

The Impact of a Free Trade Agreement (FTA) Between Major Asian Economies: A Policy Response to TTIP*

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ABSTRACT

Many economists believe that Transatlantic Trade and Investment Partnership (TTIP) will rewrite the rules of the global economy and may have significant disadvantage on developing countries in terms of trade diversion and convergence of standards and national regulatory systems. It is now a widely accepted fact that the rising economic power of Asia, China in particular, gave impetus to negotiations of TTIP. Considering these incentives behind TTIP, there is an increasing possibility of China and other major Asian economies to develop their own Asian Free Trade Area which may lead to disintegration of the world trading system into rival trading blocs. This paper analyses the initial economic impact of possible policy responses by major Asian countries as signing a FTA against TTIP under different liberalisation scenarios. When the recent economic integration efforts in Asia is considered, it is seen that the Regional Comprehensive Economic Partnership (RCEP), which is an enlarged framework for ASEAN+1 FTAs, foresees a more broader and deeper integration than other FTA efforts. That's why, in this study, the possible FTA in Asia is assumed to be between sixteen RCEP members. A computable general equilibrium (CGE) analysis with static GTAP model is used to examine the economy-wide effects of FTA's. Three basic scenarios are tested in the analysis. In the first scenario, the impact of TTIP on signing parties and other countries, Asian countries in particular, are tested. In the second and third scenarios, the impact of a policy response of 16 RCEP countries as establishing a FTA in paralel with the TTIP is analysed. The second scenario includes 100% tariff reduction in industrial products and the third scenario includes 50% tariff reduction in agricultural products in addition to 100% tariff reduction in industrial products. The analysis results show that TTIP will have positive impact only on economies of EU and USA while all other countries will worsen in terms of real GDP. On the other hand, in second and third scenarios, in which Asian countries sign a FTA simultaneously, the Asian countries signing FTA and USA are affected positively while EU and rest of the World are affected adversely.

Jel Codes: F14, F17

Keywords: TTIP, RCEP, FTA, CGE

* The views expressed in this paper are those of the authors.

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1. INTRODUCTION

Many economists believe that Transatlantic Trade and Investment Partnership (TTIP), which is being negotiated between EU and USA, will rewrite the rules of the global economy and have significant disadvantage on developing countries in terms of trade diversion and convergence of standards and national regulatory systems. It is now a widely accepted fact that the rising economic power of Asia, China in particular, gave impetus to the undertaking and as EU Trade Commissioner Karel De Gucht mentioned without such an agreement the international trade standards will be determined by China. The fact that the EU recently rejected a Chinese proposal for a free trade agreement¹, indeed, shows how this game will be played. Considering these incentives behind TTIP, there is an increasing possibility of China and other major Asian economies to develop their own Asian Free Trade Area which may lead to disintegration of the world trading system into rival trading blocs.

China, after being a WTO member, has accelerated efforts for establishing trade agreements. After completing FTAs with local nations (Hong Kong, Macao), China signed agreements with ASEAN, Chile, Pakistan etc. Considering the agreements that are being negotiated or under consideration, it can be said that China is determined to use FTAs for high market access especially in Asia. Indeed, the ongoing negotiations shows the path that China will follow. China has started negotiations with South Korean and Japan despite there is a high political tension within these countries. China, after starting negotiations with South Korea in 2010, has began to negotiations for a trilateral free trade agreement with South Korea and Japan in 2013 and completed fourth round of negotiations in March 2014. China has also started negotiations with Australia last year. With no doubt, the most comprehensive and important economic integration effort for China and Asia is the Regional Comprehensive Economic Partnership (RCEP). RCEP is a FTA including 10 ASEAN member and Australia, China, India, Japan, Korea and New Zealand. This grouping will represent 21.2 trillion dollars of GDP and 3.4 billion of population as of 2012. RCEP is planned to cover trade in goods, trade in services, investment, economic and technical cooperation, intellectual property rights, competition, dispute settlement and other issues. RCEP will have a broader and deeper integration than existing ASEAN+1 FTAs. The second round of negotiations has completed in September 2013. Since RCEP is foresees a more broader and deeper integration than other FTA efforts, this study will take RCEP as the basis for a possible FTA within Asian countries against the TTIP of developed countries.

