

How Much Impact Does the Withdrawal of the United States from the TPP on the Sino-ASEAN Economic Relations?--from the TPP to the CPTPP

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Abstract. This thesis has established a GTAP Model for 140 countries, 7 regions and 10 sectors, and undertaken the simulation through setting up variables including tariff impact and non-tariff impact to evaluate the different impact that the withdrawal of the United States from the TPP has on both China's and ASEAN's GDP, social welfare, trading conditions, trading volumes of import/export and output from various industries. The results of the simulation suggest that while the TPP and the CPTPP cause losses to China's GDP and social welfare, deteriorate its trading conditions, decrease its output from various industries and reduce its import and export, the two organizations are beneficial to the enhancement of the overall economic efficiency in the TPP members in ASEAN. After the withdrawal of the United States from TPP, the export growths of the CPTPP members in ASEAN accelerated, while the negative impact that China has on ASEAN members' export growths decreased. Output from industries such as husbandry and meat product industry, food processing industry, light industry and heavy industry in the CPTPP members in ASEAN has decreased significantly due to the impact of the CPTPP. By contrast, the TPP has improved Japan's trading conditions, and it has been done in the most obvious manner. In addition, the extent to which Japan's trading conditions have improved still leads that of the countries involved after the withdrawal of the United States from the TPP. This might be the reason why Japan has chosen to remain as a leader of the TPP and push forward its undertakings. Through the GTAP simulation, the thesis found out that the implementation of the CPTPP has only limited economic impact on China and ASEAN members, and China can offset such negative impact by promoting RCEP.

1 Introduction

In the last few years, the Asia-Pacific countries have kept exploring and trying new ways to the economic integration. In bilateral level, free trade areas (FTA) of America-South Korea, China-South Korea, China-Australia and the Five "10+1" were established. In regional level, the establishment of ASEAN has dramatically promoted economy of the southeast Asia. In addition, FTA of China-Japan-South Korea and Comprehensive Progressive Trans-Pacific Partnership (CPTPP) have reached consensus after some rounds of negotiation. Under promotions of Japan and Vietnam, 11 countries except America signed the CPTPP in March 8, 2018 at Santiago. Comparing to TPP, the CPTPP has frozen effects of 20 clauses related to America, half of which were associated with intellectual property, and the contribution of economic size of FTA in the global economic aggregate has dropped from 40% to 13%. For China, TPP has brought a lot of impacts and challenges for its foreign trade development, and the America's withdrawing TPP has weakened the influence of CPTPP on the Asia-Pacific region.

Most studies about TPP of the existing literatures are qualitative researches rather than quantitative researches supported by data. Moreover, research on CPTTP hasn't been seen since it was started not long ago. Therefore, Global Trade Analysis Project (GTAP) is used in this paper to quantitatively measure the economic effects of CPTTP for China and the ASEAN, and the simulation result of GTAP is used to explore China's strategies towards the Asia-Pacific economic integration.

2 Model settings of GTAP simulation

2.1 Operational principle of GTAP

The GTAP, designed and developed by the Purdue University, is mainly used to quantitatively analyze the changes of trade policies. Comparing to other projects, the GTAP can simulate the changes of policies and measure the changes' impact on GDP, terms of trade, trade scale, sectoral output and welfare level, namely, being used more in forecasting the future trade development as well as its prospective research.

2.2 Regional settings of GTAP simulation

In March 8, 2018, the CPTPP was formally signed by 11 countries including Japan, Canada, Chile, Mexico, Peru, Australia, Brunei, Malaysia, New Zealand, Singapore and Vietnam. As part of members of the ASEAN are covered in CPTPP, for ease of study, the ASEAN countries are divided into two groups, namely the CPTPP countries in ASEAN, and other countries in ASEAN. According to the list of members covered by CPTPP and for the research of the paper, the 140 countries and regions in the GTAP database (GTAPAaa) are divided into 7 groups, namely China, Japan, America, CPTPP countries in ASEAN, other countries in ASEAN, and other countries in CPTPP and other regions of the world, among which the America is set along as it is the world's most important economy, as well as the most important partner in relation to economy for China and the Asia-Pacific region.

