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An Analysis of the Trade Competitiveness of Non-RMG Sectors of Bangladesh

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ABSTRACT

This study investigates the comparative advantage and competitiveness of Bangladesh's non-RMG (Ready-Made-Garment) sectors. This study focused on bicycles, ceramics, fish, footwear, jute, leather, fish, pharmaceutical, shipbuilding, fruits, and vegetable sectors to meet Bangladesh's export diversification imperative. This study assesses the competitiveness of each sector from 2001 to 2022 using quantitative methodologies such as Revealed Comparative Advantage (RCA), Revealed Symmetrical Comparative Advantage (RSCA), Relative Trade Advantage Index (RTA), Net Export Index (NEI), and Export Market Share (EMS). The results indicate that the jute and jute products, fish and fish products, leather and leather goods, footwear, and bicycle industries possess comparative advantages and overall net competitiveness in international trade. Jute and jute products have the greatest competition; only footwear and bicycles demonstrate an upward trajectory. Bangladesh possesses a superior comparative advantage in leather hides and skins, the essential raw materials for the leather footwear industry. Nonetheless, ceramic sector, maritime products, and pharmaceutical items occupy a somewhat unfavorable position in the global market. Bangladesh has forfeited its competitive edge in fish and fish products over the last twenty years. Consequently, authorities and industry stakeholders should prioritize value enhancement in the footwear, leather, and jute sectors to diversify the current export product concentration.

KEYWORDS: Trade Competitiveness, Comparative Advantage, RCA, RSCA, RTA, NEI, EMS

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1. Introduction

The primary objective of this study is to assess the export competitiveness and export market potential of selected non-RMG sectors of Bangladesh. This study will aim to answer three related questions: i. What is the export performance of selected items in Bangladesh? ii. Does Bangladesh have a comparative advantage in the selected items? And lastly, iii. How comparative advantages (hereafter RCA) have evolved during the past two decades in the non-RMG sectors?

Bangladesh's compact economy, characterized by high population density and constrained resources, exemplifies how trade may expand markets, foster economic growth, create employment opportunities, and alleviate poverty (Hossain et al., 2018). A turning point in Bangladesh's international trade engagement occurred in the 1990s (Hossain et al., 2018). Bangladesh's RMG industry has played a substantial role in establishing the nation as a significant exporter on the international front. This sector has made considerable contributions to the national GDP and has also been a foremost source of employment (Ahmed et al., 2013). Between 2000 and 2022, the contribution of the RMG sector to the Gross Domestic Product (hereafter GDP) increased significantly, almost doubling from 11% to 22% (OECD, 2023). Remarkably, RMG exports comprised 84.5 percent of Bangladesh's overall export earnings in FY2022–2023, amounting to approximately $47 billion, supporting 3.5–4 million jobs (Bangladesh Bank, 2024; Hossian et al., 2019; Mirdha, 2024; Raihan, 2020). However, excessive export concentration in the RMG sector poses a considerable risk to the sustainable economic growth of Bangladesh, and experts have suggested diversifying its export basket (EPB, 2021; OECD, 2023; Raihan, 2020).

Based on the well-established benefits of export diversification, Bangladesh should strategically pursue avenues such as expanding its export portfolio to include new products, entering new geographic markets, or combining both approaches. Export diversification stimulates economic growth while simultaneously creating employment possibilities and generating income through the multiplier effect. (Faiz & Maitra, 2020; Hossain et al., 2018; Raihan, 2020; Sarker, 2018).

Bangladesh aspires to achieve developed nation status by 2041, with export diversification crucial for sustainable, export-driven prosperity (Islam, 2023). To enhance exports, the Bangladesh Export Policy for 2021–2024 prioritizes identifying key products for export diversification, expanding export-oriented sectors, and facilitating trade and investment (EPB, 2021). Fourteen sectors, namely denim items, manmade fibers, garment accessories, pharmaceuticals, plastic goods, footwear (leather and non-leather), leather goods, jute, diversified jute goods, Agro-products, and processed Agro-products, fruits and flowers, and light engineering products are marked as priority sectors for the Export policy support (EPB, 2021; Mirdha, 2024).

Although the Bangladesh development plan and export policy has prioritized export diversification, there are only a few studies on Bangladesh's comparative and competitive advantages. Sarkar (2018) highlighted the importance of thoroughly assessing Bangladesh's essential export items in the global market. Extant research has concentrated chiefly on the comparative advantage of ready-made garments and a few other sectors, for example, fish and seafood, tea, leather, footwear, service, jute, and agriculture (Hasan et al., 2021; Hossain et al., & Van, 2017; Islam, 2019; Sarker, 2018; Sharna & Kamruzzaman, 2020). The studies mentioned above mainly focused on a single sector and single method to measure the comparative

advantage, which lacks a comprehensive stance. This study aims to assess the export comparative advantage of non-RMG sectors prioritized by the Government of Bangladesh under the Export Policy 2024.

This study has threefold contributions to academia, potential exporters, and policymakers. Firstly, by employing five comprehensive diagnostic instruments, this study contributes to the existing body of knowledge by providing empirical insights into the export performance and comparative advantage of significant non-RMG sectors of Bangladesh. Methodologically, using multiple indicators to analyze comparative advantage increased the robustness of the findings. Secondly, by providing empirical information on the export performance and comparative advantage of selected key sectors, the findings of this study will give potential exporters a glimpse of potential export items and their markets. Lastly, policymakers can utilize the findings to build strategic plans for the diversification of exports. It will help policymakers choose priority sectors for investment and design policies that will boost competitiveness in the global market. Furthermore, stakeholders such as investors, industry associations, and trade organizations can benefit from these insights to make informed decisions regarding the allocation of resources, strategies for entering the market, and business development initiatives that maximize opportunities for export and foster sustainable economic growth.

After the introductory section, section 2 details an extensive literature review on export competitiveness. Section 3 provides a detailed explanation regarding the methodological approach and instruments used to measure competitiveness. The model specifications used to identify the factors that influence competitiveness are also described. Section 4 provides an in-depth analysis and discourse, elucidating the findings obtained from the investigation, followed by a discussion on Section 5. As the study's conclusion, section six presents potential implications for future research and implications endeavors and offers a concise overview of the study's key findings.

2. Literature Review

The country’s export competitiveness has considerably transformed over time due to changes in legislative frameworks, technological advancements, and shifts in global economic dynamics (Ali & Camp, 2019). Classical ideas like mercantilism, absolute advantage, and comparative advantage lay the groundwork for understanding trade competitiveness (Lam, 2015)

Recent investigations have extensively examined the dynamics of trade competitiveness across diverse sectors and regions. Abbas (2022), for example, examined trade competitiveness in Pakistan's manufacturing and agriculture sectors between 2003 and 2014. Using the RCA and panel data regression techniques, their analysis demonstrated Pakistan's strong competitive advantage in raw cotton, cereals, raw leather, and fruit commodities. Naseer et al. (2019) expanded the scope using the RSCA measure in Mandarin export in fifteen leading Mandarin exporter countries. They find that only Morocco, Spain, Pakistan, Turkey, and Peru have a comparative advantage in Mandarin exports.

