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**Emergent Uncertainty in Regional Integration
- Economic impacts of alternative RTA scenarios-**

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Abstract

Recently a number of large-scale uncertainties have emerged as threats to the development of regional integration. Most notably, the UK has decided to leave the EU, and the new US president has stated that he would withdraw the US from the Trans-Pacific Partnership (TPP). This paper presents a quantitative comparison of the economic impacts of a number of alternative regional trade agreement (RTA) scenarios. The impacts were estimated using a Computable General Equilibrium (CGE) model of global trade. It is estimated that the US would no longer gain and might even lose, if it withdraws from TPP. The benefits of the bilateral Free Trade Agreement (FTA) and Economic Partnership Agreement (EPA) with Japan would be smaller than those of TPP. Higher tariffs on US imports from China and Mexico would lead to significant deterioration of the economic welfare of not only China and Mexico but also the US. Furthermore, China's benefits from the Regional Comprehensive Economic Partnership (RCEP) might be relatively limited depending on the levels of the agreement and weighed against the adverse impacts of the possible US tariffs. The UK economy would suffer as a result of BREXIT, but the cost of BREXIT could be smaller than the possible benefits of joining TPP. All in all, it has been shown that income gains resulting from non-tariff measure (NTM) reductions are much larger than those arising from tariff removals. Global best efforts are required to achieve higher level RTAs and the resulting larger economic benefits.

Key words: TPP, RCEP, BREXIT, CGE model

JEL classification: D58, F13, F14, F15, F17

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I. Introduction

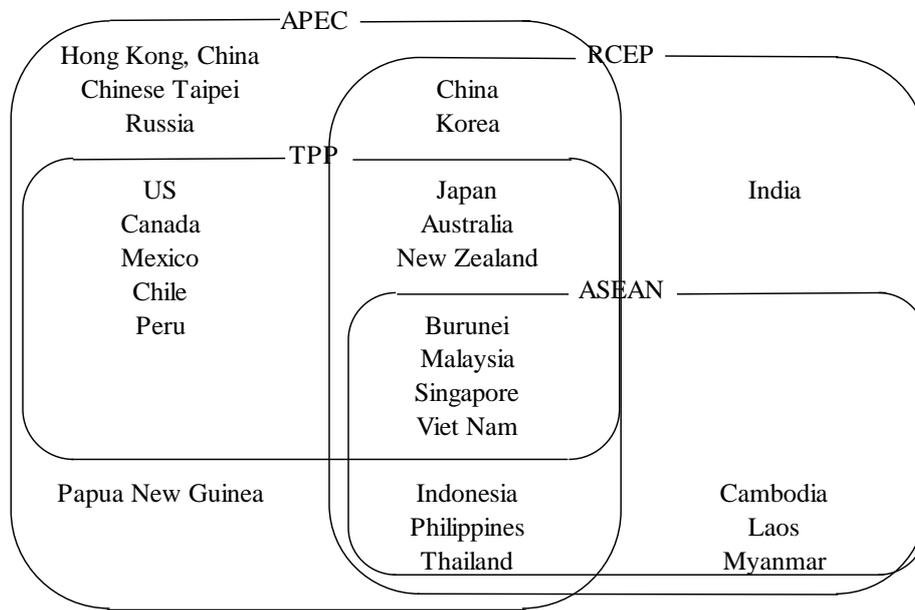
Anti-globalization and protectionist movements have emerged world-wide. The UK has decided to leave the EU as a result of the EU referendum vote of June 2016. Newly elected US President Trump in November 2016 has said that he would withdraw the US from the Trans-Pacific Partnership (TPP), and proposed the imposition of higher tariffs on US imports from China and Mexico. Uncertainty has risen to an alarming degree with regard to the development of regional integration. Under this atmosphere of great uncertainty, in the realm of trade policy, clarification of the relative significance of alternative regional trade agreement (RTA) scenarios is urgently needed.

In fact, the present is a crucially decisive time in the progress of bilateral and multi-regional Free Trade Agreements (FTAs) and Economic Partnership Agreements (EPAs), which has been accelerating since the beginning of 2013. In the Asia-Pacific region, the first round of the China-Japan-Korea FTA negotiations was held in March 2013. In addition, the first round of formal negotiations on the Regional Comprehensive Economic Partnership (RCEP) took place in May. Japan joined TPP negotiations in July (Chart 1). Meanwhile, the three largest advanced economies – the US, the EU and Japan – have commenced negotiations towards a giant triangle of EPAs. Negotiations for both a Japan-EU EPA and the Transatlantic Trade and Investment Partnership (TTIP) were also launched.

This paper presents a quantitative comparison of the economic impacts of several possible RTA scenarios. The impacts were estimated using a Computable General Equilibrium (CGE) model of global trade incorporating the dynamic effects of capital accumulation and pro-competitive productivity improvement. RTA measures will stimulate trade by lowering prices of tradable goods, leading to increased market access for trading partners and increased national output for exporting countries. Meanwhile, the efficiency of use of domestic production resources in importing countries will be enhanced. This combination of effects is expected to result in the expansion of production and increased income and welfare.

The remaining chapters of this paper are organized as follows. In Chapter 2, after a review of TPP impact studies and updates, the economic impacts of alternative scenarios are compared. In Chapter 3, the impacts of the trade policy proposed by the new US

Chart 1 The Asia-Pacific integration framework



president will be examined and compared with those of RCEP. Chapter 4 discusses the impacts of BREXIT and the alternative RTA scenarios for the UK. Conclusions are presented in Chapter 5.

