rice (Tons/hectare)	42738.9	44046.0	43495.4	42760.9	21769.2
Production (Tons/hectare)	27258.9	28748.8	28211.1	27871.6	14228.3

Sources of data: general statistics office.

4.2. Comparative Scenario of Vietnam Rice Export

Vietnam is fifth in the world in terms of rice production area and third in terms

of rice exports. Vietnamese rice has been shipped to more than 150 countries and territories and is expected to account for 10.48% of the worldwide rice market share between 2017 and 2020. The main rice export markets of Vietnam include the Philippines, China, Ghana, Malaysia, and Ivory Coast... These five main rice export markets accounted for an average share of 64.96% in the period 2017-2020. The structure of the rice export market by partner has shifted in the following direction: increasing the proportion of the Philippines, Ghana and Ivory Coast markets from 8.45%, 7.69% and 3.89% in 2017 to 33.85%, 9.05% and 6.65% in 2020; Reduce the share of China and Malaysia market from 38.97% and 7.98% in 2017 to 14.84% and 7.61% in 2020 (**Figure 1** and **Figure 2**).

The Philippines is Vietnam’s largest rice export market in the period 2017-2020, accounting for a market share of 22.56% of Vietnam’s total rice export turnover, followed by China with a market share of 20.77%, Ghana 7.84%, Malaysia 7.60%, Ivory Coast 6.19%, Singapore 3.76%. The share of the Chinese market in the export market structure decreased from 38.97% in 2017 to 22.33% in 2018, to 14.84% in 2020. From Vietnam’s position as the largest rice export

MARKET STRUCTURE OF VIETNAM’S RICE EXPORT IN 2017

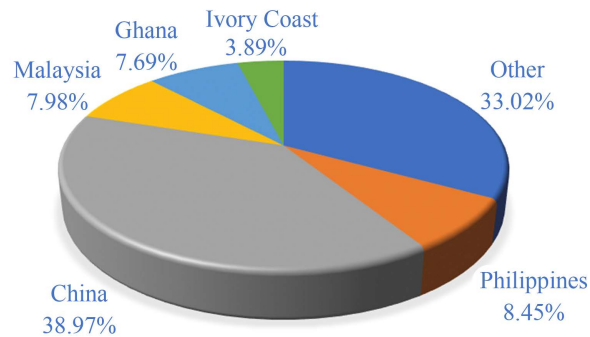


Figure 1. Market structure of Vietnam’s rice export industry during 2017. Sources of data: ITC, FAOStat.

MARKET STRUCTURE OF VIETNAM’S RICE EXPORT IN 2020

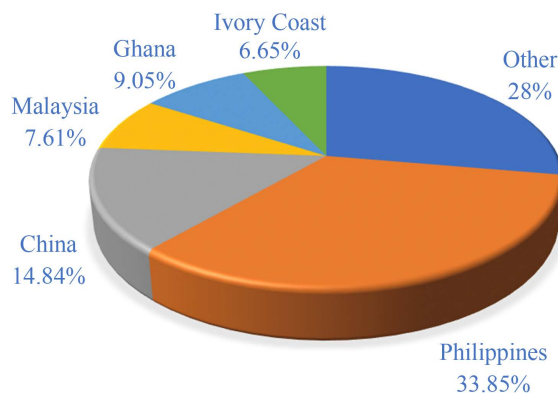


Figure 2. Market structure of Vietnam’s rice export industry during 2020. Sources of data: ITC, FAOStat.

market in 2017, China has dropped to 2nd place from 2018 to present. Meanwhile, the proportion of the Philippines market tends to increase from 8.45% in 2017 to 14.93% in 2018 and up to 33.85% in 2020. The Philippines has surpassed China to become Vietnam’s largest rice export market since 2018. The structure of Vietnam’s rice export market by region has shifted towards reducing the proportion of markets in Asia, America and Oceania from 68.41%, 6.54% and 4.97% respectively. 2017 down to 66.50%, 5.83% and 3.36% in 2020; increase the proportion of Africa and Europe markets from 14.93% and 1.25% in 2017 to 19.19% and 1.30% in 2020. Asia is Vietnam’s largest rice export market in the 2017-2020 period, accounting for a market share of 65.05% of Vietnam’s total rice export turnover, followed by Africa 17.55%, America 6.44%, Middle East 5.09%, Oceania 3.18% and Europe 2.69% (**Figure 3** and **Figure 4**).

Vietnam’s rice exports in the period 2017-2020 achieved remarkable results. The volume, scale and turnover of rice exports tend to increase (**Figure 5**). Vietnam’s rice export volume is projected to expand from 5.818 million tons in 2017 to 6.249 million tons in 2020, representing an average of 11.84 percent of the total world rice export volume.

