A comparative study of Indian and Chinese textile and clothing exports in post-MFA environment

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Abstract

Purpose – This paper aims to examine and compare the export performance and competitiveness of Indian and Chinese textile and clothing industry in post-multifibre arrangement (MFA) era.

Design/methodology/approach – Balassa's revealed comparative advantage Index is used to assess the competitiveness of Indian and Chinese textile and clothing exports.

Findings – The results indicate that China's textiles and garments sector holds a greater proportion of the global market compared with India. India has a robust comparative advantage in silk, carpets and cotton post-MFA. Vegetable textile fibers, paper yarn and woven fabrics of paper yarn are also competitive. China had a strong comparative advantage in silk and fabrics; special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery in 2005. China also recorded comparative advantage in silk, man-made filaments: strip and the like of man-made textile materials, fabrics; special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery and fabrics; knitted or crocheted in 2021.

Research limitations/implications – This study's results and recommendations could assist the Indian and Chinese Governments develop policies to upgrade their garment industries.

Originality/value – Though vast literature reviews are available for textile and apparel export performance in India and China separately, there are few studies on comparisons. This study is a significant attempt to evaluate India and China's competitiveness in the global market.

Keywords Export performance, Competitiveness, MFA, India, China

Paper type Research paper

Introduction

The textile and garment industry is a vital contributor to the economies of China and India, playing a significant role in boosting their gross domestic product, employment and export revenues. Both nations have a thriving textile industry that is highly competitive, backed by abundant raw materials, a sizable and cost-effective labor force, and a long-standing focus on the textile and apparel sectors. Since the mid-2000s, China has emerged as the world's leading supplier of textiles and clothing (T&C), surpassing the European Union (EU), primarily due to its lower labor costs, which have enabled the country to maintain its dominance in the industry. To sustain its competitive edge in labor-intensive textile products, the Chinese Government has implemented a two-pronged strategy. First, the state endeavors to promote the migration of Chinese textile manufacturing bases to poorer provinces of China and neighboring least developed countries. Second, the government has

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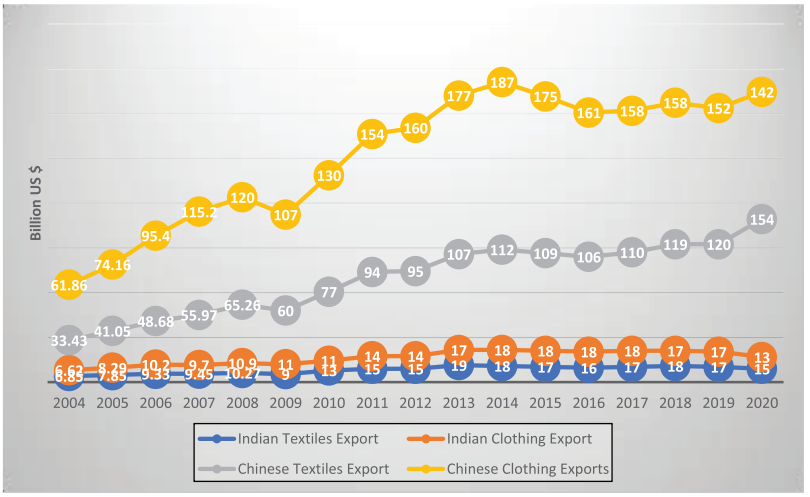
introduced measures to encourage Chinese textile companies to develop capital-intensive textile items, specialty products and foreign brands. The development of China's clothing sector can be categorized into three phases. The Pre-Reforms Period (1949–1978) was characterized by low clothing productivity due to the government's focus on heavy industry. In contrast, the Transition Period (1978–2000) saw rapid growth in clothing production due to economic reforms and a national export-oriented policy. By the end of 2000, Chinese clothing producers had captured one-fifth of the global market. The Upgrading Period (2000–2013) focused on value-added and branding cultivation, with Chinese clothing manufacturers emphasizing adding value to their products through original design, raw material research and network building. Chinese textile companies specialize in reducing costs very competitively through cheap labor, mass production and high productivity. Despite the average wage of Chinese workers being higher than that of Indian workers, Chinese companies cut costs even lower than their Indian counterparts through mass production and economies of scale. The size of Chinese textile companies is five times larger than that of Indian ones, and the productivity of Chinese workers is significantly higher. On the contrary, Indian companies are more flexible and can accept small-batch orders and customization, giving them an advantage in the high-end market. Indian textile enterprises have a longer history and better management than Chinese companies, which is beneficial for the high-end market. The choice between promoting productivity or customization has been determined by India and China's historical, cultural, economic and social conditions. Under its particular socio-political conditions, it was reasonable for Chinese enterprises to prioritize a mass production model that led to the Chinese textile industry's remarkable growth. It is essential to note the elimination of the multifibre arrangement (MFA) quota system and its implications for these specific sectors while assessing the garment industries in India and China. The global textile industry was eventually brought under the purview of the multilateral trade system following the expiration of the MFA and the commencement of the Agreement on Textile and Clothing. The textile and garment sector was fully integrated into the General Agreement on Tariffs and Trade of the World Trade Organization (WTO) on January 1, 2005, eliminating all apparel restrictions. Based on expert forecasts, China was expected to emerge as the favored provider for prominent international merchants and purchasers after eliminating quotas. It was anticipated that other notable suppliers, including India, would also choose a similar course of action. The Chinese and Indian garment export figures for 2004–2020 support the above estimates (see Figure 1).