Similarly, Singh et al. (2020) used the Trade Specification Coefficient (TSC), RCA, and RSCA approaches to analyze the comparative advantages of India's agricultural products between 2000 and 2017. Their investigation revealed favorable trends for all agricultural commodities except for imports of guar gum meal and jute hessian. Bhattacharya (2019) examined export competitiveness factors such as domestic fruit

prices, effective exchange rates, and the per capita GDP of major importing nations, focusing on India's fresh fruit sector from 1971 to 2012. The long-run elasticity results indicate that the real effective exchange rate, local fruit prices, investment in the agricultural sector, and the per capita GDP of the major fruit-importing nations greatly influence the export competitiveness of fresh fruits in India. The impact of these demand-side factors on the competitiveness of fresh fruit highlights the importance of expanding India's fresh fruit export industry.

Nabi and Kaur (2019) compared Nigeria and India's competitiveness in machinery, pharmaceuticals, and iron and steel products between 2000 and 2018. Using the RCA and RSCA indexes, they demonstrated India's competitive advantage in pharmaceutical goods. Employing Non-Revealed Comparative Advantage (NRCA) and RCA analyses, Saki et al. (2019) examined the US's comparative advantage in clothing and textiles from 1996 to 2016. They found that the US has export advantages on cotton fiber, synthetic filament tow, non-wovens, cotton yarn, carpet, and used garments.

Furthermore, Hoang (2020) examined the trade competitiveness of the agricultural goods of the Association of Southeast Asian Nations (ASEAN) nations from 1997 to 2005 using RCA, RTA, NRCA, Ordinary Least Squares (OLS), and Markov (MARCOV) matrix techniques. The report emphasized the intense rivalry among ASEAN nations in the rice, rubber, spices, vegetable fats and oils, fish, crabs, lumber, and fuel wood sectors. Using a variety of indices, such as the RCA, Vollrath index, RSCA, RMA, RTA, and NEI, Maqbool et al. (2020) investigated trade competitiveness in the cereal products industry in Pakistan between 2003 and 2018, concluding that Pakistan has a competitive advantage in this market.

Ahmad et al. (2021) used the RCA measures and evaluated export competitiveness in Pakistan's fruits and vegetable industry from 2001 to 2018. They find that Pakistan has a comparative advantage in both potatoes and onions. Using RCA and RSCA techniques, Andrei et al. (2022) examined the competitive advantage of international trade in Romanian, Bulgarian, Hungarian, and Polish agri-food goods from 2000 to 2020, broadening the geographical scope and concentrating on the impact of EU membership on the competitiveness of agri-food products. Using RTA and Kaplan-Meier Analysis, Othman et al. (2022) evaluated the level of trade competition in Malaysia's oleochemical industry between 1999 and 2019, noting the country's consistent advantages over other significant producers of oleochemicals.

Khanal and Deb (2022) examined trade competitiveness and comparative advantage in the fish industry of India from 2000 to 2021 using the RSCA, RCA, and Vollrath index. They found that India has gained competitive edge in exporting fish items. Tarihoran et al. (2023) also used multiple tools namely, constant market share, RCA, and competitiveness matrix to assess the obstacles and level of competition in Indonesia's ornamental fish exports from 2012 and 2021, highlighting the country's poor performance in exports to important markets.

Finally, using RCA and RSCA approaches, Mohamad et al. (2024) examined the competitiveness of sago exports from 1988 to 2019 in Malaysia and Indonesia. They revealed that Malaysia had a significant competitiveness in exports of Sago, whereas Indonesia's performance was inconsistent. Together, these studies offer a thorough grasp of the dynamics of trade competitiveness across numerous industries and

geographical areas, illuminating the subtleties of trade dynamics worldwide. Table 3.1 summarizes the previous studies done on competitiveness.

Compared to global evidence, Bangladesh has less academic research on trade competitiveness. Hossain et al. (2017) conducted a detailed study between 2000 and 2015 of Bangladesh's and China's competitiveness in the RMG sector. Their findings show that during a sixteen-year period, Bangladesh improved its comparative advantage in seven products, while China improved its comparative advantage in eight products. Furthermore, using the RCA index, Sharna et al. (2020) assessed the comparative advantage in jute exports of Bangladesh, China, and India. They find that Bangladesh has a comparative advantage in jute exports compared to India and China. Similarly, Sarker (2018) investigated the export competitiveness of Bangladesh in several sectors (namely, leather, tea, fish and seafood, ready-to-wear, jute and allied goods, and fish) between 1980 and 2013. The study found a competitive advantage in the ready-to-wear sector.

Continuing the investigation, Islam (2019) analyzed Bangladesh's comparative advantage in the leather and footwear industries between 2008 and 2017, employing the RCA index. The results indicate that Bangladesh has a comparative advantage in the leather and footwear sectors. In another study, Islam et al. (2021) used data between 1980 and 2018 to evaluate the export competitiveness of the tea industry of India, Bangladesh, and Sri Lanka using the RSCA approach. Their analysis showed that Bangladesh lost its trade competitiveness in tea export over time, whereas Sri Lanka sustained its trade competitiveness in tea export and market dominance during the same period.

Furthermore, Hasan et al. (2021) conducted a comprehensive analysis of China's and Bangladesh's trade competitiveness in several sectors between 2007 and 2018. Using indicators like market share, TCI, and RCA, the research found that while there was a noticeable difference in the garment trade between the two nations, there was also convergence in their industrial trade structure.

Using the RCA index, Islam (2023) took a different approach while evaluating Bangladesh's trade competitiveness in the service sector between 2010 and 2019. The research revealed comparative advantages limited to the manufacturing and building services industries. Finally, Akhtaruzzaman et al. (2022) used RSCA and ARDL approaches to analyze the competitiveness of prawn exports from 1990 to 2019 for Bangladesh, China, India, Indonesia, Thailand, and Vietnam. Their analysis found that the competitiveness of prawn exports varied among all nations.

The extant literature on Bangladesh’s trade competitiveness reveals that the research is limited to a handful of sectors, namely ready-to-wear garments, leather and leather goods, tea, pharmaceuticals, and fish. This study wants to address the gap in the literature and focus on the trade competitiveness of eleven crucial sectors proposed by the Government of Bangladesh for export diversification (EPB, 2021).

3. Research Model

This study utilizes a quantitative research methodology to examine the trade competitiveness of eleven non-RMG sectors in Bangladesh: footwear, bicycles, shipbuilding, plastic, ceramics, fruits and vegetables, fish, shrimp, and prawns, jute and jute-diversified products, and pharmaceuticals.