¹ <http://www.die-gdi.de/en/the-current-column/article/the-transatlantic-free-trade-agreement-think-of-the-consequences/>

Table.1 FTAs of China

RTA Name	Date of entry into force/Signature/Start of Negotiations*	Status
Asia Pacific Trade Agreement (APTA) - Accession of China	January 2002	In Force
China - Hong Kong, China	June 2003	In Force
China - Macao, China	October 2003	In Force
ASEAN - China	January 2005	In Force
Chile - China	October 2003	In Force
Pakistan - China	July 2007	In Force
China - New Zealand	October 2008	In Force
China - Singapore	January 2009	In Force
Peru - China	March 2010	In Force
China - Costa Rica	August 2011	In Force
EFTA - Hong Kong, China	October 2012	In Force
Switzerland - China	July 2013	Signed
The Cross-Straits Economic Cooperation Framework Agreement (ECFA)	June 2010	Signed
China - Iceland	March 2013	Signed
China - Gulf Cooperation Council	July 2004	Negotiations
China - South Korea	May.10	Negotiations
China -Australia	May.13	Negotiations
RCEP	May.13	Negotiations
China - Japan - South Korea	August 2013	Negotiations
China - Norway	September 2013	Negotiations

Source: WTO: Regional Trade Agreements Information System (RTA-IS) and China FTA Network *For the FTAs which are signed, it shows the date of signature and for the FTAs under negotiations it shows the date of start of the negotiations

The basic motivation of this study comes from the fact that most of the studies in the literature indicate a loss for rest of the countries that are not included in TTIP agreement. Considering the developments in international trade and the rise of major Asian countries, this study aims to examine what will be the initial consequences of a policy response by the Asian countries in terms of a regional economic integration, which is expected to affect global trade flows as much as TTIP agreement.

A computable general equilibrium (CGE) analysis with static GTAP model is used to examine the economy-wide effects of FTA's. Three basic scenarios are tested in the analysis. In the first scenario, the impact of TTIP on signing parties and other countries, Asian countries in particular, are tested. In the second and third scenarios, the impact of a policy response of 16 RCEP countries as establishing a FTA in parallel with the TTIP is analysed. The second scenario includes 100% tariff reduction in industrial products and the third scenario includes 50% tariff reduction in agricultural products in addition to 100% tariff reduction in industrial products. The analysis results show that TTIP will have positive impact only on economies of EU and USA while all other countries will worsen in terms of real GDP. On the other hand, in second and third scenarios, in which Asian countries sign a FTA simultaneously, the Asian countries signing FTA and USA are affected positively while EU and rest of the world are affected adversely.

The remaining of the study is laid out as follows: Section 2 discusses the literature review, Section 3 provides a discussion of the data, model and the results and Section 4 concludes.

2. Overview of RCEP and TTIP Economies

Over the last few decades, Asia has become the industrial engine of the world economy and has gained strategic importance in international trade and investment because of mainly increasing regionalism and lots of opportunities that Asian economies have. Moreover, Asian countries have broadly triggered the economic growth and led to an increase in global trade.

According to UNCTAD secretarial calculations, while the share of East, South East and South Asia region in global GDP was 7.5 percent in 1970, in 2012 the share of East, South East and South Asia in global GDP increased to 21.3 percent. Besides, South East and South Asia's contribution to world economic growth was 0.5 point over the 1991-2002 period, this figure increased to 1.0 point period of 2008-2012.

Similar patterns can be seen in trade figures. Based on WTO figures, the share of Asia in gross world export was approximately 15 percent in 1980 while this ratio increased to 32 percent in 2012.

Having a glance at these figures, it is obvious that Asia's rising economic power has influenced the global economy and regionalism development in the world trade. Table.2, presented below, shows macroeconomic indicators of RCEP and TTIP signing countries in detail.

Table.2 Summary of TTIP and RCEP Economies

2012								
FTA Name	Country	GDP (Billion Dollar)	Population (Million)	Savings (Percentage of GDP)	Investments (Percentage of GDP)	Export (Billion Dollar)	Import (Billion Dollar)	FDI Inflow (Billion Dollar)
Regional Comprehensive Economic Partnership	Australia	1,555.3	22.9	25.0	29.1	256	250	56.6
	Brunei	17.0	0.4	-----	13.6	13	4	0.9
	Cambodia	14.1	15.3	14.8	23.5	8	7	1.6
	China	8,229.4	1,354.0	51.0	48.7	2,049	1,818	253.5
	India	1,858.7	1,227.2	30.0	34.7	290	489	24.0
	Indonesia	877.8	244.5	32.0	34.7	190	192	19.6
	Japan	5,937.8	127.6	21.8	20.8	799	886	2.5
	Korea	1,129.6	50.0	31.8	27.6	548	520	5.0
	Lao P.D.R.	9.2	6.6			3	6	0.3
	Malaysia	304.7	29.3	31.9	25.8	227	196	9.7
	Myanmar	55.8	63.7	15.2	19.6	9	15	2.2
	New Zealand	170.4	4.4	16.1	20.2	37	38	2.2
	Philippines	250.2	95.8	21.3	18.5	52	65	2.8
	Singapore	284.3	5.3	44.9	27.6	408	380	56.7
	Thailand	366.0	67.9	29.3	29.7	230	248	10.7
	Vietnam	155.6	88.8	33.1	27.2	115	114	8.4
	Sub Total	21,215.7	3,403.7	-----	-----	5,233	5,227	456.6
TTIP	United States	16,244.6	314.2	16.3	19.5	1,546	2,334	203.8
	EU(27)	16,673.32	503.8	19.122	18.084	5,784	5,820	295.4
	Sub Total	32,917.9	818.0	-----	-----	7,329	8,153	499.1
	World	72,105.76	7,043.9	24.84	24.39	18,101	18,424	1,509.6

