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Post-TPP Trade Policy Options for ASEAN and its Dialogue Partners: "Preference Ordering" Using CGE Analysis*

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Trump's withdrawal from the Trans-Pacific Partnership (TPP) and his "America First" trade agenda ignite a second round of interest in mega-free trade agreements in the Asia-Pacific. Countries are evaluating alternative trade policy actions in a post-TPP era. Using national real GDP gains estimated by a modified GTAP model to construct "preference ordering" for 10 Association of Southeast Asian Nations members and their six regional dialogue partners, this paper comes up with several policy-oriented findings. First, when multilateral agreements are not possible, countries are better off with a regional trading agreement than without one. Second, the Regional Comprehensive Economic Partnership is likely to have higher beneficial impacts than the Comprehensive and Progressive Agreement for Trans-Pacific Partnership. Third, for dual-track countries, implementing both agreements is better than each separately. Fourth, impacts of open regionalism are likely to be higher than those of a closed and reciprocal one. Going forward, this paper

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argues that countries should adopt a "multi-track, multi-stage" approach to trade policy.

Keywords: Post-TPP, RCEP, CPTPP, FTAAP, CGE Modelling
JEL Classification: F13, C68, F50

I. INTRODUCTION

There have been two rounds of interest in mega-free trade agreements (mega-FTAs). A decade ago, policy-makers in Asia-Pacific countries started to see mega-FTAs as a third trade liberalisation option in between a deadlocked multilateral agreement under the auspices of the World Trade Organization (WTO) and bilaterals whose benefits are dubious in the shadow of criss-crossing rules of origin (ROOs) that create a tangled "noodle bowl" (Kawai and Wignaraja, 2009). Hence, negotiations for the Trans-Pacific Partnership (TPP12) that involved 12 Pacific Rim economies commenced in March 2010 and those for the Regional Comprehensive Economic Partnership (RCEP) were initiated in May 2013 (see Table 1). The latter brings together 10 members of the Association of Southeast Asian Nations (ASEAN) and their six regional dialogue partners. A year later, in November 2014, 21 Asia-Pacific Economic Cooperation (APEC) members pledged to explore the prospect for realising a Free Trade Area of the Asia-Pacific (FTAAP) to advance their regional economic integration agenda. While the TPP agreement was concluded and signed with much fanfare in October 2015 and February 2016 respectively, the first wave of mega-FTA movement was essentially ground to a halt by a host of adverse factors including the rise of protectionism and anti-globalisation sentiment, regulatory and transparency concerns, a contentious US election that scapegoated foreign trade for political incompetence, and the institutional deficiency of APEC as a negotiating platform.

However, after President Donald Trump pulled the US out of the TPP grouping in January 2017 and reiterated an "America First" trade policy at the 2017 APEC meetings in favour of bilateralism and "fair trade", a second round of interest in mega-FTAs take hold as regional countries proactively explore alternative economic cooperation possibilities. Early signs show that Asia-Pacific countries are reluctant to engage in one-on-one trade negotiations with the US, as bilateral FTAs in theory are only "second best", if not "third best", policy recourse, and could engender asymmetrical trade concessions disproportionately benefiting the US. Hence, they appear to have decided to carry through the unfinished business of negotiating mega-FTAs, to not only sustain

economic growth but also signal an unwavering commitment to combating economic nationalism. In the margins of the APEC gatherings in November 2017, 11 remaining TPP countries revived the stalled TPP and renamed it the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (Rana and Ji, 2017). The agreement was signed on 8 March 2018 (on the same day when President Trump announced restrictive tariffs on steel and aluminium imports following Section 232 investigations). Progress, albeit slow, is also being made on the RCEP front in parallel. Singapore Prime Minister Lee Hsien Loong promised "maximum efforts" will be put in to push RCEP negotiations forward (Yong, 2017) under the country's 2018 ASEAN chairmanship. In a similar move, South Korea announced its willingness to voluntarily serve as an active coordinator to secure a rapid conclusion of RCEP talks (Jung, 2017). At the same time, several major regional economies such as China, Russia and South Korea are lining up to back the so-called "Beijing Roadmap" (APEC, 2014) which calls for a timely establishment of the FTAAP to fulfil the long-cherished dream of "a dynamic and harmonious Asia-Pacific community."

Despite the reignited interest in mega-FTAs, looking ahead a couple of pertinent policy questions remain. With the US withdrawal, does it still make economic sense for the remaining members to move forward with the watered-down CPTPP? Should they simply pivot to RCEP instead? Or should they seek dual membership to participate in both the CPTPP and RCEP? Is the case strong for RCEP and CPTPP tracks to converge over time to forge a region-wide system akin to FTAAP? How about taking steps to implement the CPTPP, RCEP and FTAAP in an open, non-discriminatory manner? How do gains from regional trade accords compare to those that accrue from multilateral trade liberalisation? This paper provides preliminary answers to those important questions by undertaking computable general equilibrium (CGE)-based analysis of various trade policy options facing the 16 selected Asia-Pacific countries – seven CPTPP-TPP dual track countries (Australia, Brunei, Japan, Malaysia, New Zealand, Singapore and Vietnam) and nine single RCEP track countries (Cambodia, China, India, Indonesia, Laos, Myanmar, the Philippines, South Korea and Thailand). Real gross domestic product (GDP) gains expected under alternative policy scenarios are ranked from the highest to lowest to construct what game theorists refer to as "preference ordering" (Brams, 1994).

While there is a large volume of economic literature focusing on the likely economic consequences of individual mega-FTAs such as the TPP12 (Petri and Plummer, 2016; Petri, Plummer, and Zhai, 2011; World Bank, 2016; USITC, 2016), RCEP

(Cheong and Tongzon, 2013) and FTAAP (Scollay and Gilbert, 2000), policy oriented studies which explicitly and comprehensively contrast the economic impacts of alternative regional trade policy options are relatively few in number.[1] Petri et al. (2017) and Schott (2017), who employ quantitative and qualitative methods, respectively, to investigate the trade policy spectrum (ranging from the TPP11 to a bilateral FTA with the US) available to Asia-Pacific countries in the immediate future, are two notable exceptions. This paper also attempts to fill the gap. But the paper differs from the work of others in the sense that, in addition to analysing the FTA portfolio that is available to countries in the immediate future, it adopts a longitudinal perspective to propose a "multi-track, multi-step" trade policy roadmap with milestones to be achieved across the time horizon (i.e., short-term, medium-term, and long-term). Concurring with Petri et al. (2017) and Schott (2017) who argue that "bigger is better", this paper also demonstrates that "more is merrier" and "more open is better", meaning that for Asia-Pacific countries concurrent participation in multiple mega-FTAs and operationalising the "open regionalism" principle (Bergsten, 1997) to extend preferential tariff reductions to non-member economies would better serve national interests than pursuing a single-track, narrower and reciprocal trade pact. The paper is organised as follows. The next section briefly describes the CGE model used in this paper, i.e. the Global Trade and Analysis Project (GTAP) comparative static model, and the modifications made to the model to permit a more accurate estimate of the macroeconomic effects after market forces work through the economies in the longer run. Section III presents the simulation scenarios examined, including the CPTPP, RCEP, the parallel existence of the CPTPP and RCEP, FTAAP+ (a hypothetical region-wide umbrella FTA resembling a merger between the CPTPP and RCEP), open regionalism scenarios, and multilateral tariff eliminations analogous to a successful conclusion of the Doha Development Agenda.[2] In Section IV, we summarise the estimation results by constructing "preference orderings" and discuss several findings and policy implications. The last section concludes the paper.