3.1 Data Source and Period

Export data is collected from the International Trade Center (2024) from 2001 to 2022 for each sector. Sectors are selected according to the suggestions of the Export Policy 2021-2024. This study does not include the Tea sector because of data unavailability during the abovementioned period.

3.2 Measures of Competitiveness

The primary goal of this research is to assess the export competitiveness of eleven non-RMG sectors of Bangladesh. To accomplish this goal, the study utilizes five diagnostic instruments, specifically RCA, RSCA, RTA, NEI, and EMS. These five metrics are used to analyze different facets and dimensions of sector competitiveness. Scholars have pointed out that using a single comprehensive measure as an indicator of competitiveness is insufficient (Ferto & Hubbard, 2002; Turner & others, 1993). This is because there are difficulties in defining the concept, deciding what to compare it to, and identifying the relevant aspects of competitiveness (Esterhuizen & Liebenberg, 2001). As a result, researchers have recommended the use of several diagnostic instruments in prior studies to address these intricacies and offer a more sophisticated comprehension of sector competitiveness (Benalywa, 2023; Hasan et al., 2021; Hoang, 2020; Khanal & Deb, 2022; Maqbool et al., 2020; Mohamad et al., 2024; Nabi & Kaur, 2019; Saki et al., 2019; Singh et al., 2020; Tarihoran et al., 2023).

3.2.1 Revealed Comparative Advantage (RCA)

Liesner established the RCA index in 1958, and Balassa first utilized it in 1965 as a technique for measuring competitiveness (Balassa, 1965). RCA of exports refers to the proportion of a country's total merchandise exports that are comprised of a certain product category in comparison to the nation's overall share of all merchandise exports (Balassa & Noland, 1989).

$$RCA = \frac{\frac{Xij}{Xwj}}{\frac{Xi}{Xw}}$$

Here,
$Xij =$ jth industry export by i[th] nation
$Xwj =$ Exports from the j[th] industry worldwide
$Xi =$ Total exports from the i[th] nation
$Xw =$ World export total

The RCA index encompasses a range of values from zero to infinity. Depending on the context, these values may be more than one or less than one. The sign RCA > 1 implies that the country in question has a comparative advantage in the chosen sector. Conversely, an RCA value of less than one (RCA < 1) means the nation is at a comparative disadvantage. The RCA approach is widely used to evaluate competitiveness. However, it has been criticized for failing to address symmetry difficulties, with a significant focus on export data and a disdain for imports (Hoang, 2020; Islam, 2019; Maqbool et al., 2020).

3.2.2 Revealed Symmetrical Comparative Advantage (RSCA)

Despite the widespread use of RCA, Dalum et al. (1998) claim that there is an asymmetry in the Balassa index. A country's index value ranges from 0 to 1 if it has a demonstrated comparative disadvantage in producing a given product. Conversely, nations possessing a comparative

advantage in manufacturing a good are assigned a value ranging from 1 to infinity. Vollrath (1991) and Laursen (2015) also pointed out the asymmetries of RCA and proposed a symmetrical comparative advantage (RSCA) in 1991. The RSCA method adjusts the RCA values to attain symmetry. This modification guarantees that the values of the RCA index are confined to the range of +1 to -1. Laursen (2015) developed the RSCA as a modified index. RSCA is calculated as follows.

$$RSCA = \frac{RCA - 1}{RCA + 1}$$

Regarding the RSCA, a value greater than zero denotes a competitive advantage, while a number less than zero denotes a competitive disadvantage. To be more precise, a value near +1 denotes a greater advantage, whilst a value near -1 denotes a noticeable disadvantage.

3.2.3 Relative Trade Advantage Index (RTA)

This study incorporates the RTA to address the shortcomings of depending solely on RCA and RMA, which concentrate on exports or imports. The RTA considers import and export competitiveness to give a thorough evaluation of a nation's trade dynamics. The RTA provides a detailed picture of a sector's total trade advantage or disadvantage by deducting the RCA from the RMA. By capturing the interaction between a nation's export and import performance, this comprehensive technique improves the analysis and offers insightful information to both scholars and policymakers. RTA is measured using the following method-

$$RTA = RCA - RMA$$

$$RTA = \frac{\frac{Xij}{Xwj}}{\frac{Xi}{Xw}} - \frac{\frac{Yij}{Ywj}}{\frac{Yi}{Yw}}$$

A positive value or over 0 implies a net trade advantage, indicating stronger exports than imports. A negative number or less than 0 indicates a net trade disadvantage, meaning the country's imports surpass its exports in competitiveness.

3.2.4 The Net Export Index (NEI)

The NEI was first established by Balassa (1965) and is an analytical tool for the competitiveness of export goods. Balassa and Noland (1989) explain how this study used the same methodology. As Erkan and Sarıcoban (2014) indicate, the NEI evaluates whether a nation specializes in importing or exporting particular product groupings, determining whether it is a net importer or sells them. This index calculates the balance between imports and exports for a certain product or industry by subtracting imports from exports and dividing the result by the total imports and exports. NEI is measured using the following method.

$$NEI = \frac{Xij - Yij}{Xij + Yij}$$

On a scale where values vary from -1 (representing dependence on imports) to 1 (emphasizing the importance of exports). NEI value 0 (zero) signifies an equilibrium between imports and exports. This

approach provides information about a nation's trade dynamics by indicating whether it tends to be a net importer or exporter.

4. Analysis

4.1 Export Performance

Figures 1 and 2 show the export performance of eleven selected sectors from 2001 to 2022. It shows the export contribution of the selected non-RMG sectors to Bangladesh's total export value. Figures 1 and 2 and Table 1 show that footwear is the only sector that has grown significantly during the past twenty-two years. This sector's contribution to the total export value has grown from 0.83% in 2001 to 2.69% in 2022 (nearly three hundred percent increase). The overall contribution of the rest of the sectors has declined over the same period, indicating more export concentration over the past two decades.