2.3 Departmental settings of GTAP simulation

The 9th version GTAP database (GTAPAgg) covers 57 industries, which are mainly divided according to the International Standard Industrial Classification System (ISIC) and the Cooperative Patent Classification (CPC). It is divided in this paper into ten kinds, the Grain and Crops, Livestock and Meat Products, Natural Resources, Processed Food, Textiles and Clothing, Light Industry, Heavy Industry, Public Utilities and Construction, Transportation and Communications and Other Services, among which Grain and Crops, Livestock and Meat Products, Natural Resources, Processed Food belong to primary products, and Textiles and Clothing, Light Industry, Heavy Industry belong to manufactured goods, and Public Utilities and Construction, Transportation and Communications and Other Services belong to the service industry.

2.4 Scenario settings of GTAP simulation

The CPTPP simulation focuses on how the economic indicators of the main economies in CAFTA will be affected differently when tariff and technical barriers to trade of the countries covered by the CPTPP reduce. There are two scenarios in simulation research of CPTPP: the first one is that the 11 member countries of CPTPP reduce their tariff to 0, and their technical barriers to

trade by 5%; for comparing the difference of effects of CPTPP and TPP on VAFTA's economic and observing the effect brought by the AMERICA's withdrawing, the scenario two is set as that the 12 member countries of TPP reduce their tariff to 0, and their technical barriers to trade by the same 5%. Refer to Table 1 for concrete settings.

Table 1 Simulated scenario settings for studying the economic effect of CPTPP and TPP on CAFTA

No.	Item	Scenario settings
1	CPTPP	CPTPP was established, and the 11 countries of CPTPP reduce their tariff to 0, and their technical barriers to trade by 5%
2	TPP	the 12 countries of TPP reduce their tariff to 0, and their technical barriers to trade by 5%

3 Analytical comparison for effects of America's withdrawing TPP on economy of CAFTA

3.1 Difference of effect of CPTPP and TPP on GDP of regions of CAFTA

The result of simulation of GTAP is presented in Table 2, showing percentage changes, brought by reduction of tariff and technical barriers to trade, of GDP of CAFTA and relevant countries and regions under CPTPP and TPP respectively

Table 2 Effect of CPTPP and TPP on GDP of regions of CAFTA (unit: %)

Region	China	Singapore	Vietnam	Malaysia	Brunei	Indonesia	Philippines	Thailand	Laos	Cambodia
CPTPP	-0.31	1.59	1.85	1.31	0.65	-0.62	-0.15	-0.3	-0.08	-0.21
TPP	-1.12	1.61	1.91	1.44	1.03	-0.14	-0.65	-0.78	-0.57	-0.35
Region	America	Japan	Canada	Mexico	Peru	Chile	Australia	New Zealand	other countries	Myanmar
CPTPP	-0.16	1.56	0.18	0.16	0.12	0.20	0.49	0.17	-0.07	-
TPP	0.93	1.20	0.88	0.68	-0.43	0.01	0.05	-0.24	-1.43	-

Simulation result demonstrates that: the establishment of TPP has made a degree of rising for GDP of countries covered in TPP, like Japan, ASEAN countries in TPP, America, other countries in TPP, where the ASEAN countries in TPP, namely Singapore, Vietnam, Malaysia, enjoy the biggest GDP rising, reaching 1.61%, 1.85% and 1.31% respectively under the foresaid scenario. Ranking of GDP rising for other regions is ASEAN countries in TPP > America > Japan > other countries in TPP.

Non-TPP nations including China, other countries in ASEAN and some other regions endure damage to some extent on their GDP after the establishment of TPP, among which other countries in ASEAN take the biggest damage, including Indonesia, Philippines, Thailand, Laos and Cambodia, and the biggest GDP falling reaches up to 2.97%. China's economic interest also suffers big damage with a GDP falling of 1.12%, and falling for other regions of the world is 1.43%. However, as the leading country of TPP, the America don't obtain the corresponding economic interest. Maybe this is one of the reasons why Donald Trump advocated to exit the TPP after his coming to office. (2) After America's withdrawing, GDP growing speed of the other member nations of CPTPP, except for Australia and New Zealand, has dramatically weakened down, among which ASEAN countries in CPTPP including Singapore, Vietnam, Malaysia and Brunei has witnessed their GDP growth falling from 5.99% to 5.40% after the AMERICA's exit, indicating that the AMERICA's withdrawing has little impact on their GDP but just cause a weak falling. For the Non-CPTPP countries in ASEAN including Indonesia, Philippines, Thailand, Laos and Cambodia, their GDP decline has changed from 2.14% to 1.14% after the AMERICA's exit, indicating that the negative

effect endured by those countries has been weakened because of the AMERICA's withdrawing. For China, its GDP decline has changed from 1.12% to 0.3% after the AMERICA's exit, indicating that impact of CPTPP on China's GDP has weakened dramatically. For Japan, its GDP growth has rose from 1.20% to 1.56%, indicating that after the AMERICA's withdrawing the CPTPP led by Japan can bring higher economic benefit for it.

