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The Impact of the New Western Land-Sea Corridor on the Trade Relationship of China and Other Countries Under the Belt and Road Initiative

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Abstract: Based on the historical foundation and development process of the Belt and Road, this paper uses trade data from UN Comtrade to describe the structural characteristics of the Belt and Road trade network from 2013 to 2019. The analysis and the division of agglomerative subgroups reveal how the new corridor construction affects the network as a whole. The trade flow of three times nodes in 2013, 2016 and 2019 is displayed visually in Gephi, and the trade relations of countries along the Belt and Road are summarized. It is found that: 1) the overall density of the network is on the rise; 2) the trade network is unbalanced, China is in the absolute core position in the network, and Russia and some ASEAN countries also have high positions; 3) Some countries have broken the shackles of geographical relations and actively participated in world trade. Since besides China, most of the countries that occupy an important position in the Belt and Road trade network are Southeast Asian countries, using the trade data of the foreign trade database of Drcnet to select three indicators: geographic concentration, product concentration, and export technical complexity. Then a multi-dimensional analysis was carried out on the exports of 13 provinces participating in the construction of the New Western Land-sea Corridor to ASEAN. Using the K-means clustering method, 13 provinces were divided into three categories: "single trade object", "high-tech", and "weak response to the New Corridor". From the perspective of cooperation with ASEAN, it will help provinces better participate in the construction of the New Corridor and promote foreign trade exports and put forward relevant development policy recommendations.

Keyword: New Western Land-Sea Corridor; Belt and Road; Trade Pattern; Association of South-East Asian Nations (ASEAN)

1.0 Introduction

Since the reform and opening-up policy, in order to achieve regional cooperation and economic development, China has put forward a number of development strategies at the regional scale, such as the Great Western Development Strategy, the revitalization of the northeast, and the rising strategy of central China. However, most of these strategies focus on specific regions. At the same time, due to differences in strategy formulation time and strategy implementation capabilities, the gap between regions in China is gradually widening, and there is also a trend of differentiation within regions. The "Belt and Road" initiative, which aims to strengthen economic and trade links among Asian and European countries and enhance cooperation space, integrates resources and markets across China and drives the development of the western region. Compared with other regional development strategies, the Belt and Road Initiative covers all regions and industries of China's economic gradient from north to south and from east to west, which is an innovative move of China's regional economic development strategy. However, from the perspective of geography, due to the vast territory of China, the longitude and latitude lines in the western region have a large span, which restricts the westward advancement of the “Belt and Road”. In order to make the western region better participate in the "Belt and Road" and share the achievements of the "Belt and Road", the "Southern Corridor" was established in 2017. In 2019, with the official renaming of the "Southern Corridor" as the "New Western Land-Sea Trade Corridor", a connection between the "Silk Road Economic Belt" and the "Maritime Silk Road" was established in the northwest and southwest. A strategic dividend zone has been formed. The "Belt and Road" initiative has strengthened the economic ties between China and Asia, Europe, etc., and the new land-sea corridor in the west has strengthened the relationship between China and ASEAN. This has laid a foundation for China, especially western China, to comprehensively utilize domestic and international markets and resources, and to build a pattern of domestic and international double circulation.

In foreign countries, scholars pay more attention to the "Belt and Road" Initiative, which was put forward earlier, and there are few studies on the "New Western Land-Sea Corridor". In China, scholars from all walks of research on the " New Western Land-Sea Corridor " can be generally divided into three categories: internal perspective, external perspective, and overall perspective. Scholars' internal research mainly focuses on the western provinces and cities in China, especially Chongqing and Guangxi, and focuses on how the western provinces and cities realize their own development by taking advantage of the opportunity of the new land-sea corridor construction. Zhuang (2019) regarded the new land-sea trade channel as a new opportunity for the development of the western region, and scholars' internal research mainly focused on the western provinces and cities represented by Chongqing and Guangxi.

The external research focuses on the trade relations between China and ASEAN countries and the docking of the new corridor and other economic corridors. The external research mainly focuses on China's trade relations with ASEAN countries and the docking of the new channel with other economic corridors. Guo (2020) studied the market demand-oriented trade trend between China and ASEAN under the background of the new channel, and found that the bilateral trade showed such characteristics as rapid development of bilateral trade, large differentiation of ASEAN foreign trade, significant changes in trade composition, and coexisting of trade competition and complementarity, and put forward suggestions on strengthening logistics cooperation along the new land-sea Channel. It provides theoretical guidance for the in-depth development of bilateral trade between China and ASEAN. Guo & Huang (2019) studied the competitiveness of service trade between China and Singapore under the background of the construction of new land-sea trade channels and found that China's overall competitiveness of service trade is lower than that of Singapore, and its international trade competitiveness is higher only in the labor-intensive service sector. Yang (2019) studied the role played by Laos in the construction of the new channel and believed that Laos' participation would promote the construction of the new channel and further promote China-Laos relations. Wang (2020) conducted research on the connection between Lancang-Mekong cooperation and the new channel and believed that the connection between the two has sound basic conditions and far-reaching significance.

There are few studies from a global perspective, these studies are mainly carried out on a world-class regional scale, and most of them focus on the role of the new corridor in transportation. Zhao et al. (2019) evaluated and analyzed the four aspects of economic industry, infrastructure, logistics development and policies of the new channel from a global perspective and believed that the new channel has entered a new development stage of in-depth promotion. Yuan (2019) looked at the international transportation status of the new land-sea trade channel from an international scale and believed that the new channel solved the situation that part of the export goods needed to detour the Yangtze River to the south in the past and greatly shortened the transportation time, but the extent of use of the new channel still needs to be developed.

Zhang & Hu (2020) studied the cross-border railway transport of the new channel and believed that the construction of the new channel would become an opportunity for the development of cross-border railways.

The impact of the COVID-19 epidemic is long-term, which has brought new challenges to China's economic system. Under this situation, various entities in China should actively and fully utilize the achievements brought by the "Belt and Road" and the new western land-sea corridor to build a modern economic system to build a stable outer loop (Wang, 2020). However, at present, few studies have paid attention to the impact of the construction of the "new corridor" on the trade relations between China and the countries along the "Belt and Road". How does the construction of the new corridor affect trade relations among the Belt and Road countries? At the same time, based on the development of the times, to master the national trends, combined with the "Double Circulation" strategy, the "New Western Land-Sea Corridor" and the "Belt and Road" initiative, to study its impact on the export of China's western provinces to ASEAN countries. "Double Circulation" puts forward new requirements for China's development. Under the premise of "taking the domestic circulation as the main body", how to build a stable external circulation so that the internal and external circulation can promote each other and achieve sustainable economic development is also a key link.

2.0 Study Area

In 2013, President Xi Jinping proposed the "Belt and Road" initiative (refer Figure 1). In 2015, a number of national departments in China jointly issued the "Vision and Actions", and the "Belt and Road" began to receive widespread attention from the international community. In 2017, the "Belt and Road" was written into the newly revised Constitution of the Communist Party of China and became an important part of China's new thinking of opening-up. Countries along the "Belt and Road" have also become an important part of the world trade market (Feng et al. 2020). The Belt and Road Initiative does not limit the scope of countries, and the Chinese government has never set restrictions on the Belt and Road Initiative. At present, there are far more than 100 countries participating in the "Belt and Road". Due to the large number of countries, based on the “List and Overview of 65 Countries and Regions along the Belt and Road” published by People's Daily Online on April 20, 2017, this article selects the 64 countries mentioned in the above list (except Egypt's Sinai Peninsula) and China as the research objects, and the research time range is 2013-2019.