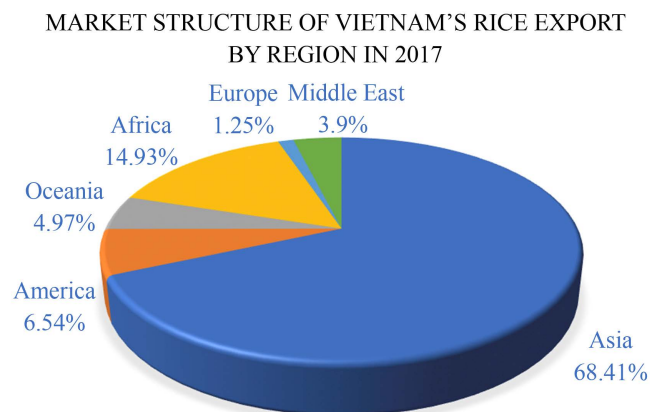


Figure 3. Market structure of Vietnam’s rice export industry by region in 2017. Sources of data: ITC, FAOStat.

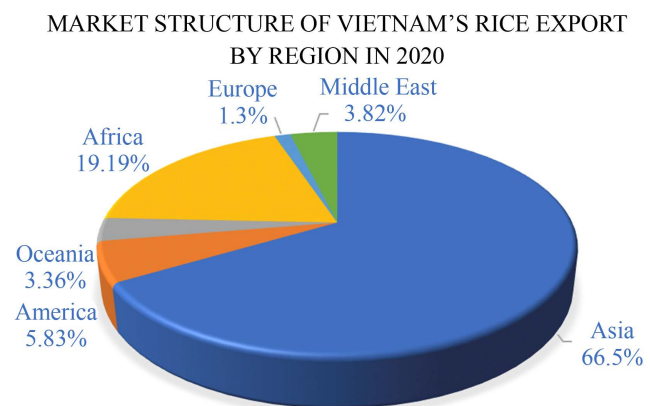


Figure 4. Market structure of Vietnam’s rice export industry by region in 2020. Sources of data: ITC, FAOStat.

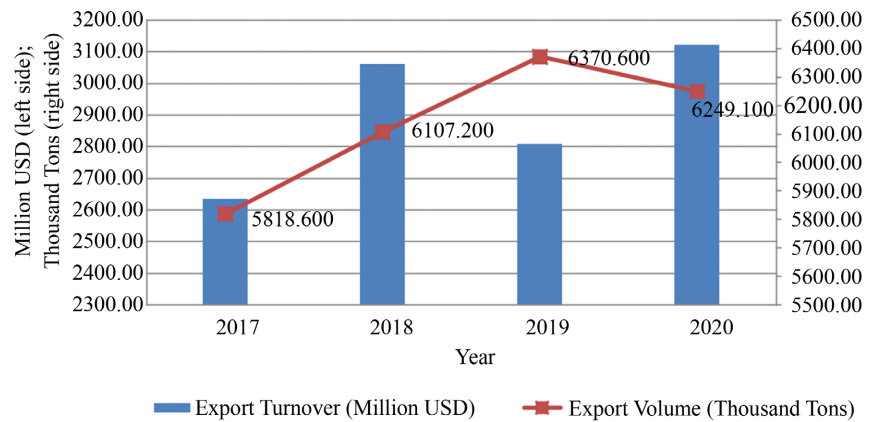


Figure 5. Vietnam rice export volume and value in the period of 2017-2020. Sources of data: general statistics office.

Over a period of just four years (2017-2020), the volume of rice exports grew by a factor of 1.18. The value of exported rice is projected to reach \$3.120 billion by 2020, up from \$2.633 billion in 2017. From 2017 to 2020, the value of rice exported grew at a rate of 9.64 percent annually.

In the first half of 2021, Vietnam exported 3027.8 thousand tons of rice and made \$1648.2 million. This was a decrease of 14.02% in volume and 4.01% in revenue when compared to the same period in 2020.

A total of 6.37 million tons of rice was exported from Vietnam in 2019, up 4.31 percent from 2018. However, the export price fell 12.09 percent, leading to an 8.29 percent drop in revenue, which totaled \$2.806 billion. Meanwhile, in 2020, the volume of rice exports reached 6.249 million tons, down 1.91% compared to 2019, but the export price increased by 13.34%, so the export turnover increased by 11.18%, reaching 3.12 billion USD. Vietnam's rice exports in 2020 were successful despite the substantial impact of the COVID-19 epidemic. The average annual increase in rice export volume is 6.77 percent, the average annual increase in rice export turnover is 9.64 percent, and the average annual increase in rice price is 2.69 percent between 2017 and 2020.