Source: World Bank Database, IMF Database, Trademap

As it can be seen in Table.2, Regional Comprehensive Economic Partnership (RCEP) countries has reached amount of 21,2 billion dollars and constitute approximately 29 percent of total world GDP in 2012. On the other hand, share of the United States and European Union in world's total GDP has been 45 percent in 2012. Taking into account the figures related to GDP, it can be said that potential Transatlantic Trade and Investment Partnership (TTIP) and RCEP may affect the world's production structure and may impact on economic indicators such as export, import, investments etc.

The another important indicator is population that indicates the labor which is an important production factor. In terms of population, share of RCEP countries is half of the world population that suggest RCEP countries has comparative advantages in terms of magnitude of population.

It can be seen in Table.2 that while average saving ratio to GDP among RCEP countries is about 28 percent, share of the investment in GDP is approximately 26.7 percent. It is noted that RCEP countries average investment and saving ratios to GDP is greater than the world average. RCEP countries' saving and investment ratios are greater than those of USA and EU.

As it mentioned above, over the 30 years, Asian economic miracle has affected global balances through trade, investment, production chains. During this period, Asia countries' share in total world trade increased dramatically. In 2012, RCEP countries' share in total

world export measured in gross dollar value has been approximately 28.9 percent. Share of EU and USA in total world export is higher than 40 percent. These two figures show the high potential influence on world trade patterns. Similar evaluations can be performed for import figures.

FDI inflows, which are the value of inward direct investment materialized by non resident people in a country, is a crucial factor for financing additional investments, technology transfer, creating employment and integrating to global markets. While, FDI inflows share of RCEP countries in the world is about 30 percent while share of USA and EU in total world FDI inflows is approximately 33 percent.

In the light of the these evaluations, it can be concluded that TTIP and RCEP blocs have significant share in global economy and they are two huge rivals with different pros and cons.

3. LITERATURE REVIEW

There are several papers in the literature that examines economic impact of FTAs by applying CGE models. When the papers that focus on FTAs within Asian countries are considered, it is seen that most of the studies indicate a welfare improvement for both parties as a result of the FTAs. The study of Tan & Cai (2011) analyses the impact of China-New Zealand Free Trade Agreement which was signed in 2008 via 14 region and 10 sector GTAP model. The model results indicate that both countries will gain an economic welfare while some sectors experience higher trade deficits.

The study of Sikdar & Nag (2011) analyses the economic impact of India-ASEAN Free Trade Agreement (AIFTA) that came into effect on 1 January 2010 with regard to Malaysia, Singapore and Thailand. The study concludes that the India-ASEAN FTA is likely to provide many of the desired results for the countries involved. The model results show that the larger ASEAN members will experience more welfare growth and India's exports to smaller ASEAN markets are expected to grow faster as the agreement enters its final stage. The simulation results also show that especially China loses a significant market share in India and ASEAN members.

On the other hand, EU and US negotiators held the third round of talks of Transatlantic Trade and Investment Partnership (TTIP) in December 2013. The major studies analyzing the impact of TTIP can be stated as Ecorys (2009), CEPR (2013), IFO Institute (2013), Kommerskolegium (2013).

The study of Ecorys (2009) includes reduction in both tariffs and non-tariff barriers (NTB) in different reduction scenarios of 25% and 50%. The simulation results indicate that 50% reduction will lead to an annual increase of 158 billion dollars GDP increase in EU and 53 billion dollars in USA compared to the no FTA scenario. The percentage increase in exports of USA is forecasted to be 6.1% and EU is 2.1%. The study states that EU-US level of integration in the auto markets leads to significant trade and investment diversion effects away from third countries towards the EU and USA. According to the simulation results,

there would be output decreases in rest of the World in many sectors such as electrical machinery (6.2%), automotives (12%), financial services (0.2% annually).