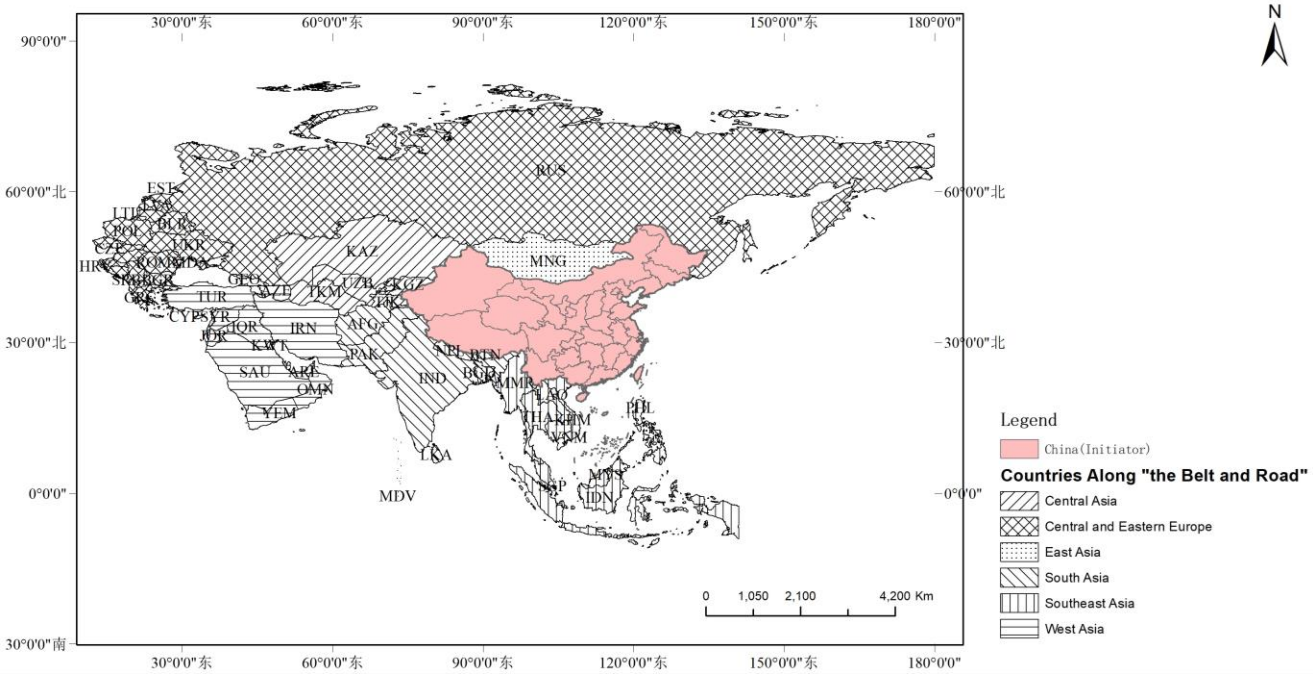

Figure 1: Selected countries along the Belt and Road

For a long time, there have been frequent economic exchanges between Chongqing and Singapore. On this basis, a "Southern Corridor" with Chongqing as the operation center and Guangxi, Guizhou and Gansu as important nodes was established. The "Southern Corridor" has undergone many evolutions and was eventually renamed the "New Western Land-Sea Trade Corridor", involving Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Hainan and Guangdong Zhanjiang City (Chen, 2017; Ding, 2018)

This paper takes China and the countries along the "Belt and Road", and 13 provinces and cities participating in the construction of the "New Western Land-Sea Corridor" as research objects. The relevant data are from UN Comtrade and Drcnet.

3.0 Methodology

3.1 Social network analysis

Ucinet software is used to analyze the network density, core-periphery structure, and cohesive subgroups of the trade networks of countries along the "Belt and Road".

In a network, the tightness of the connections between each node is often characterized by density. From the perspective of social network analysis, the trade process is equivalent to a network, different countries are nodes, and the edges formed between nodes are the trade relations between countries. The formula for calculating density is:

$$D = \frac{2M}{N(N-1)}$$

M is the actual number of relationships in the network, *N* is the number of nodes in the network.

American scholar Freedman pointed out in *Regional Development Policy* that among several regions, due to various reasons, there will always be some regions that take the lead to develop and become the "core", while the other regions with slow development will therefore become the "periphery". The development of the periphery depends on the dominant core, and the relationship of development between the two is not equal. The concepts of "core" and "periphery" are also often used to analyze the trade pattern between developed and underdeveloped countries (Li, 1999). Using Ucinet software, do core-periphery analysis on the weighted adjacency matrix of the "Belt and Road" trade network, and divide countries with a core level greater than 0.1 in core regions; countries with a core level of 0.01-0.1 are classified as semi-periphery regions; A country of 0.01 is classified as periphery regions.

In a network, if some actors are so closely connected that they can be combined into a subgroup, such subgroup is called a cohesive subgroup. In the "Belt and Road" trade network, there are some countries with very close trade relations. Therefore, drawing on the concept of cohesive subgroups in social network analysis, different trade associations are divided among 65 countries in the "Belt and Road" trade network, and the CONCOR method is used to group countries in the "Belt and Road" trade network. Considering that trade is easily affected by various factors such as the international situation and foreign trade policies, the cohesive subgroup of a single year may not be stable. Therefore, the two time periods of 2013-2016 and 2017-2019 are divided, and the weighted weights in each time period are divided into two periods. The trade matrix is correspondingly summed to obtain the total trade matrix between countries in the two time periods of 2013-2016 and 2017-2019 (Wang et al., 2021).

3.2 Degree of geographical concentration

The degree of geographic concentration reflects the degree of agglomeration of the target market when a specific region is exporting products. A high degree of geographic concentration indicates that the export target markets in this region are relatively concentrated, otherwise relatively dispersed. The formula of geographic concentration is as follows (Yang, 2003):

$$Geo_{pt} = 100 \times \sqrt{\sum_{i=1}^{n} \left(\frac{X_{ptc}}{X_{pt}}\right)^2}$$

Geo_{pt} is the geographical concentration of province *p* to ASEAN countries in year *t*, X_{ptc} is the export volume of province *p* to ASEAN countries in year *t*, and X_{pt} is the total export volume of the province *p* to all ASEAN countries in year *t*.

3.3 Degree of product concentration

The degree of product concentration reflects the degree of agglomeration of export commodities in a specific region when exporting products. The high degree of product concentration indicates that the export commodities of this region are relatively simple, otherwise relatively diversified. The formula of product concentration is as follows:

$$Product_{pt} = 100 \times \sqrt{\sum_{s} \left(\frac{X_{pts}}{X_{pt}}\right)^2}$$

$Product_p$ is the product concentration degree of the *p* province to ASEAN countries in year *t*; X_{pts} is the amount of *s* products exported by the *p* province to all ASEAN countries in year *t*; X_{pt} is the total export value of the *p* province to all ASEAN countries in year *t*.

3.4 Export technical complexity

The technical complexity of export is used to measure the technical content of export commodities in a certain region. Since labour productivity is difficult to obtain, scholars mostly replace labour productivity with per capita GDP. The formula of technical complexity of export of a certain product is as follows:

$$TCF_{ts} = \sum_{p} \left\{ \frac{\frac{X_{pts}}{X_{pt}}}{\sum_{p}\left(\frac{X_{pts}}{X_{pt}}\right)} \cdot avGDP_{pt} \right\}$$

TCF_{ts} is the technical complexity of exports of *s* commodities in year *t*; X_{pts} is the amount of *s* products exported by province *p* to all ASEAN countries in year *t*; X_{pt} is the total exports of the province *p* to all ASEAN countries in year *t*; $avGDP_{pt}$ is the per capita GDP of the province *p* in year *t* (converted to US dollars according to the average exchange rate of that year).

On the basis of the above equation, the technical complexity of export in a certain region can be calculated as follows:

$$TCF_{pt} = \sum_{s} \left\{ \frac{X_{pts}}{X_{pt}} \cdot TCF_{ts} \right\}$$

TCF_{pt} is export technical complexity of *p* province in year *t*.

4.0 Characteristics and trade relations of the Belt and Road Trade Network

4.1 Trade network of the Belt and Road

Calculate the overall density of the Belt and Road trade network from 2013 to 2018. In this paper, *N*=65, and the results are shown in Table 1.

Table 1: Density of belt and Road Trade network from 2013 to 2018

Year	2013	2014	2015	2016	2017	2018
Density	0.8932692	0.8899038	0.8975962	0.8990385	0.9206731	0.9052885

According to the calculation results, the Belt and Road trade network density was not stable from 2013 to 2018, but showed an overall upward trend, and reached the highest value in 2017, when the "Southern Corridor" was established. But in 2014 and 2018, the density of trade networks declined to varying degrees.