II. Impacts of TPP and alternative scenarios

1. Assessment of TPP studies

TPP negotiations were concluded in October 2015 and the TPP Agreement was signed in February 2016. The economic impacts of TPP have been studied in numerous articles.¹ Several TPP governments have assessed the impact towards the ratification of the TPP Agreement.

- The Malaysia Ministry of International Trade and Industry (MITI) conducted a cost-benefit analysis in December 2015 (MITI (2015)).
- The Japan Cabinet Secretariat released its economic impact analysis in December 2015 (Cabinet Secretariat (2015)).
- The New Zealand Ministry of Foreign Affairs and Trade (MFAT) released its National Interest Analysis (NIA), based on previous research by academic

¹ A comprehensive survey of those studies is available in Gilbert et al. (2016). It should be noted that many of those studies are relatively hypothetical ones assuming TPP policy scenarios analyzed before the conclusion of negotiations.

experts, in January 2016 (MFAT (2016)).

- The Australia Department of Foreign Affairs and Trade (DFAT) reported to parliament on NIA in February 2016, citing an economic analysis by World Bank (WB (2016)).
- The United States International Trade Commission (USITC) reported on its economic impact analysis to congress and the president in May 2016 (USITC (2016)).
- Global Affairs Canada (GAC) released its economic impact analysis in September 2016 (GAC (2016)).

Even after the TPP negotiations were concluded, the policy scenarios studied by TPP governments and others differed in some respects. In addition to the impacts of tariff removals, the Japan Cabinet Secretariat estimated the impacts of the improvements in logistics performance. GAC, Malaysia MITI, New Zealand MFAT, USITC and WB all included the impacts of the reductions of non-tariff measures (NTMs) in goods and barriers in services. USITC and WB also included the impacts of investment liberalization. In addition, GAC and WB considered the effects of Rules of Origin (ROO). Meanwhile, the Japan Cabinet Secretariat incorporated the impacts of counter policy measures including (a) expansion of the exports of agriculture commodities, (b) support for the activities of small and medium-sized enterprises (SMEs) and (c) stimulation of foreign direct investment (FDI).

Moreover, estimations of the macroeconomic impacts of TPP varied in size depending on the dynamic mechanism incorporated in CGE model simulations. One such mechanism was the effects of the labor market. The Japan Cabinet Secretariat and USITC incorporated endogenous labor supply in response to real wage hikes. The Cabinet Secretariat (2015) indicated that the estimated economic impacts of TPP could be around two times larger by the effects of labor supply, which are not included in the vast majority of standard CGE model simulations.²

Another potential mechanism is the inclusion of the effects of trade liberalization on the “extensive margin” of trade, that is, exports by companies not involved in international markets before liberalization. This approach would invoke heterogeneous-firms trade theory, in contrast to the country-differentiated-goods approaches taken in past studies. Petri et al. (2012), a contributor to WB (2016), has pointed out that “simulations that limit the application of this new theoretical structure produce income gains that are

² Cabinet Secretariat (2015) has also incorporated the productivity improvements according to the rising share of trade in domestic production markets.

Table 1 Existing RTAs among TPP countries

	AUS	BRN	CAN	CHL	JPN	MYS	MEX	NZL	PER	SIN	USA	VNM
Australia	-	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y
Brunei	Y	-	N	Y	Y	Y	N	Y	N	Y	N	Y
Canada	N	N	-	Y	N	N	Y	N	Y	N	Y	N
Chile	Y	Y	Y	-	Y	Y	Y	Y	Y	Y	Y	Y
Japan	Y	Y	N	Y	-	Y	Y	N	Y	Y	N	Y
Malaysia	Y	Y	N	Y	Y	-	N	Y	N	Y	N	Y
Mexico	N	N	Y	Y	Y	N	-	N	Y	N	Y	N
New Zealand	Y	Y	N	Y	N	Y	N	-	N	Y	N	Y
Peru	N	N	Y	Y	Y	N	Y	N	-	Y	Y	N
Singapore	Y	Y	N	Y	Y	Y	N	Y	Y	-	Y	Y
US	Y	N	Y	Y	N	N	Y	N	Y	Y	-	N
Viet Nam	Y	Y	N	Y	Y	Y	N	Y	N	Y	N	-

Source: Database on Preferential Trade Arrangements, WTO

Note: Y indicates for RTAs existing and N for not existing.

41 per cent lower.”

That said, the key point here is that all CGE model estimates have indicated sustainable income gains from TPP.³ The effects of macroeconomic policy measures, including monetary easing and fiscal stimulus, disappear when those expansionary policy measures will be returned to business as usual. On the other hand, the impacts of structural reform measures, including those resulting from RTAs thorough more efficient resource allocation and productivity improvements, will likely be sustainable over the medium- and long-term horizon.

2. Updates of TPP impact estimates

One notable feature of recent mega RTAs including TPP is that numerous bilateral and sub-regional agreements are already in place in the member economies. As a matter of fact, 42 out of 66 potential bilateral agreements among 12 TPP member countries have been implemented and/or are being implemented (Table 1). Therefore, in order to estimate the economic impacts of tariff reductions under the newly agreed RTAs, it is necessarily to distinguish those effects from the effects of existing agreements.

In this study, the economic impacts of RTAs are estimated using the Global Trade

³ Capaldo J. and A. Izurieta (2016) has found that the benefits of TPP to economic growths are negative for the US and Japan using the United Nations Global Policy Model. However, the policy scenarios studied must be qualified. The adverse outcomes are self-apparent assuming government expenditure cuts according to the implementation of TPP.

