# The Current Situation and Outlook of China's Textile Trade Development in the Context of the Belt and Road

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*Abstract:* Based on the current situation of textile production and trade between China and the countries along the "Belt and Road", this paper analyzes the competitiveness of textile trade between China and the countries along the "Belt and Road" by using the three indicators of social network analysis, namely, transferability, accessibility and centrality. The competitiveness of textile trade between China and the countries along the "Belt and Road" is analyzed, and the pattern of this trade network is analyzed in depth from an overall perspective. Textiles, as one of the most typical trade products, has been rising rapidly in recent years. However, with the policy of trade between China and the "Belt and Road" countries. Therefore, it is extremely important to study the current situation of textile trade between China and "One Belt and One Road", which is important to promote the development of China's textile trade and explore the international market.

# **1. Introduction**

Since the "One Belt, One Road" initiative, textiles have been one of the main products exported to countries along the route. And as one of the main products consumed in China's domestic market, it plays a very important role in promoting China's economic development and meeting the growing needs of consumers.

In 2013-2018 China's textile and garment industry to the "Belt and Road" along the countries of the cumulative amount of foreign direct investment has reached 6.496 billion U.S [1]. dollars, accounting for about the same period the industry to the global OFDI total of more than 80%, the textile industry has jumped to the "Belt and Road The textile industry has leaped to become an exemplary pillar industry in the "Belt and Road" initiative [2]. In the first two months of 2022 alone, exports have reached US\$25.461 billion, up 6.1% year-on-year [3]. Its robust development has been facilitated by a combination of factors, including policy and economic environment.

This paper collects the textile production and trade volume between China and the countries along the "Belt and Road" from 2019 to 2021, and based on this, constructs a complex network model from macro and micro perspectives, with macro indicators including transmission and accessibility and micro indicators being centrality [4]. The overall textile trade network pattern between China and the countries along the "Belt and Road" and their respective textile trade competitiveness will be concluded, and relevant suggestions and measures will be proposed based on this conclusion, which will bring positive significance to the development of China's textile

industry.

# 2. The Current Situation of Textile Trade between China and the "Belt and Road" Countries

Textiles, as the most typical traditional industry in China, has shown a steady growth in recent years, and has a key role in promoting the development of China's foreign trade. In the closing year of the "13th Five-Year Plan", China's textile export trade in terms of scale, structure, market and foreign trade environment have seen significant changes [5]. At the same time, with the rapid development of the "Belt and Road" strategy, countries along the route are also actively involved in the textile trade, and China's huge consumer market makes it have a positive trade attitude. However, along with the policy of trade barriers of various countries, there are also many negative effects on the textile trade between China and the countries along the "Belt and Road" [6].

# **2.1.** The Current Situation of Textile Industry Production in China and the Countries Along the "Belt and Road"

At present, China's main textile products include cotton yarn, cotton cloth, tweed, silk fabrics, chemical fibers and garments, whose production volume is the first in the world. There is no doubt that China has occupied a leading position in the global textile industry, becoming the world's largest textile producer, consumer and exporter, with production accounting for more than one-third of the world and exports accounting for more than 25% of the world [7]. Among the rest of the countries along the "Belt and Road", India, Uzbekistan and Vietnam also occupy a world position in textile production and take a place in the global textile trade [8].

#### **2.1.1. China's Textile Industry Production Status**



According to the China Technical Textiles Association, the total textile production in China in 2019-2020 is shown in Figure 1.



Figure 1: Total textile production in China, 2019-2021

As can be seen from Figure 1, the overall trend of China's total textile production from

2019-2021 is on the rise, but the overall growth rate slows down with 18% growth in 2020 compared to 2019 and 9% growth in 2021 compared to 2020.

From a total overall perspective, the total production of textiles in China has gradually increased during the three years 2019-2021, but the growth rate of textile production in China in 2021 has slowed down due to various negative factors, proving that the above-mentioned problems still seriously affect the production of textile goods in China [9].

