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Changes in the Trade Pattern in China Under the RCEP: An Analysis of Trade Creation and Diversion Using the SMART-WITS Model

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Abstract

The Regional Comprehensive Economic Partnership (RCEP), one of the globe's most expansive free trade agreements (FTAs), has profoundly influenced its member countries' trading patterns. This fact is especially critical for a major economic powerhouse such as China. Understanding its trade creation and trade diversion within the RCEP context can facilitate successful formulation strategies and result in effective economic policies. In this study, we utilize the World Integrated Trade Solution Software for Market Analysis and Restrictions on Trade (WITS-SMART), a partial equilibrium modeling tool, on both state-level and industrial-tier tariff reductions under two distinct scenarios. Our findings confirm that China will benefit from impactful trade results across all RCEP members. Looking from industry point of view: machinery, chemicals, metals sector together with plastics and rubber production are projected to enjoy maximum rewards through increased trade creation and diversion opportunities from Japan and Korea. On the contrary, Australia and ASEAN have the greatest influence on the animal and vegetable sector. This crucial understanding creates strategic indicators that aid in evaluating the most appropriate alignments to harness the untapped potential in the RECP domain.

Keywords: FTA, RCEP, trade creation, trade diversion, WITS-SMART

1. Introduction

In the phenomenon of globalization, nations are becoming more interconnected, which promotes economic alliances and progressively diminishes trade barriers. This development has initiated substantial transformations in international commerce (Baldwin, 2018). Regional Trade Agreements (RTAs) are notably impactful, spurring on economic integration within Asia-Pacific jurisdictions. Within these specific contexts, we find that sealing the deal for the Regional Comprehensive Economic Partnership (RCEP) shows how far-reaching progress can go into consolidating such integration in the said region (Kimura, 2021).

The significance of this extensive free trade agreement (FTA) encapsulates roughly a third of global GDP along with its population count, covering regions like China, Japan, South Korea, Australia, New Zealand, and countries under ASEAN membership. The introduction and subsequent application dramatically add value to existing multilateral trading networks while innovatively reengineering prevalent global exchange mediums. Boundaries confining trades among member parties shall eventually crumble over time, enabling unhindered routes for physical commodities services and even wealth channels. It also holds future implications towards further fortifying connections economies well promote collaborations (Chang et al., 2020).

China's role remains the principal operating point concerning official negotiations leading up to implementation. Given its status as the second largest economy in the world, China should continue to have positive relations with other nations (Rashidin et al., 2020). Four of China's top ten trading partners in 2022 were from RCEP members, namely ASEAN, Japan, South Korea, and Australia. China and ASEAN have been each other's largest trading partners for the past three years (State Council of China, 2023). The implementation of RCEP in China is an important step towards achieving broader market access and promoting deeper economic cooperation. This effort is important for China's participation in regional economic integration, the promotion of free trade, and the advancement of multilateralism, which will also help expand China's economic influence in the Asia-Pacific region and the globe (Wei et al., 2022). China's trade data with RCEP members from 2018 to 2022 and the share of the total are shown in the table below.

Table 1. China's trade figures with other RCEP partners between 2018 and 2022, US$ 100 million

		2018	2019	2020	2021	2022	Percentage of China's Total Exports and Imports in 2022
ASEAN	Total	5876	6417	6853	8690	9618	15.24%
	Imports	2686	2822	3016	3945	4077	6.46%
	Exports	3190	3595	3837	4745	5540	8.78%
Australia	Total	1531	1695	1712	2284	2203	3.49%
	Imports	1058	1213	1177	1629	1421	2.25%
	Exports	473	482	535	655	782	1.24%
New Zealand	Total	169	183	181	246	251	0.40%
	Imports	111	126	121	162	160	0.25%
	Exports	58	57	61	84	91	0.14%
Japan	Total	3277	3150	3173	3696	3566	5.65%
	Imports	1807	1718	1747	2050	1843	2.92%
	Exports	1470	1432	1426	1646	1723	2.73%
Korea	Total	3134	2845	2856	3591	3598	5.70%
	Imports	2046	1736	1731	2132	1989	3.15%
	Exports	1088	1110	1125	1459	1609	2.55%

Source: General Administration of Customs of China.