Table 2 Real GDP gains by TPP tariff reductions

	Existing RTAs	TPP	Other (%)
Australia	0.17	-0.03	0.18
Brunei	5.20	-0.23	-0.11
Canada	0.00	0.50	0.08
Chile	0.28	-0.12	-0.09
Japan	0.23	0.24	0.20
Malaysia	1.99	0.91	-0.03
Mexico	0.26	-0.19	0.03
New Zealand	0.04	0.71	0.05
Peru	0.07	-0.05	-0.03
Singapore	0.60	0.04	-0.02
US	0.01	0.05	0.02
Viet Nam	1.37	6.79	-0.06
TPP countries	0.10	0.15	0.05

Source: Author's simulations

Analysis Project (GTAP) Data Base version 9.⁴ Moreover, the estimated economic impacts of tariff reductions according to the TPP Agreement have been updated based on International Trade Centre datasets (ITC 2015, 2016)⁵ prepared for the Global EPAs Research Consortium,⁶ following GAC (2016), Cabinet Secretariat (2015) and USITC (2016). This updating will provide the most accurate estimates in the above regard.

Macroeconomic impacts of TPP tariff reductions⁷ are compared in Table 2. Average real GDP in TPP countries is estimated to increase by 0.15 per cent as a result of the TPP Agreement, in addition to the increase resulting from the implementation of existing RTAs (0.10 per cent). Meanwhile, TPP countries could still enjoy real GDP gains from tariff reductions (0.05 per cent) other than those resulting from the TPP Agreement.

The relative importance of existing RTAs, the TPP Agreement and other tariff reductions vary among TPP countries, reflecting the different states of existing RTAs.

⁴ The data for Brunei is newly available in the version 9 database.

⁵ The GTAP database is the most common basis for CGE model simulations. The current version 9 Data Base has been benchmarked to the year in 2011, providing levels of tariff data for that year including those already scheduled for reduction in past trade agreements but not implemented as of 2011. ITC datasets have firstly been updated to 2014 and incorporated further tariff reduction schedules according to existing RTAs among TPP countries after that year.

⁶ It was established in June 2013 and has facilitated trade policy decision making by assembling high quality information and quantitative studies on the potential impacts of EPAs. The Secretariat is located at GRIPS. <http://www3.grips.ac.jp/~GlobalEPAsResearchConsortium/en/about/>

⁷ Economic welfare is measured better by equivalent variation (EV) incorporating the terms of trade effects. That said, macroeconomic impacts are shown by real GDP in this paper, which looks much more familiar to policy makers.

Four member countries of the Association of Southeast Asian Nations (ASEAN), Brunei, Malaysia, Singapore and Viet Nam, would largely gain from the implementation of existing RTAs. Canada, New Zealand, the US and Viet Nam would primarily benefit from TPP tariff reductions. Australia and Japan could still gain from other tariff reductions. On the other hand, Brunei, Chile, Mexico and Peru might not necessarily gain from additional tariff reductions under TPP.

The tariff concession ratios of the TPP Agreement were almost 100 per cent except in the case of Japan (95 per cent). Japan would maintain tariffs and tariff-rate quotas (TRQs) on the so-called five sacred commodities, rice, wheat, sugar, dairy products and meat. That said, this ratio has been higher than in Japan's previous EPAs, at around 90 per cent. Indeed, the effective differences in the economic impacts would be much larger than 90 to 100 per cent. Tariff concessions are often measured by tariff lines in terms of the numbers of commodities in each tariff classification. However, reductions in trade weighted average rates of tariffs and simple total tariff payments, though meaningful in economics, are not necessarily proportional to reductions in the number of commodities. The remaining commodities will likely be subject to higher than average tariffs. In fact, average protection rates on Japanese imports from TPP countries will be reduced by 56 per cent, from 2.6 per cent to 1.2 per cent, by the TPP Agreement.

3. The impacts of alternative scenarios of TPP

Newly elected US president Trump has said that he would withdraw the US from TPP and negotiate bilateral FTAs. As discussed in PIIE (2016), there is concern that "if he imposes the trade restrictions of the magnitudes threatened, foreign countries will soon retaliate. They will not patiently wait for the US court proceedings or the World Trade Organization (WTO) litigation to vindicate their rights under national or international law. Enormous economic damage will ensue long before the legal battlefield is cleared."

According to the TPP Agreement, TPP could go into force once six countries ratify it, if those countries account for more than 85 per cent of the total GDP of the TPP countries. This means that TPP itself cannot be implemented without the US's ratification. That said, it will still be useful to look at the hypothetical economic impacts of the implementation of the contents of the TPP Agreement by the eleven TPP countries without the US, as a possible reference scenario. Those economic impacts could also be compared with that of the US' bilateral FTA/EPA with Japan, a major TPP country from the US perspective, given its bilateral and regional FTAs with other TPP countries.