#### **2.1.2. China's Textile Production by Category**

According to the statistical analysis of China Technical Textiles Industry Association, the 2019-2020 China textile classification ratio production is shown in Table 1.

|  | Production (million tons) |        |  |  |  |  |
|--|---------------------------|--------|--|--|--|--|
| Category                               | Year                      |        |  |  |  |  |
|  | 2019                      | 2020   |  |  |  |  |
| Medical and hygiene textiles           | 179.42                    | 430    |  |  |  |  |
| Textiles for filtration and separation | 151.24                    | 161.8  |  |  |  |  |
| Geotextiles                            | 110.59                    | 116.7  |  |  |  |  |
| Textiles for construction              | 83.74                     | 88     |  |  |  |  |
| Textiles for transportation            | 73.28                     | 71.7   |  |  |  |  |
| Safety and protection textiles         | 42.42                     | 44.6   |  |  |  |  |
| Textiles for structural reinforcement  | 132.83                    | 138.8  |  |  |  |  |
| Agricultural textiles                  | 83.79                     | 85.7   |  |  |  |  |
| Textiles for packaging                 | 110.15                    | 117.0  |  |  |  |  |
| Textiles for Sports and Leisure        | 43.02                     | 45.2   |  |  |  |  |
| Canopy and sail textiles               | 264.95                    | 268.0  |  |  |  |  |
| Textiles for synthetic leather         | 111.73                    | 108.4  |  |  |  |  |
| Textiles for isolation and insulation  | 48.74                     | 50.0   |  |  |  |  |
| Cord and tape textiles                 | 82.57                     | 84.8   |  |  |  |  |
| Technical Textiles                     | 50.04                     | 51.0   |  |  |  |  |
| Other                                  | 51.80                     | 53.9   |  |  |  |  |
| Total                                  | 1620.31                   | 1915.5 |  |  |  |  |

Table 1: China's textile production by category, 2019-2020

Source: Based on 2019-2020 China Technical Textiles Industry Association

As can be seen from Table 2.1, in 2019-2020, China's textiles in addition to transportation textiles, synthetic leather textiles, the rest of the types of textile production have risen to varying degrees, including the most obvious medical and health textiles, up by 14%.

To sum up, China's textile industry has been developing steadily in recent years and has reached unprecedented heights due to the increase in medical and health care requirements, which has led to a significant increase in textile demand. It proves that China has a large policy adjustment in medical and health care and has a perfect medical system.

#### 2.1.3. Status of Textile Industry in the Remaining Countries of "One Belt, One Road"

Cotton, as the most important raw material for the production of textiles, is currently the most urgent need for the production of textiles in the world. According to the U.S. Department of Agriculture data show: 2020 China and India cotton production are 6.314 million tons, while ranking first in the world; followed by the United States, cotton production of 3.256 million tons; Brazil, Pakistan, Uzbekistan ranked third, fourth and fifth in turn, cotton production of 2.613

million tons, 980,000 tons and 762,000 tons, respectively.

According to the statistical analysis of the Asian Textile Federation, the main distribution of global cotton production in 2014-2020 (million tons) is shown in Table 2.

| Year | China | India | United State | esBrazil | Pakista | nUzbekista | nTurkey | Other |
|------|-------|-------|--------------|----------|---------|------------|---------|-------|
| 2014 | 653.2 | 642.3 | 355.3        | 156.3    | 230.8   | 84.9       | 69.7    | 403.2 |
| 2015 | 479   | 563.9 | 280.6        | 128.9    | 152.4   | 82.7       | 57.7    | 348.3 |
| 2016 | 495.3 | 587.9 | 375.8        | 152.8    | 167.6   | 81.1       | 69.7    | 394.3 |
| 2017 | 598.7 | 631.4 | 455.5        | 200.7    | 178.5   | 84         | 87.1    | 462.8 |
| 2018 | 604.2 | 561.7 | 399.9        | 283      | 165.5   | 71.3       | 81.6    | 414.1 |
| 2019 | 593.3 | 642.3 | 433.6        | 300      | 135     | 76.2       | 75.1    | 403.3 |
| 2020 | 631.4 | 631.4 | 325.6        | 261.3    | 98      | 76.2       | 63.1    | 338.2 |

