

Study on the Impact of RCEP Digital Economy Development Level on Guangxi's Export Trade

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Abstract: This thesis aims to explore the impact of RCEP digital economy development level on Guangxi's export trade. By analyzing the level of digital economy development, digital trade rules, digital technology application and policy measures of RCEP partner countries, the study finds that the development of RCEP digital economy has a positive impact on Guangxi's export trade. The improvement of digital infrastructure, the application of digital technology and the reduction of digital service tax are conducive to promoting the growth of Guangxi's digital service exports and the development of e-commerce platforms, which in turn improves the quality and competitiveness of export products. At the same time, Guangxi should strengthen the application of digital technology and the support of policy measures to meet the challenges posed by the RCEP digital trade rules. In addition, Guangxi should strengthen cooperation with RCEP partner countries in digital economy and export trade, and jointly promote the development of digital economy and trade facilitation, so as to promote mutual benefits and win-win situation between the two sides.

1. Introduction

With the continuous development of the global economy and the acceleration of digital transformation, digital trade has gradually become an important force to promote the development of global trade. RCEP, as the world's largest FTA, the level of digital economy development and policy environment among its partner countries has an important impact on Guangxi's export trade. Therefore, this study aims to explore the impact of RCEP's digital economy development level on Guangxi's export trade and provide reference for Guangxi to introduce corresponding policies and measures. The development of the digital economy has had a profound impact on global trade. Factors such as digital trade rules, digital infrastructure, digital technology application and policy measures all have an impact on export trade. RCEP, as the world's largest FTA, has an important research value in terms of the level of development of the digital economy, digital trade rules, digital technology application and policy measures among its partner countries. By studying the level of digital economy development in RCEP partner countries, China can better understand the digital transformation process of each country and take advantage of these opportunities to expand the scale of export trade.

2. Connotation and Development Status of RCEP

RCEP, known as Regional Comprehensive Economic Partnership (RCEP), is a free trade agreement established by ten ASEAN countries and invited China, Japan, South Korea, Australia and New Zealand (' 10 + 5 ') to establish a unified market 15 countries 10 + 5 is a free trade agreement to establish a unified market 15 countries by reducing tariffs and non-tariff barriers.

As the world's most populous, the largest economic and trade scale, the most development potential of the FTA, the entry into force of the implementation of RCEP against the trend of China's manufacturing industry has brought greater opportunities. In the first 10 months of this year, China's import and export to other RCEP members increased by 8.4% year-on-year, more than the increase in trade with the U.S.; among them, trade with Indonesia, Laos, Cambodia, Singapore, Malaysia and other ASEAN countries increased by more than 20%, and trade with Myanmar increased by more than 40%; the overall import and export of ASEAN increased by 15.8% year-on-year, accounting for 15.2% of China's total foreign trade value. Among them, RCEP for the first time China, Japan and South Korea into the same FTA system, the three countries further deepen economic and trade cooperation. In the first three quarters of this year, the bilateral trade between China and South Korea, China and Japan, and Japan and South Korea all increased by about 5% year-on-year; the trade growth between China, South Korea and Japan and RCEP partner countries reached 19.3%, 17.9% and 10.5% respectively. This increase is not only reflected in China's economic development, but also shows China's economic and technological strength in countries such as South Korea, Malaysia and New Zealand. As China's economy grows, its high-quality products are increasingly being brought to the markets of these countries, thus boosting China's economic development[1].

3. Guangxi's digital economy has development opportunities under the RCEP framework

Digital economy is an economic form based on digital computing technology, which takes data resources as the key elements and processes, analyzes and applies data through digital technology, informatization platforms and networked infrastructures in order to achieve economic value creation, industrial structure upgrading and social development progress. Digital economy mainly includes two aspects: digital industrialization and industrial digitization, the former refers to the emerging industries formed by the integration of digital technology, information and communication technology, etc. with other industries, such as e-commerce, online payment, intelligent manufacturing, etc.; the latter refers to the transformation, upgrading and efficiency improvement of the traditional industries through the application of digital technology, information and communication technology, etc., such as the industrial Internet, intelligent manufacturing and intelligent logistics.