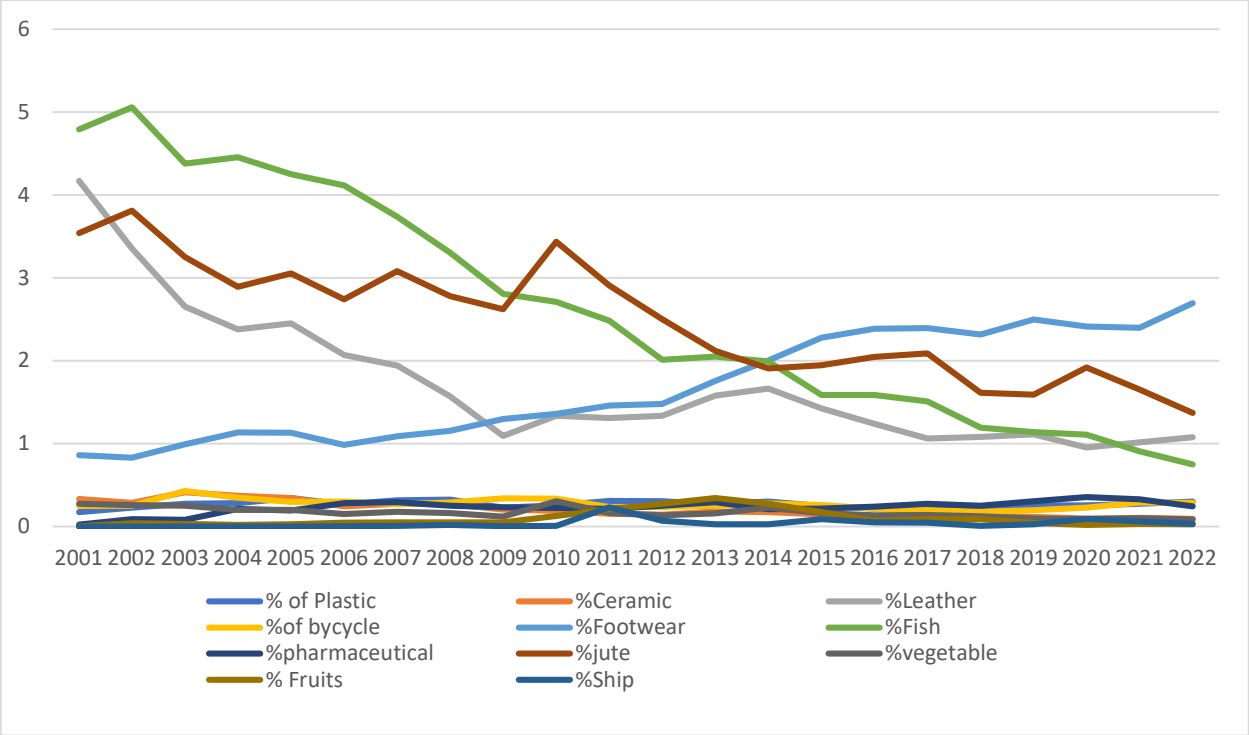

Figure 2 Export Contribution of Non-RMG Sectors in Total Exports of Bangladesh (In % Of Total Export)

Source: ITC (2024)

One of the major non-RMG sectors, fish and fish items (HS code 03) has experienced a major export-share decline from 4.79% of total export value in 2001 to only 0.75 % in 2022. Following the trend of leather and leather products (except leather footwear), export contribution to total export value decreased significantly from 4.17% in 2001 to 1.21 % in 2022. Jute yarn (HS code 53) export has also experienced a gradual export contribution decline from 3.54 % to 1.37% from 2001 to 2022. Though the total export value increased during the same period, the proportion of total exports remained well below one percent. Export value and the proportional export percentage confirm Bangladesh's low export diversification over time.

4.2 Trade Competitiveness of each sector

Table 4.1 demonstrates the RCA index of the selected eleven sectors from 2001 to 2022. According to Balassa (1965), the RCA index represents a country's comparative advantage in an industry when the RCA value of that industry is greater than unity. The RCA index value shown in Table 2 illustrates that Bangladesh has a comparative advantage in the Jute, Fish, Leather, Bicycle, and Footwear sectors. Jute and jute-related products (HS code 53) have the highest RCA index score compared to the selected non-RMG sectors. The nation has maintained a larger comparative advantage in the global market for jute and jute products between 2001 and 2022. The results are consistent with Sharna and Kamruzzaman's (2020) earlier research on the export of raw jute. It is important to note that the competitiveness of jute and jute products has fluctuated throughout the study period. The RCA value was 79.41 in 2001 and went on to rise to 135.42 in 2010, but it gradually decreased to 54.10 in 2022.

Table 4.1. Competitiveness Analysis of each Sector RCA (Year 2001 to 2022)

Year	Jute	Fish	Leather	Footwear	Bicycle	Ship	Plastic	Ceramic	Vegetable	Fruits	Pharma
2001	79.41	6.98	5.34	1.12	5.32	0	0.06	1.02	0.76	0.01	0.01
2002	84.65	7.54	4.53	1.1	5.19	0	0.07	0.87	0.71	0.08	0.04
2003	72.35	6.88	3.8	1.37	8.73	0	0.09	1.28	0.66	0.06	0.03
2004	70.11	7.69	3.69	1.72	7.17	0	0.09	1.19	0.59	0.04	0.09
2005	86.86	7.64	4.09	1.76	6.28	0	0.11	1.18	0.63	0.06	0.08
2006	89.03	7.83	3.66	1.6	7.12	0.01	0.08	0.85	0.47	0.11	0.12
2007	115.6	7.66	3.53	1.81	6.26	0.01	0.1	0.98	0.55	0.11	0.12
2008	133.06	7.29	3.18	1.99	6.22	0.02	0.11	1.03	0.52	0.12	0.1
2009	116.58	4.92	2.12	1.95	6.41	0	0.07	0.74	0.3	0.09	0.07
2010	135.42	4.99	2.46	2.12	6.63	0.01	0.08	0.72	0.82	0.25	0.08
2011	121.07	4.65	2.41	2.31	4.96	0.22	0.1	0.61	0.47	0.43	0.08
2012	114.96	3.86	2.44	2.31	4.71	0.08	0.1	0.56	0.42	0.56	0.1
2013	94.46	3.7	2.7	2.59	5.13	0.03	0.09	0.66	0.45	0.66	0.11
2014	75.87	3.34	2.79	2.67	5.47	0.03	0.09	0.58	0.64	0.49	0.08
2015	68.4	2.59	2.24	2.81	4.41	0.09	0.07	0.42	0.4	0.28	0.07
2016	75.9	2.3	2	2.91	3.85	0.06	0.06	0.39	0.3	0.1	0.08
2017	84.72	2.23	1.8	3.03	3.85	0.06	0.07	0.47	0.33	0.13	0.09
2018	63.72	1.85	1.95	3.08	3.74	0.01	0.07	0.44	0.33	0.14	0.08
2019	56.74	1.73	1.95	3.15	4.15	0.04	0.08	0.36	0.25	0.06	0.09
2020	75.52	1.73	1.95	3.31	4.03	0.15	0.07	0.29	0.2	0.02	0.09
2021	62.02	1.51	2.08	3.46	5.08	0.11	0.07	0.31	0.26	0.05	0.09
2022	54.1	1.26	2.22	3.79	5.73	0.06	0.09	0.3	0.25	0.05	0.07

Exports of fish and fish products exhibit similar trends and unexpected peculiarities. In 2002, Bangladesh's export of fish and fish products had a higher RCA score of 7.54, indicating a significant and robust competitive advantage. Nevertheless, the RCA values dropped in recent years, reaching 1.26 in 2022. Despite losing ground in the international market, Bangladesh still maintains its competitiveness in

exporting fish and fish products. Using data until 2013, Sarker (2018) also demonstrated how the competitive advantage eroded.