In 2014, the world economic situation affected the global trade situation including the countries along the “Belt and Road” to a certain extent. The slowdown in GDP growth in emerging economies, uneven economic recovery in developed countries, and heightened geopolitical tensions have led to slumps in trade imports and exports. In this year, the global economy has undergone profound changes after the international financial crisis. The deep-seated and structural problems of different countries have not been resolved, and the growth rate of global trade has slowed down. Worldwide import demand is insufficient, and growth lacks momentum. Due to the sluggish domestic demand, countries have focused their trade on exports, which has led to a resurgence of trade protectionism. In 2017, the trade situation in Asia has improved. In addition, the official establishment of the "Southern Corridor" has connected the main logistics nodes in Singapore and ASEAN, and then radiated in South Asia, the Middle East and Australia. During this year, the density of the "Belt and Road" trade network reached the highest peak in recent years. In 2018, the international trade situation was unstable again, the growth rate of world trade slowed down, the trade prosperity index continued to decline, and trade protectionism went from behind the scenes to the front, officially occupying a dominant position. The imposition of tariffs by the United States on China and other trading partners has further complicated global trade relations and heightened tensions over the functioning of the global economy. In the uncertain economic environment, investors lacked confidence in foreign investment activities, and international trade was also negatively affected.

4.2 Core-periphery structure

In the field of world economic research, the world economic system is often divided into three regions: core region, semi-periphery region and periphery region. The change of the trade pattern of the network will bring about the reorganization of the "core-semi- periphery-periphery" hierarchy (Figure 2). According to the results of the core degree calculation, the number of countries in each region is shown in the following table.

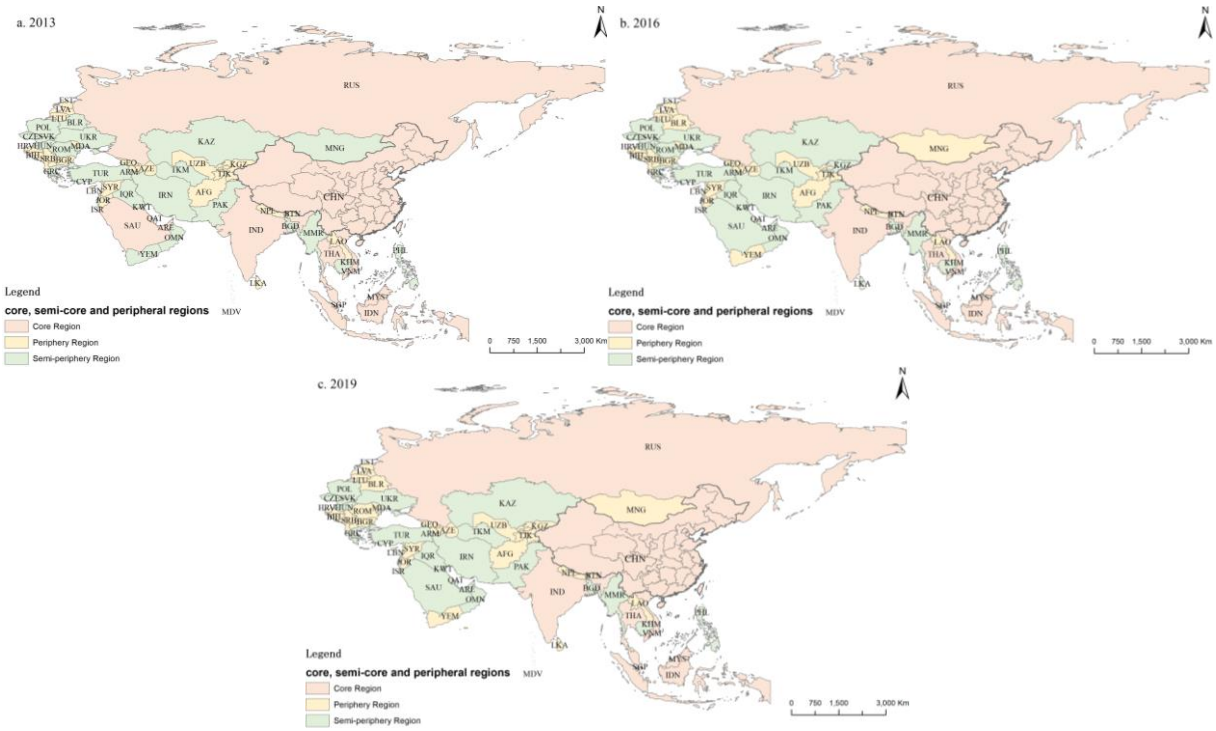

Figure 2: Countries in core, semi-core and peripheral regions, in 2013, 2016 and 2019

It can be seen from the table that the number of countries in the core region is decreasing year by year, while the number of countries in the peripheral area is increasing. In the context of increasing globalization, the overall level of national trade in the "Belt and Road" trade network is not balanced. The core countries of each year are shown in the table (in descending order of core degree, the value of core degree is in parentheses):

Table 2: Countries in the core region from 2013 to 2019

Year	Countries
2013	CHN[0.821]、MYS[0.261]、SGP[0.241]、IDN[0.175]、RUS[0.175]、THA[0.169]、IND[0.157]、SAU[0.144]、VNM[0.13]、ARE[0.125]
2014	CHN[0.857]、MYS[0.218]、SGP[0.207]、RUS[0.167]、THA[0.15]、VNM[0.147]、IND[0.146]、IDN[0.141]、SAU[0.126]、ARE[0.119]
2015	CHN[0.876]、MYS[0.208]、SGP[0.195]、VNM[0.176]、THA[0.156]、IND[0.147]、IDN[0.123]、RUS[0.122]、ARE[0.106]
2016	CHN[0.883]、MYS[0.192]、VNM[0.186]、SGP[0.178]、THA[0.159]、IND[0.147]、RUS[0.128]、IDN[0.121]
2017	CHN[0.886]、VNM[0.198]、MYS[0.182]、SGP[0.17]、IND[0.152]、THA[0.145]、RUS[0.134]、IDN[0.122]

2018	CHN[0.899]、VNM[0.197]、MYS[0.166]、SGP[0.147]、IND[0.141]、RUS[0.14]、THA[0.131]、IDN[0.117]
2019	CHN[0.919]、VNM[0.185]、MYS[0.156]、SGP[0.129]、RUS[0.123]、IND[0.117]、THA[0.114]、IDN[0.101]

From the analysis results in the above table, it can be seen that in the seven years from 2013 to 2019, China has always been the core node in the “Belt and Road” trade network, and the core degree has always been in a leading position and has grown rapidly year by year, becoming the absolute core country in the “Belt and Road” trade network (Figure 3). In 2013-2014, Saudi Arabia and the United Arab Emirates still belonged to the core area. In 2015, Saudi Arabia took the lead in falling into the semi-peripheral area. Then in 2016, the United Arab Emirates also withdrew from the core area of the “Belt and Road” trade network. In general, the core-peripheral structure in the network has basically remained stable without significant changes, but the specific nodes in the network and their coreness have undergone some changes. From 2016 to 2019, the countries belonging to the core region remained stable at eight, but the core rankings of countries fluctuated.

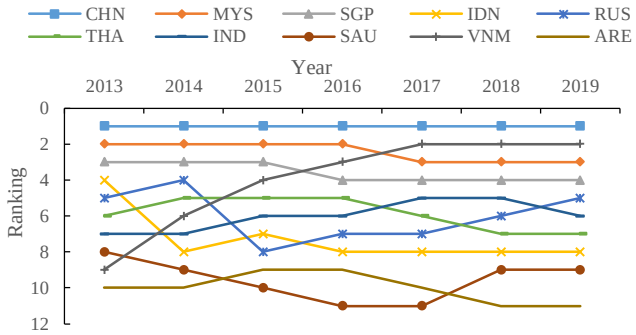

Figure 3: Changes of core-degree ranking of countries in core regions from 2013 to 2019.