[1] In addition, the majority of existing literature on mega-FTAs makes use of older versions of GTAP database with information on tariffs and economic structures etc. corresponding to the year 2007 or earlier. Our work employs the latest GTAP database version 9A (featuring reference year 2011), and thus our analyses are more up-to-date.

[2] See Table 1 for a comparison of the TPP, CPTPP, RCEP, FTAAP and FTAAP+.

Table 1. Comparison of the Mega-Regional Initiatives

	TPP	CPTPP (TPP11)	RCEP	FTAAP	FTAAP+
Membership	Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, US and Vietnam	Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam	Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam, Australia, China, India, Japan, South Korea and New Zealand	Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, US and Vietnam	Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, US, Vietnam, India, Cambodia, Myanmar and Laos
GDP in 2016 (nominal, $ trillion)	28.7 (38.0%)	10.2 (13.4%)	23.8 (31.4%)	45.1 (59.7%)	47.5 (62.9%)
Population (as of 1 July 2017, billion)	0.7 (9.3%)	0.4 (5.0%)	3.6 (47.7%)	2.8 (36.9%)	4.2 (55.6%)
Negotiation Started/ Concluded	15–19 March 2010/5 October 2015	Concluded on 23 January 2018 and signed on 8 March 2018	9–13 May 2013/On-going	-	-
Negotiation Objectives/ Visions	A landmark 21st century agreement, setting a new standard for global trade while taking up next-generation issues.	Promote regional economic integration and contribute to the economic growth prospects of its member countries, and create new opportunities for workers, families, farmers, businesses and consumers.	Achieve a modern, comprehensive, high-quality and mutually beneficial economic partnership agreement among the ASEAN Member States and ASEAN's FTA Partners.	• Be pursued on the basis of supporting the multilateral trading system. • Do more than achieve liberalisation. • Work towards the Bogor Goals. • Be realized outside of APEC, in parallel with the APEC process. • Aim to minimize any negative effects.	-

Note: The numbers in the parenthesis are the per cent of world total.
Source: World Bank Database; United Nations Database; author's calculation and compilation from various sources.

II. GTAP AND KEY MODELLING ASSUMPTIONS

GTAP is an advanced multi-region, multi-sector general equilibrium model extensively used to conduct quantitative trade policy analysis (Hertel, 1997; 2012). Core to the GTAP model is a database that comprehensively reports on the state of the world economy. This includes (virtually) all trade flows and inter-industrial links between and within national/regional economies for a given reference year, and a set of elasticity-based behavioural equations and parameters predicting how market agents (e.g., private households, firms and governments) would react to changes in the system when a policy "shock" is introduced. Thus, the GTAP model can help answer "what if" policy questions by offering a counter-factual analysis based on a before- and after-shock comparison of an economy. As a comparative-static model that focuses on inter-equilibrium differentials, the static GTAP model used in this study does not attempt to trace out intra-equilibrium dynamics, such as the adjustment process, an economy would undergo before it arrives at new prices and quantities that clear all markets.

The standard GTAP model adopts a default short-term closure under which cross-border mobility of capital is prohibited. To account for the longer-run effects of the trade arrangements under study, we modify the default closure to create a longer-term macro-environment in which capital is allowed to move between economies in search of highest return while the global stock of capital remains fixed (see Appendix 1for the changes made to the standard GTAP model).[3]

1. Regional and Sectoral Aggregations

In a GTAP model, to focus on key results and enhance computational efficiency, regions and sectors are bundled into aggregates. In our analysis, twenty-two regions which take part in at least one mega-accord were identified and individually retained with the rest coming under one single residual group, the "Rest of the world" (see

[3] This variant of model closure enables a broader range of capital market responses than would otherwise be possible, although it does not fundamentally change the short-term nature of the closure as long as the restriction of non-capital-accumulation is not relaxed.

Appendix 2). The regions selected for an explicit analysis include: Australia, Brunei, Canada, Cambodia, Chile, China, India, Indonesia, Japan, South Korea, Lao DPR, Malaysia, Mexico, Myanmar,[4] New Zealand, Peru, the Philippines, Singapore, Thailand and Vietnam. The TPP withdrawer, the US as well as the EU (which was negotiating a third mega-FTA the Transatlantic Trade and Investment Partnership) were also included in the simulations.

The 57 sectors originally classified by the GTAP database were aggregated into 15 main sectors for the purpose of this study.[5] Appendix 3 provides an overview of the sectoral aggregation. The second column shows the chosen aggregates while the last column lists the GTAP sectors included in the aggregations. Notably more services sectors (i.e., communication, financial services, insurance, construction, transport, trade, business and others) are represented in the aggregation scheme than manufacturing and food processing industries are. This is indicative of the increasing economic weight of services and the different level of liberalisation commitments facing different services industries under mega-FTAs.

2. Tariff and Non-Tariff Measure Patterns

According to the GTAP database version 9A (with reference year 2011), among the CPTPP countries, Australia, Brunei, Singapore, Chile, and Peru are the most liberal in terms of tariff barriers to merchandise trade. In contrast, the rest of CPTPP countries impose comparatively higher tariffs on flow of goods. Some of them have clustered protection in sectors of economic and political sensitivity while others show less variation across the gamut of industry sectors. For example, Canada's uniformly low tariff structure is accompanied by a few tariff peaks on New Zealand's dairy products and Chile's meat products. Vietnam, on the other hand, tends to have a tariff pattern that is more consistent across the CPTPP membership. This could be linked to the fact that Vietnam has relatively few intra-CPTPP trade agreements that liberalise specific bilateral trade ties. It is also worth pointing out that for the

[4] In GTAP database, Myanmar is included in a group called 'Rest of Southeast Asia' (xse) with Timor-Leste. Since Myanmar's GDP is close to 60 times as large as the economic size of Timor-Leste as of 2015, 'xse' is used to approximately represent Myanmar in this paper.

[5] The purpose of sectoral aggregation is to speed up the computation process. This paper does not focus on sectoral results for the sake of brevity.

CPTPP grouping as whole, some industries have substantially higher tariffs than others. Most CPTPP countries have higher tariff levels in meat, livestock and fishery, and processed food industries.

