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Industrial characteristics and countermeasures of India's anti-dumping against China

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Abstract: *China is India's largest trading partner country, but also India's anti-dumping investigation has the largest number of countries. A thorough study of the industrial characteristics and countermeasures of India's anti-dumping against China is of great significance for maintaining a good trade relationship between China and India and even developing countries. This paper selects the relevant data of India's anti-dumping measures against China from 1995 to the present to analyze the characteristics of India's anti-dumping measures against China and explain its causes by using two-factor analysis of variance. Through empirical research, this paper finds that the number of Indian anti-dumping cases against China has significant industry dependence, especially in high value-added industries such as chemical industry, medicine, light industry and labor-intensive industries. In this regard, China should get rid of the "non-market economy" label as soon as possible, try to establish a closer China-India economic and trade partnership under the framework of BRICS cooperation, strengthen bilateral exchanges, and promote the further upgrading of China's export product structure.*

Keywords: *India; Anti-dumping; Two-way analysis of variance*

1. Introduction

Since the reform and opening up, China's foreign trade has made great progress. In 1980, China's total imports and exports of goods accounted for less than 1 percent of the world's total. By 2019, China's share had risen to 11.8 percent, making it the world's largest trader of goods. However, with more and more Chinese products flooding into the international market, the trade partnership between China and some countries is also experiencing more and more severe challenges, among which, the anti-dumping investigation frequently taken by some countries on China's export products is the most eye-catching. According to WTO antidumping database data found that from 1995 to 2019, the global anti-dumping investigation, a total of 5944 cases, among them of our export products launched anti-dumping investigations, a total of 1392 cases, accounting for more than 23.4%, compared with China's export products anti-dumping measures under a total of 1033 cases, accounting for the proportion is as high as 26.1%, our country has become a victim suffered anti-dumping in the world the most times.

Table 1 China's export products subjected to foreign anti-dumping from 1995 to 2019

Country (region)	Number of Anti-dumping Investigations Subject to China (Starting)	Percentage of all anti-dumping investigations against China in the same period (%)	Number of Anti-dumping Measures Subject to China (Starting)	Ratio of the number of anti-dumping measures subject to China in the same period (%)	Enforcement Rate of Anti-dumping Against China by Countries (%)
India	232	16.74	187	18.10	80.26
America	170	12.21	145	14.04	85.29
EU	142	10.20	99	9.58	69.72
Brazil	96	6.90	73	7.07	76.04
Mexico	63	4.53	45	4.36	71.43

Source: WTO Anti-dumping Database

India is a relatively special country among the countries that initiate anti-dumping investigation and

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take anti-dumping measures against Chinese products. As shown in Table 1, from 1995 to 2019, India has initiated 232 anti-dumping investigations and adopted 187 anti-dumping measures against Chinese exports, making it one of the countries with relatively more trade disputes with China. Both China and India are developing countries, and a good economic and trade relationship between China and India is of great significance to the economic and trade relations as well as geopolitical relations between China and other developing countries. At present, China is in the critical period of transformation and upgrading of "Made in China". Studying the industrial characteristics, causes and countermeasures of India's anti-dumping against China is of great significance for China to promote the strategy of manufacturing power and reduce the trade friction of anti-dumping.