The competitiveness of Vietnamese rice exports was assessed using Balassa's (1965) Revealed Comparative Advantage (RCA). There is no comparative advantage ($0 < RCA < 1$), a slight comparative advantage ($1 < RCA < 2$), an average comparative advantage ($2 < RCA < 4$), and a substantial comparative advantage ($RCA > 4$).

From 2017 to 2020, Vietnam will be the world's third-largest rice exporter in terms of both volume and value, after India and Thailand. However, because Vietnamese rice doesn't have a brand name, it has the lowest export price (\$481.1/ton) of the five largest rice exporting countries. RCA is only higher than the United States, and lower than Pakistan, India and Thailand. Vietnam has a high competitiveness in rice exports ($RCA > 4$), but it is on a decreasing trend. RCA for Vietnam's rice exports decreased from 8.82 in 2017 to 6.78 in 2020 (RCA in 2016 was 9.37) (Tables 2-7).

Table 2. Rice export volume of the world's top five countries in the period 2017-2020.

Country	Year/Volume (Ton)				
	2017	2018	2019	2020	2017-2020
India	12,120,539	11,665,625	9,819,497	14,610,589	48216250.0
Thailand	11,628,303	11,075,346	7,580,431	5,688,868	35972948.0
Vietnam	5,820,509	4,867,111	5,466,974	5,632,508	21787102.0
Pakistan	3,656,823	3,932,390	4,588,958	3,985,839	16164010.0
US	3,834,043	3,194,384	3,628,567	3,300,307	13957301.0
Total World Export Volume	48,544,984	44,727,782	44,020,867	46,793,665	184,087,298

Sources of data: UNComtrade, FAOStat.

Table 3. Average rice export price of the world's top five countries in the period 2017-2020.

Country	Year/Price (USD/Ton)				
	2017	2018	2019	2020	2017-2020
India	583.9	631.0	692.6	546.2	606.0
Thailand	442.5	503.4	555.0	648.4	517.5
Vietnam	452.6	538.6	445.3	495.5	481.1
Pakistan	477.5	512.2	496.2	527.2	503.5
US	448.1	529.3	517.3	572.3	514.1
Average World Export Price	501.2	581.9	547.3	545.5	543.1

Sources of data: UNComtrade, FAOStat.

Table 4. Rice export value of the world's top five countries in the period 2017-2020.

Country	Year/Export Value (Thousand USD)				
	2017	2018	2019	2020	2017-2020
India	7,077,714	7,361,500	6,800,670	7,980,028	29,219,912
Thailand	5,145,955	5,575,485	4,206,796	3,688,850	18,617,086
Vietnam	2,634,588	2,621,440	2,434,252	2,790,951	10,481,231
Pakistan	1,746,197	2,014,327	2,277,005	2,101,268	8,138,797
US	1,718,139	1,690,926	1,877,045	1,888,783	7,174,893
Total Rice Export Value	24,330,390	26,026,069	24,092,036	25,524,081	99,972,576

Sources of data: UNComtrade, FAOStat.

Table 5. Total country export value of the world's top five countries in the period 2017-2020.

Country	Year/Export Value (Thousand USD)				
	2017	2018	2019	2020	2017-2020
India	295,862,157	323,997,680	323,250,726	275,488,745	1,218,599,308
Thailand	235,871,371	249,921,314	245,380,465	229,277,734	960,450,884
Vietnam	215,118,607	243,698,698	264,610,323	281,441,457	1,004,869,085
Pakistan	21,911,598	23,778,621	23,818,817	22,237,163	91,746,199
US	1,546,462,344	1,665,992,032	1,645,174,335	1,431,406,392	6,289,035,103
Total					
World Export	17,427,030,242	19,169,698,116	18,591,310,421	17,142,104,584	72,330,143,363

Sources of data: UNComtrade, FAOStat.

Table 6. RCA score for the world's top five rice exporting countries in the period 2017-2020.

Country	Year/RCA Score				
	2017	2018	2019	2020	2017-2020
India	17.13	16.74	16.23	19.45	17.35
Thailand	15.63	16.43	13.23	10.81	14.02
Vietnam	8.82	7.99	7.15	6.78	7.55
Pakistan	57.08	62.40	73.77	63.46	64.18
US	0.80	0.75	0.88	0.89	0.83

Sources of data: UNComtrade, FAOStat.

Table 7. Market share in world rice export of the world's top five rice exporting countries in the period 2017-2020.