Similarly, the study of CEPR (2013) establishes less ambitious and ambitious scenarios including almost a full reduction tariffs but with 10% and 25% reduction of NTBs in goods and services exports with 25% and 50% reduction in procurement NTBs. The results of ambitious scenario indicate a GDP increase of 0.4% for USA and 0.5% for EU compared to 2027 benchmark scenario. The increase in exports is 5.9% for EU and 8% for USA in ambitious scenario. The study forecasts positive impact on rest of the World such as a 0.14% increase in GDP and 1.04% increase in exports. It is stated that the spill-over effects contribute to export growth in third countries, especially in ASEAN.

In the study of Ifo Institute (2013), however, the simulation results indicate negative impact on third countries as a result of the TTIP between EU and USA. The less ambitious scenario includes elimination in only tariffs while comprehensive scenario foresees elimination of both tariffs and NTBs. The simulation results indicate a welfare gain of 13.38% in USA and 4.68% in Germany while countries such as China, India, Japan are forecasted to experience a welfare loss under both scenarios.

The study of Kommerskolegium (2013) analyses the initial welfare impact of TTIP under different scenarios including reduction in tariff and NTBs in parallel with Ecorys (2009). The simulation results indicate 22% increase in national income of EU and 0.51% in USA while rest of the World experience a loss of 0.15% under limited liberalization scenario.

These studies show that regional/bilateral trade agreements lead to trade diversion through the FTA partners. Different from these studies, this study on the other hand measure the impact of Free Trade Agreements within the two trading blocs at the same time. The important contribution of this paper is to consider both agreements at the same time and simulate a more realistic future from a global perspective. By this analysis, we expect to find two isolated giant trade blocs and search who are the winners and losers of this new World.

4. CGE MODEL RESULTS

4.1 Data and Model

The model used for this study uses data from the GTAP 8 Data Base. Although the data bases allows for 57 commodities and 129 regions the analyses reported here uses a 10 commodity (2 agriculture, 1 extraction, 4 manufacturing, utilities, construction and services) by 21-region (1 Africa, 1 Europe, 3 Americas, 15 Asia and Rest of World) aggregation. The model used for these analyses is an adaptation of the standard GTAP comparative static CGE model. The closure rules of the standard GTAP model are used in the analysis.

The commodity and region groups used for this model's data base are listed in Table.3, while details of the aggregation mappings used are reported in Appendix 1. The commodity and regional aggregations reflect the ongoing and possible economic integration efforts. In order to see the impact of RCEP on the signing countries, the members of the RCEP are analyzed as

disaggregated regions. Due to the high number of regions, the commodities are aggregated to 10 sectors, not to get lost in details and to see the impact on major sectors.

Table.3 Model Commodities and Regions

Regions	Commodities
Africa	Grains and Crops
Asia	Livestock and Meat Products
Australia	Mining and Extraction
Cambodia	Processed Food
China	Textiles and Clothing
EU25	Light Manufacturing
India	Heavy Manufacturing
Indonesia	Utilities and Construction
Japan	Transport and Communication
Korea	Other Services
Laos	
Latin America	
Malaysia	
New Zealand	
North America	
Philippines	
Rest of the World	
Singapore	
Thailand	
USA	
Vietnam	

Source: GTAP Database

4.2 Scenarios

Three basic scenarios are tested in the analysis. In the first scenario, the impact of TTIP on signing parties and other countries, Asian countries in particular, are tested. In other words, EU and USA signs TTIP agreements while there is no integration in Asia. In the second and third scenarios, impact of a policy response of 16 RCEP countries as establishing a FTA in parallel with the TTIP is analysed. Both RCEP and TTIP agreements are signed simultaneously. The second scenario includes 100% tariff reduction in industrial products and the third scenario includes 50% tariff reduction in agricultural products in addition to 100% tariff reduction in industrial products. It is an obvious fact that these scenarios include the ambitious projections for these integration efforts, which put away these scenarios from the realistic future. On the other hand, for now, these agreements are far from conclusion, which makes it hard to make grounded projections. That's why, this study examines the impact of the same level of integrations for both RCEP and TTIP agreements under ambitious scenarios.