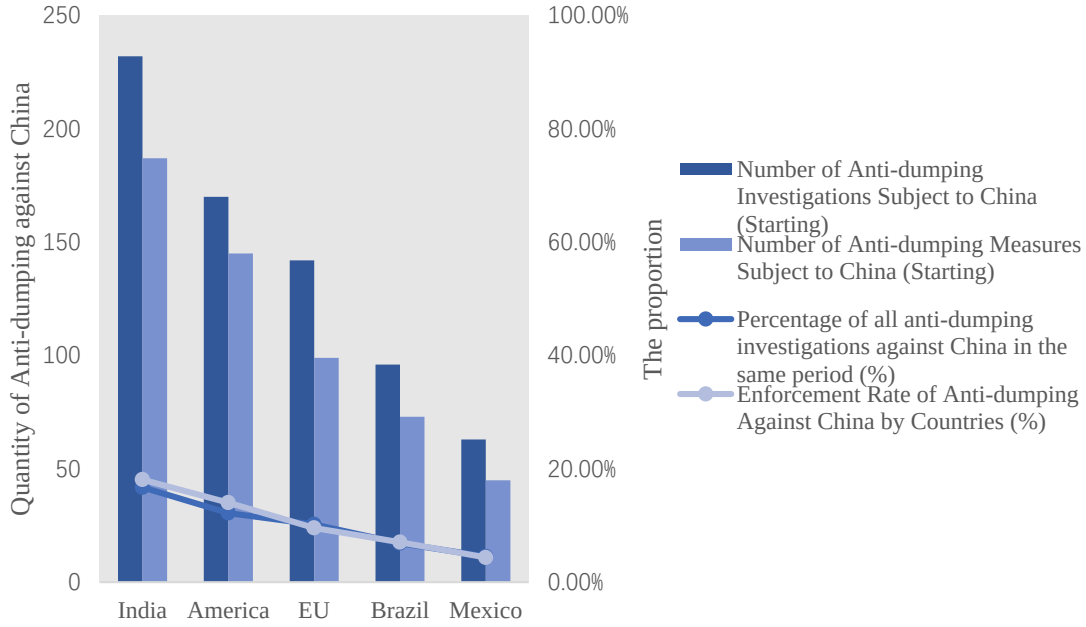

Fig. 1 China's export products subjected to foreign anti-dumping from 1995 to 2019

2. literature review

Wang Xiaosong (2015) found that foreign anti-dumping measures against China have a significant inhibiting effect on the export of Chinese products, and the inhibiting effect of anti-dumping in developed countries is significantly higher than the world average, and the trade gap caused by anti-dumping has significant industry differences [1]. For a long time, the United States and the European Union have been the economies that have carried out anti-dumping investigations against China the most. Academics have focused on the impact of anti-dumping investigations carried out by developed economies such as the United States and the European Union on China's economic effect. Shen Guobing (2008) took wooden bedroom furniture as an example and found that the US anti-dumping against China had significant trade investigation effect, trade restriction effect and trade diversion effect [2]. Feng Zongxian et al. (2010) also further confirmed that anti-dumping measures have negative trade destruction effect, positive trade deflection effect and trade diversion effect in the process of studying anti-dumping cases of European and American countries against Chinese textiles [3]. Tang Juan (2009) believed that the EU has been suppressing China's export products on the grounds that China is a "non-market economy country", which is discriminatory [4].

At present, India has surpassed the United States and the European Union to become the country that has carried out the most anti-dumping investigations against China. Relatively speaking, there are few literatures on the industrial characteristics of India's anti-dumping against China. Most of the literatures mainly study and analyze the reasons of India's anti-dumping against China, and put forward China's positive response policies. Deng Qing (2007) pointed out that the reasons for India's anti-dumping against China were the strong trade competition between China and India, India's trade protectionism policy, Indian enterprises' strong initiative in responding to complaints and the "threat theory of Chinese products", and put forward countermeasures and suggestions to avoid India's anti-dumping against China [5]. Wang Xi (2011) used Logit model to analyze and found that the threat of import penetration and the decline of industrial performance were the driving factors of India's anti-dumping against China [6]. Using

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systematic GMM estimation, Yang Shihui and Xu Lesheng et al. (2012) found that anti-dumping measures always have a more damaging effect on the trade of the accused country than tariffs, and anti-dumping duties have become the main tool for India to restrict the exports of the accused country [7]. Xu Fangyan and Chen Shaotong (2017) found that both economic and political factors had a significant impact on India's anti-dumping behavior against China [8]. From the perspective of national economy, Chen Yingxiong (2018) found that China and India, as the main export markets of western developed countries, have certain homogeneity and strong trade competitiveness [9].

Based on the literature research, this article choose with China to implement the most number of anti-dumping actions - India as the research object, with Indian anti-dumping cases from 1995 to 2019 as sample data, two-factor variance analysis, the discussion is influenced by the Indian anti-dumping volatility industry in China and India to China industry to implement the characteristics, causes and countermeasures of the anti-dumping investigation.