The analysis focuses on the extent to which RCEP influences the creation and diversion on China and across different industries within the country. Viewed from trade creation, the start of RCEP is expected to significantly expand exchanges between China and other participating nations. The forecast concerning benefits implies an uplift in both foreign trade growth for China's market (Zhang, 2022), along with noticeable improvements toward overall GDP reality as well as societal welfare standards (Li et al., 2016). Additionally, possible changes pertaining to trading direction catch this study's interest, since there exists potential that non-pact country-affiliated transactions tied up with China might shrink due existing treaty structures surrounding RCEP. This prospect could reconfigure global alliances connected through Chinese commercial activity altogether alongside modifying their overarching relational framework regarding international exchange dealings; hence appropriate assessment measures investigating these probable shifts remain crucial when designing broader strategic alignments globally (Kawai & Wignaraja, 2011).

This research offers key insights for decision makers in the world of trade. Considering that global trade conditions constantly evolving, it is crucial for China to modify its international economic strategies so that it can efficiently tackle new challenges and take advantage of probable openings. A thorough exploration of the effect on creating trade as well as diverting away from it within China could give policymakers a valuable scholarly view which is beneficial when adjusting industry composition and forming trading tactics (Jiang & Yu, 2021). By comprehensively analyzing the impact of RCEP on Chinese industries, this study aims to provide valuable information to Chinese policy makers in terms of the necessary adjustments to foreign trade strategies, the optimization of the industrial structure, and the improved use of regional trade agreements. These aspects should be prioritized to maintain China's competitiveness within the global trade framework and promote sustainable economic growth (Haar, 2014).

The remaining section of the paper is organized as follows. The literature review is presented in Section 2, and the data sources and methodology of the research are provided in Section 3. Section 4 gives the primary results along with discussions. Finally, Section 5 draws conclusions.

2. Literature Review

Trade creation and trade diversion are fundamental aspects of worldwide economic integration that are significant in both the theoretical and practical realms of international commerce. Viner (1950) made a significant contribution to the field of international trade, as in this important book, The Theory of Customs Unions, he introduced a clear distinction between trade creation and trade diversion, which served as a

fundamental basis for subsequent theoretical advancements in the field. Viner's research placed significant emphasis on the establishment of a free trade area by many countries, wherein the removal of tariff barriers among these nations would facilitate a notable surge in commerce among member countries, sometimes referred to as trade creation. Afterward, scholars like Lipsey (1960) and Balassa (1961) took this theory further. They dived deep into how economic integration impacts nations trade and their overall well-being level.

In real-world analysis, there is a trend towards focusing more on exactly how trade creation influences. This is especially true in studies done in the late 20th and early 21st centuries. Using the gravity model as a tool, Frankel et al. (1995) investigated regional trade agreements. Their results highlighted a significant upswing in trading activities between countries participating in these agreements. This reinforced the empirical evidence that supports the idea of trade creation. A keystone study was conducted by Anderson and Van Wincoop (2003) for future empirical research. Their work led to the development of an innovative technique for analyzing the gravity model, instrumental in understanding how free trade agreements influence trading trends. Baier and Bergstrand (2007) provided empirical evidence that corroborated this observation, highlighting that the implementation of free trade agreements had a substantial positive impact on the volume of commerce exchanged between participating nations. Furthermore, the study conducted by Egger and Larch (2008) used a sophisticated econometric model, and their findings further substantiated the concept of trade creation.

Recent empirical research has contributed to the advancement of our understanding regarding the phenomenon of trade creation. An analysis conducted by Yang and Martnez-Zarzoso (2014) examined the impacts of the ASEAN-China FTA on trade creation. The study revealed notable effects on trade creation specifically in the realm of commodity trade. After that, under the ASEAN-India FTA, the growth in trade in Indian specialties such as coffee, tea, and pepper are largely driven by trade creation, with Indonesia and Vietnam being the biggest beneficiaries (Jagdambe & Mouzam, 2019).

Trade diversion, a significant element of free trade agreements, has garnered considerable attention in both theoretical and empirical investigations, along with the creation of trade. In contrast to the concept of trade creation, trade diversion is a phenomenon observed inside FTAs whereby there is an increase in trade among member nations, accompanied by a commensurate decrease in trade with non-member countries. The aforementioned situation has the potential to result in a decrease in the overall efficiency of global trade. This is due to the possibility that trade flows may no longer be primarily determined by cost efficiency, but rather by alterations in tariff barriers. Within the realm of empirical analysis, there has been a progressive shift in historical studies toward the evaluation of the precise influence exerted by free trade agreements on the patterns of trade between nations that are members of such agreements and those that are not.