Table 2: Major Distribution of Global Cotton Production, 2014-2020

Source: Based on USDA 2014-2020

As can be seen from Table 2, in 2014-2020, China and India ranked the top two in cotton production in the world, while the rest contains only three "Belt and Road" countries, Pakistan, Uzbekistan and Turkey. Among them, China, India, Uzbekistan and Turkey's cotton production is a steady development trend, there is no significant change. In contrast, Pakistan's surface production has declined significantly, with a 14% decline in 2020 compared to 2014, due to changes in its domestic political and economic situation, as well as the impact of various uncertainties, resulting in a sharp decline in its cotton production.

Overall, many Belt and Road countries are not included in the only available data, proving that their cotton production accounts for a very small share of world production and that their domestic textile industry is relatively backward.

#### 2.2. China and the "Belt and Road" Countries Textile Exports and Competition Status

In recent years, the global textile export trade market has gradually recovered, and according to the WTO statistical report released by the WTO Organization in 2019, global textile exports reached \$315 billion in 2018, an increase of 6.4% year-on-year [10].

#### **2.2.1. Status of China's Textile Exports**

According to the statistical analysis of the National Bureau of Statistics, the number of Chinese textile exports (million tons) from 2013 to 2020 is shown in Figure 2.

As can be seen from Figure 2, in the period 2013-2020, China's textile exports showed an overall upward trend, but there was a small decline in 2014-2016.

China as a major textile exporting country, in the global textile trade system to achieve a place, especially China's Xinjiang cotton, a good reputation in the world, favored by consumers from various countries. However, due to the proposed trade barriers in recent years and the intensification of the global economic weakness, but also on China's textile export industry has brought a considerable impact [11].

According to the statistical analysis of Keqiao Textile Prosperity Index, the prosperity index of China's textile industry in 2018-2021 is shown in Figure 3.



Image source: According to the 2013-2020 National Bureau of Statistics collated from

Figure 2: China's textile export volume, 2013-2020



Image source: based on the 2018-2021 Keqiao Textile Boom Index

Figure 3: China's textile industry boom index, 2018-2021

As can be seen from Figure 3, the overall index of China's textile industry is on a downward trend from 2018 to 2021, with the overall index falling below 1,000 points in 2019 and rebounding in 2020, but not returning to the height of 2018. In addition, according to the National Bureau of Statistics, the capacity utilization rate of the textile industry in 2020 is 73.1%, down 5.3 percentage points from 2019. By quarter, the capacity utilization rate of the textile industry fell to 67.2% in 2020 due to various factors, and then gradually rebounded, rising to 78.3% in 2021.

In summary, in 2018-2020, China's textile industry as a whole is very depressed, and the industry

is developing slowly. The capacity utilization rate of textile enterprises is on a downward trend, but along with the continuous adjustment policies of our government, the textile industry is gradually picking up [12].

According to the statistical analysis of the National Bureau of Statistics, the revenue of textile enterprises above the scale in 2015-2020 (billion yuan) is shown in Figure 4.



Image source: according to the 2015-2020 National Bureau of Statistics collated from

Figure 4: 2015-2020 revenue of textile enterprises above the scale

As can be seen from Figure 4, since 2016, China's textile enterprises above the size of a small increase in revenue outside, to date, the revenue of this category of enterprises in China has been declining year by year, with a 35% decline in revenue in 2020 compared to 2015.

Summary of the above chart can be seen, since 2015, China's textile industry as a whole has developed more slowly, and even negative growth, the reasons for which are attributed to the increase in the overall wage level of the labor force, as well as the boycott of China's Xinjiang cotton in recent years, resulting in a slowdown in the development of China's textile industry. But with our government's adjustment policy proposed, the textile enterprises actively respond to government policies, making China's textile export industry gradually rebounded.