Since 2005, exports of textiles and apparel have increased significantly and continuously in both countries. The removal of quotas has resulted in notable prospects for both India and China. However, there has been growing competition in the textile and apparel sectors between the two nations. Because of currency appreciation and rising production costs, China's benefits are anticipated to shrink. After abandoning the small-scale industry policy, India has an excellent opportunity to improve its competitiveness. Despite the prevailing opinion regarding China's continued dominance as a significant global garment maker in the foreseeable future, India is widely regarded as the prospective frontrunner. It has the potential to overcome China in this international competition.

China and India are prominent global garment manufacturers that significantly influence the dynamics of global apparel sourcing. Comparing the two allows for a comprehensive knowledge of the current status of the primary clothing suppliers and aids in predicting the future framework and dynamics of the worldwide garment industry. Because of the similar size, factor endowments and geographical proximity of the two economies, it is crucial to analyze comparative advantage in the global market. Therefore, the present paper is an



Source: International Trade Statistics and World Trade Statistical Review, WTO

Figure 1.
Textiles and clothing exports by India and China, 2004–2020

attempt to examine and compare the export performance and competitiveness of Indian and Chinese textile and clothing industry in post-MFA Era.

Literature review

Agarwal *et al.* (2017) analyzed import and export scenarios within the textile sector, specifically focusing on the Asia-Pacific Trade Agreement (APTA). The study conducted an analysis of India's comparative position among the four constituent nations of the APTA. The results indicated that India has the potential to achieve substantial market penetration in both Bangladesh and Sri Lanka. The diversification of India's textile exports is necessary in the Korean market. The study proposed that the utilization of APTA preferences has the potential to enhance India's textile exports to the selected regions significantly. Lu and Karpova (2011) examined the performance of the apparel sector in India and China, focusing on several aspects of the global value chain (GVC). The study emphasized the comparative advantages of various industries by using the GVC framework. The findings showed that India and China had different comparative advantages in the garment business. The Chinese garment industry has advantages in man-made fiber material supply, full-package production, lean/agile manufacturing and transportation and logistics. The Indian garment industry demonstrates comparative advantages across multiple dimensions, encompassing cost advantages in labor, differentiation and specialization in production, adaptable manufacturing processes and effective marketing techniques. The investigation additionally suggested avenues for enhancement and prospective advancement. Wu and Lu (2019) examined China's textile and garment industry's global competitiveness. This analysis used international market share, the trade competitiveness index and the comparative advantage index. The findings of the study suggested that the comparative advantage of China's textile and clothing industries is experiencing a gradual decline. Nevertheless, it is crucial to acknowledge that the textiles and garment industry in China consistently demonstrates solid international competitiveness and sustains a substantial market presence on a global scale. The growth prospects of China's textile sector surpass those of its garment industry. Wei and Balasubramanyam (2015)