Country	Year/Share on world total export (%)				
	2017	2018	2019	2020	2017-2020
India	29.09	28.29	28.23	31.26	29.23
Thailand	21.15	21.42	17.46	14.45	18.62
Vietnam	10.83	10.07	10.10	10.93	10.48
Pakistan	7.18	7.74	9.45	8.23	8.14
US	7.06	6.50	7.79	7.40	7.18
5 World Largest Rice Exporting Country	75.31	74.02	73.04	72.28	73.65

Sources of data: UNComtrade, FAOStat.

Utilizing the Revealed Comparative Advantage Index (RCA), it is possible to determine how much of a product a nation exports relative to its overall global trade share. Rice exports are stated to be more advantageous for nations with RCA scores greater than one (>1) than for those with RCA scores less than one (<1).

Table 8 below shows that the RCA rating for rice from Vietnam is always greater than 4. It ranges from 44.50 and 4.09. It suggests that the rice product from Vietnam has a significant competitive edge. But it is noted that Vietnam rice's RCA score has decreased significantly since 2002 until now.

Prior to the highest score on the year 2005 with the score of 44.50, until the most recent year 2021 the RCA score dramatically dropped with the score 4.09.

Table 8. Calculation of the RCA score on rice commodity of Vietnam in the period 2002-2021.

Year	Rice Export/RCA				
	Country Rice Export Value (USD)	Total Country Export Value (USD)	Total World Rice Export Value (USD)	Total World Export Value (USD)	RCA
2002	726,263	16,706,053	6,507,313	6,423,596,830	42.91376739
2003	719,916	20,149,324	7,217,527	7,489,197,647	37.07389541
2004	950,315	26,485,035	8,650,343	9,096,995,783	37.73390035
2005	1,408,379	32,447,129	10,087,396	10,342,392,233	44.50258101
2006	1,275,895	39,826,223	10,543,825	11,954,901,854	36.32399776
2007	1,490,180	48,561,343	13,215,726	13,783,816,054	32.00563766
2008	2,895,938	62,685,130	21,336,478	15,966,096,958	34.57010979
2009	2,666,062	57,096,274	19,225,714	12,342,621,807	29.97694847
2010	3,249,502	72,236,665	20,230,749	15,094,576,208	33.56356499
2011	3,659,212	96,905,674	24,410,153	18,144,237,302	28.06768415
2012	3,677,939	114,529,171	24,082,608	18,399,428,101	24.53517797
2013	2,926,255	132,032,854	25,782,613	18,858,157,190	16.21072653
2014	2,936,931	150,217,139	26,608,437	18,858,900,192	13.85706502
2015	2,807,904	162,016,742	23,250,102	16,413,104,668	12.23455668
2016	2,159,977	176,580,787	20,671,440	15,926,982,653	9.424719954
2017	2,634,588	215,118,607	24,374,799	17,568,188,372	8.827153296
2018	2,621,440	243,698,698	26,018,089	19,332,363,800	7.992750885
2019	2,434,252	264,610,323	24,114,903	18,763,129,315	7.157782622
2020	2,790,951	281,441,457	25,563,899	17,499,013,461	6.78813723
2021	1,989,722	406,755,914	25,691,460	21,513,115,642	4.096123595

Sources of data: UNComtrade, FAOStat.

Since this is only calculated with one country, it cannot fully convey the meaning of Vietnam rice's competitiveness in the international market. It's a significant difference from the score of 44.50 to the score of 4.09. This also causes the nation to worry if the place for Vietnamese rice is also eliminated. Actually, a country's RCA score by itself has little significance; instead, it must be compared to the RCA scores of other nations. An increase in the value of global rice exports and exports from the country at large could explain the drop in the RCA score. In order to get a reliable answer, we'll use the RCA and XCA indices to compare the competitiveness and comparative advantage of the top 30 rice-exporting countries. **Table 9** below shows the final results.

Global rice exports in 2020 were 46,793,665 tons, fetching a total of US\$25.52 billion at an average export price of US\$11,798 per kilo. Twelve countries have RCA scores above 4 (>4), according to the analysis: Pakistan (RCA = 64.66), Uruguay (RCA = 45.07), Myanmar (RCA = 31.26), Paraguay (RCA = 23.71), India (RCA = 19.83), Cambodia (RCA = 18.19), United Republic of Tanzania (RCA = 16.46), Suriname (RCA = 13.51), Thailand (RCA = 11.08), Vietnam (RCA = 6.79), Lao (RCA = 6.73), Senegal (RCA = 4.25). RCA score of more than 4 (>4) denotes that the ratio of these nations' total exports to their rice exports is much larger than the ratio of their rice exports to all global exports. In other words, one of these nations' overstanding exportable goods is rice.