# 2.2.2. The Status of Textile Exports from the Rest of the "Belt and Road" Countries

In 2018, China, the EU (28 countries) and India remained the top three textile exporters in the world, with textile export trade of \$118.5 billion, \$74 billion and \$18.1 billion, respectively, together accounting for 66.9% of the global textile export market, a new high since 2011.

According to the statistical analysis of UNCOMTRADE, the textile exports of "One Belt, One Road" countries in 2019-2020 are shown in Table 3, in USD.

As can be seen from Table 3, among the Belt and Road countries for which data are only available, China, the Czech Republic and Singapore rank in the top three in terms of textile exports, which is much higher than the rest of the countries, while Lebanon, Myanmar and Bahrain rank in the bottom three in terms of textile exports, which is much lower than the rest of the countries, with Bahrain in particular being the most obvious, with a lower export value than the rest of the countries. At the same time, in 2019-2020, the textile exports of 11 countries, including China, Poland, India, Malaysia, UAE, Uzbekistan, Romania, Estonia, Croatia, Ukraine and Myanmar, rose in 2020 compared to 2019, while the rest of the countries showed a downward trend, especially China.

| Country        | Year       |            |
|----------------|------------|------------|
| Country        | 2019       | 2020       |
| China          | 1040541797 | 1353538821 |
| Czech Republic | 291588673  | 216729227  |
| Singapore      | 85303910   | 47030727   |
| Poland         | 55994555   | 61767478   |
| Hungary        | 51219048   | 33313736   |
| India          | 50579601   | 50834906   |
| Thailand       | 31150038   | 25179147   |
| Israel         | 20113000   | 13784000   |
| Malaysia       | 16641549   | 18779782   |
| UAE            | 9193622    | 12292100   |
| Russia         | 8003261    | 7225188    |
| Latvia         | 6677093    | 6071817    |
| Slovenia       | 4530998    | 4466650    |
| Uzbekistan     | 444483     | 6022811    |
| Indonesia      | 3381642    | 1701627    |
| Romania        | 3201143    | 3276047    |
| Pakistan       | 3006259    | 1974462    |
| Egypt          | 2078388    | 865320     |
| Estonia        | 1986835    | 2204542    |
| Vietnam        | 1915496    | 975404     |
| Lithuania      | 1874197    | 1686136    |
| Serbia         | 1381442    | 1237538    |
| Sri Lanka      | 1331788    | 1220125    |
| Croatia        | 1178791    | 1359891    |
| Ukraine        | 836394     | 939195     |
| Slovakia       | 727722     | 2252338    |
| Belarus        | 395100     | 336800     |
| Lebanon        | 54998      | 182319     |
| Myanmar        | 9596       | 16650      |
| Bahrain        | 9          | 0          |

Obvious, with cotton textile exports increasing by 30% in 2020 compared to 2019.

 Table 3: Textile exports from Belt and Road countries, 2019-2020

Source: Based on UNCOMTRADE 2019-2020

In 2019-2020, only a few countries' cotton textile exports are on an upward trend, including some countries with less export growth. Overall, due to the overall decline in the world economy, nearly all the "Belt and Road" countries have seen slow development of textile trade, and even some countries have experienced significant shrinkage.

# 2.2.3. China and the "Belt and Road" Countries Textile Trade Competition Status

According to Chinese customs data, China exported \$89.6 billion worth of various industrial textiles in 2020, up 197.9% year-on-year. Among the "Belt and Road" countries, only Vietnam and India and other large cotton-producing countries have a large export value of textiles, and the rest of the countries along the route are relatively small exports.

According to the statistical analysis of Foresight Industrial Research Institute, the global textile export scale (USD billion) in 2014-2018 is shown in Figure 5.