conducted a comparative examination of the manufacturing sectors in India and China. The study also focused on the underlying factors contributing to the disparities in economic policies and performance within the industrial sectors of the two countries. Based on a comprehensive analysis of the elements that have influenced the structure and procedures in both nations, India may not find it practicable or efficacious to adopt China's growth strategy, which relies on exporting labor-intensive manufactured goods. Nevertheless, India has the potential to gain valuable insights from China's effective policy framework, specifically concerning the promotion of township and village firms. This aspect of China's approach holds significant relevance for India, as it can catalyze the advancement of nonagricultural rural firms with promising prospects. Xu *et al.* (2018) examined China and India's textile sector participation in the USA. This study examined how Chinese and Indian textiles affected US import trends in three major textile sectors from 2000 to 2016. The investigation mainly focused on the implications of green trade restrictions. The research used three key methodologies: the trade competitiveness index, the revealed comparative advantage index and the seemingly unrelated regression model. The study showed that between 2012 and 2016, China and India increased their market shares in the US textile industry, with China ultimately claiming the most significant proportion. The impact of pricing from China on US imports across many sectors is more significant than the impact of prices from India. This phenomenon became increasingly apparent following China's implementation of heightened environmental regulations for its textile manufacturing sector in 2003. The 2008 Oeko-Tex Standard 100 has minimal impact on US imports from China and India. Thus, this alteration did not materially change US import levels. The study also revealed that China's and India's textile competitiveness did not significantly impact US imports from other regions.

Though several studies have been conducted and vast literature reviews are available for textile and apparel export performance in India and China separately, there are few studies on comparisons. This study is a significant attempt to evaluate India's and China's competitiveness in the global market.

Methodology

With the elimination of the MFA, the competition in the market has intensified. This has led to a greater emphasis on export competitiveness, as observed by many authors such as Balassa (1965), Porter (1990) and Krugman (1994). Export competitiveness, influenced by comparative advantage, refers to a country's ability to sell its goods in the global market. Hence, we have computed the revealed comparative advantage (RCA) and international market share.

The statistic proposed by Balassa (1965) was designed to assess the relative export performance of countries across various industries and commodities. The calculation of this measure involves the division of a nation's share of worldwide exports for a particular item by its share of total global exports. The calculation of the index for commodity j in country i is as follows:

$$\mathrm{RCA}_{ij} = \left(\mathrm{X}_{ij}/\mathrm{X}_{wj}\right)/\left(\mathrm{X}_{i}/\mathrm{X}_{w}\right) \tag{1}$$

where;

X_{ij} = ith country's export of commodity j;
X_{wj} = world exports of commodity j;
X_{i} = total exports of country i; and
X_{w} = total world exports.

If the revealed comparative advantage index (RCAI) exhibits a value exceeding 1, it indicates that the country possesses a revealed comparative advantage in the respective product.

The concept of international market share pertains to the proportionate percentage of a country's product exports in a specific category relative to the total global exports of similar goods. It serves as the most accurate indicator of the level of competitiveness. A positive relationship exists between international market share and competitiveness, indicating that an increase in market share is associated with a corresponding improvement in competitiveness. In contrast, a drop in market share is linked to a decline in competitiveness. The formula can be expressed as follows:

$$MS_{ij} = X_{ij}/X_{wj}$$

In this context, MS_{ij} denotes the international market share, X_{ij} represents the export volume of product j in country i and X_{wj} signifies the overall export volume of product j in the global market.