Table 3 Real GDP gains under alternative TPP scenarios

	(%)					
	Tariff reductions			NTMs reductions		
	TPP	TPP11	JA-US	TPP	TPP11	JA-US
Australia	-0.03	0.07	-0.05	1.11	1.11	-0.01
Brunei	-0.23	0.06	-0.10	7.97	7.97	-0.19
Canada	0.50	0.25	-0.04	1.48	0.80	0.17
Chile	-0.12	0.06	-0.05	0.89	0.86	0.03
Japan	0.24	0.07	0.22	1.13	1.04	0.85
Malaysia	0.91	0.24	-0.04	22.57	20.41	0.09
Mexico	-0.19	0.16	-0.12	9.19	5.47	0.33
New Zealand	0.71	0.89	-0.10	3.56	3.41	0.04
Peru	-0.05	0.01	-0.02	0.85	0.72	0.01
Singapore	0.04	0.13	-0.03	15.93	14.58	0.09
US	0.05	-0.01	0.03	0.72	0.15	0.35
Viet Nam	6.79	1.10	-0.06	10.90	9.29	0.16
TPP countries	0.15	0.05	0.04	1.73	1.09	0.38

Source: Author's simulations

Real GDP gains of TPP countries under the above alternative scenarios are compared in Table 3. If the US did not join TPP, the US would no longer gain and might even lose as a result of the tariff reductions of the other TPP countries. The other TPP countries would gain more or less depending on the relative significance of income and price effects within those trade structures. Australia, Brunei, Chile, Mexico, New Zealand, Peru and Singapore would gain more since they would no longer have to compete with the US in the export markets (price effects). On the other hand, Canada, Japan, Malaysia and Viet Nam would gain less as a result of losing US export markets (income effects).

The real GDP gains by the US and Japan as a result of the bilateral tariff reductions between the two countries under the tariff reduction schedules of the TPP Agreement would be somewhat smaller than the gains from TPP in the two countries. The US and Japan are the two largest economies among TPP countries and already have FTAs/EPAs in place with major trade partners. The two countries could be expected to enjoy exclusive trade creation effects under higher levels of tariff reductions without significant trade diversion effects with the rest of TPP countries. However, the income gains of the US and Japan under TPP would be larger as a result of the wider trade markets in TPP countries as a whole, according to estimates based on the framework of model simulations in this paper.⁸

⁸ The income gains of the US and Japan resulting from full tariff removals between the two countries beyond the TPP Agreement could be larger than estimated here. However, that scenario may not necessarily be realistic in the near future, as discussed above.

Table 4 TPP chapters

1. Initial provisions and general definitions	16. Competition
2. National treatment and market access for goods	17. State-owned enterprises
3. Rules of origin and origin procedures	18. Intellectual property
4. Textiles and apparel	19. Labour
5. Customs administration and trade facilitation	20. Environment
6. Trade remedies	21. Cooperation and capacity building
7. Sanitary and phytosanitary measures	22. Competitiveness and business facilitation
8. Technical Barriers to Trade	23. Development
9. Investment	24. Small and medium-sized enterprises
10. Cross border trade in services	25. Regulatory coherence
11. Financial services	26. Transparency and anti-corruption
12. Temporary entry for business persons	27. Administrative and institutional provisions
13. Telecommunications	28. Dispute settlement
14. Electronic commerce	29. Exceptions
15. Government procurement	30. Final provisions

Source: TPP full text, United States Trade Representative

TPP is a landmark 21st-century agreement, setting a new standard for global trade while addressing next-generation issues. The TPP Agreement consists of 30 chapters on topics including E-commerce, government procurement, intellectual property, labor and environment, as well as tariffs on trade in goods (Table 4). Larger economic impacts are expected from NTM reductions and liberalization of services and investment, particularly in advanced economies where tariffs have already been reduced.

Real GDP gains resulting from NTM reductions in trade in goods and services are also compared in Table 3, assuming 50 per cent NTM reductions with 50 per cent spillover effects⁹ to third countries.¹⁰ This means that NTMs in TPP countries will be reduced by 25 per cent for imports from non-TPP countries.¹¹ Data on the ad-valorem equivalents (AVEs) of NTMs are guided by the Overall Trade Restrictiveness Index (OTRI) provided by WB (2012).¹²

All TPP countries would enjoy macroeconomic income gains as a result of possible NTM reductions. Moreover, the estimated real GDP gains of TPP countries resulting from NTM reductions (1.73 per cent) are more than ten times those from tariff reductions (0.15 per cent) on average. The relative significance of such gains would vary among TPP countries, reflecting relative differences in tariff levels and the AVEs of

⁹ This degree of spillover effects was assumed following EC (2012).

¹⁰ Many NTMs relate to differences in regulations, which mostly cannot be altered on a purely bilateral basis. Once addressed, they will improve market access for third countries as well. Therefore, to a large extent, NTM reductions operate on a most favored nation (MFN) basis.

¹¹ This methodology remains unchanged from that employed in Kawasaki (2014, 2015).

¹² See Kee, Nicita, and Olarreaga (2008, 2009) for the empirical methodology and the outcomes.

NTMs. Canada, Japan, New Zealand and Viet Nam could still gain substantially from tariff reductions. On the other hand, it has been suggested that Malaysia, Singapore and the US would see much more significant gains from NTM reductions. As emphasized in Kawasaki (2014, 2015), it must be noted that what is essential to realize income gains by NTM reductions is own NTM reductions rather than those by trade partners in TPP and RTAs.

If the US does not join TPP, it may still gain by spillover effects of NTM reductions by the other TPP countries, but the gain would be limited. On the other hand, real GDP gains of the other eleven TPP countries would not be so much smaller in comparison with the relevant differences in impacts of tariff reductions. The real GDP gains of the US and Japan from NTM reductions by the bilateral FTA/EPA would be smaller than those from TPP due to smaller coverage of NTM reductions. Japan could still gain 80 per cent of the gains possible under TPP. However, the US real GDP gains would be a half of those under TPP, reflecting the relatively smaller share of Japan in the US trade market in TPP countries. The US accounts for 45 per cent of Japan's import markets from TPP countries. On the other hand, Japan accounts for 17 per cent of US import markets from TPP countries.