Image source: based on 2014-2018 Foresight Institute

Figure 5: Global Textile Export Size, 2014-2018

As can be seen from Figure 5, in the period 2014-2018, the overall global textile export scale is on a downward trend, especially in 2015, which is the most obvious, down 39% from 2014. Since 2016, the overall export scale has increased, but until 2018 did not reach the height of 2014.

According to the statistical analysis of the U.S. Department of Agriculture, the TOP 10 statistics of global major textile exports in 2018 (USD billion) are shown in Figure 6.



Image source: based on 2018 USDA collation

Figure 6: Top 10 Global Textile Export Value Statistics in 2018

As can be seen from Figure 6, in 2018, the main countries of global textile exports include only China, India, Turkey, Vietnam and Pakistan (of which the EU28 countries are not counted separately, so they are not counted). Only China and India's textile exports ranked high, proving that the remaining "Belt and Road" countries' textile exports are relatively small, and most of them are not even on the list.

Comparing Figure 5 with Figure 6, in 2018, China's textile exports accounted for 37% of world exports, India for 5%, Turkey for 3%, and Vietnam and Pakistan for only 2%. Only China accounts for a larger share of the world textile exports, while the rest of the Belt and Road countries account

for a smaller share, and the uncounted countries even account for less than 1%. This shows that, in addition to China, the rest of the "Belt and Road" countries in the global ranking of textile trade volume is very low.

In general, in addition to China, most of the "Belt and Road" countries' textile export industry competitiveness is weak, far lower than that of developed countries in Europe and the United States, proving that there is still a lot of room for development.

#### 3. Textile Trade Network Analysis

Social network analysis method, also known as structural analysis method. It is mainly used to analyze the structure and properties of relationships in social networks. Its significance lies in the ability to quantify relationships precisely, thus helping to construct the required theories and test empirical propositions, and even to build a bridge between "macro and micro". Therefore, the use of social network analysis is very effective in analyzing China's textile trade in the context of "One Belt, One Road".

## 3.1. Textile Trade Network Model Construction

#### **3.1.1. Selection of Research Products**

Since 2019, the increase in the requirements of the healthcare industry has made it necessary for countries around the world to improve the strength of their own healthcare systems. Therefore, the product selected for study in this paper is medical and health care textiles, which is recognized by the General Administration of Customs with the HS code 300590.

## **3.1.2. Identification of Study Countries**

Since the "Belt and Road" strategy was proposed, there are 66 countries along the route, and this study compares the 2019-2021 medical and hygiene textile exports of all the countries along the route through UNCOMTRADE, and eliminates the countries with incomplete data, and finally determines the study countries as 20, as shown in Table 4. shown.

| Region                                    |             |                |           | Country  |          |        |         |
|---|-------------|----------------|-----------|----------|----------|--------|---------|
| ASEAN 10 countries                        | Singapore   | Malaysia       | Indonesia | Myanmar  | Thailand | -      | -       |
| 10 countries in West Asia                 | Turkey      | UAE            | Bahrain   | -        | -        | -      | -       |
| 8 South Asian countries                   | India       | -              | -         | -        | -        | -      | -       |
| 5 Central Asian countries                 | Uzbekistan  | -              | -         | -        | -        | -      | -       |
| CIS 7 countries                           | Russia      | Ukraine        | -         | -        | -        | -      | -       |
| 16 countries in Centra and Eastern Europe | l<br>Poland | Czech Republic | Lithuania | Slovakia | Hungary  | Serbia | Romania |

| Table 4: | Study | countries |
|----------|-------|-----------|
|----------|-------|-----------|

#### **3.1.3. Network Diagram Construction**

In this study, a directed binary network model is constructed using the selected countries in Table 3.1 as nodes and the textile export relationship between the countries as connected edges. If there is export trade between two countries, then there is export trade directed edge between two countries and without considering the strength of connected edges, only 0 and 1 are used to indicate whether there is export trade from one country to another country.