3. The empirical research

3.1 Data selection

This paper focuses on the industry characteristics of the Indian anti-dumping, to fully consider the application for WTO since 1995 by foreign anti-dumping investigation of industrial distribution, most times to avoid selecting index existence one-sidedness, during the selection of samples for 1995-2019, data from the Ministry of Commerce trade remedy nets, according to its sort out the anti-dumping investigation to China in the world most populous country (region), select the United States, the European Union, as the representative of developed economies, India, Brazil, Mexico, as the representative of developing countries, The distribution data of the 14 industries that suffered the most anti-dumping from 1995 to 2019 were obtained (see Table 2), and Excel software was used for two-factor analysis of variance. Through empirical analysis, the relationship between the number of foreign anti-dumping investigations against China and the industries was revealed, so as to provide help for China to take countermeasures.

Table 2 Main industries subjected to foreign anti-dumping in China from 1995 to 2019

	India	America	EU	Brazil	Mexico
Chemical raw materials and products industry	95	32	27	13	5
Metal products industry	10	46	16	21	21
Iron and steel industry	15	16	19	8	8
Non-metallic products industry	17	9	9	13	3
Textile industry	18	3	5	7	2
Pharmaceutical industry	20	2	1	2	3
Nonferrous metal industry	4	5	8	2	2
Sports, workmanship and entertainment	3	2	3	7	5
Plastic and rubber products industry	8	11	5	10	4
Electrical industry	8	4	2	2	2
General equipment	2	5	5	1	3
The electronics industry	7	1	6	1	0
food	1	3	8	1	1
Papermaking industry	4	7	1	0	0

Source: Trade Remedy Network, Ministry of Commerce

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3.2 *The results of measurement*

According to the above data, the two-factor ANOVA method without interaction was adopted, and the results are shown in Table 3:

Table 3 Results of two-factor analysis of variance

Differences between the source	SS	df	MS	F	P-value	F crit
line	5503.771	13	423.367	3.868443	0.00023	1.913455
column	987.8571	4	246.9643	2.256593	0.075506	2.549763
error	5690.943	52	109.4412			
Total	12182.57	69				

It can be seen from Table 3 that at the significance level of $\alpha = 0.05$, the p-value used to test the row factor is P-value=0.00023< $\alpha = 0.05$, so the null hypothesis H_0 is rejected, and the relationship between industry and anti-dumping quantity is significant. The p-value used to test the list factors P-value=0.075506> α=0.05, so the null hypothesis H_0 is not rejected, and the relationship between the country and the anti-dumping quantity is not significant.

$$R^2 = \frac{SSR + SSC}{SST} = \frac{5503.771 + 987.8571}{12182.57} = 53.29\%$$

The national factors and industry factors together explain 53.29% of the variation in anti-dumping quantities, while other residual variables explain 46.71% of the variation in anti-dumping quantities. Although $R^2$is not very high, the industry's influence on the number of anti-dumping investigations has reached a statistically significant degree. R=0.7300, indicating that there is a strong relationship between national factors and industrial factors and the number of anti-dumping investigations.

The characteristics of India's antidumping industry to China and its reasons

(1) High value-added chemical industry is a high incidence of Indian anti-dumping against China

From 2010 to 2020, India's anti-dumping investigations against China's chemical products accounted for 40.16% of all the products involved in the case. The chemical industry with high added value has become a high incidence of India's anti-dumping investigations against China, mainly for two reasons. First, chemical industry is a leading industry in India. Currently, India is the sixth largest chemical producer in the world and the third largest chemical producer in Asia. No reference source was found. In 2019, India's exports of chemical products reached $48.221 billion, an increase of 8.1% year on year, accounting for 14.9% of total exports. Second, China and India have great similarity in chemical industry structure, which leads to export competitiveness. Table 4 and Table 5 respectively list the categories and proportions of the top 6 major export products of China and India in 2019. It can be clearly seen that the major export products of the two countries overlap and have great similarities.