In recent years, China has maintained the position of Vietnam's largest trading partner, and Vietnam's core degree in the "Belt and Road" trade network has jumped from the 9th place in 2013 to the 2nd place in 2019. Malaysia and Singapore have always been the most core countries, ranking 3rd and 4th respectively in the Belt and Road trade network in recent years. During the development of the "Belt and Road" trade network in recent years, China's core structure has become increasingly prominent. Except for China, the network core degree of other countries is on the decline as a whole, but it can’t be ignored that Southeast Asian countries always occupy a place in the core regions. In the core-periphery structure, the core node has a closer relationship with other nodes, and the higher the core degree, the more important it is for the network. Southeast Asia, with its multiple cores, is in a highly advantageous position on the Belt and Road Initiative. It can be said that the trade advantages of Southeast Asian countries are the realistic basis for the proposal and development of the "New Western Land-Sea Corridor". The construction of the "New Western Land-Sea Corridor" has further strengthened Southeast Asian countries’ dominance as trading powers, enabling them to play a broader and more comprehensive role in the "Belt and Road" trade network. This can also be reflected in Saudi Arabia and UAE falling out of the core region (Zhao & Sun, 2019).

4.3 Analysis of subgroups

Based on the reality that the number of core countries in the "Belt and Road" network is decreasing year by year, the annual Gini coefficient of each country is calculated using its core degree, and the results are shown in the following table:

Table 3: Gini coefficient of Belt and Road Trade network based on core-degree

Year	2013	2014	2015	2016	2017	2018	2019
Gini	0.752354	0.752303	0.773737	0.773319	0.773717	0.774923	0.787304

The calculation results show that the Gini coefficient of the core degree in the "Belt and Road" trade network fluctuated from 2013 to 2019, but the overall Gini coefficient showed an upward trend. According to this phenomenon, it can be concluded that the Belt and Road Initiative has led more and more countries to participate in the network, but the network does not have a balanced structure. Different regions are clearly separated, and the intra-regional trade is closer than the trade links between regions.

Based on the total trade matrix, CONCOR method was used to set the maximum segmentation depth as 2 and the convergence standard as 0.2, and relatively stable cluster analysis results were obtained in the two time periods. The sum of trade between countries in the two periods of 2013-2016 and 2017-2019 is used as the weight of the edges, the trade links between communities are removed, and the weighting degree is used to present the position of each country in the "Belt and Road" trade network (Figure 4). The Fruchter-Man Reingold layout is used in Gephi to realize visualization, presenting the community grouping results in the two periods of 2013-2016 and 2017-2019 (Wang et al., 2021)

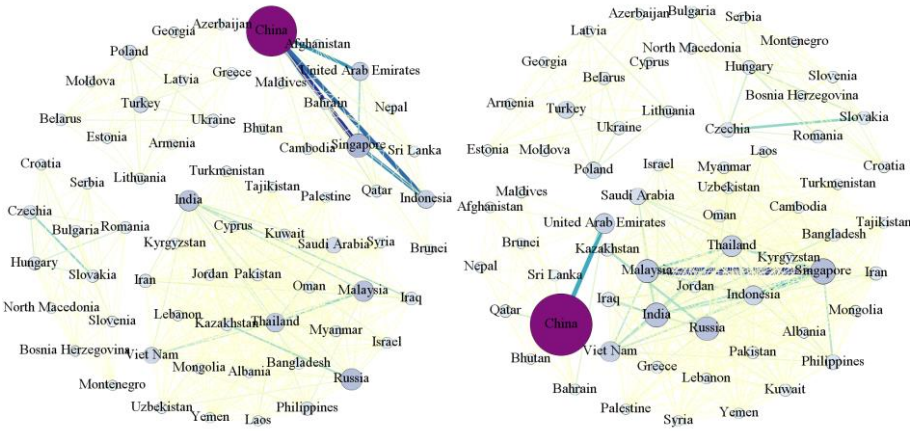

Figure 4: Grouping results of Belt and Road Trade Associations from 2013 to 2016 and 2017 to 2019

The trade network of countries along the Belt and Road is mainly divided into four communities. During the two time periods of 2013-2016 and 2017-2019, the number of members within each community and the number of countries it contains did not change much. In 2017-2019, Singapore, Indonesia and Cambodia broke away from the China-centered community. Based on this, the "Belt and Road" trade network from 2013 to 2016 can be divided into the following communities: the West Asia-South Asia-Southeast Asia community with China as the core; the West, Central and Southeast Asia community with Russia and some Asian countries as the core; West Asia-Eastern European community consisting of some Eastern European countries and Western Asian countries; Central and Eastern European community made up entirely of Central and Eastern European countries. From 2017 to 2019, the Belt and Road trade network can be divided into: the West Asia-South Asia community with China as the core; the Asian community with Russia and some Southeast Asian countries as its core; West Asia - Eastern Europe community and Central and Eastern Europe community. However, it is important to note that while Singapore, Indonesia and Cambodia have left the China-centered community, the correlation coefficients between China and other ASEAN countries have all increased or remained unchanged during the period of 2017-2019, except for China's correlation coefficients with Singapore, Malaysia and Brunei. This shows that China and ASEAN countries still maintain a high degree of similarity in trade.

From the perspective of space, the formation of Asia-Europe and Central and Eastern European communities is basically due to the geographical relationship. Other two subgroups centered on China, Russia, and some Southeast Asian countries have broken the regional shackles of geographical relations. In general, the division of communities is affected to a certain extent by national attributes, distance, common cultural background, free trade agreements, etc. Countries with similar resource endowments and social development conditions are more likely to establish trade relations. If some countries are close geographically, the transportation costs between these countries are lower, market information is easier to obtain, and the possibility of establishing trade is relatively high (Feng et al., 2020) In addition, if countries are located in the same free trade zone, bilateral trade can increase by about 40% (Nam et al., 2020).

In community with China as the core, many West Asian countries are not close neighbors of China, but because of their resource endowments, West Asian countries are the main exporters of energy and mineral products. As a major importer of energy and mineral products, China has relatively closer ties with the West Asia region. Among them, China and the UAE have always maintained close ties. United Arab Emirates was the first Gulf Arab country to establish a strategic partnership with China. It's also one of the important countries along the "21st Century Maritime Silk Road". the Located in West Asia, it has the deepest, broadest and most fruitful cooperation with China in the Middle East. It is also China's largest export market and second largest trading partner in the Arab world. Since the 1980s, the economic cooperation between China and UAE has developed from a simple economic and trade exchange to personnel and technical cooperation in various fields (Wang et al., 2017).

With the passage of time, Singapore, Indonesia and Cambodia separated from the community with China as the core, and the community with Russia and some Southeast Asian countries as cores expanded in size. Many Southeast Asian countries, such as Singapore, Thailand, Vietnam, Malaysia, and Indonesia, which are at the core of the "Belt and Road" trade network, also have close ties with each other in this community. Southeast Asia is the intersection of land and sea in the "Belt and Road", and it is at the crossroads of important waterways in the world (Chen, 2019). Under the background of RMB internationalization, some Chinese coastal enterprises have moved to Southeast Asia, and the construction of Western New Land-Sea Corridors has improved Southeast Asia's status in the "Belt and Road" trade network to a certain extent, and the trade links among Asian countries have become increasingly close.

The number of countries in the West Asia-Eastern Europe Community and the Central and Eastern European Association is small, and most of them are European countries. Due to their geographical proximity, similar development stages and similar cultural backgrounds, the countries within the community are closely connected with each other, but their trade links with Asia and other regions are weak, and they are a weak influence zone in the "Belt and Road" trade network.

4.4 Trade relations between countries along the "Belt and Road"

Under the main framework including six corridors, six means of communication, multiple countries, and multiple ports, since the "Belt and Road" was put forward, remarkable achievements have been made in the five-pronged approach, and a number of major projects of international cooperation have been built. In China, 31 Chinese provinces, autonomous regions and municipalities and the Xinjiang Construction Corps have completed the link of the implementation plans for the Belt and Road Initiative. The mainland has actively participated in, supported and promoted the Belt and Road Initiative. Thirty-one provinces have also issued policies and plans for the construction of the "Belt and Road" according to their actual conditions, and fully participated in the construction of the "Belt and Road". In order to help enterprises better "Go Out", national ministries and departments encourage enterprises to participate in international cooperation and the construction of "The Belt and Road", and strictly prevent risks through a series of measures such as top-level design, sound investment policy and service system, and perfect overseas investment management system.