In the "one nucleus, two leads, one bottom, four drives" digital transformation and development of the overall idea of the lead, in 2022, Guangxi digital economy scale of more than 930 billion yuan, accounting for more than 35% of the proportion of GDP, to maintain the rising trend over the years, the digital economy has become an important engine for the high-quality development of Guangxi's economy. The overall development of Guangxi's digital economy is steady and progressive, mainly reflected in:

The overall development of digital economy maintains steady growth, and the degree of regional coordinated development is constantly improving. 2022, the growth rate of digital economy scale in Guangxi exceeded 10%, higher than the GDP growth rate of the same period by 7 percentage points, compared with the growth of 78.85% in 2017; digital industrialization and industrial digitization increased by 14.21% and 5.14% respectively. The digital economy assessment index increased by 2.34% year-on-year, and the gap between the digital economy assessment indexes of cities in districts and regions has been narrowing, and the aggregation effectiveness of industrial clusters has gradually appeared[2].

The "cloud-side synergy" computing infrastructure accelerates the layout, and the level of digital infrastructure continues to improve. 2023, the entire region has built more than 20,000 new 5G base stations, all administrative villages in Guangxi have realized 5G and gigabit fiber optic network coverage, and Guangxi's e-government extranet five levels of vertical coverage of 100 percent, horizontal access rate of 76.3 percent.

The pace of digital transformation has accelerated, and the level of industrial digitization has steadily improved. The level of agricultural production intelligence continues to improve, Guangxi has accumulated the construction of intelligent agriculture park (point) 465, all kinds of agricultural big data cloud platform 30, the implementation of intelligent agriculture development of fruit and vegetable planting base of more than 500, the number of intelligent agriculture Internet of Things end users reached 33,900 households. Industrial digital transformation has been deepening, and about 380 smart factories and digital workshops have been built. Guangxi is included in the national industrial Internet platform innovation pilot demonstration projects in categories such as pilot demonstration cases 42, 29 new than the previous year. The service industry has accelerated digitalization and intelligence. 2023 From January to April, Guangxi added 6,569 physical goods e-tailing stores, and the e-tailing value of the new stores exceeded 250 million yuan. 2024 In April, Guangxi's e-tailing value increased by 45.1% year-on-year, higher than the national average level of 25 percentage points, and the growth rate ranked No. 7 in the country.

Cross-border connectivity has been continuously promoted, and digital economy cooperation towards ASEAN countries has been deepened. The international communication channel between China and ASEAN has been opened, and a number of submarine land cables, such as the Asia-Pacific International Direct International Submarine Optical Fiber Cable (APG), have been put into use one after another.

4. Relationship between the digital economy and international trade

On the one hand, the digital economy promotes the development of international trade by reducing trade costs, improving trade efficiency and promoting changes in trade patterns; on the other hand, the development of international trade also provides a broader market and resources for the growth of the digital economy. Specifically, the impact of the digital economy on international trade is mainly reflected in the following aspects:

Reducing trade costs: The application of digital technology can reduce trade costs, such as online transactions through e-commerce platforms, which can reduce the number of transaction links, lower transaction costs and improve transaction efficiency.

Improving trade efficiency: The application of digital technology can accelerate trade processes and improve trade efficiency. For example, the digitization of trade financing, document management and other processes through blockchain technology can significantly shorten the trade cycle.

Promoting changes in trade patterns: The application of digital technology can promote changes and innovations in trade patterns, such as the rise of cross-border e-commerce, which has led to the development of traditional international trade patterns in the direction of digitization and networking.

Providing a broader market: The development of the digital economy can expand the market and space for international trade, for example, by analyzing global market demand through big data analytics technology, providing more accurate marketing strategies for export enterprises.

Job creation: The development of the digital economy can create a large number of jobs, such as starting a business or working in a related field in the digital economy[3].

5. Measurement and analysis of the level of development of the digital economy in partner countries in the RCEP region.

5.1. China-ASEAN Free Trade Area and Guangxi's Export Trade

After 2010, China - ASEAN FTA began to move into the full completion of the FTA stage, ASEAN's six old partner countries on China's more than 90% of about 7,000 kinds of commodities to implement zero tariffs, at the same time, along with the realization of both sides of the service trade market and the investment market to achieve a wider and deeper opening, Guangxi and ASEAN's export trade volume is growing rapidly.

As shown in Table 1, in 2010, the total value of commodities exported from Guangxi to ASEAN alone amounted to 30.385 billion yuan, accounting for 47.41% of the total value of commodities exported from Guangxi, which was an increase of 27.1% compared to 2009. In 2015, the new ASEAN partner countries of Vietnam, Laos, Cambodia, and Myanmar realized zero tariffs on the majority of the products they traded with China and canceled the non-tariff measures, and because of this, in 2015 Guangxi's total value of export commodities to ASEAN amounted to 120.658 billion yuan, an increase of 90.273 billion yuan compared to 2010, accounting for 69.35% of Guangxi's total value of export commodities, a substantial increase in the proportion. As of 2019, the total value of Guangxi's export commodities to ASEAN peaked at about 140.3 billion yuan, an increase of about 300.62% compared to 2010, accounting for 54% of the total value of Guangxi's export commodities, and Guangxi's top trading partner and top export market has been ASEAN.