Take HFC refrigerant products as an example. In 2018, China's domestic export volume of HFC refrigerant products was as high as $1.57 billion, up 61.48% year-on-year, while the import volume was $0.17 million, down 7.6% year-on-year. Meanwhile, domestic exports of persulfate chemicals were $58 million, up 657.22% year on year, while imports were $728 million, up 148.13% year on year. Both China and India are large exporters of HFC refrigerant products. This export competition has led to anti-dumping of Indian HFC refrigerant products exported to China.

(2) The pharmaceutical industry levies the highest anti-dumping duty

India has repeatedly initiated anti-dumping investigations on China's exports, but due to the lack of experience in setting up anti-dumping mechanism, most of the enterprises also take a negative attitude of avoiding, so the anti-dumping duty rate on China's exports is also increasing, among which the pharmaceutical industry is the industry with the highest anti-dumping rate. Table 6 lists the range of anti-dumping rates for 25 cases in which anti-dumping measures have been applied in recent years. It can be found that the top and bottom rates of the pharmaceutical industry are ahead of those of other industries (see Figure 3). Data from the Trade Remedies Network of the Ministry of Commerce shows that from 1995 to 2018, other countries have filed 34 anti-dumping cases against China's pharmaceutical industry, among which India has initiated the most investigations, with 20 cases.

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India is now the world's largest exporter of generic drugs, with a core pharmaceutical system of APIs and generics. The rapid development of the Indian pharmaceutical industry has benefited from the support of domestic policy dividend, and the low production cost brought by the low domestic labor cost, which has become a competitive advantage for Indian pharmaceuticals to occupy a large market share in the global pharmaceutical market. In recent years, the Indian government has vigorously supported "Make in India" and attached great importance to innovation investment in the pharmaceutical industry. However, as the production of some APIs and pharmaceutical intermediates in India is in the stage of improvement and development, 70% of APIs come from China, and the proportion of intermediates is higher, so India still has a high dependence on China's APIs. At the present stage, China is the world's largest producer and exporter of API, and India is the largest export target country of China's pharmaceutical products. In 2019, China exported 807,900 tons of API to India, with a year-on-year increase of 22.56%. Therefore, in order to protect the domestic industry, continue to increase the anti-dumping of China's pharmaceutical products exports, raising the export threshold of China's pharmaceutical products.

Table 4 India's Top 6 Exports by Category in US $million, 2019

The customs classification	HS code	Commodity categories	Year 2019	A year ago	Compared to the same %	Accounted for %
class	chapter	gross	324,163	324,754	-0.2	100.0
Class 5	25-27	minerals	48,657	52,482	-7.3	15.0
Class 6	28-38	Chemical products	48,221	44,618	8.1	14.9
Class 14	71	Precious metals and products	38,636	40,269	-4.1	11.9
Class 16	84-85	Mechanical and electronic products	36,161	32,250	12.1	11.2
Class 11	50-63	Textiles and raw materials	35,502	37,151	-4.4	11.0
Class 15	72-83	Base metals and products	25,807	27,267	-5.4	8.0

Data source: Trade Country Reports on the website of Ministry of Commerce of China

Table 5 China's top 6 major export commodities in 2019 Unit: US $100 million

The customs classification	HS code	Commodity categories	Year 2019	A year ago	Compared to the same %	Accounted for %
class	chapter	gross	24994.82	24866.82	0.51	100.0
Class 16	84-85	Mechanical and electronic products	10870.84	10933.36	-0.6	43.7
Class 11	50-63	Textiles and raw materials	2602.41	2660.07	-2.2	10.5
Class 15	72-83	Base metals and products	1826.26	1854.35	-1.5	7.3
Class 20	84-85	Miscellaneous products	1794.64	1679.45	6.9	7.2
Class 6	28-38	Chemical products	1302.92	1365.39	-4.6	5.2
Class 17	86-89	Transportation equipment	1118.39	1180.06	-5.2	4.5

Data source: China Economic Network Statistical Database 2019

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Table 6 India's Duty on Anti-dumping Products from China (Unit: USD/ton)