Other nations with RCA scores between 1 and 2 ($1 < \text{RCA} < 2$) include Argentina (RCA = 1.92), Brazil (RCA = 1.65), Greece (RCA = 1.37), and Bulgaria (RCA = 1.09). This points to a comparative advantage in rice production for these countries. To rephrase, rice is a major commodity for export from several of these countries. Besides the top exporters India, Vietnam, Pakistan, and Thailand, two more countries with RCA scores below one (<1) but substantial export volumes are the United States (3,200,000 tons; \$0.573 per kilogram) and China (2,300,000 tons; \$0.398 per kilogram).

In order to evaluate the impact of both export price and export volume, the competitive export advantage (XCA) was applied. As a result of selling rice abroad 14.6 million tons of rice at a cost of \$0.546 per kilogram, India achieved the highest XCA score (85.88). In terms of export performance, Vietnam ranked second with an XCA score of 36.49; 5.63 million tons was exported, and an average export price of \$0.496 per kilogram. Countries with XCA values greater than one (>1) include: Thailand with an XCA score of 27.92 and an average price of \$0.653/kilogram, Pakistan with an XCA score of 24.27 and an average price of \$0.527/kilogram), China with an XCA score of 18.60 and an average price of \$0.398/kilogram, the United States with an XCA score of 18.50 and an average price of \$0.573/kilogram, Myanmar with an XCA score of 15.81 and an average price of \$0.396/kilogram, Brazil with an XCA score of 12.50 and an average price of US\$0.360/kilogram, Paraguay with an XCA score of 8.87 and an average price of \$0.327/kilogram, Uruguay with an XCA score of 7.39 and an average price of \$0.448/kilogram, Italy with an XCA score of 2.62 and an average price of \$0.941/kilogram, Guyana with an XCA score of 4.84 and an average

Table 9. Competitiveness and comparative advantage analysis of the world's top rice exporting nations (Year 2020).

Country	Rice Export/RCA/XCA				
	Export Quantity (KG)	Export Value (US \$)	Price/Kg	RCA	XCA
India	14,610,588,921	7,980,027,658	0.546	19.83	85.88
Vietnam	5,632,507,572	2,790,951,386	0.496	6.79	36.49
Thailand	5,680,008,815	3,710,030,903	0.653	11.08	27.92
Pakistan	3,985,839,068	2,101,267,787	0.527	64.66	24.27
China	2,304,274,220	916,280,868	0.398	0.24	18.60
USA	3,299,145,898	1,888,783,288	0.573	0.91	18.50
Myanmar	1,951,321,584	773,175,331	0.396	31.26	15.81
Brazil	1,400,507,474	503,579,590	0.360	1.65	12.50
Paraguay	902,756,900	295,007,108	0.327	23.71	8.87
Uruguay	1,030,740,230	461,556,072	0.448	45.07	7.39
Guyana	625,285,054	259,088,535	0.414	63.21	4.84
Cambodia	654,287,430	470,664,749	0.719	18.19	2.92
United Rep. of Tanzania	349,940,210	143,901,685	0.411	16.46	2.73
Italy	768,731,205	723,085,126	0.941	0.99	2.62
Argentina	335,982,600	154,089,884	0.459	1.92	2.35
Turkey	234,062,648	121,409,840	0.519	0.49	1.45
Belgium	366,694,736	325,316,491	0.887	0.53	1.33
Spain	299,202,806	220,443,463	0.737	0.48	1.30
Kazakhstan	102,908,392	27,452,531	0.267	0.40	1.24
Russian Federation	144,930,552	67,171,971	0.463	0.14	1.00
Greece	136,772,783	70,059,758	0.512	1.37	0.86
Lao	117,317,079	52,719,438	0.449	6.73	0.84
Bulgaria	106,987,564	50,695,483	0.474	1.09	0.72
Singapore	100,398,441	46,163,615	0.460	0.08	0.70
South Africa	121,695,122	71,023,411	0.584	0.57	0.67
Netherlands	230,958,402	301,375,650	1.305	0.37	0.57
Senegal	60,237,122	24,401,311	0.405	4.25	0.48
Malaysia	58,298,505	23,099,584	0.396	0.07	0.47
Suriname	59,320,629	27,403,732	0.462	13.51	0.41
Portugal	85,432,079	59,863,199	0.701	0.67	0.39

Sources of data: UNComtrade, FAOStat.

price of \$0.414/kilogram, Cambodia with an XCA score of 2.92 and an average price of \$0.719/kilogram, United Republic of Tanzania with an XCA score of 2.73 and an average price of \$0.411/kilogram and Argentina with an XCA score of 2.35 and an average price of \$0.459/kilogram. These 15 countries export between 100,000 and 900,000 tons of rice annually and have an XCA score greater than one (>1). All told, 21 countries with XCA scores of 1 or higher than 1 (>1), accounted for 96.21% of global rice exports.