The studies herald notable transformations in both practice and priority within empirical research circles. Nicholls (1998) carried out preliminary investigations indicating that trade diversion noticeably influenced certain commodity clusters amidst Central America's economic integration. Another example is seen in a study by Bhowmik and Nhoung (2014). Their analysis spotlighted how the ASEAN-China FTA's introduction magnified trading relations among member nations while simultaneously shrinking interactions with countries outside this group. In response to shifts in global trade patterns, scholars are now paying increasingly more attention to analyzing aspects like trade diversion occurrences. In a more recent investigation, Vasudevan and Babu (2021) explored the potential effects of creating the Eurasia Economic Union (EAEU) when it comes to sharing worldwide production. Interestingly, they discovered that parts and components experienced an overall trade diversion effect, with Armenia and Russia seeing major benefits from this shift.

Research has also been examined on China in the context of RCEP. Most of the research focuses on the comparison between RCEP and other FTAs, such as the promotion effect of RCEP, Trans-Pacific Partnership (TPP), and Free Trade Area of the Asia-Pacific (FTAPP) on GDP and trade (Tang, 2013; Wilson, 2015; Oba, 2016). There are also some scholars who have conducted research on the development of specific areas for China under the RCEP framework. For example, Li et al. (2017) found that RCEP will encourage a significant increase in foreign direct investment (FDI) in China through both direct and indirect routes, with an estimated economic gain in the range of US$10.3 billion to US$21.4 billion. Cross-border e-commerce under the RCEP framework affects the scale of trade between China and the ten ASEAN countries, with Malaysia, Vietnam, Singapore, and Thailand trading more with China, largely due to economic factors and the popularity of the internet (Wang & Cao, 2021).

Despite a large body of literature that has examined the contribution of RCEP in depth from both theoretical and empirical perspectives, there is still a relative lack of comprehensive empirical assessments of China and its different industries with respect to trade creation and trade diversion under the RCEP framework. The existence

of this research vacuum highlights the need for more targeted research on certain industries in which China operates within the RCEP framework and on the ways in which these industries are affected by trade policy. Such an analysis would not only provide a more comprehensive picture of China's participation in regional economic integration, but also provide valuable insights for policymakers to help them optimize trade policy for economic growth and sustainable development. For example, sector-specific research in China could provide information on which sectors are expected to benefit from RCEP and which sectors may face obstacles.

3. Data and Methods

3.1 WITS-SMART Model

The analysis in this study uses the World Integrated Trade Solution Software for Market Analysis and Restrictions on Trade (WITS-SMART), which was established by the World Bank. The use of this partial equilibrium modeling tool is prevalent in academic research related to the examination of the effects of FTAs. This model is highly regarded due to its comprehensive collection of analytical instruments that have been specifically tailored for the purpose of simulating studies on the lowering of tariffs. The WITS-SMART paradigm demonstrates compatibility with internationally recognized and trustworthy data sources, enabling its effective use in managing large-scale data from many countries and businesses. In contrast to conventional econometric models, the outcomes generated by the WITS-SMART model are presented in tangible monetary terms, rather than being solely categorized as statistically "significant" or "insignificant". This facilitates understanding of the study findings by policymakers lacking technical expertise (Arapova & Maslova, 2020).

This tool can replicate the immediate consequences of alterations in tariffs on the movement of goods and services, as well as evaluate the enduring implications of such modifications on certain sectors and the broader economy. Through the implementation of various tariff reduction scenarios, a comprehensive understanding of the probable ramifications of the RCEP agreement on China and its diverse industries may be achieved. This includes an analysis of the consequences on trade creation and trade diversion within the country.