4.3 Simulation Results

The simulation results under three different scenarios are examined in this section. The results for real and nominal GDP, exports and welfare decomposition are analysed in detail to test three scenarios. Table.4 shows estimated initial changes in real and nominal GDPs of the countries that are included in the analysis. In the first column (TTIP) shows the estimated changes under the first scenario, in which EU and USA signs TTIP agreement covering

elimination of tariffs in industrial products while there is no integration in Asia. In the second column, both TTIP and RCEP agreements are signed simultaneously, covering liberalisation in industrial products. On the third column, again both agreements are signed, covering 50% liberalisation in agricultural products beside full liberalisation in industrial products. It should be considered that the simulation results reflect static analysis, which shows initial impact of signed FTAs.

Table.4 shows that when only TTIP is signed, EU and USA are the only countries that experiences real GDP growth while all other countries faces loss. Percentage increases are similar for both TTIP parties. The highest loss among the countries we consider in percentage terms is expected to be in China, Vietnam and Cambodia. On the other hand, TTIP scenario, nominal GDP increases in USA while all other countries, including EU, experience loss in nominal GDP². Table.4 second column shows that when TTIP and RCEP agreements are signed simultaneously, all of the signing parties in RCEP and USA experience increase in real GDP while remaining regions and EU face loss in real GDP. The major reason for fall of real GDP in EU is decreasing investments while government and private sector consumption, also, fall. The simulation results show that there exists a general movement of investments from EU, USA and other non-signing regions to RCEP countries. The increase in real GDP of USA is mainly due to increasing exports while investments and imports fall. According to the simulation results, the growth in RCEP countries come from higher investments and exports while imports and consumption fall in most of the countries. When scope of liberalisation increases through 50% tariff reduction in agricultural products is included in both TTIP and RCEP agreements (as the third scenario), the third column of the Table shows that growth in real GDP of RCEP countries increase compared to the liberalisation only in industrial products while loss in non-signing regions also rise, which is not surprising since there is a higher trade creation and diversion effects into the FTA areas.

² Since, the decrease in nominal GDP of EU under TTIP scenario is quite surprising, it is examined in real and nominal terms. It is seen that the nominal decrease in EU is due to significant fall in prices while imports is the only component of GDP that decrease in real terms.

Table.4: Change in Real and Nominal GDP (%)

REAL GDP				NOMINAL GDP			
Region	TTIP	TTIP & RCEP Industrial Products	TTIP & RCEP All Products	Region	TTIP	TTIP & RCEP Industrial	TTIP & RCEP All Products
Africa	- 0.003	- 0.044	- 0.046	Africa	- 0.107	- 0.975	- 1.006
Asia	- 0.001	- 0.042	- 0.046	Asia	- 0.115	- 1.720	- 1.756
Australia	- 0.001	0.145	0.131	Australia	- 0.104	0.222	1.063
Cambodia	- 0.034	0.129	0.191	Cambodia	- 0.395	- 2.563	- 3.025
China	- 0.021	0.183	0.201	China	- 0.159	- 0.638	- 0.552
EU25	0.004	- 0.009	- 0.006	EU25	- 0.045	- 0.645	- 0.655
India	- 0.005	0.151	0.309	India	- 0.114	- 1.615	- 1.767
Indonesia	- 0.002	0.077	0.092	Indonesia	- 0.128	- 0.124	0.375
Japan	- 0.001	0.108	0.141	Japan	- 0.140	4.630	4.556
Korea	- 0.002	0.067	0.255	Korea	- 0.129	1.333	0.965
Laos	- 0.001	0.148	0.180	Laos	- 0.104	- 0.568	- 0.523
Latin America	- 0.004	- 0.027	- 0.029	Latin America	- 0.118	- 0.811	- 0.942
Malaysia	- 0.002	0.138	0.195	Malaysia	- 0.122	- 0.605	- 0.555
New Zealand	- 0.001	0.025	0.037	New Zealand	- 0.084	- 0.677	- 0.075
North America	- 0.003	- 0.024	- 0.023	North America	- 0.175	- 0.720	- 0.767
Philippines	- 0.001	0.005	0.102	Philippines	- 0.139	- 1.536	- 1.722
Rest of the World	- 0.002	- 0.030	- 0.030	Rest of the World	- 0.108	- 0.812	- 0.820
Singapore	- 0.002	0.036	0.036	Singapore	- 0.112	2.062	2.143
Thailand	- 0.005	0.056	0.089	Thailand	- 0.119	- 0.291	0.123
USA	0.003	0.001	0.002	USA	- 0.218	- 0.383	- 0.424
Vietnam	- 0.031	1.027	1.097	Vietnam	- 0.190	1.841	2.170

Source: GTAP Simulation Results

Table.5 shows change in nominal exports in million dollar and percentage terms under different scenarios. Simulation results show that under the first scenario, in which EU and USA signs TTIP, nominal exports of EU and USA increase by 6.5 billion (0.1%) and 16.5 billion (1.2%) dollars respectively, while most of the increase in both regions is due to heavy manufacturing sector. Despite the increase in total nominal exports, the simulation results show that real and nominal exports and real production fall in most of the sectors, except textiles, heavy and light manufacturing in both EU and USA.