Additionally, RCA values greater than 1 show that leather and footwear exports have a comparative advantage. The results are consistent with Islam's earlier research on leather goods and footwear (2019), which used data from 2008 to 2017. The comparative advantages of the two industries, however, are moving in entirely different directions. For instance, the comparative advantage of leather and leather goods has decreased throughout the years, falling from 5.34 in 2001 to 2.22. Conversely, footwear exports increased from 1.12 in 2001 to 3.79 in 2022. This pattern of constancy and growth suggests a more robust presence in the worldwide footwear industry.

Bangladesh's bicycle sector (HS code 8712) has recently performed well in international trade. To the author's knowledge, no prior research has examined the use of bicycles in measuring comparative advantage; therefore, this study included bicycles. For the last 22 years, Bangladesh has held a high comparative advantage in the export of bicycles, as shown by RCA values greater than 5, with slight variations between years. Bangladesh could potentially increase global trade in bicycle exports as it maintained a consistent comparative advantage over time.

To ascertain comparative advantage, this study also examined ceramics. According to the RCA values, Bangladesh possessed a very slight comparative advantage in the years 2001, 2003, 2004, 2005, and 2008. Bangladesh does not, however, currently possess a comparative advantage in ceramic goods. Likewise, with RCA values ranging from 00 to 0.06, Bangladeshi shipbuilding has had no comparative advantage for the previous 22 years. Likewise, Bangladesh's plastic products have no comparative advantage, with an RCA value ranging from 0.06 to 0.07 from 2001 to 2022. The conclusions of the research on ceramics, shipbuilding, and plastics are consistent with those of a prior study conducted by Islam and Huda (2022), utilizing data from 2008 to 2017.

In addition, this research examined pharmaceutical, fruit, and vegetable items to evaluate their comparative advantage in meeting diversification demands. As far as the author is aware, there is not any research on the comparative advantage evaluation of this product. These items' RCA values show that none have a comparative advantage in the global market. For instance, from 2001 to 2022, the RCA values for vegetables range from 0.76 to 0.25, those for fruit from 0.01 to 0.05, and those for pharmaceutical items from 0.01 to 0.07. The comparative disadvantage, denoted by a sustained lower value than 1, suggests that fruits, vegetables, and pharmaceutical products are having difficulties competing in the global market.

4.3 Robustness of Trade Competitiveness

Table 4.2 displays the revealed symmetrical comparative advantage of the selected sectors from 2001 to 2022. The RSCA results provide additional support for the RCA results. Firstly, the country has a highly competitive advantage in the worldwide market for raw jute and jute products from 2001 to 2022, as validated by the RCA findings, as the values of RSCA of jute and jute products vary from 0.98 to 0.96, which are very close to 1.

Fish and fish products also have a comparative advantage however this advantage is eroding with time. Leather and leather goods likewise exhibit a similar tendency. Conversely, the competitiveness of footwear demonstrated a growing level of competition, further validating the RCA's results. Similar to footwear, bicycles are very competitive and have steady, long-term closed RSCA values. RSCA

index provides evidence that certain industries, such as shipbuilding, plastic and plastic products, ceramics, fruits and vegetables, and pharmaceuticals score close to zero and thus lack a comparative advantage.

Table 4.2 Revealed Symmetrical Comparative Advantage (The Year 2001 To 2022)

Year	Jute	Fish	leather	Footwear	Bicycle	ship	Plastic	Ceramic	vegetable	Fruit	Pharma
2001	0.98	0.75	0.68	0.06	0.68	-1	-0.89	0.01	-0.14	-0.97	-0.98
2002	0.98	0.77	0.64	0.05	0.68	-1	-0.87	-0.07	-0.17	-0.86	-0.93
2003	0.97	0.75	0.58	0.16	0.79	-1	-0.84	0.12	-0.2	-0.88	-0.94
2004	0.97	0.77	0.57	0.26	0.76	-1	-0.84	0.09	-0.26	-0.92	-0.84
2005	0.98	0.77	0.61	0.28	0.73	-1	-0.81	0.08	-0.23	-0.89	-0.85
2006	0.98	0.77	0.57	0.23	0.75	-0.99	-0.85	-0.08	-0.36	-0.81	-0.79
2007	0.98	0.77	0.56	0.29	0.72	-0.99	-0.82	-0.01	-0.29	-0.8	-0.79
2008	0.99	0.76	0.52	0.33	0.72	-0.96	-0.8	0.01	-0.31	-0.79	-0.82
2009	0.98	0.66	0.36	0.32	0.73	-0.99	-0.87	-0.15	-0.54	-0.84	-0.87
2010	0.99	0.67	0.42	0.36	0.74	-0.99	-0.85	-0.16	-0.1	-0.59	-0.86
2011	0.98	0.65	0.41	0.39	0.66	-0.64	-0.82	-0.24	-0.36	-0.39	-0.85
2012	0.98	0.59	0.42	0.39	0.65	-0.85	-0.82	-0.28	-0.41	-0.29	-0.82
2013	0.98	0.57	0.46	0.44	0.67	-0.94	-0.84	-0.21	-0.38	-0.21	-0.8
2014	0.97	0.54	0.47	0.45	0.69	-0.93	-0.83	-0.26	-0.22	-0.34	-0.86
2015	0.97	0.44	0.38	0.47	0.63	-0.83	-0.86	-0.41	-0.43	-0.57	-0.86
2016	0.97	0.39	0.33	0.48	0.59	-0.89	-0.88	-0.43	-0.53	-0.82	-0.86
2017	0.98	0.38	0.29	0.5	0.59	-0.89	-0.87	-0.36	-0.5	-0.76	-0.83
2018	0.97	0.3	0.32	0.5	0.58	-0.98	-0.87	-0.38	-0.5	-0.76	-0.85
2019	0.97	0.27	0.32	0.51	0.61	-0.92	-0.86	-0.47	-0.6	-0.88	-0.83
2020	0.97	0.27	0.32	0.53	0.6	-0.75	-0.86	-0.55	-0.66	-0.95	-0.83
2021	0.97	0.2	0.35	0.55	0.67	-0.8	-0.86	-0.52	-0.59	-0.91	-0.84
2022	0.96	0.12	0.38	0.58	0.7	-0.88	-0.84	-0.54	-0.6	-0.91	-0.87

Table 4.3 in the appendix displays the RTA index score of each of the eleven sectors. According to the RTA figures, jute is in the most competitive position among all the selected items. As a result of its consistently high and positive values, it gives the impression that its competitive and influential position in the market is more important than its import. Despite this, it is important to note that the RTA values have been decreasing over the past several years, and they are projected to reach 33.13 in 2022. Even though fish and fish products remain competitive in the international market, the industry has gradually lost its net competitive advantage in the past twenty-two years. For example, the RTA values reached 1.1 in 2022, whereas they were 6.78 in 2001. It can be inferred from the evidence that the industry is experiencing a decline in its export competitiveness and has increased its imports in recent years.