3.2 Data Used

The data used in this research are derived from the trade data of the year 2020, which is included within the WITS-SMART system. The presentation of the results will be carried out using trade data that have been standardized according to the HS 2-digit criteria. The use of this data processing methodology facilitates a more precise examination of the effects of tariff reductions under the RCEP on China and its diverse sectors. This study designates China as the recipient country, while the remaining 14 countries are categorized as Australia, New Zealand, Japan, Korea, and ASEAN. To facilitate the organization and analysis of data, the World Bank has categorized its comprehensive list of over 90 industries into 16 distinct sectors, considering the specific characteristics and types of products associated with each industry.

3.3 Setting of Scenarios

In this study, Phan and Jeong's (2016) scenario structure is used to analyze the impact of the RCEP agreement on trade creation and trade diversion for China and its sectors. The scenarios are classified in the year of entry into force and the year of full implementation of the agreement. The following tariff reduction data used are sourced from China's Ministry of Commerce.

Scenario 1: In the first year of RCEP's implementation, China reduces tariffs to zero on imports from Japan by 25%, Korea by 38.6%, ASEAN by 67.9%, Australia by 65.8%, and New Zealand by 66.1%;

Scenario 2: With the full implementation of tariff reductions and exemptions under the RCEP agreement, China reduces tariffs to zero on imports from Japan by 86%, Korea by 86%, ASEAN by 90.5%, Australia by 90% and New Zealand by 90%.

3.4 Technical Notation for the WITS-SMART Analysis

Given the large number of countries to be analyzed in this study and across all industries, all elasticities were analyzed using the system defaults for WITS-SMART analysis.

The default import demand elasticity numbers used in SMART are consistent across all reporters; however, subject to variation depending on the specific product. Currently, the option to customize the elasticity is not available. This paper uses a default elasticity of substitution of 1.5, indicating that the items under consideration exhibit a certain degree of similarity while maintaining different characteristics. As an illustration, within the framework of this concept, Thai lumber has the potential to function as a viable alternative to Malaysian timber, albeit with certain limitations. The default number for export supply elasticity is set to 99, indicating infinite elasticity. This value remains constant in all trading partners. The value of elasticity has the potential to be

altered; nevertheless, it remains distinct for a certain product. It is important to note that the elasticity of export supply is not influenced by the partner involved (World Bank, 2011).

The formulas needed for this study are as follows;

$$TC_{ijk} = M_{ijk} * \eta * \frac{\Delta_{ijk}}{(1+t_{ijk})*(1+{}^{\eta}/_{\beta})} \quad (1)$$

Where

TC_{ijk}: Trade creation;

M_{ijk}: Imports;

t_{ijk}: Tariff;

η: Import elasticity of demand (system defined);

β: Export supply elasticity (99 by default);

i: Commodity;

j: Exporting country;

k: Importing country;

Trade diversion, which is mostly dependent on substitution elasticity, is represented by Equation (2):

$$TD_{ijk} = \frac{M_{RCEP}*M_{RoW}\left[(\frac{1+t_t}{1+t_0})-1\right]*\lambda}{M_{RCEP}+M_{RoW}+M_{RoW}\left[(\frac{1+t_t}{1+t_0})-1\right]*\lambda} \quad (2)$$

Where

TD_{ijk}: Trade diversion;

M_{RCEP}: Imported commodities from RCEP countries;

M_{RoW}: Imported commodities from the rest of the world;

t_t: Tariff (where t_0 and t_t represent pre and post-integration levels of tariffs) ;

λ: Elasticity of substitution (1.5 by default);

Equation (3) indicates the net trade impact (TE), which can be defined as the combined result of trade creation and trade diversion:

$$TE = TC + TD \quad (3)$$

4. Results and Discussion

This section will explain the results of the data analysis from two perspectives. The first is at the country level, analyzing the results of China's trade creation and trade diversion from the remaining RCEP members in two phases. The second is to give an explanation from the industry perspective.