The simulation results show that, when TTIP and RCEP agreements are signed simultaneously, nominal exports increase in all signing TTIP and RCEP parties, except EU, while exports in other regions fall. The highest increase in nominal exports is in China, India, Japan, Korea and USA while there is a significant decrease in exports of EU, Asia and rest of the World. When liberalisation is extended to include agricultural products, in the third scenario, the picture does not change. When we dig into the decreasing nominal export of EU, it is seen that nominal exports fall in all products while real exports fall only in extraction and heavy manufacturing. On the other hand, real exports increase in all sectors in USA and nominal exports only fall in agricultural products.

The simulation results show, relatively higher increase in nominal exports in major RCEP countries such as China, India, Japan and Korea. China and India experiences increase in real and nominal exports in all sectors while Korea faces fall in exports of agricultural products and processed foods and Japan's exports fall in light manufacturing, in addition.

Table.5: Change in Nominal Exports – (Million Dollars and %)

Regions	Change (Million Dollars)			Change (%)		
	TTIP	TTIP & RCEP Industrial Products	TTIP & RCEP All Products	TTIP	TTIP & RCEP Industrial Products	TTIP & RCEP All Products
North America	- 1,132	- 3,186	- 3,398	- 0.16	- 0.46	- 0.49
Latin America	- 354	- 3,351	- 3,925	- 0.06	- 0.59	- 0.69
EU25	6,402	- 24,862	- 24,764	0.11	- 0.44	- 0.44
Rest of the World	- 1,772	- 14,800	- 15,027	- 0.10	- 0.86	- 0.88
Cambodia	- 19	195	236	- 0.33	3.39	4.11
Indonesia	- 150	4,945	6,010	- 0.12	3.84	4.67
Laos	- 1	15	29	- 0.07	1.03	1.93
Malaysia	- 253	3,391	3,809	- 0.13	1.73	1.95
Philippines	- 71	510	728	- 0.10	0.70	1.00
Singapore	- 292	3,238	3,325	- 0.14	1.58	1.62
Thailand	- 179	3,898	4,490	- 0.10	2.21	2.54
Vietnam	- 108	5,047	5,346	- 0.20	9.52	10.09
Australia	- 78	6,932	8,170	- 0.05	4.14	4.88
China	- 1,700	68,973	72,330	- 0.14	5.64	5.92
India	- 211	15,969	18,284	- 0.10	7.20	8.24
Japan	- 48	44,234	46,584	- 0.01	5.96	6.28
Korea	- 385	13,007	13,374	- 0.10	3.21	3.30
New Zealand	- 14	528	719	- 0.04	1.59	2.17
USA	16,582	10,172	10,214	1.21	0.74	0.75
Asia	- 652	- 13,389	- 13,543	- 0.13	- 2.60	- 2.63
Africa	- 465	- 4,841	- 4,994	- 0.08	- 0.84	- 0.87
Total	15,004	115,934	127,300	0.10	0.78	0.86

Source: GTAP Simulation Results

Table.6 shows total welfare effects of TTIP and RCEP agreements under different scenarios. The welfare changes due to TTIP agreement is similar to GDP changes. Total welfare of USA and EU increase after TTIP agreement while other regions face loss. When TTIP and RCEP agreements are signed simultaneously, EU experiences fall in total welfare while USA's welfare gain diminish in the second scenario from the first case and fall in the third scenario. On the other hand, total welfare is positive for Japan, Singapore, Korea and Australia. Welfare loss in EU is mainly due to loss in resource allocation and terms of trade. Resource allocation is positive for all signing countries in RCEP agreement while terms of trade effect is positive for Japan (and high), Korea, Singapore, Indonesia and USA. Saving-investment effect is positive for relatively small RCEP members and China. Furthermore, the results show that saving-investment effect is also positive for the other non-signing regions.