Table 1: Total value of export commodities between Guangxi and ASEAN from 2010 to 2022 (unit: billion yuan)

particular year	Total value of commodities exported from Guangxi to ASEAN	Total value of export commodities in Guangxi	Proportion of total value of export commodities in Guangxi (%)
2010	303.85	640.89	47.41
2011	430.04	791.29	67.10
2012	586.88	972.27	60.36
2013	767.23	1139.81	67.31
2014	1049.01	1494.71	70.18
2015	1206.58	1739.86	69.35
2016	991.93	1523.83	65.09
2017	1062.46	1855.20	57.27
2018	1259.80	2176.14	57.89
2019	1402.98	2597.15	54.02
2020	1621.09	2718.32	59.64
2021	1810.69	3219.62	56.24
2022	2031.87	3318.23	61.23

Note: Source: Calculated from Guangxi Statistical Yearbook and Nanning Customs data.

5.2 Analysis of differences in the level of digital development of partner countries in the RCEP region

First, the overall trend of the data in Table 1 shows that the total value of Guangxi's export commodities to ASEAN has shown a trend of growth followed by decline and then growth during

this period. During the period from 2010 to 2014, the total value of exported commodities increased from 30.385 billion yuan to 104.901 billion yuan, which was a stage of rapid growth. During the period from 2015 to 2017, the total value of exported commodities declined, from \$120.658 billion to \$106.246 billion. Between 2018 and 2022, the total value of exported commodities starts to grow again, from \$125,980 million to \$203,187 million[4].

Secondly, we can note that the total value of export commodities from Guangxi to ASEAN has consistently accounted for more than 60% of the total value of export commodities from Guangxi, with the highest percentage reaching 70%. This shows that the trade relationship between Guangxi and ASEAN is very important and has the potential for continuous growth.

Finally, we can see from the data that although the total value of Guangxi's exports to ASEAN has fluctuated, it has shown an overall growth trend. This shows that the development of China-ASEAN Free Trade Area has a positive impact on Guangxi's export trade, and Guangxi's position in the ASEAN market is gradually improving.

To summarize, the development of China-ASEAN Free Trade Area has played a positive role in promoting Guangxi's export trade, and the trade relations between Guangxi and ASEAN have the potential for continuous growth. In order to further promote the trade relations between Guangxi and ASEAN, the following measures can be taken: firstly, to strengthen the infrastructure construction and improve the efficiency of logistics and transportation; secondly, to strengthen the cooperation between the two sides in the fields of industry, technology and talents; and thirdly, to strengthen the communication and coordination of policies and promote the construction of the upgraded version of the China-ASEAN Free Trade Area.

6. Impact of Digital Economy Development in Partner Countries within the RCEP Region on China's Guangxi Export Trade

6.1. Impact of Levels of Theory

The impact of the development of digital economy in RCEP partner countries on China's Guangxi export trade can be analyzed at the theoretical level. In the context of the rapid development of digital economy, the continuous breakthrough and innovation of digital technology will promote the change of global trade mode. The rapid development of digital economy will bring new trade opportunities and promote the growth of global trade. At the same time, the development of digital economy will also promote the upgrading and reconstruction of the global value chain, which will bring more opportunities and challenges for China's Guangxi export trade.

6.2. Analysis of the mechanisms affecting export trade in Guangxi, China

The mechanism of the impact of the development of digital economy in RCEP partner countries on the export trade of Guangxi in China can be analyzed from the following aspects:

(1) Improvement of digital infrastructure: The improvement of digital infrastructure in RCEP partner countries will provide better conditions for China's Guangxi export trade. The improvement of digital infrastructure such as the Internet, mobile communication, fiber optic network will promote the flow of information, improve the efficiency of trade, and provide more opportunities for China's Guangxi export trade. In Indonesia, online shopping, telemedicine, tele-education, and cell phone applications have now become an inseparable part of Indonesian people's daily lives, and a digitalized logistics system can increase product exposure, improve export rates, and make Guangxi's product exports more competitive. The future should go beyond the realm of physical infrastructure to further boost cooperation in areas such as energy, technology, digital economy and innovation.