Network diagram construction using social network analysis software UCINET is shown in

#### Figure 7.



Image source: Network graph derived from UCINET construction

Figure 7: Network diagram construction of the study countries

As can be seen from Figure 7, among the 20 selected Belt and Road countries, Ukraine, Slovakia and Uzbekistan have closer trade ties with the rest of the member countries and are in the center of the network diagram, while the rest of the countries have fewer trade ties with each other, among which Singapore, Indonesia, UAE and Hungary The rest of the countries have fewer trade links with each other, including Singapore, Indonesia, UAE and Hungary, which do not even trade in textiles and are on the periphery.

#### **3.2. Textile Trade Competitiveness and Pattern Analysis**

In the social network analysis method, it contains macro-indicator analysis and micro-indicator analysis. Among them, macro indicators include density, reciprocity, transferability, distance and accessibility, while micro indicators include centrality, central potential and structural holes. Both of them analyze the relationship between points in the network graph thoroughly from different perspectives. This study will analyze the competitiveness among countries in the Belt and Road network through three indicators: transmission, accessibility and centrality.

#### 3.2.1. Transmissibility and Textile Trade Patterns

In a directed network, there are 16 possible relationships between three actors A, B and C. Only six of them are transmissive, namely, A connects B, B connects C and A connects C. This is called a triad with transmissibility. And in the overall network, every three points can constitute a triad between them, and the degree of connection of the overall network can be analyzed by calculating whether they have transmissibility or not. The calculation of network transmissibility by UCINET is shown in Table 5.

Table 5: Transferability between study countries

| Name                              | Quantity |
|-----------------------------------|----------|
| Total number of triplets          | 6840     |
| Transmissibility triplet quantity | 2        |

Source: Calculated by UCINET

As shown in Table 5, there are 6840 triads in the "Belt and Road" trade network, and only two of them are transmissible, accounting for only 2%. This proves that the trade among countries in this network is relatively weak, and combined with Figure 7, it can be seen that there are few trade links between countries, and many countries do not even have textile trade with each other. From an overall perspective, the network is poorly transmitted.

#### **3.2.2. Accessibility and Textile Trade Patterns**

In a directed network, if there is a channel between point A and point B, i.e., there is trade between the two points, it means that A and B are reachable (interoperable), and vice versa, they are not. And the trade between two points includes direct and indirect trade. The calculation of network reachability through UCINET is shown in Table 6.

| Country        | А | В | В | С | С | Η | Ι | Ι | L | Μ | Р | R | R | S | S | S | Т | Т | U | U |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UAE            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahrain        | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| Myanmar        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| China          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Czech Republic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hungary        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| India          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indonesia      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lithuania      | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Malaysia       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Poland         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Romania        | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Russia         | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Serbia         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Singapore      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Slovakia       | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Thailand       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turkey         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ukraine        | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| Uzbekistan     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 6: Accessibility between study countries

Source: Calculated by UCINET

Table 6 shows that most of the countries in the "Belt and Road" trade network are not connected to each other and are not accessible. Only Bahrain is connected to UAE, China, India, Romania, Uzbekistan, Turkey and Slovakia; Myanmar and Malaysia; Czech Republic and Uzbekistan; Hungary and Lithuania, Malaysia, Poland, Thailand and Uzbekistan; Lithuania and Hungary, Malaysia, Poland, Thailand and Uzbekistan; Poland and Malaysia and Thailand, etc., i.e. there is accessibility between them. There are direct or indirect textile trade links. Most of the remaining countries do not have accessibility, especially the UAE, China and Indonesia, which do not have accessibility to the rest of the countries.

In general, in the "Belt and Road" trade network, the textile trade between countries is relatively small.