3.2 Difference of effect of CPTPP and TPP on export scale of regions of CAFTA

Tariff concession will help in reducing the cost of international trade, improving the profit margin, so as to promote the bilateral or multilateral trade and to increase the import and export volume. Effect of CPTPP and TPP on export scale of regions of CAFTA according to the GTAP simulation result is sorted out in the Table 3.

Table 3 Effect of CPTPP and TPP on export scale of regions of CAFTA (unit: %)

Region	China	Singapore	Vietnam	Malaysia	Brunei	Indonesia
CPTPP	-0.23	1.70	0.82	0.39	0.53	-0.15
TPP	-0.84	1.53	1.12	0.12	0.17	-0.37
Region	Thailand	Laos	Cambodia	America	Japan	Canada
CPTPP	-0.17	-0.02	-0.07	-0.09	0.37	0.16
TPP	-0.57	-0.27	-0.32	1.28	0.66	0.97
Region	Mexico	Peru	Chile	Australia	New Zealand	other countries
CPTPP	0.11	0.36	0.22	0.15	0.26	-0.05
TPP	0.90	0.22	0.09	0.06	0.03	-0.26

The simulation result shows that: (1) after the establishment of TPP by the 12 countries and the tariff and technical barriers to trade reduce, export volumes for all the member nations increase, where ranking of export volume growth for ASEAN countries in TPP is Singapore (1.53%) > Vietnam (1.12%) > Brunei (0.17%) > Malaysia (0.12%), but the Non-TPP ASEAN countries present a falling trend in their export volume, where the Thailand suffers a largest falling of 0.57%. Among all the countries, the AMERICA's growth rate of export is highest, reaching up to 1.22%. The TPP has brought some negative impact for the Non-TPP countries including China, who suffers the most serious impact in relation to export, with a decline of 0.84%. Other Non-TPP member regions also endure a degree of impact. (2) After America's withdrawing, influence of CPTPP for each country will differ, where ASEAN countries in CPTPP including Singapore, Vietnam, Malaysia and Brunei has seen their export volume growth rising from 0.7% to 1.8% after the AMERICA's exit; for the Non-CPTPP countries in ASEAN including Indonesia, Philippines, Thailand, Laos and Cambodia, their export volume decline has risen from 1.42% to 0.33% after the AMERICA's exit, indicating that the negative effect endured by those countries has been weakened because of the AMERICA's withdrawing. For China, its export volume decline has changed from 0.34% to 0.14% after the AMERICA's exit, indicating that the impact on China's export has relieved dramatically.

3.3 Difference of effect of CPTPP and TPP on import scale of regions of CAFTA

Effect of CPTPP and TPP on import scale of regions of CAFTA according to the GTAP simulation result is sorted out in the Table 4.

Table 4 Effect of CPTPP and TPP on import scale of regions of CAFTA (unit: %)

Region	China	Singapore	Vietnam	Malaysia	Brunei	Indonesia
CPTPP	-0.22	1.69	0.92	1.60	0.93	-0.26
TPP	-0.77	1.40	0.82	1.49	0.50	-0.91
Region	Philippines	Thailand	Laos	Cambodia	America	Japan
CPTPP	-0.15	-0.35	-0.08	-0.16	-0.31	0.79
TPP	-0.73	-0.96	-0.53	-0.38	1.92	0.83
Region	Canada	Mexico	Peru	Chile	Australia	New Zealand
CPTPP	0.35	0.28	0.85	0.53	1.29	1.12
TPP	2.49	1.97	0.83	0.6	1.13	0.84