(2) Innovation and application of digital technology: The innovation and application of digital

technology in RCEP partner countries will bring more opportunities for export trade in Guangxi, China. Singapore has been promoting the development of the digital sector since 2004, and has developed a series of specific regulatory frameworks that have achieved good results. Singapore has expanded its national fiber-optic network and developed two new communication satellites for remote areas, created a national data center and a public cloud system. Meanwhile, Singapore is promoting the development of transparent, fair and reliable AI, such as Lazada, which includes categories such as consumer electronics, home goods, toys, fashion, sports equipment and groceries. There are multiple payment options including cash on delivery and more than 100 logistics partners. It is hoped that the transformative potential of AI will be utilized for the benefit of the public. More Singaporean businesses, especially SMEs, will have access to China's e-commerce platforms. The innovation and application of digital technology can facilitate the upgrading and transformation of traditional industries, improve production efficiency and product quality, and increase the value-added and market competitiveness of products, thus promoting the growth of export trade in Guangxi, China [5].

(3) Introduction of policy documents: The Cambodian government has launched a series of policies and initiatives, including the "Cambodia Digital Government Policy 2022-2035", "Digital Economy and Digital Society Policy Framework (2021-2035)", "Fintech Development Policy (2023-2028)". 2028), laying the foundation for Cambodia's transition from a traditional economic development model to a more humanized digital economic development model. The development of e-commerce can promote the facilitation and efficiency of cross-border trade, reduce trade costs, expand the scale of trade, and provide more opportunities for export trade in Guangxi, China.

(4) Cultivation and introduction of digital talents: The cultivation and introduction of digital talents in RCEP partner countries will provide better support for China's Guangxi export trade. Digital talents are an important part of the digital economy, and the cultivation and introduction of digital talents can help enterprises better carry out cross-border e-commerce, broaden sales channels, improve product coverage, and at the same time enhance customer experience, increase export trading opportunities, improve the competitiveness and innovation of China's Guangxi's export trade, and promote the development of the digital economy and the growth of China's Guangxi's export trade. RCEP offers an opportunity for realizing international economic cooperation that transcends geographical borders. RCEP provides an opportunity to realize international economic cooperation beyond geographical borders. New Zealand has now established technology parks in six regions to realize the goals of the digital economy, develop talent with digital skills, and promote small and medium-sized enterprises (SMEs).

As digital technologies such as the Internet, big data and artificial intelligence are increasingly integrated into the whole process of economic and social development, Chinese enterprises are actively utilizing digital technologies to promote the economic and social construction of co-built countries [6]. On a large hydroelectric power plant project in Argentina, China Energy Construction Group has extensively utilized big data computing, twinning technology and other digital technologies, which have provided great help in the effectiveness and precision of the hydroelectric power plant. On the Golden Harbor Expressway project in Cambodia, China Communications Construction Group, as a construction organizer, used digital solutions to access sensors and an intelligent management platform to collect data and monitor the whole process of the project construction, which reduced the project's management costs, lowered carbon emissions by 15%, and increased the effective utilization rate of equipment by 10%.

As can be seen, the digital economy offers unique opportunities for the diversification of the economies of RCEP partner countries. In order to better unleash the potential of the digital economy, each country should introduce stronger policies and regulations to ensure the sustainable development of the digital economy. At the same time, they should carry out cooperation on digital infrastructure and training of digital talents, and jointly promote the construction of the "Digital Silk Road", so that

the fruits of the development of the digital economy can better benefit the people of all countries, and realize the beautiful vision of people's digital life.

7. Conclusion

The conclusion of the study on the impact of RCEP digital economy development level on China's Guangxi export trade shows that the development of digital economy in RCEP partner countries has a positive impact on China's Guangxi export trade.

First, the improvement of digital infrastructure in RCEP partner countries provides better conditions for China's Guangxi export trade. Digital infrastructure includes the Internet, mobile communications, fiber optic networks, etc., and the improvement of these infrastructures facilitates the flow of information, improves trade efficiency, and provides more opportunities for China's Guangxi export trade.

Secondly, the innovation and application of digital technology in RCEP partner countries bring more opportunities for China's Guangxi export trade. The innovation and application of digital technology can promote the upgrading and transformation of traditional industries, improve production efficiency and product quality, and increase the added value and market competitiveness of products, thus promoting the growth of China's Guangxi export trade.

Finally, the cultivation and introduction of digital talents in RCEP partner countries provide better support for China's Guangxi export trade. Digital talents are an important part of the digital economy, and the cultivation and introduction of digital talents have improved the competitiveness and innovation capacity of China's Guangxi export trade, promoting the development of the digital economy and the growth of China's Guangxi export trade.

Therefore, it can be concluded that the development of digital economy in RCEP partner countries has a positive impact on China's Guangxi export trade.

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