These are still hypothetical estimates for the purpose of comparison of the economic impacts of possible scenarios. The assessment of actual detailed outcomes of the TPP Agreement must be left for future studies. The above assumption of 50 per cent reductions in NTMs could be optimistic given the numbers of laws to be amended¹³ for implementation of the TPP Agreement. In Japan, in addition to Temporary Tariff Measures Law for the reduction of tariffs, the following five laws have been amended in the Diet.

Copyright Law: Extension of copyright periods

Patent Law: Extension of patent right periods

Trademark Law: Compensation for the unauthorized use of trademarks

Pharmaceutical Affairs Law: Registration of certification organization

Competition Law: Voluntary resolution of violation of the law

On the other hand, the assumption of 50 per cent¹⁴ spillover effects of NTM

¹³ In addition to amendments to laws, other amendments are made in the government and ministry ordinances. The number of such laws and other instruments amended varies across TPP countries depending on the current state of NTMs.

¹⁴ Malaysia MITI assumed 50 per cent spillover effects in calculations following the methodology in Kawasaki (2014) and Kawasaki (2015). WB (2016) assumed 20 per cent. On the other hand, USITC (2016) does not include spillover effects.

Table 5 Changes in real GDP under US tariffs

	(%)			
	Tariffs on China		Tariffs on Mexico	
	Asymmetric	Symmetric	Asymmetric	Symmetric
US	-1.72	-1.99	-0.52	-0.80
China	-2.51	-3.03	0.20	0.37
Mexico	5.19	5.57	-17.95	-26.91
Canada	0.61	0.82	0.27	0.40
Japan	0.41	0.62	0.13	0.29
World	-0.45	-0.47	-0.40	-0.51

Source: Author's simulations

reductions could be conservative. The registration of certification organizations under Pharmaceutical Affairs Law will be limited to those in TPP countries, but the amendment of the other laws, including the extension of intellectual properties rights, could be applied on a MFN basis. The magnitude of spillover effects of NTM reductions as a whole would then be much larger.

III. Impacts of US tariffs and RCEP

1. The impacts of tariffs on China and Mexico

New US President Trump has also proposed to impose tariffs on imports from China and Mexico. This study assumes that the US would impose a 45 per cent tariff on nonoil imports from China and a 35 per cent tariff on nonoil imports from Mexico, following PIIIE (2016). In addition, two scenarios are compared: an asymmetric scenario in which China and Mexico do not retaliate; and a symmetric scenario in which China and Mexico respond symmetrically, imposing the same tariffs on imports from the US.

If the US imposes import tariffs, the US will likely lose rather than gain at the macroeconomic level. The US real GDP is estimated to decrease by 1.72 per cent under a 45 per cent import tariff imposed on China and 0.52 per cent under a 35 per cent import tariff imposed on Mexico (Table 5). The magnitude would be larger for imports from China primarily reflecting the larger imports from China, which occupies a 17 per cent share of the total imports of the US, than for imports from Mexico, which occupies around 10 per cent. Meanwhile, the US does not import oil from China. On the other hand, oil imports occupy around 10 per cent of US imports from Mexico. If China and Mexico would retaliate imposing the same tariffs on imports from the US, the US would lose more but only to a limited extent since US exports to the two countries are smaller than US imports from them. US exports to China are around 30 per cent of US imports from

China. US exports to Mexico account for 65 per cent of US imports from Mexico.

China and Mexico, in particular, would lose much more than the US, relatively, because of higher shares of exports to the US. The US occupies about 73 per cent of the Mexican export market and around 22 per cent of the Chinese export market. On the other hand, neighboring economies might gain rather than lose from the bilateral import tariffs between the US and China (and also Mexico) due to trade diversion effects. It is noteworthy that the estimated magnitudes of real GDP gains in Japan, Canada and Mexico from US tariffs on imports from China will be larger than their gains from TPP tariff reductions. That said, it must be noted that it is estimated that the total real global GDP will decrease rather than increase.

A greater concern will be the impacts at the sector levels. According to current estimates, an import tariff on China would lead to an increase in US production in the textiles/apparels and other manufacturing sectors. On the other hand, US production would not necessarily increase in any sectors as a result of an import tariff on Mexico. Meanwhile, US production would decrease relatively more in the chemicals and auto sectors if China retaliates and in the textiles/apparels, chemicals and auto sectors in the case of Mexican retaliation.

2. The impacts of RCEP

The development of RCEP negotiations has been a matter of great concern as another major vehicle of mega regional integration in the Asia-Pacific, given the emerging uncertainties related to the near future implementation of TPP. China's role in the economic order has also been a focus of discussion, since China as a key leader among RCEP member countries, especially since the US is not yet a member.

RCEP negotiations began in 2013. In the meantime, 115 out of 120 possible combinations of bilateral trade agreements in East Asia were already covered by concluded or implemented FTAs/EPAs. The remaining five combinations are Australia-India, China-India, India-New Zealand, Japan-China and Japan-Korea. However, as discussed in Kawasaki et al. (2016), these FTAs/EPAs in East Asia have not resulted in 100 per cent removal of tariffs and much remains to be done in RCEP negotiations.