4.1 Results and Data Analysis from China's Perspective

Table 2. China's trade creation and trade diversion from other RCEP members under two scenarios, US$10,000

	New Zealand		Korea		Japan		Australia		ASEAN		
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	Total
Trade Creation	1	4	15888	196252	80207	650630	40	23456	1418	6043	973939
Trade Diversion	2	7	17076	154309	65353	479670	38	5349	1009	3304	726117
Total Trade Effect	3	11	32964	350561	145560	1130300	78	28805	2427	9347	1700056

Source: Author's calculation from WITS-SMART

At the national level, China has experienced notable regional differences in overall trade impact resulting from its engagement with the member nations of the RCEP. In the S2 phase, it is evident that South Korea and Japan exert the most substantial influence on China's overall trade, as their respective trade volumes amount to US$3.51 billion and US$11.3 billion. These figures significantly transcend the trade volumes of other member countries. In comparison, the entire trade effect of New Zealand is comparatively minimal in both stages, amounting to US$3,000 and US$110,000 in S1 and S2, respectively. The ASEAN, as a regional entity, exhibits a

modest level of overall trade impact at both stages, indicating a degree of stability and the possibility of expansion in trade engagements with China. The expansion of Australia during the S2 phase is noteworthy, as evidenced by the substantial total trade effect of US$288 million. This figure underscores Australia's significance within the Chinese market, particularly under certain circumstances.

The data findings related to the trade creation effect indicate notable advancements in South Korea and Japan during the S2 phase. South Korea had a substantial increase from US$158.89 million in S1 to US$1.96 billion in S2, while Japan sees a gain from US$802.07 million to US$6.51 billion. Both countries have significantly outperformed other member countries in terms of trade creation. When it comes to New Zealand, it is evident that China is estimated to experience an increase in its effect on trade creation from US$10,000 in S1 to US$40,000 in S2. However, it is important to note that New Zealand's growth rate and absolute value in this regard remain the lowest among all member countries.

Regarding the effect of trade diversion, it is noted that Japan has a substantial increase in its data during the S2 phase, reaching a value of US$4.8 billion, which is the highest among all member nations. Similarly, South Korea is also expected to have a large increase in its figures, progressing from US$170.8 million in S1 to US$1.54 billion in S2. This phenomenon signifies a notable surge in demand for items from these countries within the Chinese market, subject to specific trade conditions. In contrast, New Zealand is observed to see a comparatively modest increase in its trade diversion effect during both phases, with an initial increase from US$2,000 in S1 to a mere US$70,000 in S2.

The limited extent of New Zealand's trade contribution to China in terms of trade creation and trade diversion compared to other members of the RCEP may be attributed to a confluence of various variables. To begin with, the economy of New Zealand is quite modest in scale. Based on the GDP metric, the economy of New Zealand is comparatively smaller in scale when compared to larger economies under the RCEP, such as Japan and South Korea. In 2022, New Zealand's GDP was US$247 billion and, as a comparison, Japan's and South Korea’s GDP were US$4.2 trillion and US$1.7 trillion, respectively (World Bank, 2023). The size disparity between New Zealand and China significantly influences the prospects of trade between the two countries.

Additionally, New Zealand’s export composition is mostly centered on agricultural commodities, specifically dairy, beef, and wool (New Zealand Foreign Affairs and Trade, 2023). These items have a consistent level of demand in the Chinese market, although with limited potential for expansion. This structural framework establishes that the impact of trade expansion on the marginal effect is rather insignificant. Lastly, the bilateral FTA between two nations was officially signed and implemented in October 2008, predating the RCEP. Within the framework of this FTA, both parties have successfully executed multiple iterations of tariff reductions, thereby facilitating the attainment of tariff-free status for most traded commodities. The impact of the previous free trade agreement on current Zealand's incremental trade creation and diversion to China inside the RCEP framework has resulted in limitations on the extent of marginal improvement achieved under the current agreement.

4.2 Results and Data Analysis from China’s Sectoral Perspective

From the perspective of overall trends, a comparison of the S1 and S2 data shows significant changes in sector-specific trade effects. In the areas of machinery and electronics, chemicals, textiles, and food, the increase in trade flows highlights the potential impact of trade facilitation policies. In the case of Japan, for example, the effect of generating trade of machinery and electronics increases from US$130 million to US$1.68 billion in the S2 scenario, a significant increase that can be attributed to tariff reductions and improved market access conditions under the RCEP. Furthermore, the effect of trade creation of Japan's chemical industry also grows from US$296.5 million in S1 to US$1.41 billion in S2, possibly reflecting the growing demand for advanced machinery and chemical products. As for New Zealand, its trade creation and diversion for all industries are low in both scenarios, which may be related to the small size of the industries, the relatively saturated market, and the existence of an FTA agreement between China and New Zealand itself.