Moreover, both leather and footwear have a positive score, which indicates that they both have a net trade advantage. On the other hand, the leather industry is gradually losing momentum, as seen by a shrinking net trade advantage, which began at 5.14 in 2001 and reached 1.52 earlier this year. Conversely, footwear is gradually growing in net trade performance, outweighing imports. The rising value of RTA indicates that the footwear industry is becoming more resilient and competitive in the

international footwear market. Similarly to the footwear industry, the bicycle industry demonstrates a robust total trade advantage. The upward trend in the RTA values over the past few years indicates an overall advantage in net trade.

In addition, the findings of the RCA and RSCA are identical in that the RTA values indicate that plastic and plastic products are at a disadvantage in terms of overall trade. Ceramic items were at a net trade advantage to some extent, as shown by positive values up to 2007, according to the RTA values. However, the country has been at an overall trade disadvantage in this sector since then. This is a slight departure from the RCA and RSCA values in the ceramic sector. The RCA and RSCA values for pharmaceutical products, vegetables, fruits, and shipbuilding sectors also portray an unfavorable trade competitiveness of these sectors.

This study uses NEI to further analyze if the chosen sector is a net importer or exporter of a specific product. The results in Table 4.4 in the appendix indicate that jute and jute-derived products are very competitive in the export market; they were net exporters in 2006 and 2007, with a peak value of 0.94. In 2022, the export index dropped to 0.39, indicating a considerable decline in exports in recent years. A similar pattern can be seen in the fish and fish products sector, which was formerly nearly a net exporter with peak values of 0.99 to 0.93 until 2007. After that, the fish and fish products industry's export performance gradually declined. However, the fish and fish products industry is still a substantial net exporter with plenty of room to grow more competitive. Leather and leather goods also exhibit a falling tendency, with NEI values of 0.92 in 2001. They were nearly an absolute net exporter, but the NEI decreased to 0.46 in 2022, implying a decline in their net export.

The footwear industry has maintained its net exporter position, demonstrating its durability in export competitiveness. Like the footwear industry, the bicycle industry also observes a similar trend. The bicycle sector demonstrates a sustained net export position and growing competitiveness as a net exporter, with increasing NEI values ranging from 0.60 in 2001 to 0.78 in 2022. However, despite having favorable figures through 2018, Bangladesh's ceramic industry was comparatively exporting more than it was importing. However, in recent years, its export competitiveness has decreased due to negative values indicating a reliance on imports.

The industry's net reliance on imports is indicated by the persistently negative values of plastic and plastic-related products, fruits, vegetables, shipbuilding, and pharmaceuticals. These industries' export performance makes them uncompetitive in the global market, and their negative values near 1 show how significantly they rely on imports.

5. Discussion

Over 85% of Bangladesh's export revenue comes from the RMG sector, which makes it the backbone of the country's economy but also more susceptible to external shocks because of its substantial dependence on it. Thus, the government has increasingly emphasized encouraging other potential sectors for export diversification over time. The government has identified a small number of highly valued, concentrated industries with the potential to be export competitive in light of the imperatives of export diversification. This research examined the competitiveness of the identified potential export industry in the worldwide market using various competitiveness tools.

The trade competitiveness of eleven non-RMG sectors of Bangladesh was evaluated. Bangladeshi jute and jute products are the most competitive products in the global market. With more RCA, RSCA, and RTA values, the sector has a competitive edge in the global jute market. Besides, the market share of jute exports is also more significant than other sectors. The Jute sector of Bangladesh is a net exporter that is overweighing its imports, although competitiveness has decreased in recent years. The findings align with a previous study by Sharna and Kamruzzaman (2020), which determined the competitiveness of raw jute in Bangladesh and found that Bangladesh has a comparative advantage over India and China regarding raw jute. However, previous studies also found that the comparative advantage has decreased over the last few years (M. et al., 2012; Sharna & Kamruzzaman, 2020). Akter (2015) highlighted the competitive pressure from synthetic alternatives and showed how environmental legislation and rising consumer awareness in prospective markets substantially impact demand. To maintain competitiveness in the world market, Rahman and Khaled (2011) further urged the requirement to invest in technology and skill development. The following figure shows the RCA values of jute from 2001 to 2022.

Although fish and fish items of Bangladesh still hold the comparative advantage, the comparative advantage of this sector has reduced significantly during the study period. The findings align with previous research by Sarker (2018), who used data till 2013 and concluded that there was a declining trend in fish and fish export. Previous studies found many factors that hurt Bangladesh's fish and seafood businesses' global competitiveness. The industry's image and market access have suffered due to the contamination of Bangladeshi seafood export and low standards (Henson & Loader, 2001). Besides, Bangladesh's seafood exports are hampered by European and American trade barriers and food safety standards (Beghin et al., 2015). Bangladesh faces increased competition in fish export market from Vietnam, China, and Thailand due to cheaper seafood production and improved infrastructure (Asche et al., 2001; Beghin et al., 2015). In Bangladesh, overfishing and an unsustainable supply chain have decreased fish stocks and polluted the ecosystem (FRSS, 2018; Shamsuzzaman et al., 2020). Poor infrastructure, outdated fishing techniques, and restricted access to modern boats and processing facilities have hampered competitiveness and product quality (FRSS, 2018). Bangladesh must encourage sustainable practices, infrastructure, technology, and product quality and safety to regain its competitiveness in the global fish and seafood sector.

Bangladesh's leather and footwear sectors have proven export competitiveness in the global market. The findings align with a previous study by Islam (2019). Several reasons may contribute to this success. Unrestricted access to essential raw materials like leather and textiles helped the sector operate more efficiently by lowering production costs and guaranteeing smooth supply chain dynamics. Notably, the yearly Eid al-Adha holiday is crucial to satisfying the growing demand for raw hides since the cyclical footwear sector experiences a noticeable spike in sales during this joyous (Ali et al., 2018). Bangladesh's footwear industry has prospered thanks to preferential trade agreements, growing demand for reasonably priced footwear worldwide, and the ability to leverage export prospects in profitable regions such as Europe and North America (Ahmed, 2024; Munira, 2023; Razzaque et al., 2020). The competitiveness of Bangladeshi footwear manufacturers in the international arena has been strengthened by strategic investments in cutting-edge technology and robust infrastructure, which have resulted in notable advancements in production processes and superior-quality products (Razzaque et al., 2020). Although

Bangladesh's footwear industry is growing and becoming resilient in the world market, the leather industry is facing a declining trend in terms of comparative advantage.

Bangladesh's bicycle sector has a moderate comparative advantage in the world bicycle market. The plausible reasons for this global edge can be the cost-effectiveness of manufacturing labor, favorable trade policies with importing countries and investment technologies, infrastructure, and quality maintenance. Although the market share of exports is very negligible, the sector has the potential to grow in the world market. To the author's knowledge, this is the first study to assess the competitiveness of Bangladesh's bicycle sector.