Since the "Belt and Road" Initiative was put forward, after years of development, the "Belt and Road" has become increasingly rich in economic, cultural and spatial connotation, and more than 100 countries have participated in the development of the initiative (Liu et al., 2015). The Belt and Road Initiative has led to the construction of transportation infrastructure projects. Globally, the Belt and Road Initiative has significantly reduced the shipping time and trade costs, and the average shipping time and trade costs of the Belt and Road economies have been reduced more, with the Belt and Road economies located along the economic corridors benefiting the most (François et al., 2019).

The overall trade volume of the Belt and Road network from 2013 to 2019 is shown in the following table. Under the influence of national policies and world economic environment, the total volume shows a fluctuating upward trend.

Table 4: Total online trade volume under the Belt and Road Initiative

Year	2013	2014	2015	2016	2017	2018	2019
Volume(Billion Dollar)	2551.593	2605.124	2208.327	2123.859	2489.360	2849.685	2867.283

Based on the annual trade data of each country, three nodes in 2013, 2016 and 2019 are selected to visualize the trade exchanges of countries along the “Belt and Road” in ArcGIS:

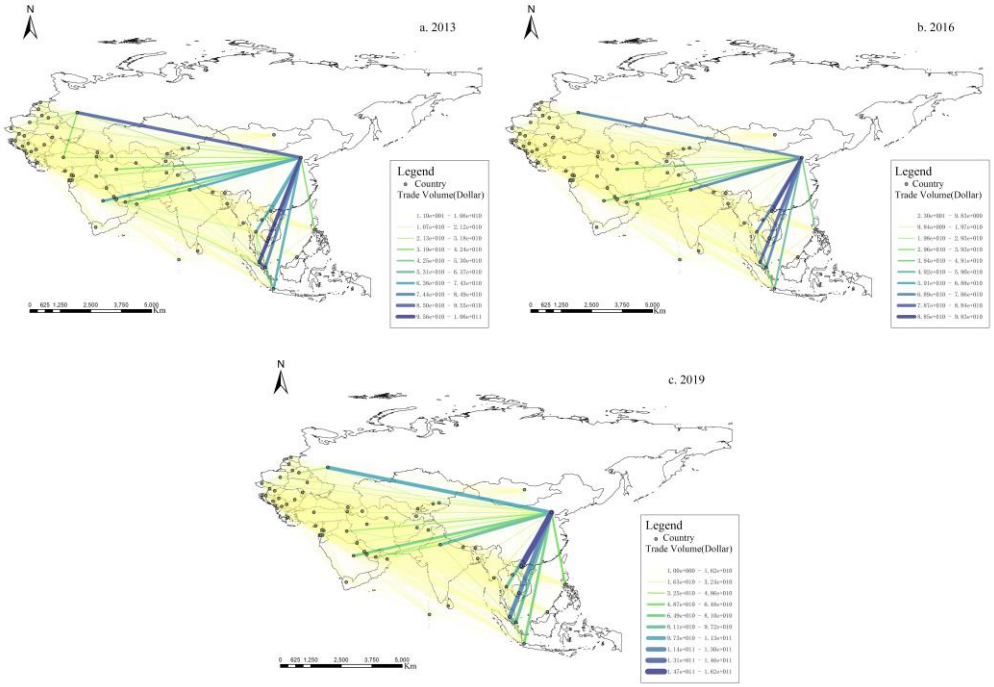

Figure 5: An overview of regional trade networks along the Belt and Road

It can be seen intuitively from the Figure 5 that since the “Belt and Road” initiative was proposed, its trade network structure has not changed significantly. As the country that proposed the initiative, China has maintained a large scale of trade with many countries. For the countries of Central and Eastern Europe community and West Asia-Eastern Europe community, there is no large-scale trade with countries within or outside the community. Some countries have close geographical relations, but trade links are not close. China and ASEAN have a good trade foundation, but compared with the trade data in 2013, the trade volume between China and Malaysia, Indonesia, Cambodia and Brunei showed negative growth in 2016. After the construction of the New Western Land-Sea Corridor, compared with the trade data in 2016, the trade volume between China and the ten ASEAN countries showed positive growth, and the growth rate was relatively large.

5.0 Exports from western China to ASEAN

From the previous analysis, in addition to China, some Southeast Asian countries occupy an important position in the “Belt and Road” trade network. It can be said that the improvement of the status of Southeast Asian countries in the "Belt and Road" trade network has benefited to a certain extent from the construction of the New Western Land-Sea Corrido, and it is the new corridor that has intensified the trade between western China and Southeast Asia. Historically, Southeast Asian countries have become China's major trading partners as early as the 3rd century AD. In contemporary times, the establishment of the China-ASEAN Free Trade Area has brought closer economic and trade ties between the two sides. China and Southeast Asia, as the core regions in the "Belt and Road" trade network and important participants in the New Western Land-Sea Corridor, are facing new historical opportunities for economic and commercial cooperation between the two sides. Therefore, from the foreign trade database of Drcnet, the customs code export data of 12 western provinces and cities and Hainan Province to ten ASEAN countries from 2013 to 2020 were obtained, and the exports of 13 provinces and cities to ASEAN countries were analyzed.

Statistics on the total exports of 13 provinces and cities to ASEAN countries from 2013 to 2020. 2013 was the first year of the “Belt and Road” initiative. The grand initiative did not significantly affect the exports of the western provinces and cities to ASEAN countries. The predecessor of the New Western Land-Sea Corridor established in 2017, the "Southern Corridor" (hereinafter collectively referred to as the "New Corridor"), has a significant impact on the export of the western provinces and cities to ASEAN. In 2016, the export value of 12 western provinces and cities and Hainan Province to ASEAN was 20.121 billion US dollars, which jumped to 44.010 billion US dollars in 2017. In the

following 2018, 2019 and 2020, the trade volume of exports to ASEAN is also rising, but the growth rate has slowed down, and the export of the western provinces to ASEAN countries has entered a period of stable growth.

Table 5: Value of exports of 13 provinces and cities to ASEAN countries

Year	2013	2014	2015	2016	2017	2018	2019
Volume(Billion Dollar)	2551.593	2605.124	2208.327	2123.859	2489.360	2849.685	2867.283

At the provincial level, before the construction and opening of the new corridor, the four provinces and cities of Sichuan, Yunnan, Guangxi, and Chongqing have exported to ASEAN significantly higher than other western provinces and Hainan. Among them, the export volume of Guangxi, Sichuan and Yunnan to ASEAN increased significantly after the opening of the new corridor, and the export volume of Chongqing and Shaanxi to ASEAN also increased after the opening of the new corridor, while the response of the other western provinces to the new corridor was relatively weak (Figure 6).

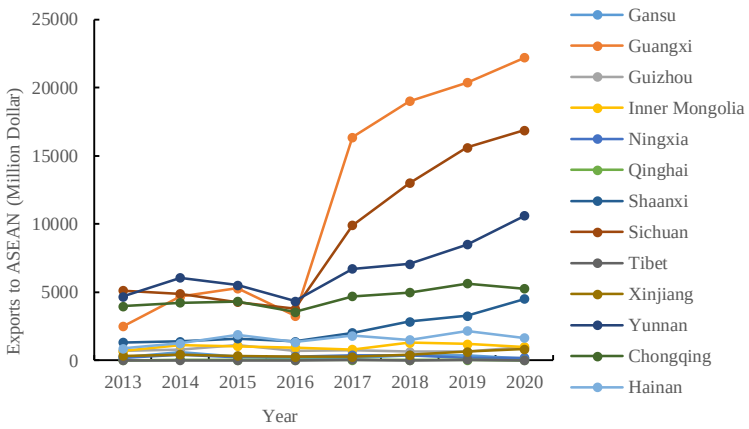

Figure 6: Export growth of 13 provinces and cities to ASEAN

5.1 *Degree of geographic concentration*

The geographic concentration degree of western provinces and cities in different years was calculated, and the results are shown in the following table. Based on the variation trend of geographic concentration degree of provinces and cities, the 12 provinces and cities in western China and Hainan Province were divided into three types:

Table 6: Geographic concentration of exports from 13 provinces to ASEAN countries