The simulation result reveals that: (1) after the establishment of TPP by the 12 countries and the tariff and technical barriers to trade reduce, import volumes for all the member nations increase, where ranking of import volume growth is other countries in TPP > ASEAN countries in TPP > America > Japan > China > Non-TPP countries in ASEAN, with the corresponding number of 7.29%,1.92%,0.83%,-0.77%,-3.51%, respectively. Among the ASEAN countries, Malaysia enjoys the biggest improvement of 1.49%, then Singapore, Vietnam and then Brunei. The Non-TPP countries in ASEAN endure impact on their import volume to different extent, Thailand suffering the largest impact of 0.96%. (2) After America's withdrawing, 11 countries of the CPTPP show two varying trends in their import volume, and the ranking of import increasing is ASEAN countries in TPP > other countries in TPP > Japan > China > America > Non-TPP countries in ASEAN, with the corresponding number of 5.14%,4.33%,0.83%,-0.22%,-1.00%, respectively. The ASEAN countries in CPTPP witness a growth in their import volume from 1.92% to 5.14%. Other countries in TPP suffer a falling in their import volume, falling from 7.29% to 4.33%, among which the AMERICA has its import volume changed from 0.83%, a positive impact, to a negative impact of -0.22% due to its withdrawing. Due to the AMERICA's exit, impact brought by CPTPP for China's import volume is relieved to a large extent, just a 0.22% falling. The AMERICA's withdrawing has also made other Non-TPP countries improved their decline in import volume.

3.4 Changes of social welfare

Table 5 Changes of social welfare of regions in CAFTA affected by CPTPP and TPP (unit: Million Dollars)

Region	China	Singapore	Vietnam	Malaysia	Brunei	Indonesia
CPTPP	-2498.88	2885.21	1747.63	3818.69	151.11	-379.97
TPP	-7984.17	4071.56	2115.92	4642.9	166.91	-917.55
Region	Philippines	Thailand	Laos	Cambodia	America	Japan
CPTPP	-109.77	-562.07	-0.75	-15.72	-3491.52	4670.71
TPP	-227.55	-906.56	-4.37	-3.34	28012.07	8819.59
Region	Canada	Mexico	Peru	Chile	Australia	New Zealand
CPTPP	1756.03	1624.91	257.83	525.74	3485.47	778.86
TPP	13732.91	9136.83	451.53	1188.74	4365.51	944.29

Simulation in this section shows that as CPTPP moving forward, tariff and technical barriers to trade of the member nations are gradually weaken down and the allocative efficiency of resource in the region will be improved further, and then boost the economy of the member nations and

enhance their social welfare level, as showing in Table 5.

The simulation result reveals that: (1) the establishment of TPP has provided its 12 member nations significant improvement in welfare level, among which the America enjoys a biggest improvement, rising by 28012.07 million US dollars. Other regions out of TPP endure some extent of decline in welfare, where China suffers a decline of 7984.17 million US dollars. The ASEAN countries in TPP have some extent of improvement in their welfare, the ranking is Malaysia > Singapore > Vietnam > Brunei, but the Non-TPP countries in ASEAN show downward trends in their welfare, where Indonesia suffers a biggest one reaching 917.55 million US dollars. Totally speaking, after the TPP established, welfare level for AMERICA, Japan, Canada and Mexico have been improved considerably, while the world's Non-TPP countries suffer biggest decline in their social welfare, reaching 21,080.54 million US dollars. (2) After CPTPP established, impact of each region's welfare is largely relieved due to the AMERICA's withdrawing. The America's welfare changes from 28012.07 million US dollars, before its exit, to -3491.52 million US dollars after its exit. After the AMERICA's withdrawing, China's welfare level still endure decline, but the extent, just 2498.88 million US dollars, 3/10 of the decline when TPP is initially established, is largely relieved comparing to the period when America is still in TPP. Increasing of welfare for the ASEAN countries in TPP is slowed down, and regions out of the 11 countries of CPTPP have seen their decline of social welfare relieved to a number of 3274.43 million US dollars, which is a very large improvement and about 3/20 comparing to the decline when the AMERICA entered the TPP, revealing that CPTPP has a much smaller impact than TPP for the rest of the world.