The case number	The product name	Involved in the industry	Anti-dumping duty
A-INv.CN-923	Choline chloride	Chemical industry	269
A-INv.CN-302	Aluminum plated zinc alloy flat rolled steel	Iron and steel industry	68.08~129.59
A-INv.CN-91	Non-cobalt high speed steel	Iron and steel industry	3263.68
A-INv.CN-832	Flax yarn	Textile industry	500～4830
A-INv.CN-123	Fluorine rubber	Chemical industry	1040～8860
A-INv.CN-180	Polyester high strength yarn	Textile industry	174～528
A-INv.CN-847	Ceramic roller	Nonmetallic products	0～782.25
A-INv.CN-695	The nets	Textile industry	1510～2190
A-INv.CN-691	glassware	Nonmetallic products	955.27
A-INv.CN-689	Phosphorus pentoxide	Chemical industry	1685.42
A-INv.CN-671	Isopropyl amine	Chemical industry	497.68 ～620.00
A-INv.CN-698	Methyl ethyl ketone	Chemical industry	1147.06
A-INv.CN-431	ofloxacin	pharmaceutical	2580～9480
A-INv.CN-228	Ofloxacin acid	pharmaceutical	4160～8550
A-INv.CN-438	Coated and uncoated textured tempered glass	Nonmetallic products	52.85～136.21
A-INv.CN-942	Alloy or non-alloy steel plates	Iron and steel industry	822
A-INv.CN-496	Wire rod	Iron and steel industry	535
A-INv.CN-771	amoxicillin	pharmaceutical	2830～8710
A-INv.CN-87	Cold-rolled flat steel, alloy or non-alloy	Iron and steel industry	765
A-INv.CN-803	The elastic yarn	Textile industry	480～3340
A-INv.CN-247	Mulberry silk	Textile industry	1850
A-INv.CN-410	albendazole	pharmaceutical	9310～10020
A-INv.CN-354	gliclazide	pharmaceutical	1826～31220
A-INv.CN-026	Flat glass	Nonmetallic products	63
A-INv.CN-001	Graphite electrode	Nonmetallic products	278.19～922.03

(3) The scope of anti-dumping industries against China is gradually expanding, With the acceleration of economic globalization, the quantity and types of China's exports to India are increasing. It is worth noting that the scope of India's anti-dumping industry against China is also gradually expanding (see Table 7).

Table 7 Distribution of India's Anti-dumping Industries against China (1995-2018)

industry	Year 95-02	Year 03-10	Year 11-18	Total number (starting)	Percentage (%)
chemical	31	32	28	91	40.62%
Metal products	3	4	3	10	4.46%
Nonmetallic products	4	4	8	16	7.14%
medicine	8	7	5	20	8.93%
Iron and steel	3	3	7	13	5.80%
textile	1	9	7	17	7.59%
electrical	3	1	4	8	3.57%
Photovoltaic	0	0	2	2	0.89%
electronic	0	5	2	7	3.13%
other	11	14	15	40	17.86%
total	64	79	81	224	100.00%

Source: Trade Remedy Network of Ministry of Commerce

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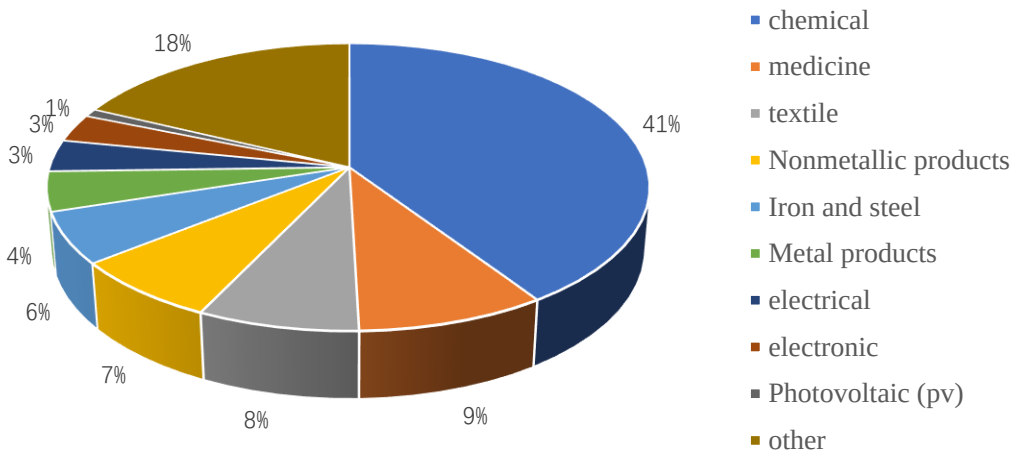