As can be seen in Table 3, China's trade creation and trade diversion data for all industries show an overall increase in both scenarios, but the variation between industries is very large. The strongest growth in trade effects are seen in machinery and electronics, chemicals, miscellaneous, metals, plastics, and rubber products. Trade creation and diversion from the machinery and electronics sector is expected to increase from US$175 million and US$195 million in S1 to US$2.03 billion and US$2 billion in S2, creating a total trade effect of US$4.4 billion, which is the biggest change of all sectors. Chemical products follow, with an estimated trade effect for China of US$3.13 billion. During the two phases, China's trade creation and diversion are projected to surge to US$1.72 billion and US$880 million, compared to US$310 million and US$210 million in S1.

The total trade effects of the miscellaneous, metal, plastic, and rubber sectors are about the same, at about US$1.9 billion. But of the three sectors, miscellaneous grows the fastest, with trade creation and diversion jumping 32 and 23 times within two scenarios, while plastics and rubber also explode, soaring 20 and 17 times in S2. It is also worth noting that the data for the five sectors mentioned above are all brought in by one country, Japan, which is consistent with the results analyzed in Section 4.1 that China receives the highest value of trade creation and trade diversion from Japan in the RCEP agreement. In fact, from Table 3, we can also see that Japan also creates trade effects ahead of the rest of the RCEP members in seven other industries.

In fuels, hides and skins, and footwear, the value of the creation and diversion to China varies between the two phases. Specifically, the fuels sector is expected to generate a total trade effect for China of approximately US$460 million, with trade creation and diversion increasing from US$110 million and US$60.23 million in S1 to US$160 million and US$140 million. The clothing and skin industries have zero trade creation and trade diversion in S1, but in S2, the figures grow to US$78.92 million and US$13.04 million, and US$16.20 million and US$7.86 million, with tital trade effect of US$91.96 million and US$24.06 million, respectively. Furthermore, the main contributing country in all three sectors is Korea, which is also consistent with the analysis in Section 4.1 that Korea is second after Japan in terms of trade effects on China between RCEP members.

Trade creation and diversion in the animal and vegetable sectors come mainly from Australia and ASEAN. Both trade creation and diversion in the animal sector are US$20,000 in S1, but grow to US$347 million and US$58.9 million in S2, with a combined trade effect of US$406 million for China, of which about 68% come from Australia. On the contrary, the most significant source of trade effects in the vegetable sector is ASEAN. China is expected to gain US$112 million in total trade effect, with trade creation and diversion of US$13.4 million and US$3.8 million in S1, increasing to US$76.03 million and US$18.32 million in S2. ASEAN creates US$46.14 in trade effects in the sector, accounting for about 41% of the trade effects.

4.3 Discussions

Adding the above results together, the analysis of trade diversion effects indicates shifts in market supply sources within certain industries. The data for chemicals and machinery and electronic products industries in Japan are particularly notable, suggesting that China's supply chains under the RCEP framework might have shifted from other countries to Japan. This shift could be due to Japan's technological superiority in these fields and China's urgent need to enhance the quality and efficiency of its domestic industry chains (Sun & Zhang, 2023). For example, the trade diversion for machinery and electronic products increased from US$73.96 million in S1 to US$815.6 million in S2, possibly reflecting China's high demand for high-end machinery and electronic products in its pursuit of industrial upgrading.

In the comparative analysis between different RCEP member countries, China and ASEAN have a certain consistency in trade growth in food products and textiles, which may be related to their common agricultural foundation and the base of the light industry (Xiwen, 2023). On the contrary, comparisons with Japan and South Korea show a significant increase in trade activities in industries such as chemicals, machinery and electronic products, reflecting the competitive strength of these countries in these areas and the strong demand in the Chinese market for these high quality products (Li & Moon, 2018).

The statistics and analyses presented here offer significant insights on China’s prospective trade policies. When developing its trade policy, China need consider the effects of trade creation and diversion across various countries and industries. Furthermore, China should assess the possible impact of tariff reductions and improvements in market access resulting from the RCEP agreement on its trade flows in different industries (Lu, 2018). Japan and South Korea have contributed significantly to both trade creation and trade diversion in China under the RCEP framework (Mahadevan & Nugroho, 2019).