Data

The data regarding the exports of T&C from China and India was collected using two-digit HS codes 50–60, categorized explicitly in Section 6 of Textiles and Textile items. Table 1 demonstrates that commodities falling under HS codes 50–59 pertain to fiber and fabrics. In contrast, commodities categorized under HS code 60 refer to apparel and linen items, considered final products.

The data are sourced from UN Comtrade, jointly produced by the World Bank and the United Nations Conference on Trade and Development. In addition, the International Trade Statistics and World Trade Statistical Review, developed by WTO, are also used. The study period spans from 2005 to 2021.

Results and discussion

India-China: comparative analysis

The elimination of the MFA is transforming global trade. Textile and garment markets are more open, with more price and quality competition.

From poor beginnings, China established mass production in the 1980s and 1990s. China exported eight times more textiles and garments from 1980 to 1994. China became the world's largest clothing exporter in 1994, surpassing newly industrializing economies. The

HS code	Description	HS code	Description
50	Silk	57	Carpets and other textile floor coverings
51	Wool, fine or coarse animal hair	58	Fabrics; special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery
52	Cotton	59	Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use
53	Vegetable textile fibres: paper yarn and woven fabrics of paper yarn	60	Fabrics: knitted or crocheted
54	Man-made filaments: strip and the like of man-made textile materials		
55	Man-made staple fibres		

Source: Table courtesy of Kim (2019)

Table 1. Category of T&C products based on two-digit HS codes

Indian textile and garment industry was inward-looking until the 1980s. By addressing structural deficiencies, the 1985 textile policy gave the industry a fresh start. The 1990s reforms strengthened the textile industry. China is the world's top textile and garment exporter. China exported 41.4% of textiles and 32.8% of clothing in 2021. India is the third largest textile exporter after China and the EU and the sixth largest clothing exporter after China, the EU, Bangladesh, Vietnam and Türkiye. The Indian garment sector has great potential due to its low-cost trained labor and ample materials. Because of restrictive government regulations, industry consolidation, infrastructural expansion and technology adoption, this potential has only partially been realized. These concerns must be addressed for the industry to maximize capacity. Another way to upgrade is to take advantage of the industry's production specialization and marketing strengths to boost production value and market power. The Chinese garment sector has better industrial integration and infrastructure than the Indian one. China's low-cost labour and production advantages are eroding, whereas India has yet to leverage them fully. Because of insufficient marketing and branding skills, the Chinese garment industry has restricted high-end GVC participation. The Chinese apparel industry could upgrade by finding alternatives to price-competitive production and focusing on high-value-added activities.

Between 2005 and 2021, the international market share of Indian textiles exhibited a range of fluctuations, as shown in Table 2. Specifically, the market share of Indian textiles varied between 4.0% and 6.3%, whereas the market share of Indian clothing had fluctuations ranging from 2.9% to 4.1%. Similarly, the global market share of China's textiles experienced variations ranging from 20.3% to 43.5%, whereas the market share of China's garments ranged from 26.8% to 39.3%. The market share of Indian textiles experienced growth, except for modest declines observed in 2006 and 2016. The Indian textile industry decreased its market share, declining from 5.6% in 2019 to 4.2% in 2020, primarily attributed to the impact of the COVID-19 epidemic. In 2021, there was a notable increase in its global market share, reaching an impressive figure of 6.3%. The global market share of China's textiles experienced significant growth, except for a slight decline

Table 2. International market share of Indian and Chinese textiles and clothing export