4 Conclusion and suggestion

4.1 Conclusion

GTAP is used in this paper to simulate that during the Asia-Pacific economic integration process, how the economic and trade indexes of nations inside the provisions will change when the member nations of TPP and CPTPP weaken their tariff and technical barriers to trade, and analyze in great detail the varying situations of GDP, export and import volume and social welfare for the nations inside the project. The main conclusions are as below:

Firstly, the effect on economic relationship among China, Japan and the AMERICA. After the AMERICA withdrawing TPP, impact of CPTPP on the economic relationship weaken, where the impact on China's GDP just make a decline of 0.31%, largely smaller than the negative impact caused when America entered. Meanwhile, the America's GDP change from a 0.93% growth to a 0.16% decline after it withdraws from TPP. For Japan, the growth of its GDP rises from 1.2% to 1.56%, indicating that the American's exit will allow the CPTPP led by Japan to generate more economic profit for Japan. For the aspect of export and import, the Japan's export volume increase by 0.37%, and its import volume increase by 0.79%. As unable to enjoy the tariff and non-tariff incentives of CPTPP, the America's export and import volume endures somewhat reduction. Generally speaking, after America withdrawing the TPP, TPP's negative impact on Non-CPTPP nations' GDP, social welfare, trade terms and export and import volume still exists, but the extent has been largely weakened.

Secondly, the impact on CAFTA. After the America exit the TPP, impact of CPTPP on Asia-Pacific area is largely weakened. The economic relationships are as below: for difference of effect on ASEAN countries' GDP, after America's withdrawing, GDP growing speed of the other member nations of CPTPP, except for Australia and New Zealand, has dramatically weakened down, among which ASEAN countries in CPTPP including Singapore, Vietnam, Malaysia and Brunei has

witnessed their GDP growth falling from 5.99% to 5.40% after the AMERICA's exit, indicating that the AMERICA's withdrawing has little impact on their GDP but just cause a weak falling. For the Non-CPTPP countries in ASEAN including Indonesia, Philippines, Thailand, Laos and Cambodia, their GDP decline has changed from 2.14% to 1.14% after the AMERICA's exit, indicating that the negative effect endured by those countries has been weakened because of the AMERICA's withdrawing. For the aspect of difference of effect on ASEAN countries' export and import volume: for export, After America's withdrawing, influence of CPTPP for each country will differ, where ASEAN countries in CPTPP including Singapore, Vietnam, Malaysia and Brunei has seen their export volume growth rising from 0.7% to 1.8% after the AMERICA's exit; for the Non-CPTPP countries in ASEAN including Indonesia, Philippines, Thailand, Laos and Cambodia, their export volume decline has risen from 1.42% to 0.33% after the AMERICA's exit, indicating that the negative effect endured by those countries has been weakened because of the America's withdrawing. For import, ASEAN countries in CPTPP see their import volume increased from 1.92% to 5.14%. Meanwhile, after the America's withdrawing, the impact brought by CPTPP on import volume of Non-CPTPP countries in ASEAN is largely relieved. For the aspect of ASEAN countries' social welfare, other ASEAN countries in CPTPP all suffer a decline on the growth of their social welfare level but still a positive welfare effect, ranking as Malaysia > Singapore > Vietnam > Brunei, while the Non-CPTPP countries in ASEAN suffer a negative welfare effect, where the Thailand suffers a biggest decline.

4.2 Strategy suggestion

To summarize, the growing trade scale in Asia-Pacific area and interdependent relationship among the countries in that area have laid foundation for negotiating the trade agreement of the region. Either the CPTPP or some other regional trade agreements are reflection of the promotion of Asia-Pacific economic integration. At present, different interest groups coexist in the process of Asia-Pacific economic integration, and each group wants to take a share of the spoils in the integration of world economy. Therefore, there is still difficulty for establishing FTA with high standard and covering a wide range in the Asia-Pacific area. The countries in the region should enhance communication and negotiation with frank and cooperated attitude, to properly handle the sensitive issues emerged and stably push forward negotiations of trade agreements for the Asia-Pacific area. Facing with the development of the region of increasingly fierce competition and complicated situation, China should establish its own regional economic cooperation network in the Asia-Pacific area, enhance the depth and breadth of its opening-up, positively participate in the negotiation of trade agreements of Asia-Pacific area, strengthen its power status in the region and do its best to retain and enhance its leadership and discursive power in the stage of regional economic cooperation. Especially in the RCEP negotiation, China should firmly grasp the cooperation opportunity and work with other countries to overcome the barriers in the negotiation, and push forward the process of Asia-Pacific economic integration with more practical and positive attitude, so as to realizing mutual benefit and accelerating the development for all the Asia-Pacific countries.

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