Applied bilateral tariff rates between RCEP members are generally higher than those between CPTPP partners. A common pattern is that many RCEP countries protect their processed food industry. This is in stark contradiction to extractive industries and heavy manufacturing industries where average tariffs are close to zero. In addition to inter-sectoral tariff heterogeneity, some country pairs have distinctly higher bilateral tariff protections than others, considering Korea's tariffs on grains imports from India (317%) and Indonesia (282%), and India's tariffs on processed food imported from Cambodia (85%) and Malaysia (79%). Conversely, two smallest RCEP members stand out, with Brunei facing very low tariffs when exporting to other RCEP markets and Singapore presiding over a zero-tariff regime.

While commercial trading of goods is to a great extent hindered by tariffs, para-tariff measures and tariff-rate quotas, services trade is more affected by behind-the-border regulatory and technical measures, collectively known as non-tariff measures (NTMs). It is, however, a practically and analytically difficult task to collect sector-specific and globally comparable data on NTMs due partly to their opaque nature (Dee and Ferrantino, 2005). Translating NTMs to ad valorem equivalents (AVEs) – the tariffs rates that would induce the same level of imports as the NTMs – is by far the most common approach to quantifying NTMs. This paper taps into two earlier studies on this topic by Fontagné, Guillin, and Mitaritonna (2011) of and the United States International Trade Commission (2016).

As shown in Table 2, among the CPTPP countries, the sector with the lowest level of NTMs is transport service with an average protection/regulation of 25%, followed by other services (34%) and insurance (35%). The highest NTMs are found in construction (75%), financial services (60%) and business-related trade services (50%). In particular, NTMs in construction sectors in Peru (159%), Mexico (136%), Chile (133%) and Australia (127%) as well as business service in Mexico (134%) are all greater than 100%. The trend by and large holds with respect to RCEP countries: the most protected service industries are financial services (67%), construction (56%) and communication (52%), while transport services (28%) is the least protected/regulated sector. The average level of NTMs in Singapore is the lowest in the grouping; India's service market, in contrast, is the most protected/regulated with

AVEs in communication, construction and financial service sectors amounting to 160%, 154%, and 137% respectively.

Table 2. Estimated AVEs of NTMs in Mega-RTA Economies (%)

	Communication	Construction	Finance	Insurance	Business	Others	Trade	Transport
Australia	31.5	126.8	64.2	44.9	66.6	44.4	64.5	26.8
Brunei	49.2	16.1	60.3	56.7	31.0	21.9	31.4	24.7
Cambodia[b]	29.0	21.5	43.6	37.4	32.5	36.1	35.9	29.6
Canada	27.5	73.9	33.8	16.8	31.3	35.9	51.2	25.7
Chile	33.0	133.3	105.6	48.3	69.9	40.3	45.9	18.1
China	85.2	45.6	92.6	40.7	98.1	59.6	32.9	52.8
EU[a]	27.6	44.3	39.9	41.2	26.7	31.8	35.4	19.2
Indonesia	80.0	112.9	95.3	38.1	22.2	38.3	29.1	35.6
India	160.3	153.8	136.8	47.1	48.4	68.4	58.6	49.6
Japan	63.1	25.7	61.0	45.1	43.9	48.4	42.3	26.7
Korea	29.2	101.6	67.2	67.2	25.5	36.2	49.0	13.0
Laos[b]	29.0	21.5	43.6	37.4	32.5	36.1	35.9	29.6
Malaysia	45.2	8.4	51.8	41.2	0.1	31.6	57.3	19.0
Mexico	55.5	135.8	52.6	0.0	133.6	38.9	50.6	35.5
Myanmar[b]	29.0	21.5	43.6	37.4	32.5	36.1	35.9	29.6
New Zealand	10.7	18.7	29.5	34.2	9.1	20.2	19.9	17.1
Peru	56.9	159.1	73.7	37.6	54.7	44.4	100.3	47.1
Philippines	26.4	17.6	58.5	39.5	52.4	58.9	50.1	25.6
Singapore	62.9	67.8	52.6	5.4	2.3	15.0	3.9	0.0
Thailand	43.0	39.6	79.6	14.4	32.5	33.3	30.3	23.4
US	36.9	95.4	51.3	43.7	42.3	8.8	61.5	17.5
Vietnam	29.0	21.5	43.6	37.4	32.5	36.1	35.9	29.6

[a] Real GDP-weighted average, excluding Malta.
[b] Data imputed from Vietnam.
Source: Fontagné, Guillin, and Mitaritonna (2011) and USITC (2016), authors' estimation.

3. Modelling Assumptions on Market Access

On the basis of the tariff schedules of the negotiated TPP agreement (Freund, Moran, and Oliver, 2016), it is *assumed* that Australia, Chile, New Zealand, Peru,

Singapore, Brunei and Malaysia lift all tariff barriers vis-à-vis the remaining CPTPP members and each other. In Mexico, 1% of tariffs on the aggregated processed food industry against imports originating in Australia, Brunei, Canada, Japan, Malaysia, New Zealand, Singapore and Vietnam are retained. To reflect Canada's attempt to exempt dairy, poultry and egg markets from full liberalisation and Vietnam's similar attempts to protect its automotive industry, it is assumed that 3% of tariffs still apply in Canada's processed food industry and Vietnam's aggregated heavy manufacturing industry. Japan comes last in the CPTPP grouping in terms of the scope and depth of tariff removal. Relatively high tariffs on some meat of bovine animals and selected dairy and textile products are not negotiated away even after a protracted transition period of 30 years. In this study, the assumption is that only 90% of tariff protections in Japanese livestock and processed food industries would be scraped, and so would 95% of tariffs in its textiles and clothing sector. The extent of services liberalisation attributed to the CPTPP accord was wholly obtained from USITC (2016) which concludes that communication and business services sectors will be comparatively more exposed to regional liberalisation and competition.

The legal text of RCEP is not available at the time of writing (January 2018). As a benchmark GTAP shock rate, we assume that RCEP grouping would achieve a tariff removal rate of 90-95%, a target that leaders have publicly declared. Singapore, Australia, Brunei and New Zealand are considered in this study as full liberalisers (i.e., countries that eliminate all tariffs barriers against RCEP partners), because of their liberal trade policy history and their concurrent participation in the CPTPP agreement which does not tolerate significant sectoral carve-outs or residual tariffs post-implementation. A research into tariff elimination coverage under existing ASEAN+ FTAs by Fukunaga and Isono (2013) suggests that China, Indonesia, Japan, Korea, Malaysia and the Philippines have shown moderate level of ambitions in opening up their domestic markets to regional partners. These countries are assumed to adopt a tariff shock of 95%, and the rest of developing RCEP countries 90%. To refine the assumptions further, tariff peaks presumably corresponding to sectors that would better withstand the external pressure of liberalisation are identified based on a reading of RCEP countries' sector-specific tariffs, both in terms of bilaterally applied and most favoured nation (MFN) rates. It is found that China's and India's processed food; Japan's crops and grains; Cambodia's crops and grains, meat and livestock, textiles and manufacturing; Korea's meat and livestock and processed food; Laos' meat and livestock, processed food and light manufacturing; Malaysia's

grains and crops and heavy manufacturing; Thailand's processed food and manufacturing; and Vietnam's processed food, textiles and manufacturing tend to be more sensitive sectors, carrying absolutely high or above-regional-average tariffs, for a variety of politico-economic reasons. Accordingly, tariff shocks applied to these sectors were revised downward by an additional 5%. Of particular note is that foreign exporters face extraordinarily high tariff barriers in Korea's agricultural market, with MFN rates on milling industry products and cereals amounting to 330% and 285%, respectively, even though the country's overall MFN tariff rate is 14% on average. We therefore assume that Korea's grains and crops industry will be subject to a tariff shock of only 85% (see Appendix 4).