As was previously established, countries with higher XCA ratings tend to either have lower export prices or larger export outputs relative to other exporting nations. As seen in **Table 9** above, the export volume between Vietnam and Thailand is essentially the same. Thailand exports 5,680,008,815 kilograms whereas Vietnam exports 5,632,507,572 kilograms. However, Vietnam's export value is lower than Thailand's (3,710,030,903 USD compared to 2,790,951,386 USD). Because of this, Vietnam's XCA score is higher than Thailand's, and in 2020, Vietnamese rice will have a greater comparative advantage over Thai rice.

4.3. Vietnam's Rice Export Opportunities

First, Vietnam has been gradually substituting low-grade rice products with high-class products to access high-end, finicky markets like the USA, Europe, and Korea, which has led to a gain in rice exports in 2020 despite a fall in volume. Quality, not quantity, was the focus of a recent reorganization in the rice sector.

Second, in recent years, Vietnam has negotiated a plethora of trade deals with key countries. These include the European Union-Vietnam Free Trade Agreement, the Regional Comprehensive Economic Partnership, and the Free Trade Agreement between Vietnam and the United Kingdom. These agreements have boosted Vietnamese rice sales.

Third, despite the fact that COVID-19 has caused a decline in several sectors, the demand for food has increased, and Vietnamese rice is still popular. For these reasons, Vietnam has been able to increase its rice exports. In 2021, the nation expects its 7.257 million hectares of rice fields to produce 43.3 - 43.5 million tons. By 2021, the remaining 13 million tons of rice will be shipped out. The country's rice exports in the first five months of 2021 totaled \$1.41 billion USD. The yearly cost of exports was \$542.80. Vietnam's major rice export markets are the Philippines, China, and Ghana. Vietnam's exports of fragrant, high-quality rice have increased in price and value. The first half of 2021 has been a good year for Vietnam in terms of rice exports. There will be several obstacles in the way of future rice exports.

4.4. Vietnam's Challenges in Rice Export

Both opportunities and challenges exist for Vietnam's rice export sector due to factors such as climate change, rising sea levels, drought, salinity, diseases, and severe market requirements on quality, product safety, and environmental control. The consumers have not agreed upon a set rate of consumption. The rice sector faces issues related to sustainability, scalability, segmentation, price, value,

slow industrialization, and post-harvest losses. Our post-harvest loss is between 13 and 26 percent, but it is only 7 to 10 percent in Thailand. Poor-quality rice is frequently exported. Over a third of the broken rice is larger than 15 percent. As a result, a handful of low-capacity businesses supply the majority of the agricultural products sold through contracts with trade groups.

Agricultural products lose money and quality due to lack of infrastructure and technology. Deep processing for rice products has not grown consistently. Many countries are rice self-sufficient, reducing imports. Some countries use science and technology to boost rice production. Because of this, Thai rice is now a serious contender in the Vietnamese rice market, especially in the larger cities.

4.5. Alternative Markets for Rice Exports

For the years 2017-2020, the world imported a total of 182.6 million tons of rice, or 9.18% of global production (1989.4 million tons). There is a general upward trend in global rice imports, which are expected to expand from 43.4 million tons in 2017 to 46.3 million tons in 2020, or an annual growth rate of 4.64%. The value of rice imported is expected to rise from \$23855.3 million in 2017 to \$25933.2 million in 2020, an annualized increase of 4.64% (**Tables 10-12**). Forty percent of total import volume, on average, and 43.95 percent of total import value, respectively, of all rice imports come from the world's 15 top importing countries.

China is both a producer and consumer of grain, and in the years 2017-2020, it was the world's largest importer of rice, bringing in an annual average of 3107 million tons, or 6.80% of the total world import volume, and an annual average of 1535 billion USD, or 6.06% of the world's total import value. Philippines also imports more rice than any other country, at an annualized rate of \$1.832 billion, putting it in second place behind China.

Vietnam's share of the rice market in major rice export markets is unstable. In some markets, Vietnam's share is still too small to match its status as a major partner: Vietnam's biggest ally is the Philippines, China, Malaysia, Ghana, and Ivory Coast, the second largest partner of Indonesia and Hong Kong, the third largest partner of Singapore and the United Arab Emirates, and the fourth largest partner of Arab Saudi Arabia. Out of 10 markets, the market share of Vietnamese rice is growing every year in Ghana, Ivory Coast, Arab Saudi Arabia, and the United Arab Emirates. Vietnam's rice market share tends to grow in 9 markets, but it tends to shrink in China, going from 55.90% in 2017 to 30.97% in 2020. Vietnam's rice exports mainly go to Saudi Arabia because the United Arab Emirates market is too limited.