Despite being recognized as high-value industries and having recently improved exports, the plastic, ceramic, vegetable, fruit, shipbuilding, and pharmaceutical sectors are at a competitive disadvantage in global trade. These industries rely too much on imports relative to their improvements in exports. The following figure shows all the RCA values of selected sectors from 2001 to 2022.

6. Conclusion and Implications

6.1 Conclusion

Global trade has significantly influenced Bangladesh's economic development, mainly through the RMG sector, which has been crucial in increasing export earnings and employment generation. However, this sector is vulnerable to issues like labor disputes and the approaching graduation from LDC classification. To accomplish long-term development goals, export diversification has been given priority by policymakers, who view it as essential for maintaining economic growth. Determining if a given sector is competitive in the global market is essential to improving long-term developments. This study addresses the dearth of research on trade competitiveness in Bangladesh by focusing on the footwear, fish and fish items, and pharmaceutical industries, aiming to fill gaps in research.

The study uses a quantitative approach to evaluate the competitiveness of Bangladesh's footwear, fish and fish items, and pharmaceutical products. Employing extensive datasets from 2001 to 2022 from Trade, the research investigates export performance, comparative advantage, and overall competitiveness. Several diagnostic tools, including RCA, RSCA, NEI, and RTA, are used to thoroughly analyze sector competitiveness.

The findings suggest that jute and jute products hold the most competitiveness in international trade among the selected non-RMG sectors. Although recently showing a declining trend, the products still hold a higher comparative advantage than the world average and a larger export market share in the jute market. Fish and fish products in Bangladesh are currently competitive at a minimum level; however, the sector used to have a solid competitive advantage in the early years of the study period. Likewise, leather and leather products are competitive but have shown a declining trend over the last few years. On the other hand, footwear is growing in the world market and becoming resilient, as shown by the competitiveness analysis. Bicycles are another growing segment of Bangladesh's exports. With few fluctuations in the study period, the sector is persistently striving for competitiveness in the world market, although the market share is negligible. Although the export performance of pharmaceutical products, ceramic products, and plastic and plastic

items has increased, these sectors are at a comparative disadvantage in the world market. Similarly, sectors like fruits, vegetables, and shipbuilding are also consistently in a comparative disadvantageous position, having almost the most dependence on imports.

6.2 Implication

This research's findings can benefit governments, policymakers, and industry stakeholders can benefit from the findings of this research. According to the findings, jute and jute products are the most competitive but have shown a declining trend in recent years. Therefore, the government should invest heavily in this sector to restore its strong position in the international market. Furthermore, they should focus on technology to modernize processing, improve quality, and promote market diversification to sustain this sector's competitiveness. As fish and fish-related items become less competitive in the global market, the government should promptly implement measures such as ensuring product safety, enhancing infrastructure, and taking other necessary actions. With huge pools of lower-cost labor and the availability of raw materials, the leather sector's competitiveness is decreasing. The government, policymakers, and industry stakeholders should take the necessary steps to revitalize the sector, including investing extensively in technology, infrastructure, and an eco-friendly tanning process. Since the country's footwear sector is flourishing, the government should focus more on it. Given that only ten countries receive 80% of the country's footwear exports, the government should increase incentives and promote market diversification. Despite the minimal market share, the bicycle industry is growing and resilient. Therefore, the government should support this sector by increasing its production capacity, collaborating with international brands, and improving quality. However, since ceramics, shipbuilding, plastics, fruits, vegetables, and pharmaceutical products are at a comparative disadvantage in the global market and have a heavy reliance on imports, the government should take long-term visions and strategies, including heavy investment in research and development, infrastructure and logistics, and incentive support, to be competitive. The government, policymakers, and industry stakeholders should work together to implement strategies and policies to harness all the potential sectors based on their competitive position in the world market.

This study also contributes to the existing body of competitiveness research. This study addresses the imperative of export diversification and chooses the identified high-potential sectors to determine their competitiveness in the international market. To the author's knowledge, no prior research has looked at the competitiveness of the pharmaceutical, fruit and vegetable, and bicycle sectors. Therefore, we are the first to examine the competitiveness of these sectors. Additionally, this study incorporates six different analytical tools to help better comprehend the competitive situation of the sector and cross-validate its robust findings. The findings will benefit policymakers, international organizations, and private sector stakeholders by allowing them to take necessary interventions for sustainable competitiveness.

6.3 Limitation

This study analyzes the competitiveness of identified export potential sectors. Future research can consider four-digit HS codes to identify niche export opportunities. Moreover, future research can conduct a cross-country analysis, comparing the potential sector under study with competitor countries. Future studies can also use other competitiveness tools, including NRCA, TCI, and TSC, to cross-validate the findings.

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Conflicts of Interest

The authors declare no conflict of interest.

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Appendix

Table 4.3 RTA Index of The Selected Sectors (Year 2001 To 2022)

Year	Jute	Fish	leather	Footwear	Bicycle	Plastic	Ceramic	vegetable	Fruit	ship	Pharma
2001	67.71	6.78	5.14	0.96	4.1	-0.99	0.49	-2.73	-0.76	-4.17	-0.7
2002	76.66	7.5	4.35	0.94	3.96	-1.05	0.43	-4.1	-0.74	-0.58	-0.55
2003	67.79	6.85	3.5	1.19	8.22	-1	0.65	-5.24	-0.69	-0.09	-0.45
2004	67.02	7.65	3.36	1.48	6.4	-1.13	0.52	-5.43	-0.95	-0.1	-0.25
2005	84	7.61	3.72	1.57	5.58	-1.19	0.73	-4.91	-1.15	-0.7	-0.23
2006	85.84	7.8	3.26	1.38	6.26	-1.2	0.28	-5.77	-0.9	-0.44	-0.24
2007	111.48	7.62	2.97	1.44	5.55	-1.27	0.47	-6.54	-1.24	-0.21	-0.24
2008	126.04	7.23	2.63	1.59	5.67	-1.2	0.34	-3.94	-1.2	-0.25	-0.17
2009	107.05	4.75	1.64	1.66	5.78	-1.21	-0.05	-8.42	-1.36	-0.1	-0.19
2010	126.21	4.89	1.89	1.79	6.08	-1.18	-0.06	-5.53	-1.19	-0.32	-0.2
2011	107.57	4.51	1.86	1.97	4.47	-1.14	-0.24	-2.53	-1.52	0.02	-0.13
2012	99.33	3.65	1.76	2.01	4.01	-1.36	-0.39	-3.17	-1.3	-0.33	-0.12
2013	79.28	3.37	1.83	2.19	4.02	-1.35	-0.4	-4.38	-0.72	-0.72	-0.11
2014	61.66	3.04	1.82	2.09	4.17	-1.29	-0.94	-3.12	-0.9	-0.51	-0.08
2015	52.8	2.38	1.15	2.13	3.24	-1.23	-1.37	-2.77	-0.73	-0.56	-0.13
2016	61.26	2.15	0.96	2.33	2.19	-1.24	-0.87	-3.01	-0.91	-0.56	-0.09
2017	71.66	2.09	0.89	2.42	2.24	-1.18	-0.43	-2.32	-0.85	-0.91	-0.07
2018	47.14	1.72	1.18	2.56	2.47	-1.18	-0.27	-2.14	-0.8	-0.93	-0.05
2019	40.07	1.47	1.25	2.62	2.96	-1.19	-0.32	-3.11	-1.22	-2.53	-0.05
2020	58.78	1.54	1.25	2.67	3.19	-1.23	-0.38	-3.6	-1.77	-0.44	-0.04
2021	44.46	1.28	1.2	2.75	4.48	-1.22	-0.34	-2.79	-1.33	-0.85	-0.45
2022	33.13	1.01	1.52	3.09	5.13	-1.12	-0.5	-2.61	-1.07	-0.33	-0.29