	2013	2014	2015	2016	2017	2018	2019	2020
Inner Mongolia	41.41	39.76	39.55	40.29	42.42	52.96	46.50	42.33
Guangxi	53.53	62.71	60.05	58.97	88.23	90.80	86.03	87.65
Chongqing	37.71	38.09	37.38	37.71	40.20	38.98	38.86	39.99
Sichuan	48.10	50.32	44.61	42.53	54.94	56.82	62.79	65.14
Guizhou	40.57	50.64	41.09	39.68	37.73	41.18	39.74	44.66
Yunnan	44.19	48.94	42.83	44.75	51.73	54.60	52.86	52.11
Tibet	63.31	59.29	50.71	76.68	84.01	50.52	97.09	95.71
Shaanxi	42.95	46.40	49.77	48.12	49.30	49.80	49.62	50.46
Gansu	42.65	57.26	43.81	41.07	41.30	51.95	44.99	41.91
Qinghai	51.52	48.43	48.24	55.46	51.62	48.43	45.26	46.90
Ningxia	39.97	41.90	36.97	38.75	39.68	45.75	42.82	51.07
Xinjiang	44.25	47.11	42.18	49.18	41.05	38.78	41.00	40.79
Hainan	53.71	53.67	48.74	50.67	47.45	52.61	52.38	47.96

1) Growth pattern (Guangxi, Sichuan)

The growth trend of geographic concentration in Guangxi and Sichuan was similar. In 2017, the geographic concentration of the two provinces increased by different degrees. The geographic concentration degree of Sichuan Province has kept increasing since 2017, while the geographic concentration degree of Guangxi Province has fluctuated, but it has kept at a high level since 2017.This means that Guangxi and Sichuan have established relatively stable export relations with individual ASEAN countries after the opening of the new corridor.

2) Instability pattern (Tibet)

Tibet is deeply located in the interior of China, and the change of geographic concentration has no obvious characteristics in a short time range. From 2013 to 2015, the geographic concentration of Tibet decreased year by year. After suddenly jumping to a high level in 2015 and 2016, it suddenly decreased again in 2018 and rose to a very high level in 2019 and 2020. The target market of Tibet's exports is not stable.

3) Small fluctuation pattern (Inner Mongolia, Chongqing, Guizhou, Yunnan, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Hainan)

There is no uniform rule for the change of geographic concentration degree in these provinces and cities, but the change range is not large, especially in Chongqing and Hainan. However, it is worth noting that the variation trend of geographic concentration in most provinces and cities showed two peaks in 2014 and 2018.

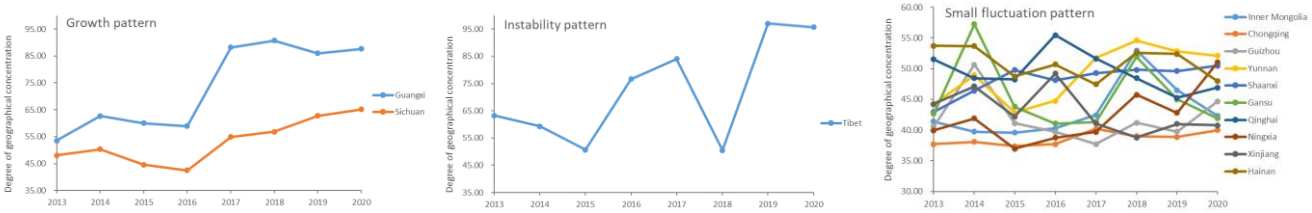

Figure 7: The fluctuation of geographic concentration of export from 13 provinces to ASEAN

In 2013, when the Belt and Road Initiative was first proposed, the geographic concentration of most provinces and cities showed a rise in 2014 and then dropped in 2015 (Figure 7). In 2017, *the Framework Agreement on the Cooperation and Construction of the Southern Corridor of the China-Singapore Connectivity Project* was signed, and continued to expand in 2018 and 2019. The geographic concentration of many provinces increased rapidly in 2018 and then fell rapidly in 2019.

With export volume as the weight, Gephi is used to visualize the specific export markets of 12 western provinces and Hainan to 10 ASEAN countries in 2013, 2017 and 2020. In 2013, the export volume of 12 provinces and municipalities in the west and Hainan to ASEAN is not much different, but some southwestern provinces such as Yunnan, Guangxi, Chongqing and Sichuan have a better trade basis with some ASEAN countries. Among them, the largest export market of Yunnan is Myanmar, followed by Vietnam and Laos. Guangxi's biggest export market is Vietnam; Sichuan's largest export market is Malaysia, followed by Vietnam. Chongqing exports more evenly to the ten ASEAN members, with Indonesia as its largest market, followed by Singapore, Malaysia, Vietnam, Thailand, Myanmar and the Philippines.

By 2017, Vietnam had become the largest export market from Guangxi to ASEAN with absolute advantages. Yunnan's largest export market is still Myanmar, followed by Vietnam and Thailand; Sichuan's largest export market is also Vietnam, followed by Malaysia and Thailand; Chongqing's exports to ASEAN countries are still relatively average. The surge in Guangxi's exports to Vietnam was largely influenced by Vietnam's changing attitude towards the Belt and Road Initiative: in 2017, Vietnam's attitude towards the Belt and Road changed from "continuously evade–cautiously welcome" to "clearly collaborate ".

In 2020, the northwestern province of Shaanxi became a new force in China's western region to export to ASEAN. Its largest export market in ASEAN is Singapore, followed by Malaysia and Vietnam. Guangxi to Vietnam; Sichuan to Vietnam, Malaysia, Singapore; Yunnan's exports to Vietnam, Myanmar and Thailand still maintain a relatively large scale (Figure 8).

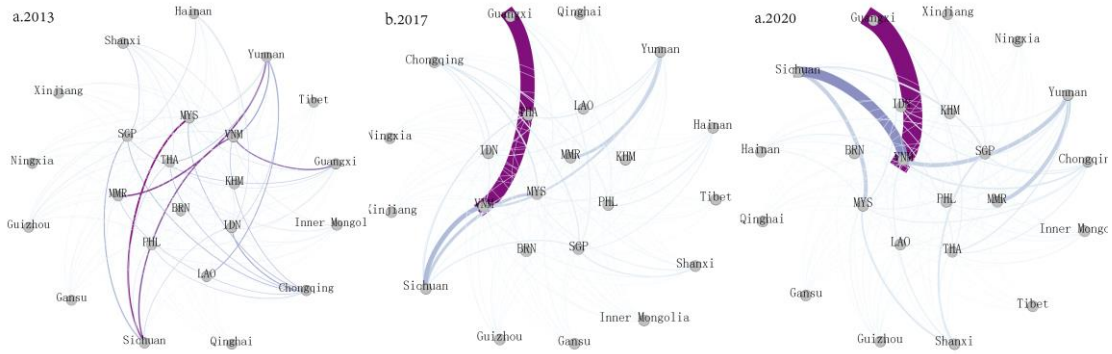

Figure 8: Export markets of 13 provinces to ASEAN in 2013, 2017 and 2020

ASEAN is one of our major trading partners. Especially in recent years, China has been Vietnam's largest trading partner country for many years. In the west of China, Sichuan, Yunnan, Guangxi and Chongqing have always been the main force exporting to ASEAN. As a frontier province, border trade has increasingly become the main component of Yunnan's export to Myanmar and Guangxi's export to Vietnam. In 2016, before the "Southern Corridor" was proposed, Guangxi had already announced its plan to participate in the "Belt and Road" initiative, laying a foundation for strengthening the connection with ASEAN. As the closest port group in China to ASEAN, Guangxi Beibu Gulf Port plays an important role in connecting with ASEAN in the construction of the Belt and Road. The foreign trade routes starting from Beibu Gulf have realized the full coverage of major ports in ASEAN. In this process, the government has played an important role.

5.2 *Degree of product concentration*

The product concentration degree of western provinces and cities in different years is calculated, and the results are shown in the following table. The product concentration degree of most provinces and cities basically remains stable with little fluctuation, especially Chongqing, Guangxi, Inner Mongolia, Xinjiang and Yunnan, whose commodity export structure is relatively stable in recent years. The opening of the new corridor has not had a significant impact on the commodity structure of export commodities. The product concentration degree of Qinghai, Tibet and Hainan fluctuated greatly in some years, and there was no obvious rule. In general, Gansu, Guangxi, Xinjiang and Yunnan have lower geographic concentration and are more balanced in terms of export categories.