4.6. Some Solutions to Boost Rice Export

Vietnam is third-most rice export worldwide, only behind India and Thailand, but only controls 10.48% of the market. India had 29.23% of the world rice market from 2017 to 2020, while Thailand had 18.62%. Pakistan and the U.S. were

Table 10. World Rice Import in the period of 2017-2020.

Country	Import Volume (Ton)/% of World Import Volume				
	2017	2018	2019	2020	Average 2017-2020
China	3,992,155	3,035,496	2,489,241	2,911,440	3107083.0
(%)	9.19	6.63	5.28	6.29	6.80
Philippines	687,351	1,783,783	2,768,397	2,087,583	1831778.5
(%)	1.58	3.90	5.88	4.51	4.01
Saudi Arabia	1,117,421	1,293,365	1,403,915	1,547,186	1340471.8
(%)	2.57	2.82	2.98	3.34	2.94
Ivory Coast	1,341,847	1,496,849	1,342,109	1,339,915	1380180.0
(%)	3.09	3.27	2.85	2.89	3.02
Ethiopia	380,877	610,824	524,930	1,305,694	705581.3
(%)	0.88	1.33	1.11	2.82	1.55
Malaysia	732,774	808,156	969,392	1,219,932	932563.5
(%)	1.69	1.76	2.06	2.64	2.04
US	767,453	895,693	962,437	1,187,970	953388.3
(%)	1.77	1.96	2.04	2.57	2.09
Senegal	1,180,292	1,284,836	892,452	1,126,986	1121141.5
(%)	2.72	2.81	1.89	2.43	2.46
Iran	1,293,737	1,615,192	1,423,913	1,108,915	1360439.3
(%)	2.98	3.53	3.02	2.40	2.98
South Africa	1,073,666	1,075,287	967,301	1,032,355	1037152.3
(%)	2.47	2.35	2.05	2.23	2.27
Nepal	638,308	822,642	708,917	1,025,300	798791.8
(%)	1.47	1.80	1.50	2.21	1.75
Irac	871,776	1,114,656	1,301,437	1,000,407	1072069.0
(%)	2.01	2.43	2.76	2.16	2.35
Brazil	835,009	614,465	751,362	973,004	793460.0
(%)	1.92	1.34	1.60	2.10	1.74
Togo	178,664	191,454	213,462	942,569	381537.3
(%)	0.41	0.42	0.45	2.04	0.84
Benin	1,958,901	1,694,157	1,256,975	878,002	1447008.8
(%)	4.51	3.70	2.67	1.90	3.17
15 Countries	17,050,231	18,336,855	17,976,240	19,687,258	18,262,646
(%)	39.24	40.04	38.16	42.52	40.00

Continued

Others	26,398,257	27,457,918	29,129,038	26,609,416	27,398,657
(%)	60.76	59.96	61.84	57.48	60.00
World	43,448,488	45,794,773	47,105,278	46,296,674	45661303.3

Sources of data: UNComtrade, FAOStat.

Table 11. World rice import value in the period of 2017-2020.

Country	Import Value (Thousand USD)/% of World Import Value				
	2017	2018	2019	2020	Average 2017-2020
China	1,827,844	1,599,660	1,253,724	1,459,294	1535130.5
(%)	7.66	5.97	5.06	5.63	6.06
Saudi Arabia	1,021,031	1,314,680	1,415,088	1,404,237	1288759.0
(%)	4.28	4.91	5.71	5.41	5.09
US	727,648	966,569	1,086,333	1,284,207	1016189.3
(%)	3.05	3.61	4.38	4.95	4.01
Iran	1,214,041	1,628,522	1,469,516	881,029	1298277.0
(%)	5.09	6.08	5.93	3.40	5.12
Philippines	278,712	736,649	1,009,687	862,013	721765.3
(%)	1.17	2.75	4.07	3.32	2.85
Irac	634,826	845,705	856,582	689,568	756670.3
(%)	2.66	3.16	3.46	2.66	2.99
England	546,992	481,418	530,661	619,909	544745.0
(%)	2.29	1.80	2.14	2.39	2.15
Malaysia	345,710	405,956	452,695	589,519	448470.0
(%)	1.45	1.52	1.83	2.27	1.77
France	475,252	522,244	540,292	588,105	531473.3
(%)	1.99	1.95	2.18	2.27	2.10
United Arab Emirates	760,770	700,209	535,375	585,816	645542.5
(%)	3.19	2.61	2.16	2.26	2.55
Ivory Coast	566,179	693,541	604,438	550,422	603645.0
(%)	2.37	2.59	2.44	2.12	2.38
South Africa	522,421	523,025	449,798	546,715	510489.8
(%)	2.19	1.95	1.82	2.11	2.01
Japan	359,011	492,023	489,740	503,612	461096.5
(%)	1.50	1.84	1.98	1.94	1.82