Table.6: Change in Total Welfare (%)

Regions	TTIP	TTIP & RCEP Industrial Products	TTIP & RCEP All Products
North America	- 1,156	- 2,555	- 2,636
Latin America	- 500	- 2,373	- 2,821
EU25	486	- 5,776	- 5,546
Rest of the World	- 873	- 5,988	- 5,894
Cambodia	- 13	- 80	- 84
Indonesia	- 70	475	807
Laos	- 0	- 1	- 2
Malaysia	- 66	516	616
Philippines	- 33	- 729	- 644
Singapore	- 76	2,153	2,192
Thailand	- 66	- 327	- 163
Vietnam	- 47	310	507
Australia	- 118	2,822	3,850
China	- 1,561	- 2,456	- 1,378
India	- 234	- 2,239	- 669
Japan	- 605	32,949	34,001
Korea	- 248	3,044	4,704
New Zealand	- 11	- 107	- 57
USA	5,556	407	- 283
Asia	- 191	- 5,811	- 5,969
Africa	- 260	- 3,125	- 3,178
Total	- 181	10,820	17,500

Source: GTAP Simulation Results

5. CONCLUSION

Many economists believe that Transatlantic Trade and Investment Partnership (TTIP), which is being negotiated between EU and USA, will rewrite the rules of the global economy and have significant disadvantage on developing countries in terms of trade diversion and convergence of standards and national regulatory systems. Most of the studies in the literature indicate a loss for rest of the countries that are not included in TTIP agreement. Considering the developments in international trade and the rise of major Asian countries, this study aims to examine what will be the initial consequences of a policy response by the Asian countries in terms of a regional economic integration, which is expected to affect global trade flows as much as TTIP agreement.

Three basic scenarios are tested in the analysis. In the first scenario, the impact of TTIP on signing parties and other countries, Asian countries in particular, are tested. In other words, EU and USA signs TTIP agreements while there is no integration in Asia. In the second and third scenarios, impact of a policy response of 16 RCEP countries as establishing a FTA in parallel with the TTIP is analysed. Both RCEP and TTIP agreements are signed simultaneously. The second scenario includes 100% tariff reduction in industrial products and the third scenario includes 50% tariff reduction in agricultural products in addition to 100% tariff reduction in industrial products.

The simulation results show that when TTIP is signed, EU and USA are the only countries that experiences real GDP growth while all other countries faces loss, which confirms most of the studies in the literature. On the other hand, due to price effect, nominal GDP increases in USA while all other countries, including EU, experience loss in nominal GDP.

When TTIP and RCEP agreements are signed simultaneously, all of the signing parties in RCEP and USA experience increase in real GDP while remaining regions and EU face loss in real GDP. The growth in RCEP countries come from higher investments and exports while imports and consumption fall in most of the countries. The simulation results show that there exists a general movement of investments from EU, USA and other non-signing regions to RCEP countries. When TTIP and RCEP agreements are signed simultaneously, nominal exports increase in all signing TTIP and RCEP parties, except EU, while exports in other regions fall. The highest increase in nominal exports is in China, India, Japan, Korea and USA while there is a significant decrease in exports of EU, Asia and rest of the World. When liberalisation is extended to agricultural products, in the third scenario, the picture do not change.

The simulation results show, relatively higher increase in nominal exports in major RCEP countries such as China, India, Japan and Korea. China and India experiences increase in real and nominal exports in all sectors while Korea faces fall in exports of agricultural products and processed foods and Japan's exports fall in light manufacturing, in addition.

Further study requires, examining the results of both TTIP and RCEP agreements by applying dynamic GTAP model. Furthermore, it is a fact that non tariff barriers are takes more attention in new generation FTAs. The impact analysis on TTIP agreement show that elimination of non tariff barriers, rather than the tariffs, will have the most significant impact on trade between EU and USA. That's why, further analysis should include elimination of ad-valorem equivalents (AVE) of non tariff barriers beside the tariffs.