With respect to services liberalisation, we hypothesise that RCEP countries would be willing to make concessions in sectors that have a prior history of liberalisation and de-regulation. This assumption is in keeping with the fact that services agreement under RCEP will follow the "positive list approach", where only specifically listed sectors will be liberalised. Thus, guesstimate of RCEP's services "actionability" – how much NTMs can be realistically removed – was based on the study by Ishido (2011) who maps out the degree of liberalisation for several services industries under concluded ASEAN+ agreements. Appendix 4 presents the assumed NTMs cuts in RCEP countries; these figures are expressed as percentage reductions to AVEs shown in Table 2. For the RCEP grouping as a whole, our informed guess is that RCEP-induced services reform will be limited given the relatively closed nature of the services markets in most RCEP partners. The dominant market positions of state-owned enterprises and government-linked companies (Park, 2013) which income constitutes an important stream of state revenue also restrict liberal reforms.

4. Trade Facilitation

Apart from swapping preferential market accesses, FTA partners also tend to agree on certain reciprocal trade facilitation provisions that further smooth the flow of trade (Maur, 2011). The term trade facilitation is broadly defined by APEC (2002) as the simplification, harmonisation, use of new technologies and other measures to address procedural and administrative impediments to trade. According to ADB and UNESCAP (2013), implementing trade facilitating measures would confer benefits in terms of bringing about improved trade competitiveness, increased foreign direct investment, greater participation by small- and medium-sized enterprises

in international trade and lifted long term economic growth prospects in spite of short-term institutional and legislative costs.

The "Customs Administration and Trade Facilitation" chapter of the TPP agreement promotes an American-sanctioned vision of trade facilitation as it by and large follows a relatively unchanged template which the US initially drew up for its 2005 FTA with Australia. Two key features of the trade facilitating agenda of the TPP agreement are "Advance Rulings" and "Express Shipments". The former minimises border uncertainty by allowing traders to secure a written advance ruling from the customs of the importing (exporting) country on areas such as rules of origin (see below), valuation criteria and tariff classification for a product ahead of its actual importation (exportation). The latter grants express shipments expedited customs treatment while maintaining proper customs control. For instance, the TPP specifically stipulates that, under normal circumstances, only a single submission of documentation is required, and express shipments should be released in six hours after the submission[6].

Trade facilitation provisions in ASEAN's existing one-on-one agreement with its six dialogue partners (Wille and Redden, 2007; Hamanaka, Tafgar, and Lazaro, 2010) are not as concrete and binding as comparable provisions in the TPP or other trade deals signed by the US. Typically, trade facilitation measures are not grouped in a dedicated chapter but appear mainly as a series of "Customs Procedure" clauses under the heading of "Trade in Goods". This tendency looks set to be continued under RCEP, considering that trade facilitation per se is not mentioned by RCEP's guiding principles. Nevertheless, RCEP is likely to contain several trade facilitation provisions that will have the potential to enhance the overall efficiency of border agencies of RCEP countries.

Several studies have tried to quantify the potential welfare and trade gains that can be derived from trade facilitation (UNCTAD, 2001; Engman, 2005; Wilson, Mann, and Otsuki, 2003). One more recent study by Hillberry and Zhang (2015) suggests that implementation of the WTO's Trade Facilitation Agreement (which entered into force in February 2017) would result in an average trade cost reduction of 0.9% for imports and 1.2% for exports. As such, following USITC (2016), we assume that the TPP and RCEP would have a small efficiency-enhancing effect

[6] Under the CPTPP, parties suspend the obligation to review de minimis tariff levels on express shipments.

(estimated at 1% increase in efficiency for the former and 0.5% for the latter), removing the "sand in the wheels" of international trade (Andriamananjara, Ferrantino, and Tsigas, 2003).

5. Rules of Origin and Preference Utilisation

To push back against trade deflection (Shibata, 1967) and transhipment, reciprocal trade agreements typically include a chapter setting out detailed rules of origin (ROOs) procedures for the determination of the eligibility of products to receive negotiated benefits (Brenton, 2011; Abreu, 2016). When complicated ROOs imply administrative costs and front-loaded investment in compliance expertise, critics claim that the provision becomes a new class of hidden trade barrier (Gretton and Gali, 2005; Estevadeordal, Harris, and Suominen, 2009). While origin rules are seldom malicious by design (and certainly should not be singled out as *the* reason to reject trade agreement altogether), they do in practice result in incomplete utilisation of trade preferences written into FTAs (Reuters and KPMG, 2015). Available empirical investigation suggests that the economic costs of ROOs are not insignificant, which in the context of goods traded within ASEAN could amount to 25% (Pelkmans-Balaoing and Manchin, 2007). Similarly, an Australian Productivity Commission (2010) assessment of the preference take-up of the Australia-US FTA concludes that incomplete utilisation could reduce projected GDP gains to Australia by approximately 25%, in relation to the case of full take up. As a rule-of-thumb, this study follows Gretton (2017) in assuming that mega-FTAs' preferential origin rules reduce the magnitude of GDP gains by 25% below the case of full take-up. This discount also impacts non-members because arguably incomplete utilisations also reduce detrimental effects on them that result from trade diversion and preference erosion.

III. POLICY SIMULATION SCENARIOS

The following policy scenarios were considered in this study.

Scenario 1	CPTPP
Scenario 2	RCEP
Scenario 3	Open CPTPP

Scenario 4	Open RCEP
Scenario 5	CPTPP + RCEP
Scenario 6	Open CPTPP + Open RCEP
Scenario 7	FTAAP+
Scenario 8	Open FTAAP+
Memo (a)	TPP12
Memo (b)	Multilateral tariff elimination

Scenarios 1-4 focused on individual mega-agreements, exploring separately their likely economic implications for 16 countries in the sample. The first two scenarios simulated the economic impacts of the CPTPP and RCEP as conventional, "closed" trade groupings.