Table7: Product concentration of exports from 13 provinces to ASEAN countries

	2013	2014	2015	2016	2017	2018	2019	2020
Chongqing	62.098	59.346	57.449	64.015	60.595	60.444	61.402	66.058
Sichuan	71.052	68.108	65.723	73.463	84.042	84.691	84.234	89.264
Gansu	39.038	52.074	48.387	43.810	44.310	57.775	38.103	51.448
Guangxi	35.289	39.811	46.936	37.951	38.851	41.265	36.885	39.011
Guizhou	36.512	47.850	57.989	54.470	47.469	48.257	46.540	42.100

Inner Mongolia	55.356	55.208	54.262	58.183	53.186	50.206	46.807	46.258
Ningxia	55.754	43.743	49.099	51.033	40.585	38.501	42.090	52.031
Qinghai	44.916	36.260	38.080	35.488	60.231	71.856	57.590	46.237
Shaanxi	54.763	58.739	64.752	62.738	65.797	74.345	74.344	79.536
Tibet	44.603	38.777	49.262	76.676	62.271	51.789	80.038	87.472
Xinjiang	34.997	38.301	38.571	47.998	41.542	36.580	33.300	33.306
Yunnan	35.894	38.342	44.435	52.220	40.703	39.529	41.271	40.328
Hainan	80.269	86.849	65.112	84.915	85.392	78.850	65.916	53.523

The export advantages of most provinces and cities are mainly technology-intensive and labor-intensive manufacturing, but there are still some provinces whose export advantages are dominated by resource endowments and influenced by regional characteristics, such as the export of textile products in Guangxi, the export of base metals and their products in Inner Mongolia, the export of Yunnan plant products and the export of Hainan mineral products, etc.

Inner Mongolia, Yunnan and Hainan are dominated by resource endowments, and their export advantages are mainly primary products with low added value. Zhuang Brocade is one of the four major brocades in China. Relying on the unique cultural advantages of the Zhuang nationality, the convenient transportation near the sea and the support of the government, the textile and leather industries of Guangxi have developed vigorously, but the industrial transformation has not been realized yet, and the added value of the products is also low.

5.3 *Export technology complexity*

Limited by the update year of the statistical yearbook, the export technology complexity of various commodities and the export technology complexity of each province from 2013 to 2019 were calculated based on the existing data (Figure 9).

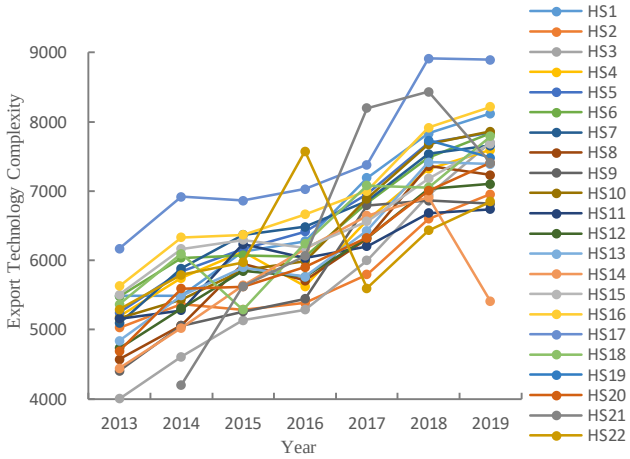

Figure 9: The change of export technology complexity of various items

With the enhancement of China's economic strength and international status, the technical content of Chinese export commodities is also increasing. In terms of the categories of export products, the products with the highest export technology complexity in the western region are concentrated in the HS17 category, that is, high-end manufacturing industries such as vehicles, aircraft, ships and related transportation equipment. The development of the automobile industry makes the export of vehicles show a rapid growth momentum. The electrical machinery of category HS16 also has a high technology complexity. The transportation and mechanical and electrical equipment industry play an important role in international trade and is the leading industry of high-tech product trade (Duan, 2017).

5.4 *Cluster analysis*

The three indexes of geographic concentration, product concentration and export technology complexity were standardized. The K-means method was used to divide provinces and cities participating in the construction of the New Land-Sea Corridor in the west of China in 2019 into three categories. The classification results and standardized indexes are shown in the following table:

Table8: Standardized index values and cluster analysis results of 13 provinces

Province	Category	Z-Degree of geographic concentration	Z- Degree of product concentration	Z-Export technology complexity
Guangxi	1	1.78015	-1.01742	-1.26703
Chongqing	2	-0.82845	0.39850	1.16543
Sichuan		0.49474	1.71716	1.23077
Shaanxi		-0.23348	1.14594	1.24015
Tibet		2.39208	1.47482	1.10517
Hainan		-0.08082	0.65924	0.88800
Gansu	3	-0.48957	-0.94708	-0.91222
Guizhou		-0.77984	-0.45982	-0.17901
Inner Mongolia		-0.40596	-0.44438	-0.27998
Ningxia		-0.60959	-0.71682	-0.24762
Qinghai		-0.47468	0.17837	-0.39021
Xinjiang		-0.71017	-1.22443	-1.02143

Yunnan	-0.05439	-0.76408	-1.33202

The first type is the "single trade object" pattern, with Guangxi as a typical representative. Since the opening of the New Western Land-Sea Corridor, the trade volume between Guangxi and Vietnam has become increasingly large, and because Guangxi and Vietnam share a border, the border trade has become increasingly prosperous. Guangxi and its exports to Vietnam are important components of Guangxi's exports to ASEAN countries. However, the product concentration and technology complexity of Guangxi are low, which means that the types of commodities exported by Guangxi are scattered and the export commodities are elementary. A number of border ports and trade points have been opened on the border of Guangxi, and these markets have promoted the development of border trade to a great extent. In the border trade between Guangxi and Vietnam, the main export commodities of Guangxi are labor-intensive textile products, followed by some simple machines and parts, and the export structure is relatively simple. Guangxi is a borderline province with an underdeveloped economy, many impoverished countries, relatively backward industrial development level, and lack of capital and technical resources. However, the economy of Vietnam, a large agricultural country in Southeast Asia, is also underdeveloped. Although the trade structure of the two sides is complementary, trade and cooperation are difficult to develop into high fields and deeper levels, which is also one of the important reasons for the trade transformation of Guangxi (Wang & Han, 2018).

The second category is the "high technology content" pattern, mainly represented by Chongqing, Sichuan, Shaanxi, Tibet and Hainan, which have a high export technology complexity. Chongqing, Sichuan and Shaanxi are economically developed provinces and cities in the west of China. The complexity of export technology of Tibet has also increased year by year since the "Belt and Road" Initiative was proposed. In 2013, the complexity of export technology of Tibet ranked at the bottom of the 13 provinces and cities, and in 2019, the complexity of export technology of Tibet ranked at the top.

The third category is the "weak response of the New Western Land-Sea Corridor" pattern, which is mostly border province, represented by Gansu, Guizhou, Inner Mongolia, Ningxia, Qinghai, Xinjiang and Yunnan. The geographic concentration degree, product concentration degree and export technology complexity of these provinces are all at a low level, which means that these provinces have no major export market, weak competitiveness of export superior products, and low technical content of export products. But precisely because of the low geographic concentration and product concentration, these provinces have stronger resistance to trade risks.

6.0 Conclusions and Suggestions

6.1 *Main Conclusions*

Since 2013, with the continuous progress of the Belt and Road Initiative, it has received the response and participation of many countries and international organizations. On this road of win-win cooperation, trade among countries is becoming more frequent and intense. Under the framework, the opening and construction of the New Western Land-Sea Corridor, which is in the common interests of China and Southeast Asian countries, is the result of the joint efforts of the governments and enterprises of both sides. In general, the construction of the corridor has brought the following influences:

First, the Belt and Road trade network is becoming more and more interconnected, with China and ASEAN at the core of the network. The construction of the New Western Land-Sea Corridor further enhances China's core position in the "Belt and Road" trade network. As the country proposing the "Belt and Road" Initiative, China has excellent advantages. The overall core degree of the ASEAN region is also improving, and the role of ASEAN countries as nodes in the "Belt and Road" trade network is prominent. To some extent, the trade community with China and ASEAN countries as cores have broken through the shackles of geopolitical relations.