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APPENDICES

Appendix 1

Sector	Number	Code	Description
Grains and Crops	1	pdr	Paddy Rice: rice, husked and unhusked
Grains and Crops	2	wht	Wheat: wheat and meslin
Grains and Crops	3	gro	Other Grains: maize (corn), barley, rye, oats, other cereals
Grains and Crops	4	v_f	Veg & Fruit: vegetables, fruitvegetables, fruit and nuts, potatoes, cassava, truffles,
Grains and Crops	5	osd	Oil Seeds: oil seeds and oleaginous fruit; soy beans, copra
Grains and Crops	6	c_b	Cane & Beet: sugar cane and sugar beet
Grains and Crops	7	pfb	Plant Fibres: cotton, flax, hemp, sisal and other raw vegetable materials used in textiles
Grains and Crops	8	ocr	Other Crops: live plants; cut flowers and flower buds;etc
Livestock and Meat Products	9	ctl	Cattle: cattle, sheep, goats, horses, asses, mules, and hinnies; and semen thereof
Livestock and Meat Products	10	oap	Other Animal Products: swine, poultry and other live animals; eggs, in shell etc
Livestock and Meat Products	11	rmk	Raw milk
Livestock and Meat Products	12	wol	Wool: wool, silk, and other raw animal materials used in textile
Mining and Extraction	13	frs	Forestry: forestry, logging and related service activities
Mining and Extraction	14	flsh	Fishing: hunting, trapping and game propagation including related service activities etc
Mining and Extraction	15	coa	Coal: mining and agglomeration of hard coal, lignite and peat
Mining and Extraction	16	oil	Oil: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)
Mining and Extraction	17	gas	Gas: extraction of crude petroleum and natural gas (part), service activities incidental to oil and gas extraction excluding surveying (part)
Mining and Extraction	18	omn	Other Mining: mining of metal ores, uranium, gems. other mining and quarrying
Livestock and Meat Products	19	cmt	Cattle Meat: fresh or chilled meat and edible offal of cattle, sheep, goats, horses, asses etc
Livestock and Meat Products	20	omt	Other Meat: pig meat and offal. preserves and preparations of meat, meat offal or blood, flours, meals and pellets of meat or inedible meat offal; greaves
Processed Food	21	vol	Vegetable Oils: crude and refined oils of soya-bean, maize (corn),olive, sesame, ground-nut, olive, sunflower-seed, safflower, cotton-seed, etc
Processed Food	22	mil	Milk: dairy products
Grains and Crops	23	pcr	Processed Rice: rice, semi- or wholly milled
Processed Food	24	sgr	Sugar
Processed Food	25	ofd	Other Food: prepared and preserved fish or vegetables, fruit juices and vegetable juices, etc
Processed Food	26	b_t	Beverages and Tobacco products
Textiles and Clothing	27	tex	Textiles: textiles and man-made fibres
Textiles and Clothing	28	wap	Wearing Apparel: Clothing, dressing and dyeing of fur
Light Manufacturing	29	lea	Leather: tanning and dressing of leather; luggage, handbags, saddlery, harness and footwear
Light Manufacturing	30	lum	Lumber: wood and products of wood and cork, except furniture
Light Manufacturing	31	ppp	Paper & Paper Products: includes publishing, printing and reproduction of recorded media
Heavy Manufacturing	32	p_c	Petroleum & Coke: coke oven products, refined petroleum products, processing of nuclear fuel
Heavy Manufacturing	33	crp	Chemical Rubber Products: basic chemicals, other chemical products, rubber and plastics products
Heavy Manufacturing	34	nmn	Non-Metallic Minerals: cement, plaster, lime, gravel, concrete
Heavy Manufacturing	35	i_s	Iron & Steel: basic production and casting
Heavy Manufacturing	36	nfm	Non-Ferrous Metals: production and casting of copper, aluminium, zinc, lead, gold, and silver
Light Manufacturing	37	fmp	Fabricated Metal Products: Sheet metal products, but not machinery and equipment
Light Manufacturing	38	mvh	Motor Motor vehicles and parts: cars, lorries, trailers and semi-trailers
Light Manufacturing	39	otn	Other Transport Equipment: Manufacture of other transport equipment
Heavy Manufacturing	40	ele	Electronic Equipment: office, accounting and computing machinery, radio, television and communication equipment and apparatus
Heavy Manufacturing	41	ome	Other Machinery & Equipment: electrical machinery and apparatus n.e.c., medical, precision and optical instruments, watches and clocks
Utilities and Construction	42	omf	Other Manufacturing: includes recycling
Utilities and Construction	43	ely	Electricity: production, collection and distribution
Utilities and Construction	44	gdt	Gas Distribution: distribution of gaseous fuels through mains; steam and hot water supply
Utilities and Construction	45	wtr	Water: collection, purification and distribution
Utilities and Construction	46	cns	Construction: building houses factories offices and roads
Transport and Communication	47	trd	Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods; retail sale of automotive fuel
Transport and Communication	48	otp	Other Transport: road, rail ; pipelines, auxiliary transport activities; travel agencies
Transport and Communication	49	wtp	Water transport
Transport and Communication	50	atp	Air transport
Transport and Communication	51	cmn	Communications: post and telecommunications
Other Services	52	ofi	Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding
Other Services	53	isr	Insurance: includes pension funding, except compulsory social security
Other Services	54	obs	Other Business Services: real estate, renting and business activities
Other Services	55	ros	Recreation & Other Services: recreational, cultural and sporting activities, other service activities
Other Services	56	osg	Other Services (Government): public administration and defense; etc
Other Services	57	dwe	Dwellings: ownership of dwellings (imputed rents of houses occupied by owners)