#### 3.2.3. Centrality and Textile Trade Competitiveness

Centrality indicates the degree of centrality of the location of point A in the network. If the centrality of point A is larger, then point A is in the core position in the network. In the "Belt and Road" trade network, the stronger the centrality of a country, the stronger the competitiveness of its textile trade. The analysis of centrality also includes point, intermediate and near-centrality. In this paper, the competitiveness of a country in the "Belt and Road" trade network is judged by the intermediate and close to the center degree. This paper uses intermediate and near-center degrees to determine the competitiveness of a country in the "Belt and Road" trade network.

| Country  | Intermediate centrality |
|--|-------------------------|
| Slovakia                                       | 5.000                   |
| Romania  | 4.000                   |
| Lithuania                                      | 4.000                   |
| Poland   | 4.000                   |
| Czech Republic                                 | 1.000                   |
| Myanmar  | 0.000                   |
| India  | 0.000                   |
| Indonesia                                      | 0.000                   |
| China  | 0.000                   |
| Malaysia                                       | 0.000                   |
| UAE  | 0.000                   |
| Bahrain  | 0.000                   |
| Continued from Table 7 Intermediate centrality |                         |
| Country  | Intermediate centrality |
| Russia   | 0                       |
| Serbia   | 0                       |
| Singapore                                      | 0                       |
| Hungary  | 0                       |
| Thailand                                       | 0                       |
| Turkey   | 0                       |
| Ukraine  | 0                       |
| Uzbekistan                                     | 0                       |

Source: Calculated by UCINET

1) Intermediate centrality

Intermediate centrality means the ability of one of the points to control the resources. If a point is on the shortest path of many other pairs of points, that is, the point has a high intermediate centrality and plays the role of communicating with various other points. The formula for calculating the intermediate centrality is as follows.

$$C_{Bi} = \sum_{i}^{n} \sum_{k}^{n} b_{jk}(i), \quad j \neq k \neq i \text{ and } j < k$$

$$\tag{1}$$

The formula means that the larger the value of the intermediate centrality, the more competitive a point is. The calculation of the intermediate centrality by UCINET is shown in Table 7.

As shown in Table 7, only Slovakia, Romania, Lithuania, Poland and the Czech Republic have intermediate centrality in the "Belt and Road" trade network, among which Slovakia has the highest intermediate centrality, which proves that it has the strongest competitiveness in this trade network, holds various resources for textile trade, and plays the role of a bridge between other countries. The role of a bridge between other countries. In addition to the above five countries, all other countries have zero intermediate centrality, which proves that their competitiveness in the network is very weak, and if textile trade wants to happen, it must be done through the above five countries.

| Country    | Internal degree | proximity   | to    | center    | Country    | External degree | proximity | to | center |
|------------|-----------------|-------------|-------|-----------|------------|-----------------|-----------|----|--------|
| Myanmar    | 380.000         |             |       |           | India      | 380.000         |           |    |        |
| Bahrain    | 380.000         |             |       |           | Indonesia  | 380.000         |           |    |        |
| Russia     | 380.000         |             |       |           | China      | 380.000         |           |    |        |
| Ukraine    | 380.000         |             |       |           | Malaysia   | 380.000         |           |    |        |
| Slovakia   | 361.000         |             |       |           | UAE        | 380.000         |           |    |        |
| Lithuania  | 361.000         |             |       |           | Serbia     | 380.000         |           |    |        |
| Indonesia  | 361.000         |             |       |           | Singapore  | 380.000         |           |    |        |
| Serbia     | 361.000         |             |       |           | Thailand   | 380.000         |           |    |        |
| Continued  | from Table 8    | B Proximity | to tł | ne center |            |                 |           |    |        |
| Country    | Internal        | proximity   | to    | center    | Country    | External        | proximity | to | center |
| Country    | degree          |             |       |           | Country    | degree          |           |    |        |
| Singapore  | 361             |             |       |           | Turkey     | 380             |           |    |        |
| Hungary    | 361             |             |       |           | Uzbekistan | ı 380           |           |    |        |
| Romania    | 343             |             |       | T         | Czech      | 361             |           |    |        |
| Dolond     | 242             |             |       | 1         | Nuonmon    | 261             |           |    |        |
| Poland     | 343<br>242      |             |       |           | Myanmar    | 301<br>242      |           |    |        |
| Crina      | 343             |             |       |           | Poland     | 342             |           |    |        |
| Republic   | 342             |             |       |           | Romania    | 323             |           |    |        |
| UAE        | 326             |             |       |           | Russia     | 305             |           |    |        |
| India      | 324             |             |       |           | Hungary    | 291             |           |    |        |
| Malaysia   | 307             |             |       |           | Slovakia   | 287             |           |    |        |
| Thailand   | 307             |             |       |           | Lithuania  | 287             |           |    |        |
| Turkey     | 307             |             |       |           | Ukraine    | 285             |           |    |        |
| Uzbekistan | 268             |             |       |           | Bahrain    | 254             |           |    |        |