Second, bilateral trade between China and ASEAN has kept growing, and Singapore has played an increasingly important role in the region. Although Singapore, Indonesia and Cambodia are separated from the China-centered community, they still have very close trading ties within the Belt and Road trading network. Over the years, China and ASEAN have enjoyed a sound trade foundation and a large trade volume. Singapore, Indonesia and Cambodia have moved out of the China-centered community and into the Asian community, with closer ties to Southeast Asian countries. In particular, although Singapore is a small country, it has always adhered to "Big Diplomacy" and actively participated in regional and international affairs. The construction of the corridor will further consolidate Singapore's position as an important transit port in the Asia-Pacific region.

Third, the 13 provinces and cities participating in the construction of the New Western Land-Sea Corridor have their own characteristics in exporting to ASEAN countries. Guangxi, as an important node of the corridor, has close trade contacts with Vietnam. Chongqing, Sichuan, Shaanxi and other provinces and cities with strong economic strength export products with high technical content. However, the response of some border provinces and cities to the new corridor is weak, and the level of foreign trade export needs to be improved and upgraded.

6.2 *Policy Suggestions*

Under the influence of the international macro situation, increasing domestic demand and the need of high-quality economic development, China has put forward a new development pattern with domestic great circulation as the main body and domestic and international circulation promoting each other. It is also an important choice for China to adapt to the new world economic pattern (Li & Zhang, 2021). The New Western Land-Sea Corridor connects the “Belt” and the “Road”, which plays an important role in promoting the new pattern of domestic and international double circulation. Since the Belt and Road Initiative was put forward, the number of member countries has been growing. But from the view of economic and trade exchanges, it is mainly Central Asia, West Asia and Southeast Asia that are closely connected with China. In particular, the economic relationship between ASEAN and China has jumped from a rapid growth stage to a mature stage of upgrading. Meanwhile, the signing of the *Regional Comprehensive Economic Partnership* (RCEP) has created cooperation opportunities with broad prospects for cooperation between China and ASEAN. Therefore, based on the influence of the construction of the New Western Land-Sea Corridor, China's western provinces and cities can take advantage of the convenient conditions of the new corridor to seek cooperation with ASEAN from different directions:

For Guangxi, a "single trade object" province, border trade with Vietnam is an important part of exports to Southeast Asia, but border trade fluctuates due to the impact of the national situation. Guangxi, as an important node of the new corridor, must continue to improve border trade policies and management systems to reduce trade risks. While promoting the transformation and upgrading of its own trade structure and trade products, it should also actively seek cooperation in multiple fields with other ASEAN countries to improve its ability to resist foreign trade risks.

For "high technology content" provinces and cities, except Hainan, Chongqing, Sichuan, Shaanxi and Tibet export mainly machinery and electrical equipment with both capital-intensive and technology-intensive characteristics (Huang & Gong, 2014; Zheng et al., 2015) Especially for Sichuan, Shaanxi and Tibet, mechanical and electrical products are the advantageous commodities for export. Machine electrical

products have a high export technology complexity and high added value. "High technology content" provinces and cities can further expand the export market and integrate into the global production chain with the advantage of the new corridor.

The provinces with “weak response of the New Western Land-Sea Corridor” pattern have participated in the new corridor construction for a short period of time, and most of them live in the interior of China, so their response to the new corridor is weak. However, provinces such as Yunnan, Inner Mongolia and Tibet have unique advantages in natural resources. Therefore, these provinces and cities can take this as a starting point to give full play to their resource advantages in the region, create characteristic export products, extend the industrial chain, and open up broader overseas markets.

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Conflicts of Interest The authors declare no conflict of interest.

References

Chen, J. (2017). Chongqing, Guangxi, Guizhou and Gansu signed a framework agreement on connectivity to jointly build a southbound corridor. Chongqing Daily.

Chen, Y. (2019). Interpretation of the Belt and Road Index in Southeast Asia in 2017. *Southeast Asian Studies, 61*(1),113-135.

Ding, J. (2018). Hainan and many western provinces are expected to join the China-Singapore South Corridor or to expand their borders. 21st Century Business Herald.

Duan, X. (2017). The change of export technology complexity of Chinese manufacturing industry and its influencing factors: a case study of textile and garment industry and electromechanical transportation equipment industry. *Finance and Trade Research, 28*(10),52-62.

Feng, L., Xu, H, Wu, G., et al. (2020). Exploring the structure and influence factors of trade competitive advantage network along the Belt and Road. *Physica A, 559*.

de Soyres, F., Mulabdic, A., Murray, S. et al. (2019). How much will the Belt and Road Initiative reduce trade costs. *International Economics, 159*,151-164.

Guo, S. (2020). Research on trade trends between China and ASEAN under the background of new land-sea Passage. *Railway Survey and Design, 1*,53-57.

Guo, X., & Huang, S. (2019). Comparative study on service trade competitiveness between China and Singapore under the construction of "New Land-Sea Corridor". *Journal of Hebei University of Economics and Business (Comprehensive Edition), 19*(4), 45-52.

Huang, W., & Gong, X. (2014). Empirical analysis of the impact of international logistics performance of Silk Road Economic Belt on China's electromechanical products export. *Journal of International Trade, 4*(10),56-66.

Li, H., & Zhang, Y.(2021). The prospect of China-asean economic and trade relations under the new pattern of double circulation development. *Asia-Pacific Economic Review, 38*(1),90-97.

Li, X. (Ed.).(1999). Economic Geography. Beijing, Higher Education Press.

Liu, W.(2015). The scientific connotation and problems of "One Belt and One Road" strategy. *Progress in Geography, 34*(5), 538-544.

Nam, F., Lean, H. H., & Salim, R. (2020). The impact of China’s one belt one road initiative on international trade in the ASEAN region. *The North American Journal of Economics and Finance, 54*.

Wang, J., & Han, J. (2018). Research on border trade development between Guangxi and Vietnam under One Belt and One Road. *Social Sciences in Guangxi, 4(*10),59-62.

Wang, J. (2017). Conditions, problems and prospects of the Belt and Road Initiative between China and the United Arab Emirates. *Contemporary World, 37*(6),66-69.

Wang, J. (2020). Citation: New Corridor connecting the "Belt and Road" and the domestic and international double cycle: Based on the industrial chain perspective. *China Business and Market, 34(*10):3-16.

Wang, P., Wei, Y., & Gao, X. (2021). Study on community structure and economic convergence effect of commodity trade network along the Belt and Road. *World Regional Studies, 30*(1),25-36.

Wang, R. (2020). Connecting Lancang-Mekong Cooperation with the New International Land-Sea Trade Corridor: Foundation, Challenge and Path. *International Studies, 6*, 115-132.

Yang, Y.(2003). Causes and countermeasures of export instability in Jiangsu Province. *East China Economic Management, 4*(1),4-6.

Yang, Z. (2019). Laos participates in the research on the construction of new international land and sea trade channels. *ASEAN Studies, 4*, 65-76.

Yuan, L. (2019). Current situation and countermeasures of international transportation through new international land and sea trade channels. *Modern Economic Information, 16*, 129-130.

Zhang, X., & Hu J. (2020). Current situation, problems and improvement of cross-border railway transport rules for new international land and sea trade channels. *International Business Research, 41*(3), 67-75.

Zhao, G., Zhu, G., & Wang, T. (2019). Assessment on the development status of new international land and sea trade routes under the background of "One Belt and One Road". *Logistics Technology, 38*(7),5-13.

Zhao, J. & Sun, H. (2019). Research on the evolution of Trade relations between China and countries along the belt and Road. *International Economics and Trade Research, 35*(11),36-48.

Zheng, L., Song, Z., Liu, W. et al..(2015). Analysis of trade pattern and trade structure in western China. *Geographical Research, 34*(10),1933-1942.

Zhuang, J. (2019). A New opportunity for the development and opening up of the western region: a new channel for land and sea trade. *Foreign Investment in China, 1*,40-42.