Scenarios 3-4 were designed to throw light on the possibility of implementing the two accords on a non-discriminatory basis in keeping the principle of "open regionalism". The concept of "open regionalism" – whose intellectual origin dates back to the late 1960s – was first articulated by Pacific Economic Cooperation Conference (PECC) in 1980, and the adoption of the principle by APEC in 1991 made it an "ideal" approach for economic relations in the Asia-Pacific and the Pacific model for global economic cooperation (Garnaut, 1994; PECC, 1992; Drysdale, Elek, and Soesastro, 1998; Garnaut, 2004). While an official definition of open regionalism was never tabled by APEC or other institutions alike, the operational meaning of the idea evolved from a circumscribed sense of openness in terms of allowing non-members to participate in APEC work programmes (APEC, 1992) to a generalised commitment to voluntarily extending the actual reduction of barriers realised among APEC members to non-APEC economies (APEC, 1995). The principle lapsed into relative irrelevance at the turn of the century due to growing political resistance to governments' attempt of multilateralising trade concessions when the overall drive towards trade openness in the region was decelerated by economic and political crises. In the era of mega-regionals, two renewed interpretations of open regionalism emerge. The first, often made reference to by proponents of the TPP/CPTPP and RCEP, highlights the fact that the two mega-FTAs in the Asia-Pacific are "open" to the accession by new members to the blocs. The second exposition, more applicable in the context of transatlantic trade and regulatory cooperation under TTIP negotiations, takes the view that open regionalism ought to be underpinned by a "living agreement",

meaning that an open trade treaty should not be a one-off negotiation discussing a pre-determined set of trade policy issues but a sustained cooperation and liberalisation channel for new tariff and regulatory barriers to be tackled on an on-going basis (House of Lords European Union Committee, 2014). While the two definitions based on possible geographical or thematic expansions are well justified in their respective contexts, they fall short of the ambitions of the original open regionalism doctrine which prescribed that the most optimal way of FTA partners relating to the rest of the world should be governed by unconditional non-discrimination and MFN treatment. As such, in this study, we stick to the founding vision of open regionalism, assuming that the trade liberalisation and facilitation agreed to by mega-FTAs partners are accessible to all other economies in the world.

A related discussion is the role of ROOs in "opened" mega-FTAs. As noted above, a 25% discount is applied to reflect the possibility that ROOs often serve to offset part of the benefits of trade liberalisation. A truly open regional agreement would, however, remove the necessity to formulate and enforce ROOs for governments and the incentive to certify compliance for traders (Panagariya, 1999; Estevadeordal and Suominen, 2003; Baldwin, Evenett, and Low, 2008) because the MFN multilateralisation of the negotiated trade concessions renders the requirement to determine the eligibility for preferential treatment obsolete. In the open regionalism scenarios, therefore, it is assumed that ROOs would not raise additional costs and accordingly the 25% discount ceases to apply.

To be of note, what was understood as "opened" ROOs in this study are different from liberal ROO regimes or non-preferential ROOs. Liberal ROOs are usually associated with FTA provisions based on cumulation of origins, tolerance rules allowing a malleable treatment of non-originating intermediate inputs, and a co-equal approach that accords traders the flexibility to cherry-pick a preferred origin-certifying method, whether it is local content requirement or change in tariff classification. Adopting transparent, easy-to-comprehend ROOs to minimise the scope for policy interpretations and administrative discretions, and reducing cross-agreement inconsistencies by ensuring that products be subject to homogenised ROO regimes across trade treaties are also considered "best practices" to make customarily restrictive ROOs more liberal (Brenton, 2011). Non-preferential ROOs (Estevadeordal and Suominen, 2003; Hoekman and Inama, 2018), for its part, is to be distinguished from preferential ROOs. Unlike the preferential ROOs that are predominately relevant in the context of FTAs or preferential arrangements (e.g. European Union's Everything But Arms

initiative) where eligibility of trade preference is at stake, non-preferential ROOs is part and parcel of a country's multilateral trade policy – their fundamental purpose is to make a distinction between foreign and domestic products so that WTO rules such as anti-dumping and countervailing duties, safeguard measures and public procurement could be legally applied. The ROOs are *non-preferential* in the sense that foreign goods entering the country will not receive differential treatment based on country origin (though they will be treated differently from local products). While these two concepts share "open" regionalism's policy intention of mitigating the distortion of regional and global production patterns and imply greater openness of regional trade policies, they are not addressed in this study.

Scenarios 5 and 6 corresponded to situations where both mega-FTAs are in force. Insofar as the modelling results are the net economic outcome of two mega-FTAs' respective impacts, single-track economies would be better able to ascertain their real economic growth potential knowing that while they are included in one mega-bloc, they are also excluded from the other. Dual-track economies, on the other hand, can infer from the results whether their concurrent pursuits of two mega-FTAs are worth the effort. In the simulations, we assumed that countries taking part in two mega-agreements will adopt shocks associated with the more liberalising agreement (see sub-section II.3).[7] It is certainly not the case that the relatively deeper agreement will nullify the shallower one *de jure*. But, voting with their feet, businesses facing two agreements with differentiated liberalising scopes and tariff savings may presumably choose the more beneficial one based on economic logic, possibly driving the gradual, *de facto* oblivion of the less liberalising agreement.

Scenarios 7 and 8 looked at a hypothetical umbrella FTA that encompasses 21 APEC members in addition to four non-member countries negotiating RCEP. Since this FTA is broader in membership which includes countries like India and Cambodia that are not official APEC members, we labelled it "Free Trade Area of the Asia Pacific-Plus (FTAAP+)"[8] in this study. Incorporation of RCEP countries that do not form part of APEC in the potential region-wide trade architecture is possible

[7] In practice, it means countries that take part in both the TPP and RCEP will adopt shock assumptions associated with the TPP.

[8] This is equivalent to what Petri and Abdul-Raheem (2014) call "FTAAP-25".

since RCEP is officially recognised as a pathway to achieving FTAAP (Petri and Abdul-Raheem, 2014). In these two aspirational scenarios, we assumed the participation of the US, full removal of tariffs and 1% efficiency enhancement. Additionally, Memo item (a) was included to present simulation results of the original TPP12.[9] Memo item (b) dealt with global tariff liberalisation as a reference.[10] Table 3 summarises the assumptions under the different policy scenarios discussed in this and the previous section.

IV. POLICY SIMULATION RESULTS AND IMPLICATIONS

All simulations were done using the multi-step, non-linear Gragg's method, with extrapolation. Automatic accuracy function of the GTAP model was activated, ensuring at least 99% accuracy of the results to at least four decimal points (although results reported in this paper were kept to two decimal places for simplicity). Tables 4 and 5 present the simulated real GDP impacts (percentage change) and rank orderings from highest (10) to lowest (1) for dual-track and single-track countries, respectively, under each of the ten scenarios.[11] Cross-checking the findings with those of some widely cited recent works,[12] it is found that the figures presented in this paper are generally in the middle range of the available studies. The rank orderings lead to a number of findings.

[9] In the TPP12, the US is assumed to eliminate all tariffs and liberalise services according to estimate by USITC (2016).

[10] Since multilateral trade liberalisation and open regionalism do not require rules of origin to enforce preferentialism, 25% ROO-related discount does not apply in Scenarios 4, 6, 8 and 9.

[11] Preference orderings based on welfare gains are summarised in Appendix 5.

[12] For example, TPP/CPTPP results are juxtaposed with USITC (2016), Petri and Plummer (2016), and Ciuriak, Dadkhah, and Xiao (2017). Simulated RCEP impacts are compared with Cheong and Tongzon (2013), Itakura (2015) and Jungbluth, Aichele, and Felbermayr (2016).