Table 8: Proximity to center

Source: Calculated by UCINET

As shown in Table 8, among the "Belt and Road" trade network, Uzbekistan has the lowest proximity to the center in terms of imports, which proves that it is the most competitive in terms of imports, and the rest of the countries in the overall network have a lower degree and are in the center. In contrast, four countries - Myanmar, Bahrain, Russia and Ukraine - have the highest values, proving that they are less competitive. In terms of exports, Bahrain has the lowest degree of

proximity to the center, which proves that it is the most competitive in terms of exports, while countries such as the UAE and Turkey have the highest values, which proves that they are less competitive.

To sum up, in the "Belt and Road" trade network, due to the lower economic level and technical capacity of some countries, they have to trade textiles through other countries, and the degree of dependence on other countries is strong.

#### 4. Conclusions and Policy Recommendations

Based on the above empirical analysis, and combined with the background of the study and the "Belt and Road" textile trade network. The following conclusions and recommendations are drawn.

#### **4.1. Conclusions**

In the analysis of the current situation of textile industry production in China and the countries along the "Belt and Road", China's overall textile industry production has been on an upward trend since 2019. Among the remaining Belt and Road countries, only data are available showing that in 2019-2020, cotton production in almost all Belt and Road countries has declined, although there is a small increase, but it has not returned to the height of 2019. In the analysis of the current situation of textile export trade between China and countries along the "Belt and Road", China's textile export trade as a whole has been on the rise since 2019, but the growth rate has slowed down. The rest of the "Belt and Road" countries, only available data show that some of the "Belt and Road" countries have different degrees of decline in textile export trade, and a very small percentage of the global textile trade industry.

In general, in addition to China, the textile production and export trade of the rest of the "Belt and Road" countries have declined, proving that there is still some room for development.

In the analysis of the textile trade pattern between China and the countries along the "Belt and Road", the transmission and accessibility of the overall network are poor, which proves that the textile trade between countries is weak, and even many countries do not have textile trade with each other. In the analysis of the competitiveness of textile trade between China and the countries along the "Belt and Road", the vast majority of countries have relatively poor competitiveness in textile trade, and only a small number of countries dominate the overall network, which is attributed to their low economic level and technological capability, which makes the production cost lower, and the larger domestic consumer market, making the rest of the countries more willing to trade textiles with them.

In general, the textile trade between the "Belt and Road" countries still has some room for development.

#### **4.2. Policy Recommendations**

Since the "Belt and Road" strategy was proposed, China has been actively signing various trade cooperation documents and establishing various trade exchanges with countries along the route. For China, it should play a leading role to further strengthen the textile trade with the countries along the route, whether to help China's mainland textile enterprises to the international market, or to better meet the consumer demand in China's domestic market, can play a certain role in promoting. For the rest of the countries along the route, they should seize the advantage of low domestic production costs and further increase the production of textiles, so that they can further participate in the "Belt and Road" textile trade and promote their domestic economic development.

Overall, if we want to make the "Belt and Road" textile trade stronger and stronger, we need to

play the role of large countries, but also to play the respective advantages of small countries, in order to promote the overall level of textile trade.

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