In this paper, the economic impacts of three hypothetical scenarios are estimated to support examination of the possible range of economic impacts reflecting the levels of achievement in RCEP negotiations. The RCEP Agreement may allow some exemptions from tariff removal. The actual economic impacts must be reviewed after the negotiations

Table 6 Real GDP gains by RCEP measures

			(%)
	Tariff all	Tariff+NTMs	Tariff five
Australia	1.40	2.98	0.12
Brunei	5.82	15.43	-0.17
Cambodia	18.14	33.00	-0.49
China	0.80	1.96	0.39
India	2.51	4.49	1.14
Indonesia	1.98	3.46	-0.20
Japan	1.50	2.88	1.24
Korea	5.95	6.91	0.30
Lao	5.50	11.88	-0.10
Malaysia	5.32	32.46	-0.47
New Zealand	1.81	5.91	0.00
Philippines	1.38	15.89	-0.47
Singapore	2.54	20.60	-0.38
Thailand	11.25	16.45	-0.89
Viet Nam	11.21	26.45	-0.62
RCEP countries	1.89	4.19	0.51
US	-0.18	-0.16	-0.07

Source: Author's simulations

concluded.

Tariff all: 100 per cent removal of tariffs among RCEP countries

Tariff and NTMs: 100 per cent removal of tariffs among RCEP countries and 50 per cent NTM reductions by RCEP countries with 50 per cent spillover effects

Tariff five: 100 per cent removal of tariffs between the five bilateral combinations above

If RCEP countries eliminate all imports tariffs that existed as of 2011,¹⁵ the average real GDP of RCEP countries would be boosted by 1.89 per cent (Table 6¹⁶). The per cent magnitude of real GDP gains varies widely across the RCEP countries, ranging from 0.80 per cent in China to 18.14 per cent in Cambodia. Smaller countries would enjoy larger gains in terms of the rate of changes. Meanwhile, macroeconomic gains would be more than double (4.19 per cent) if RCEP countries reduce NTMs as well as removing tariffs.¹⁷

¹⁵ This means that tariff reductions according to existing EPAs/FTAs among RCEP countries are not distinguished in the current simulations. A preliminary study of tariff concessions in East Asia is discussed in Kawasaki et al. (2016). Moreover, ITC has worked on tariff reduction schedules for EPAs/FTAs in East Asia, extending the scope of earlier studies on TPP countries, as discussed above.

¹⁶ The data for Myanmar is not available in the current GTAP Dara Base version 9.

¹⁷ The impacts of NTM reductions in Korea may be underestimated due to the current poor measurement of NTMs in Korea.

If RCEP negotiations do not lead to agreement on further tariff reductions beyond the existing FTAs/EPAs among RCEP countries, i.e. if only tariffs between the five remaining combinations of countries above are removed, income gains of RCEP countries would also be limited. Japan and India would be key contributors to further tariff reductions in RCEP countries and would enjoy relatively larger real GDP gains. Australia, China, Korea and New Zealand would also gain from further tariff reductions, though to a lesser extent. On the other hand, ASEAN countries would lose rather than gain from additional tariff reductions due to trade diversion effects. Further efforts by ASEAN countries would be essential for ASEAN countries to enjoy economic benefits from RCEP.

Current simulations estimate that China's real GDP would increase by 0.80 per cent as a result of all tariff removals among RCEP countries and by 1.96 per cent from additional NTM reductions. These magnitudes might not be larger than possible real GDP losses caused by the 45 per cent tariff on US imports from China, ranging from 2.51 to 3.03 per cent, discussed above. Serious efforts to achieve more ambitious goals in the RCEP Agreement are recommended in light of the possible headwinds from near future US trade policy making.

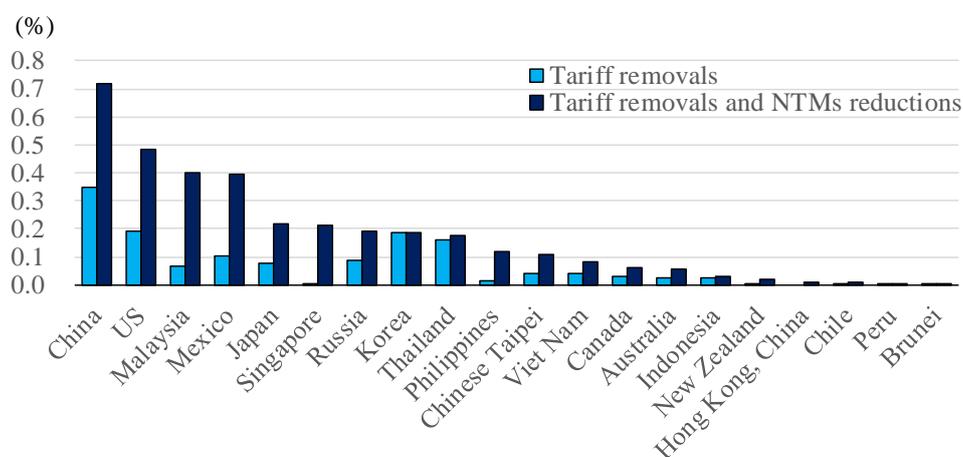
The estimated US real GDP losses from RCEP tariff reductions (0.07 - 0.18 per cent) due to trade diversion effects are much larger than those resulting from US withdrawal from TPP (0.01 per cent). The US could gain from spillover effects of NTM reductions by RCEP countries, but the magnitude of such a gain would not be large enough to offset the adverse impacts of tariff reductions among RCEP countries. The cost of US exit from global trends of trade and investment liberalization and facilitation will be higher from Asia-Pacific and global perspectives.