Table 3. Summary of Simulation Assumptions

	Tariff Reduction	Service Liberalisation	Trade Facilitation	Effect of Rules of Origin	Preference Extending to Non-members
CPTPP	Full removal with "carve-outs" in Canada, Mexico, Vietnam, Japan	USITC (2016) including comparatively more liberalisation in communication, trade and other business service industries	1% decrease in import cost	25% reduction in projected gains	No
RCEP	100% in Australia, Brunei, Singapore, New Zealand 95% in China, Japan, Korea, Malaysia, Philippines 90% in the rest (with carve-outs)	Minimal liberalisation in communication, transport and other industries based on existing ASEAN+ agreement	0.5% decrease in import cost		
Open CPTPP	Same as CPTPP			No	Yes
Open RCEP	Same as RCEP				
CPTPP+RCEP	Same as CPTPP and RCEP; Dual-track economies adopt CPTPP assumptions	Same as CPTPP and RCEP; Dual-track economies adopt more liberal assumptions	1% for CPTPP and dual track members; 0.5% for RCEP members	25% reduction in projected gains	No
Open CPTPP + Open RCEP	Same as CPTPP+RCEP			No	Yes
FTAAP+	Full removal	No	1% decrease in import cost	No	No
Open FTAAP+	Same as FTAAP+				Yes
TPP12	Same as CPTPP				
Multilateral Liberalisation	Full removal	No	1% decrease in import cost	No	-

Source: Authors' assumptions.

Table 4. "Preference Orderings" for Dual-Track Countries

(Per cent real GDP change in parenthesis with two best scenarios in bold)

Scenario	Australia	Brunei	Japan	Malaysia	New Zealand	Singapore	Vietnam
1 CPTPP	1 (0.36)	1 (1.48)	1 (0.21)	1 (1.97)	3 (1.00)	1 (0.99)	1 (1.51)
2 RCEP	3 (0.61)	3 (1.87)	3 (0.55)	3 (2.59)	1 (0.69)	3 (1.63)	2 (3.34)
3 Open CPTPP	7 (1.08)	**9** **(3.70)**	6 (0.94)	8 (6.43)	**9** **(2.00)**	6 (2.61)	6 (6.66)
4 Open RCEP	6 (1.00)	6 (3.26)	5 (0.86)	5 (5.25)	2 (0.81)	5 (2.24)	5 (6.48)
5 CPTPP+RCEP	4 (0.66)	4 (2.08)	4 (0.66)	4 (3.15)	5 (1.22)	4 (2.07)	4 (4.17)
6 Open CPTPP + Open RCEP	**10** **(1.23)**	**10** **(3.94)**	**10** **(1.29)**	**9** **(6.52)**	8 (1.93)	**9** **(3.50)**	7 (8.30)
7 FTAAP+	5 (0.98)	5 (3.19)	8 (1.07)	6 (5.35)	7 (1.57)	7 (3.33)	8 (9.43)
8 Open FTAAP+	8 (1.13)	8 (3.51)	7 (1.05)	7 (6.35)	7 (1.57)	8 (3.37)	**9** **(9.97)**
Memo (a) TPP12	2 (0.40)	2 (1.78)	2 (0.40)	2 (2.54)	4 (1.14)	2 (1.30)	3 (4.00)
Memo (b) Multilateral Tariff Reduction	**9** **(1.15)**	7 (3.31)	**9** **(1.19)**	**10** **(6.60)**	**10** **(3.25)**	**10** **(4.04)**	**10** **(10.75)**

Source: Authors' simulations.

Table 5. "Preference Orderings" for Single Track (RCEP) Countries

(Per cent real GDP change in parenthesis with two best scenarios in bold)

Scenario	Cambodia	China	India	Indonesia	Laos	Myanmar	Philippines	South Korea	Thailand
1 CPTPP	2 (-0.07)	2 (-0.03)	2 (-0.02)	2 (-0.06)	2 (-0.01)	3 (0.00)	2 (-0.08)	2 (-0.06)	2 (-0.36)
2 RCEP	5 (8.22)	5 (0.40)	5 (0.68)	5 (0.62)	4 (2.38)	5 (0.38)	5 (1.00)	5 (2.33)	5 (4.53)
3 Open CPTPP	3 (4.45)	3 (0.30)	3 (0.09)	3 (0.16)	1 (-0.49)	1 (-0.09)	3 (0.17)	3 (0.54)	3 (0.14)
4 Open RCEP	7 (16.05)	6 (1.29)	7 (2.45)	6 (1.17)	7 (4.15)	6 (0.66)	6 (2.12)	6 (6.04)	6 (8.20)
5 CPTPP+RCEP	4 (8.11)	5 (0.40)	4 (0.67)	4 (0.61)	5 (2.41)	5 (0.38)	4 (0.97)	4 (2.32)	4 (4.46)
6 Open CPTPP + Open RCEP	6 (15.79)	7 (1.33)	8 (2.49)	7 (1.23)	6 (4.09)	7 (0.67)	7 (2.22)	8 (6.21)	7 (8.56)
7 FTAAP+	**9 (21.28)**	8 (1.35)	6 (1.42)	8 (1.49)	8 (4.22)	**10 (0.93)**	8 (2.77)	7 (6.15)	8 (8.85)
8 Open FTAAP+	**10 (21.90)**	**9 (1.83)**	**9 (2.89)**	**9 (1.62)**	**10 (4.63)**	8 (0.87)	**10 (3.04)**	**9 (6.91)**	**9 (9.96)**
Memo (a) TPP12	1 (-0.58)	1 (-0.06)	1 (-0.05)	1 (-0.08)	2 (0.02)	3 (0.00)	1 (-0.15)	1 (-0.12)	1 (-0.47)
Memo (b) Multilateral Tariff Reduction	8 (19.86)	**10 (2.41)**	**10 (3.47)**	**10 (1.80)**	**9 (4.24)**	**10 (0.93)**	**9 (2.88)**	**10 (7.84)**	**10 (11.38)**

Source: Authors' simulations.

The first is that while multilateral tariff elimination tends to be the most desirable option (for 10 out of the 16 countries in the sample), countries are invariably better off with some regional trading arrangements than without it. This holds true particularly with respect to developing ASEAN countries such as Cambodia and Vietnam – whose real GDP would increase by 8.22% and 3.34% under RCEP, respectively. Thus, these empirical findings are broadly supportive of Larry Summers' famous, and much criticised, assertion that "economists should maintain a strong, but rebuttable, presumption in favour of all lateral reductions in trade barriers, whether they be multi, uni, bi, tri, plurilateral. Global liberalization may be best, but regional liberalization is very likely to be good" (Summers, 1991). Economic success in increasingly competitive commercial environment requires countries to proactively reduce border barriers, abolish undue and superfluous regulations that may or may not have explicit protectionist intent, win over highly mobile international capital that flows to freer and more secure markets, and defensively neutralise third-party beggar-thy-neighbour trade policies and practices. But the interlocking nature of modern economic relations (Baldwin, 2016), and domestic political economy hostile to unilateral trade disarmament often render that national interests are most effectively served through coordinated and reciprocal regional efforts where countries swap preferential market access and trade away each other's political opposition. as such, the formation of FTAs at the bilateral and regional levels has increased exponentially in the past fifty years.