However, it is crucial for China to improve its collaboration with RCEP member nations, particularly in high-tech sectors such as chemicals, mechanical engineering, and electronics. This will enable China to effectively leverage the expertise and capabilities of these countries in high-tech domains, thus facilitating the advancement and growth of Chinese industries (Li et al., 2017). Therefore, by comprehensive examination of the industry trade statistics of the member nations of the RCEP, it can be deduced that the influence of the RCEP on Chinese industries exhibits notable variations. Modifications to trade policy will contribute to the advancement of trade facilitation and boost China's standing within the high value-added industrial chain (Reed, 2010). The findings derived from these assessments should be utilized by the Chinese government to optimize its trade policies, thus maximizing the economic advantages associated with the RCEP agreement. More research is warranted to delve into the intricate trade dynamics between different industries and evaluate the long-term

effects of the RCEP on China's trade framework (Zhang et al., 2023).

Table 3. China's sectoral trade creation and trade diversion from other RCEP members under two scenarios, US$10,000

	New Zealand				Australia				Korea				Japan				ASEAN			
	TC		TD		TC		TD		TC		TD		TC		TD		TC		TD	
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
Animal	0	0	0	0	0	22876	0	4719	1	9097	1	442	1	2702	1	726	0	0	0	0
Vegetable	0	0	0	0	40	441	38	434	349	728	298	736	81	2756	42	602	871	3678	4	61
Food Products	0	0	0	0	0	0	0	0	310	26757	1292	3780	557	63230	3111	8993	64	124	328	298
Minerals	0	0	0	0	0	0	0	0	1	1	1	1	1164	15373	449	1269	0	0	0	0
Fuels	0	0	0	0	0	0	0	0	5367	8526	4740	8970	5151	7540	1283	4401	0	0	0	0
Chemicals	0	0	0	0	0	0	0	0	1335	30678	1672	13773	29650	141461	19591	74521	0	144	0	149
Plas or Rubb	0	0	0	0	0	0	0	0	733	25018	931	28170	3352	61142	4467	64472	0	38	0	43
Hides & Skins	0	0	0	0	0	115	0	149	0	5079	0	847	0	2697	0	307	0	0	0	0
Wood	0	0	0	0	0	0	0	0	29	38	33	35	0	803	0	371	48	243	262	221
Text and Clot	1	4	2	7	0	23	0	45	700	9431	798	5193	1498	18684	853	12702	311	924	326	1342
Footwear	0	0	0	0	0	0	0	0	0	929	0	367	0	690	0	420	0	0	0	0
Stone and Glas	0	0	0	0	0	0	0	0	1106	2115	911	2497	1678	14534	808	11980	0	0	0	0
Metals	0	0	0	0	0	0	0	0	1547	14330	1434	12338	20922	68518	15785	55911	0	0	0	0
Mach and Elec	0	0	0	0	0	1	0	2	4386	34006	4929	36337	13125	168380	14612	163120	4	485	7	912
Transportation	0	0	0	0	0	0	0	0	0	6224	0	5710	216	15516	199	16994	118	407	81	278
Miscellaneous	0	0	0	0	0	0	0	0	26	23294	35	35115	2814	66605	4153	62880	1	0	2	0
Total	1	4	2	7	40	23456	38	5349	15888	196252	17076	154309	80207	650630	65353	479670	1418	6043	1009	3304

Source: Author’s calculation based on simulation results from WITS-SMART

5. Conclusion

The study used the WITS-SMART model to examine the occurrence of trade creation and trade diversion in China, specifically focusing on its interactions with other member nations under the RCEP agreement. This analysis was carried out over two distinct periods of the agreement. Furthermore, the research examined the effects of trade creation and diversion on different sectors of the Chinese economy throughout the corresponding stages.

The results of this analysis provide significant empirical evidence that is of great importance for China's efforts to strengthen trade relations with members of the RCEP and enhance internal economic reforms. The insights presented not only offer indications of the current trade dynamics, but also serve as a valuable resource for policymakers in identifying industries that stand to gain the most from the deal, as well as those that may necessitate strategic realignment (Li & Moon, 2018). This study highlights the importance of intricate economic diplomacy and emphasizes the necessity of continuous evaluation of trade policies to ensure their congruence with the dynamic industrial objectives and competitive environment of China's economy (Reed, 2010).

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