TPP and RCEP have been two key pathways to the establishment of the Free Trade Area of the Asia-Pacific (FTAAP), an eventual goal of comprehensive Asia-Pacific regional integration. It is important to note that, as discussed in Kawasaki (2014 2015),¹⁸ China would generate the largest income gains among the Asia-Pacific Economic Cooperation (APEC) economies by FTAAP, for two main reasons (Chart 2¹⁹). First, China is one of the two major economies in the Asia-Pacific along with the US. Second, China's tariff rates and the AVEs of NTMs have been higher than those of other countries, in

¹⁸ Updated estimates of the economic impacts of TPP, RCEP and FTAAP are provided in the Annex.

¹⁹ The data for Papua New Guinea (PNG) is not available in the current version of the GTAP database.

Chart 2 Contributions to real GDP gains by FTAAP measures



Source: Author's simulations

particular the Organization for Economic Co-operation and Development (OECD) nations. The role of China's EPA policy measures in RCEP and subsequently in FTAAP will be quite important in terms of economic benefits for the Asia-Pacific economies.

IV. The impacts of BREXIT

BREXIT has generated considerable uncertainty to the work to develop regional integration and the world economy. The economic impacts of BREXIT will entirely be dependent on the border measures introduced between the UK and the remaining EU, which are not yet clearly defined. Estimates of the economic impacts of BREXIT vary widely among earlier studies as a result of "significantly different methods, assumptions and aspects included" (Busch and Matthes, 2016).

In this paper, the economic impacts of two possible scenarios in import tariffs are estimated using the same version of the CGE model used in the earlier chapters. One scenario involves the introduction of WTO MFN tariff rates, guided by the current average tariff rates of the UK and the EU on imports from the rest of the EU. The other scenario involves the introduction of tariff rates following the rate behavior between the EU and Norway and the EU and Switzerland. Those two countries are not members of the EU, and import tariffs between them and the EU remain in the agriculture, forestry, and fisheries sectors and processed-food industries.

If WTO MFN rates are introduced at the new EU-UK border, the real GDP of the UK is estimated to decrease by 0.93 per cent. This magnitude would be smaller (0.18

Table 7 Real GDP changes by BREXIT and alternative scenarios

	UK	EU	Japan	US
				(%)
Tariff removals				
Japan-EU EPA before BREXIT	0.05	0.07	0.26	-0.01
Japan-EU EPA after BREXIT	-0.01	0.08	0.22	-0.01
Japan-UK EPA	0.06	-0.01	0.04	0.00
TTIP before BREXIT	0.12	0.10	-0.08	0.14
TTIP after BREXIT	-0.07	0.13	-0.06	0.12
UK-US FTA	0.19	-0.03	-0.02	0.02
UK joining TPP	0.35	-0.17	0.68	0.09
NTNs reductions				
Japan-EU EPA before BREXIT	0.91	1.30	0.73	0.00
Japan-EU EPA after BREXIT	0.18	1.28	0.72	0.00
Japan-UK EPA	0.73	0.02	0.65	0.01
TTIP before BREXIT	1.05	1.37	-0.07	0.42
TTIP after BREXIT	0.16	1.37	-0.05	0.40
UK-US FTA	0.93	0.01	-0.01	0.33
UK joining TPP	1.22	0.01	1.12	0.73

Source: Author's simulations

per cent), if tariffs were limited to practices related to Norway and Switzerland. On the other hand, the adverse impacts on the remaining EU would be around a tenth of those in the UK, ranging from 0.03 to 0.13 per cent depending on the size of the tariffs introduced, reflecting the difference in the relative sizes of trade markets. The volume of exports and imports of the remaining EU as a whole is around ten times that of the UK.

After BREXIT, the UK could have access to a variety of RTAs. The possible economic impacts are compared in Table 7. It can be seen that the UK's macroeconomic gains from removal of bilateral tariffs between the UK and Japan and the UK and the US would be limited, though slightly larger than those from Japan-EU EPA and TTIP. However, that gain could more than offset the adverse impacts of BREXIT, if the UK were to join TPP. On the other hand, the adverse effect on the EU economy of trade diversion effects of the UK joining TPP would be larger than BREXIT.

The macroeconomic impacts of the above alternative scenarios on the US and Japanese economies are also compared in Table 7. After BREXIT, real GDP gains of the US and Japan by tariff removals with the EU would be around 15 per cent smaller than before BREXIT, reflecting the trade share of the UK in the EU. Meanwhile, the real GDP gains of the US and Japan resulting from bilateral tariff removals with the UK would be limited to around 15 per cent of those with the EU including the UK.

The relative differences among economic impacts by NTM reductions will no

Table 8 The US's real GDP changes: Summary

	Tariffs	NTMs reductions	Total	(%)
TPP	0.05	0.72	0.77	
Japan-US EPA	0.03	0.35	0.38	
UK join TPP	0.07	0.73	0.80	
TTIP	0.12	0.40	0.52	
US-UK FTA	0.02	0.33	0.36	
TPP11	-0.01	0.15	0.14	
RCEP	-0.18	0.03	-0.16	
Japan-EU EPA	-0.01	0.00	-0.01	
Tariffs on China	-1.99	-	-	
Tariffs on Mexico	-0.80	-	-	

Source: Author's simulations

longer be proportional to trade shares, due to possible spillover effects to third countries. Real GDP gains of the US and Japan from NTM reductions arising from bilateral trade agreements with the UK are estimated to generate around 80-85 per cent of gains with the EU. It must again be noted that the possible income gains by NTM reductions would be much larger than tariff removals regardless of BREXIT.