Second, in all countries except New Zealand[13], RCEP is likely to have higher economic benefits than the CPTPP. This is because (i) RCEP has more members than the CPTPP, (16 in the former including such countries as China, India and Korea as compared to the latter's smaller 11-country configuration) and (ii) trade liberalisation can be more significant in RCEP than the CPTPP because RCEP countries typically have higher tariff barriers prior to liberalisation. A caveat is that

[13] This is partly because New Zealand would benefit more from the services trade liberalisation in CPTPP countries. The CPTPP will be the country's first FTA with Japan, Canada, Mexico and Peru. These four new partners accounted for $5.5 billion out of New Zealand's total $6.9 billion worth of services exports in the year ending in June 2017 (New Zealand Ministry of Foreign Affairs and Trade, 2018).

our model has little to say about the potential economic footprint of an enlarged CPTPP, to which accession is, in theory, open to all APEC members and other countries willing to adhere to its high-quality rules. Inducting a new member could provide additional benefits not only to the accession economy but also to other economies of the trading bloc. If countries lining up for TPP membership (e.g., Colombia, Thailand, South Korea, and even post-Brexit United Kingdom) could become part of the reworked CPTPP,[14] there is chance that the trans-Pacific bloc could be more economically stimulating than RCEP.

Third, for dual-track economies, CPTPP and RCEP are better together than individually as Table 4 shows that scenario 5 consistently receives a higher preference score than scenario 1 and 2. An open RCEP together with an open CPTPP are even better[15]. In other words, there is less or no "Spaghetti/Noodle bowl" effect. Furthermore, countries adopting both initiatives tend to capture larger benefits, an observation that is broadly consistent with the findings of an earlier survey conducted by the authors (Ji et al., 2016) showing that 77% of Asian respondents felt that countries should pursue multiple mega-FTAs if possible. As an illustration, Singapore's concurrent participation in the CPTPP and RCEP could lead to a real GDP increase of 2.07%, whereas the CPTPP would increase GDP by only slightly less than 1% and RCEP by 1.63%. This is also true for Australia, Brunei, Japan, Malaysia, New Zealand and Vietnam, each registering a greater preference score for the CPTPP+RCEP parallel scenario. One could argue that there is a certain degree of overlapping since the additive gains are smaller than the sum of separate gains from CPTPP and RCEP tracks. However, dual-track economies enjoy the distinct advantage of securing privileged free trade relations with such key American markets as Canada and Mexico through the TPP and with Asian heavyweights like China and India under RCEP simultaneously.

That said, negotiating mega-scale FTAs embedding forward-looking and WTO-plus provisions is a demanding undertaking that necessitates massive political, diplomatic and administrative capital commitment. Potential entrants should pragmatically put

[14] Petri et al. (2017) show that adding Indonesia, Korea, the Philippines, Taiwan and Thailand to the TPP agreement would boost economic benefits three times.

[15] Applying the 25% discount to the results obtained in open CPTPP and open RCEP scenarios will not disprove this argument.

the RCEP framework before the TPP and pursue multiple-mega-FTAs only when capacity permits (because the former is likely to be more economically rewarding, all else being equal, but also because the TPP's high standard in services and regulations could be intimidating). Tables 4 and 5 also stand to reason that the prize of FTAAP+ would be the largest among alternative regional accords examined in this paper. Notably, an FTAAP+ represents the best state of trade affairs and the second best one for Myanmar and Cambodia, respectively, generating GDP gains that are even larger than would be expected from multilateral trade liberalisation. These projected gains associated with FTAAP+ suggest that both the TPP and RCEP should be understood as "entrée" in anticipation of main courses to follow.

A relevant corollary to this referencing order concerning regional accords is a comparison of the economic impacts of the TPP12 and CPTPP. The fourth finding of our paper therefore is that, as expected, remaining signatories are made worse off by replacing the original pact with the CPTPP given smaller GDP gains and thus lower preference scores, but the proclamation of the US withdrawal posing a substantial and existential threat to the deal (at least from an economic perspective) is greatly overstated. This view supports Petri et al. (2017) and Ciuriak, Xiao, and Dadkhah (2017). Except Japan, Malaysia and Vietnam, all the other Asia-Pacific countries in the sample manage to preserve over 80% of their TPP12 gains through forging on with the TPP minus US. Even Japan, Malaysia and Vietnam, which saw establishing freer trade with the US as a key rationale underpinning their interest in the TPP in the first place, would do reasonably well under the CPTPP according to our simulations. In this regard, an important contextual factor to consider in rationalising this seemingly counter-intuitive finding is that the US is already an open economy with markedly low applied MFN tariff of an average 2.8% in 2015. Further opening up of the US merchandise trade regime under the TPP would not boost trade materially. (The forgone opportunity and benefits of securing privileged access to the US's vast services market explain much of the benefit shortfalls.) Adding to the economic relevance investigated in this study, at stake politically is for the 11 countries to form a united front to challenge the Trump administration's protectionist trade agenda and "America First" rhetoric in the interest of buttressing the wobbly global liberal economic order.

The fifth finding of our preference ordering is that open regionalism is more attractive than "closed" regionalism in terms of economic benefits. For FTA participating economies, converting a preferential agreement to a more open and liberal configuration

would reinforce market forces; reduce trade flow distortions; import least cost supplies from all trading nations; facilitate value adding and production sharing chains extending beyond the jurisdiction of the trading bloc; and eliminate costs associated with the maze of rules of origin and other regulations to enforce preferences (Gretton, 2017). The theoretical proposition is supported by policy modelling in this paper. Open CPTPP scenario is consistently ranked higher than the CPTPP scenario for Asian countries. For instance, implementing the agreement on a non-discriminatory basis would boost Japanese real GDP gains four-fold. Similar outcomes are projected for the RCEP grouping, the FTAAP+ bloc and parallel scenarios. While Australia, Brunei, Canada, Japan, Mexico and Peru rank parallel, open implementation of the CPTPP and RCEP (i.e., Scenario 6) as the best outcome, open FTAAP+ is most preferred by three ASEAN countries, namely, Cambodia, Laos and the Philippines. Moreover, excluded party whose exports are conventionally discriminated against in integrating markets will find open regionals less trade diverting and more attractive to them. China, for example, would experience net gains from a 0.03% loss (under a closed CPTPP) to a 0.3% gain (under an open CPTPP) when Chinese exports are treated no less favourably in CPTPP countries than those originating within the geographical boundary of the CPTPP bloc. Compared to open regionalism, however, global liberalisation is shown to be able to deliver more substantial gains for most Asian countries – even though only tariff elimination is considered in this paper. The most prominent beneficiaries amongst all the modelling projects, in percentage terms, are trade exposed countries with higher levels of prevailing MFN tariff rates such as Cambodia (with a simple average applied MFN tariff rate of 11.4% in 2014), Thailand (with an MFN rate of 11%), Vietnam (9.5%) and South Korea (13.9%). By way of comparison, countries with relatively low trade-to-GDP ratios and low MFN border protections (e.g.m the US, Peru and Canada) are projected to benefit modestly from global merchandise trade liberalisation.