Continued

Germany	358,105	388,870	389,553	462,894	399855.5
(%)	1.50	1.45	1.57	1.78	1.58
Canada	287,642	355,986	412,974	445,057	375414.8
(%)	1.21	1.33	1.67	1.72	1.48
15 Countries	9,926,184	11,655,057	11,496,456	11,472,397	11,137,524
(%)	41.61	43.51	46.39	44.24	43.95
Others	13,929,087	15,133,248	13,283,777	14,460,763	14,201,719
(%)	58.39	56.49	53.61	55.76	56.05
World	23,855,271	26,788,305	24,780,23	25,933,160	25339242.33

Sources of data: UNComtrade, FAOStat.

Table 12. Average rice import price in the period of 2017-2020.

Country	Import Price (USD/ton)/% of World Import Price				
	2017	2018	2019	2020	Average 2017-2020
China	457.9	527.0	503.7	501.2	494.1
Philippines	405.5	413.0	364.7	412.9	394.0
Saudi Arabia	913.7	1016.5	1008.0	907.6	961.4
Ivory Coast	421.9	463.3	450.4	410.8	437.4
Malaysia	471.8	502.3	467.0	483.2	480.9
US	948.1	1079.1	1128.7	1081.0	1065.9
Iran	938.4	1008.3	1032.0	794.5	954.3
South Africa	486.6	486.4	465.0	529.6	492.2
World	549.0	585.0	526.1	560.2	554.9

Sources of data: UNComtrade, FAOStat.

fourth and fifth in the world in terms of how much rice they exported, with 8.17 and 7.18 percent of the market, respectively. India and Thailand both have a wide range of rice for export that is of high quality, stable, and safe, has a single brand name, and is very competitive. To increase the market share of Vietnamese rice in the world's rice exports, products need to be diversified, quality needs to be improved, food safety and hygiene need to be ensured, brands need to be built, competitiveness needs to be improved, and production capacity needs to be increased. Standard clean rice is also needed.

The proportion of Vietnamese rice exported through intermediaries is still large (60%). Currently, Vietnamese rice exports to some markets are still under the importer's brand, sometimes under the brand names of Thailand and the Philippines, so consumers in the host country do not know about Vietnamese rice like the Arab Saudi Arabia market, the United Arab Emirates, Ukraine,

and Great Britain. To increase the rate of direct export, it is necessary to promote trade promotion activities and strengthen the organization of rice trade promotion programs in these markets to promote and shape new beneficial consumption habits for Vietnamese rice products and types.

For each country, rice tastes very different. Exporters of rice need to know this difference so that they can sell the right kind of rice to customers based on their income and tastes. Traditional rice varieties with only a few purebred traits are still mostly eaten in Asia and Africa by people with low incomes. However, young people and people with higher incomes are slowly switching to new types of rice that are more nutritious, have a mix of aromas, and can be shaped to fit different tastes. In Japan, South Korea, and Taiwan, where people have a lot of money, new types of rice that taste better and are easier to cook and use are becoming more and more popular. In Japan, people mostly eat high-quality, high-value-added rice varieties, which are better in terms of nutrition, quality, and how to cook them.

5. Conclusion

Based on industry competitiveness theory and data from General Statistics Office, Uncomtrade, FAO, and Trademap, the study analyzed the Vietnam rice industry's current competitive situation in 2017-2020 through production capacity, costs, price fluctuations, value chain, export market share, competitive advantage, and market diversification. Analysis shows that rice industry output has been rising. Out of the top five rice-exporting countries in the world, Vietnam is third, just behind India and Thailand. In order to evaluate international trade, this study devised the XCA index, which incorporates both export quantity and export price into its calculations. The importing country can use XCA to better determine its own competitiveness as long as to better source commodities and analyze import purchasing. Although Vietnam's rice export industry has faced numerous challenges, government initiatives in recent years have provided some relief. Rice exports increased between 2017 and 2020. Vietnam has a higher XCA value than the major competitive countries like Thailand, Pakistan, China, and the US. The crucial challenge in Vietnamese rice exports is the low-value, diverse product that cannot compete in the high-value market. More efforts are needed to improve the quality of the rice, along with trying to enter new markets through marketing strategies.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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