If the UK were to join TPP, the US, in particular, and Japan would be expected to benefit more. However, such thinking is based on the assumption that the US remains in TPP. The implementation of TPP is a first and necessary steps towards reaping the benefits of regional integration in the near future.

V. Conclusions

The economic impacts of the various RTA scenarios were estimated in this paper. Key policy implications for major economies are summarized below.

- The US would benefit from TPP but once it withdraws from TPP, the US would no longer gain and might even lose (Table 8). The benefits from bilateral FTA/EPA with Japan would be smaller than those from TPP. The high tariffs on imports from China and Mexico proposed by the new US president Trump would lead to significant deterioration of the economic welfare of the US. In the meantime, the adverse trade diversion effects of RCEP would be relatively larger for the US economy. The US is strongly recommended to remain in the global efforts towards trade and investment liberalization and facilitation in order to enjoy the related economic benefits.

- China would also lose seriously if the US were to impose a 45 per cent tariff on imports from China, either unilaterally or bilaterally. Chinese benefits from RCEP might be relatively be limited, depending on the agreement made. China and the RCEP countries are encouraged to make maximum efforts to achieve higher levels RTAs.
- The UK would lose more or less from BREXIT but the cost of BREXIT could be smaller than the possible benefit of joining TPP as far as border tariff measures are concerned.

All in all, the income gains resulting from NTM reductions have been shown to be much larger than those resulting from tariff removals. In terms of the framework for future regional integration, it is advisable to pursue and even extend the TPP agreement, a landmark 21st-century agreement, and set a new standard for global trade while addressing next-generation issues.

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Annex: The macroeconomic impacts of the Asia-Pacific EPAs: Updates

The earlier estimates on the macroeconomic impacts of the Asia-Pacific EPAs in Kawasaki (2014 2015) for following six scenarios are updated using the new GTAP version 9 Data Base benchmarked to 2011 from 2007 in the version 8. The baseline of macroeconomic data is also updated to 2015 from 2010.

1. Tariff removals in TPP countries
2. Tariff removals and NTM reductions in TPP countries
3. Tariff removals in RCEP countries
4. Tariff removals and NTM reductions in RCEP countries
5. Tariff removals in FTAAP economies
6. Tariff removals and NTM reductions in FTAAP economies

It is assumed that tariffs existed in 2011 will fully be removed without distinguishing the effects of existing EPAs. It is also assumed that NTMs are reduced by 50 per cent with 50 per cent spillover effects to the third economies in the all three cases above.

The key observations remain broadly unchanged.

- TPP and RCEP are shown to complement each other rather than be competitors toward the establishment of FTAAP.
- Trade diversion effects will deteriorate the economic welfare of the non-member economies of regional EPAs.
- Larger economic benefits are expected from NTMs reductions in addition to tariff removals.

This estimate is to compare the relative significance of the potential economic impacts of EPAs. Actual impacts will be re-estimated after the negotiations concluded.

Annex Table Real GDP changes by the Asia-Pacific EPAs

	(%)					
	TPP12		RCEP		FTAAP	
	Tariff	+NTMs	Tariff	+NTMs	Tariff	+NTMs
Both TPP and RCEP Economies	1.0	4.3	2.1	6.1	2.3	6.6
Australia	0.3	1.4	1.4	3.0	1.0	2.6
Brunei	3.6	11.6	5.8	15.4	5.5	14.8
Japan	0.7	1.8	1.5	2.9	1.7	3.3
Malaysia	2.9	25.5	5.3	32.5	5.9	35.4
New Zealand	0.9	4.4	1.8	5.9	1.7	6.1
Singapore	0.6	16.5	2.5	20.6	2.1	21.7
Viet Nam	8.1	19.0	11.2	26.5	14.8	31.4
Only TPP Economies	0.1	1.4	-0.2	-0.2	0.4	1.8
Canada	0.6	2.0	-0.1	0.0	0.6	2.2
Chile	0.1	0.9	-0.3	-0.2	0.1	1.4
Mexico	0.1	9.3	-0.5	-0.8	1.6	11.6
Peru	0.1	0.9	-0.1	-0.1	0.1	1.1
US	0.1	0.8	-0.2	-0.2	0.3	1.1
Only RCEP Economies	-0.2	-0.3	1.8	3.5	2.0	3.5
Cambodia	-1.6	-0.6	18.1	33.0	-6.4	-5.6
China	-0.2	-0.3	0.8	2.0	1.5	3.0
India	-0.2	-0.2	2.5	4.5	-0.8	-0.9
Indonesia	-0.3	0.1	2.0	3.5	1.3	2.7
Korea	-0.2	-0.4	5.9	6.9	8.1	8.9
Lao	-0.1	0.2	5.5	11.9	0.4	0.7
Philippines	-0.4	-0.1	1.4	15.9	2.0	18.1
Thailand	-0.8	0.1	11.3	16.5	11.3	16.6
Other APEC Economies	-0.1	0.0	-0.3	0.0	2.4	6.2
Hong Kong, China	-0.2	0.6	-0.4	0.7	0.2	3.7
Chinese Taipei	-0.2	-0.4	-1.5	-1.9	3.6	8.1
Russia	-0.1	0.1	0.2	0.6	2.4	6.0
TPP Economies	0.3	2.0	0.3	1.3	0.8	2.9
RCEP Economies	0.1	1.0	1.9	4.2	2.1	4.4
APEC Economies	0.1	1.2	0.7	1.8	1.4	3.5
EU	-0.1	-0.1	-0.3	-0.2	-0.5	-0.6
World	0.0	0.7	0.4	1.2	0.6	1.9

Source: Author's simulations