	India		China	
Year	Textiles (%)	Clothing (%)	Textiles (%)	Clothing (%)
2005	4.1	3.1	20.3	26.8
2006	4.0	3.1	22.1	30.9
2007	4.1	2.9	23.2	33.3
2008	4.2	3.0	26.3	33.1
2009	4.3	3.8	28.4	33.9
2010	5.1	3.2	30.5	36.7
2011	5.2	3.5	32.1	36.8
2012	5.4	3.3	33.7	38.0
2013	5.7	3.4	35.0	38.6
2014	5.8	3.7	35.5	38.6
2015	5.9	4.1	37.4	39.3
2016	5.7	4.0	37.2	36.4
2017	5.8	4.1	37.1	34.9
2018	5.8	3.3	37.6	31.3
2019	5.6	3.5	39.2	30.8
2020	4.2	2.9	43.5	31.6
2021	6.3	3.0	41.4	32.8

Source: International Trade Statistics and World Trade Statistical Review, WTO

observed in 2016 and 2017. In 2020, China's textile industry achieved a significant milestone by attaining a peak international market share of 43.5%. The market share of China's textiles declined from 43.5% in 2020 to 41.4% in 2021. The global market share of Indian clothing reached its highest point of 4.1% in both 2015 and 2017. Except for the aforementioned years, the market share of the product saw fluctuations within the range of 3%–4%. The global market share of China's clothing experienced a consistent upward trend till 2015. The global market share of China's garments experienced a significant decline until 2019. There was an observed increase in its market share over the years 2020 and 2021.

Table 3 presents the calculation of Balassa's RCAI for India's top ten textile items, namely, silk, wool, cotton, vegetable textile fibres, man-made filaments, man-made staple fibres, carpets and other textile floor coverings, special woven fabrics, impregnated textile fabrics, and knitted or crocheted fabrics. The RCAI values are provided for the years 2005 and 2021. According to the RCAI value, India exhibits a robust comparative advantage in producing silk, carpets, textile floor coverings and cotton during the post-MFA era. In addition, this product exhibits a comparative advantage in producing vegetable textile fibres as well as paper yarn and woven fabrics made from paper yarn. India does not possess a comparative advantage in the global market for wool, fine or coarse animal hair, man-made filaments, such as strips and similar forms manufactured from man-made textile materials, and man-made staple fibers and fabrics, the range of textile products include specialized woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery, textile fabrics that have been impregnated, coated, covered or laminated as well as textile goods that are specifically designed for industrial applications; knitted or crocheted textile items. Except for silk, wool, fine or coarse animal hair, carpets and other textile floor coverings, Indian textile products across numerous categories were more competitive in 2021 than in 2005.

Table 4 presents the calculation of Balassa's RCAI for China's top ten textile items, namely, silk, wool, cotton, vegetable textile fibres, man-made filaments, man-made staple fibres, carpets and other textile floor coverings, special woven fabrics, impregnated textile fabrics and knitted or crocheted fabrics. The RCAI values are provided for the years 2005 and 2021. The findings indicate that in 2005, China demonstrated a notable comparative advantage in producing various textile products, specifically silk and fabrics, including special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery.

Table 3. Revealed comparative advantage index (RCAI) for Indian textile exports

HS code	Commodity	RCA 2005	RCA 2021
50	Silk	3.26	1.23
51	Wool, fine or coarse animal hair	0.16	0.02
52	Cotton	1.49	2.71
53	Vegetable textile fibres: paper yarn and woven fabrics of paper yarn	1.25	2.21
54	Man-made filaments: strip and the like of man-made textile materials	0.66	0.70
55	Man-made staple fibres	0.77	0.82
57	Carpets and other textile floor coverings	2.38	2.00
58	Fabrics: special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery	0.32	0.47
59	Textile fabrics: impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	0.13	0.25
60	Fabrics: knitted or crocheted	0.06	0.28

Source: Author's calculations based on secondary data

Table 4. Revealed comparative advantage index (RCAI) for Chinese textile exports

HS code	Commodity	RCA 2005	RCA 2021
50	Silk	2.06	1.05
51	Wool, fine or coarse animal hair	0.69	0.43
52	Cotton	0.81	0.56
53	Vegetable textile fibres: paper yarn and woven fabrics of paper yarn	0.84	0.69
54	Man-made filaments: strip and the like of man-made textile materials	0.78	1.17
55	Man-made staple fibres	0.78	0.85
57	Carpets and other textile floor coverings	0.40	0.50
58	Fabrics; Special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery	1.16	1.07
59	Textile fabrics: impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	0.53	0.79
60	Fabrics: knitted or crocheted	0.91	1.31