Table 4.4 NEI of The Selected Sector (Year 2001 To 2022)

Year	Jute	Fish	leather	Footwear	Bicycle	Ceramic	Plastic	vegetable	Fruit	ship	Pharma
2001	0.74	0.94	0.92	0.71	0.6	0.31	-0.9	-0.67	-0.97	-1	-0.97
2002	0.83	0.99	0.92	0.73	0.6	0.34	-0.88	-0.75	-0.85	-1	-0.88
2003	0.89	0.99	0.86	0.75	0.89	0.35	-0.85	-0.8	-0.86	-0.98	-0.87
2004	0.92	0.99	0.84	0.75	0.82	0.31	-0.86	-0.82	-0.93	-0.97	-0.58
2005	0.93	0.99	0.82	0.77	0.79	0.41	-0.86	-0.82	-0.92	-1	-0.62
2006	0.94	0.99	0.8	0.75	0.8	0.21	-0.88	-0.86	-0.83	-0.96	-0.5
2007	0.94	0.99	0.72	0.65	0.81	0.31	-0.86	-0.86	-0.86	-0.9	-0.51
2008	0.89	0.98	0.67	0.62	0.83	0.15	-0.86	-0.81	-0.87	-0.8	-0.5
2009	0.86	0.93	0.61	0.71	0.82	-0.05	-0.9	-0.94	-0.9	-0.92	-0.59
2010	0.87	0.95	0.56	0.66	0.82	-0.16	-0.91	-0.81	-0.78	-0.96	-0.65
2011	0.79	0.93	0.58	0.7	0.8	-0.22	-0.87	-0.76	-0.71	0.23	-0.52
2012	0.76	0.88	0.54	0.74	0.74	-0.27	-0.89	-0.82	-0.6	-0.54	-0.44
2013	0.74	0.82	0.49	0.71	0.64	-0.22	-0.9	-0.85	-0.44	-0.89	-0.4
2014	0.69	0.81	0.43	0.61	0.59	-0.44	-0.89	-0.75	-0.57	-0.85	-0.42
2015	0.65	0.84	0.3	0.58	0.58	-0.58	-0.91	-0.8	-0.64	-0.65	-0.53
2016	0.68	0.87	0.28	0.65	0.41	-0.5	-0.92	-0.85	-0.84	-0.79	-0.45
2017	0.69	0.86	0.25	0.62	0.38	-0.33	-0.92	-0.82	-0.81	-0.85	-0.39
2018	0.53	0.84	0.34	0.65	0.43	-0.26	-0.92	-0.8	-0.81	-0.97	-0.35
2019	0.49	0.69	0.42	0.67	0.51	-0.3	-0.91	-0.88	-0.93	-0.96	-0.32
2020	0.63	0.77	0.42	0.64	0.63	-0.36	-0.91	-0.91	-0.98	-0.47	-0.28
2021	0.48	0.65	0.29	0.57	0.74	-0.41	-0.92	-0.89	-0.96	-0.76	-0.8
2022	0.39	0.59	0.46	0.62	0.78	-0.47	-0.89	-0.88	-0.94	-0.69	-0.74

Table 4.5: Export Market Share in The Percentage of The Selected Sectors (Year 2001 To 2022)

Year	Jute	Fish	leather	Footwear	Bicycle	Plastic	Ceramic	vegetable	Fruit	ship	Pharma
2001	8.65	0.76	0.58	0.12	0.01	0.0001	0.0011	0.08	0	0	0.02
2002	8.93	0.8	0.48	0.12	0.01	0.0001	0.0009	0.07	0.01	0	0
2003	8.1	0.77	0.43	0.15	0.01	0.0001	0.0014	0.07	0.01	0	0
2004	8	0.88	0.42	0.2	0.01	0.0001	0.0014	0.07	0	0	0
2005	8.77	0.77	0.41	0.18	0.01	0.0001	0.0012	0.06	0.01	0	0.01
2006	9.89	0.87	0.41	0.18	0.01	0.0001	0.0009	0.05	0.01	0	0.01
2007	12.04	0.8	0.37	0.19	0.01	0.0001	0.001	0.06	0.01	0	0.01
2008	14.34	0.79	0.34	0.22	0.01	0.0001	0.0011	0.06	0.01	0	0.01
2009	16.62	0.7	0.3	0.28	0.01	0.0001	0.0011	0.04	0.01	0	0.01
2010	18.74	0.69	0.34	0.29	0.01	0.0001	0.001	0.11	0.04	0	0.01
2011	18.2	0.7	0.36	0.34	0.01	0.0001	0.0009	0.07	0.07	0.03	0.01
2012	17.65	0.59	0.37	0.35	0.01	0.0002	0.0009	0.06	0.09	0.01	0.02
2013	15.87	0.62	0.45	0.43	0.01	0.0001	0.0011	0.08	0.11	0.01	0.02
2014	13.86	0.61	0.51	0.48	0.01	0.0002	0.0011	0.12	0.09	0.01	0.01
2015	15.17	0.57	0.5	0.62	0.01	0.0002	0.0009	0.09	0.06	0.02	0.02
2016	18.41	0.56	0.48	0.7	0.01	0.0002	0.001	0.07	0.02	0.01	0.02
2017	19.74	0.52	0.42	0.7	0.01	0.0002	0.0011	0.08	0.03	0.01	0.02
2018	15.03	0.44	0.46	0.72	0.01	0.0002	0.001	0.08	0.03	0	0.02
2019	14.42	0.44	0.49	0.8	0.01	0.0002	0.0009	0.06	0.02	0.01	0.02
2020	18.5	0.42	0.48	0.81	0.01	0.0002	0.0007	0.05	0.01	0.04	0.02
2021	15.36	0.37	0.52	0.85	0.01	0.0002	0.0008	0.06	0.01	0.03	0.02
2022	14.84	0.35	0.61	1.04	0.02	0.0002	0.0008	0.07	0.01	0.02	0.02