Fig. 2 Distribution of India's Anti-dumping Industries against China (1995-2018)

It can be seen from Figure 2 that from 1995 to 2018, India's anti-dumping industries mainly focused on the chemical industry, medicine and textile industry, accounting for 58% of anti-dumping cases in the same period. However, in recent years, India's anti-dumping industries have gradually covered high-tech, new energy and other high-tech fields. For example, PV and electronic products, before 2002, the number of anti-dumping investigations was 0, but after 2002, there were 2 and 7 anti-dumping investigations respectively. At the end of 2012, India initiated its first anti-dumping investigation against China's solar cells, and made a positive ruling in 2014. However, after negotiations by China's photovoltaic industry association, the trade remedy measures were not implemented. Some scholars have pointed out that India has gradually launched frequent anti-dumping investigations against China's photovoltaic products, mainly because of the similar photovoltaic industrial structure, export overlap, trade deficit and imitation of Europe and the United States [10].

4. Summary and Suggestions

4.1 Actively strive for market economy status and get rid of the label of "non-market economy"

"Non-market economy" is a kind of discriminatory trade measure adopted by western developed countries against China, and it is used as an excuse to calculate the dumping margin with surrogate country prices. This practice is gradually followed by other developing countries. In fact, "non-market economy" is a disguised form of trade protectionism, which has become a barrier to the development of China's foreign trade. From the perspective of China's internal structure, it can be found that China is a country with a large population and a wide territory, and its scale economy makes China's manufacturing cost and market price lower than that of many countries, which is uncontrollable. Other countries should take China's basic national conditions into consideration when taking anti-dumping investigation, and China, as a member of the WTO, should also enjoy the legitimate rights and interests enjoyed by ordinary members. Our government has the right to invoke the WTO dispute settlement mechanism and strictly review the anti-dumping measures and investigation procedures of the United States, the European Union, India and other countries in accordance with the WTO rules, so as to protect our enterprises and national interests.

4.2 Promote the development of the BRICS cooperation mechanism and build a closer economic and trade partnership between China and India

As the largest developing countries in the world, China and India should promote a closer economic and trade partnership under the framework of BRICS cooperation, which is of great significance to the economic and trade relations as well as geopolitical relations between China and other developing countries. In fact, this has gone far beyond the bilateral scope and is of global strategic significance. First,

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both China and India are developing countries with the largest population and the greatest development potential. Development and rejuvenation are the top priority and important converging interests of the two countries. In this direction, China and India share long-term common strategic interests. Second, China has become India's third largest export market and largest import market, and India is also China's largest trading partner in South Asia. The two countries are closely linked in foreign trade development and highly complementary in economic development. It is highly feasible and necessary to promote the establishment of economic and trade partnership between India and China. Third, China and India have always advocated scientific and technological innovation and are committed to becoming strong and rich in science and technology. There is broad space for cooperation between China and India in Internet information technology, new energy, artificial intelligence and digital economy.

4.3 Adjust the mix of export products and upgrade the quality of export products

India frequently carries out anti-dumping investigation against China, the main reason is that the industrial structure of China and India is very similar, the export products have strong substitution, and China's related export products do not have obvious comparative advantages. From the above analysis, it can be seen that the relationship between industry and the number of anti-dumping cases is significant. India's anti-dumping investigations against China mainly focus on high value-added industries such as chemical industry, steel and light industry labor-intensive industries. The Chinese government should adjust the structure of export products in time to reduce the damaging effect of trade. At the same time, the Chinese government should actively encourage enterprises to make independent innovation, improve the brand added value and core technology competitiveness of products, promote the quality upgrade of export products, improve the competitiveness of products, and seize the international market share.

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