Source: Author's calculations based on secondary data

In 2021, China demonstrated a comparative advantage in the production of silk, man-made filaments such as strips and similar materials derived from man-made textiles, as well as fabrics including special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery. In addition, China exhibited a comparative advantage in producing knitted or crocheted fabrics. The level of competitiveness in silk, wool, fine or coarse animal hair, cotton, vegetable textile fibres, paper yarn and woven textiles, special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery for China has experienced a fall in the year 2021 compared with the year 2005. The competitiveness of man-made filaments: strip and the like of man-made textile materials; man-made staple fibres; carpets and other textile floor coverings; textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use; and fabrics, knitted or crocheted textile items in China have witnessed notable growth in 2021 when compared with the year 2005.

Conclusions

The aforementioned discussion yielded several significant findings, which are outlined below:

In the wake of the MFA, China has emerged as a significant winner. The emergence of China as the leading exporter of textiles and clothes has significantly transformed the global landscape of the textile and clothing trade. In the period after the MFA, the market share of Indian textiles had fluctuations ranging from 4.0% to 6.3%. At the same time, the market share of Indian apparel exhibited variations between 2.9% and 4.1%. Similarly, the market share of China's textiles in the international market experienced fluctuations ranging from 20.3% to 43.5%, whereas the market share of China's apparel varied between 26.8% and 39.3%. China's textile and garment industry holds a more significant proportion of the global market than India's. Since the MFA period, China's textile and apparel export share has increased significantly. Implementing export diversification and upgrading strategies has contributed to the enhanced competitiveness of China's textile and garment exports. India has emerged as a significant exporter of textiles and clothes in the post-MFA era. India exhibited a robust competitive advantage in silk, carpets, textile floor coverings and cotton during the post-MFA era. It also produces vegetable textile fibres, paper yarn and paper yarn–woven fabrics with a comparative advantage. In 2005, China exhibited a robust competitive advantage in producing silk and fabrics, specializing in special woven fabrics, tafted textile fabrics, lace, tapestries, trimmings and embroidery. In 2021, China demonstrated a comparative advantage in the production of various

textile goods, including silk, man-made filaments such as strips, woven fabrics, tafted textile fabrics, lace, tapestries, trimmings, embroidery, as well as knitted or crocheted fabrics.

The utilization of the RCAI to analyze two industries yielded distinct observations of their present state. It also found significant competitive advantages and suggested potential avenues for further enhancement. This analytical technique, which involves using RCAI to analyze the comparative advantages of a national industry, can be expanded to examine additional sectors and countries. The study's results and recommendations could assist the Indian and Chinese Governments in developing policies to upgrade their garment industries. This study examined the relative strengths of the Indian and Chinese clothing sectors concerning the MFA. Additional factors that can influence the comparative advantages of the garment business include the educational level of the workforce, political and economic conditions and cultural obstacles. Further research is required to comprehend the potential influence of these factors on the relative strengths of the Indian and Chinese garment sectors, both in the short and long term.

Policy recommendation

To enhance their international competitiveness within the context of the new trade regime, both India and China must undertake reforms in their respective textile and garment export policies:

- Liberalizing the structure of export and import duties should be implemented.
- There is a necessity to pursue diversification of the garment export market as a means to mitigate reliance on the EU and the USA.
- Implementing a brand strategy is necessary to establish a strong presence in the worldwide market.
- There exists a necessity to enhance the level of product quality and proficiency in product design.
- An enhancement of the added value of textile and apparel exports is needed.
- There is a need for enhancement in the policy framework governing the export of textile and garment products, along with reinforcement of policy-driven financial assistance.

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