Also, should the hypothetical multilateral liberalisation accord go beyond mere tariff removal in progressively liberalising services trade and public procurement markets, there would be substantially larger benefits. Unlike merchandise trade liberalisation that had been pursued lastingly since the inauguration of the General Agreement on Tariffs and Trade (GATT) in 1948, comparable movement of multilateral liberalisation of services trade did not gain traction until the negotiation of the General Agreement on Trade in Services (GATS) which entered into force almost fifty years later in 1995. Due to conflicting national interests in key areas such as

banking, insurance, professional services, telecoms and transport that proved hard to reconcile at the multilateral level, GTAS commitments by and large are more aspirational than operational (Adlung and Roy, 2005). Leveraging the value-added of mega-FTAs over existing GATS commitments, schedules and scopes in liberalising selected segment of trade in services of common interest could be the first step towards engineering a genuinely full-fledged free services trade regime that ensure unhindered access to a competitive and efficient global services markets for all.

Going forward, the Asia-Pacific policy makers should adopt a "multi-track, multi-stage" approach in designing their regional trade policies. The first stage should centre on concluding and subsequently implementing the mega-FTAs under negotiations, that is the CPTPP and RCEP. With 85% GDP requirement gone, the CPTPP will take effect provisionally 60 days after six countries complete domestic ratification processes. It is expected that the pact could enter into force early 2019, but this schedule could be scuttled by political developments in key CPTPP members (e.g. general elections in Malaysia and the weakened position of Japanese Prime Minister Shinzo Abe). Meanwhile, ASEAN+6 partners should strive to bring on-going RCEP negotiations to a substantial conclusion possibly as soon as next year, under the ASEAN chairmanship of Singapore, a pro-trade entrepôt economy. At this juncture, disagreements between ASEAN+1 countries with no bilateral FTA with each other and perceived low tariff concessions offered by India seem to have exerted a drag on the RCEP project;[16] but it should be reminded that new and direct economic links instituted by RCEP between China, Japan, India and others are in fact the real draw card for the establishment of RCEP in the first place.

In stage two, if and when RCEP talks are completed, RCEP partners not represented in the CPTPP grouping should switch political attention and diplomatic capital to

[16] India on the other hand is pushing for what New Delhi calls "a balanced agreement" that involves a commensurate level of services liberalisation which other RCEP partners are comparatively more reluctant to embrace. And some Indian officials find it difficult to reconcile external openning udner RCEP and Prime Minister Modi's central industrial policy, the "Made In India" campaign. Nevertheless, most recently, ASEAN leaders took advantage of the ASEAN-India Commemorative Summit in January 2018 (which marked the 25 years of bilateral ties) to push India to conclude RCEP talks in 2018.

acquire CPTPP membership[17] as our modelling shows that dual-membership is preferred. CPTPP incumbents absent from RCEP negotiations ought to do the same to seek accession to the RCEP bloc, which in 2016 accounted for almost half of the world population, 32% of global output, 29% of global trade and a fifth of the global foreign direct investment inflows. In so doing, CPTPP members will get unhampered access to a significantly larger integrated market including China, while RCEP members – many of which are developing economies – will gain valuable exposure to high-quality trade rules that may serve as an external validation as to how to proceed with further economic liberalisation in non-traditional trade areas. For trade strategists, pursing a multi-track trade policy straddling two mega-FTAs would spare regional countries the need to choose side between the Japan-led CPTPP and China-backed RCEP, thereby defusing daunting geopolitical tensions. Efforts should not stop at securing dual mega-FTA participation; countries should move towards stitching the CPTPP and RCEP into a more inclusive and coherent overarching FTAAP+ with streamlined rules that can disentangle the region from multiple ruling and "noodle bowl" problems (Hamanaka, 2012).

Then, in stage three, Asian countries could try to relax the inward-looking principle of reciprocity by operationalising the principle of open regionalism over time. In this regard, differentiated trade strategies should be pursued by countries of different income levels. High level income countries (e.g. Australia, Japan and New Zealand) which are typically characterised by high overall economic openness, extensive FTA networks and greater cross-border trade in services should make opening up CPTPP a priority. Table 4 shows they tend to benefit comparatively more from an opened CPTPP than from an opened RCEP, thanks mainly to the former's deeper

[17] There were some legitimate concerns that incumbent TPP members might impose harsh accession conditionality to extract more concessions from aspiring countries seeking TPP membership. See Hamanaka (2014). However, with the withdrawal of the US which can unilaterally dictate the terms of accession, the CPTPP has become a more equitable grouping wherein partners show more sensitivity to each other's concerns and interests. This characteristic change is best evidenced in the willingness of the 11 remaining parties to suspend some 20 provisions of the original text of the TPP, at the request of such countries as Vietnam, Malaysia, Brunei and Canada. It is therefore unlikely that non-TPP RCEP countries would be deterred by the CPTPP's entry requirements to the extent that the benefits of joining the CPTPP become expendable.

and more stringent services sector and investment liberalisations. The reverse can be said about the region's middle-income countries. The preference scores (see Table 5) show that their trade gains from open regionalism would be driven by a potential non-discriminatory application of RCEP agreement. These countries should be able to turn the higher standard CPTPP to their advantage in the long run (provided that they become members), but the more pressing matter for them would be a multilateralisation of RCEP trade concessions that entails a liberalisation commitment to the rest of the world not least in the area of merchandise trade.

To be sure, open regional approach to liberalising trade – akin to concerted unilateral liberalisation actions – in the Asia-Pacific will be politically difficult to achieve.[18] If anything, it will rely on far-sightedness and collaborative leadership potentially provided by the region's economic hegemons (necessarily including the US and India despite their current protectionist trade policy rhetoric) together with the most liberal countries such as Singapore, Australia and Chile, in recognition that the more open an agreement becomes, the more economically stimulating it will be, as discussed above. Successes of regional arrangements could re-energise global momentum at the WTO level to pave the way for world-wide free trade (Urata, 2016; Baldwin and Low, 2008) in the final phase, which will go a long way in promoting sustainable and equitable economic growth and combating economic nationalism.

V. CONCLUSIONS

This paper uses CGE analysis to illustrate the relative economic merits of several existing and potential trade agreements and implementation modalities. The results

[18] At a rhetorical level, the principle of "open regionalism" is explicitly or implicitly enshrined across various Asian cooperative mechanisms including ASEAN and ASEAN-Plus (e.g. ASEAN Vision 2020 Declaration and ASEAN Economic Community Blueprint 2025) and inter-continental forums like Asia-Europe Meeting (ASEM). The principle is invoked predominantly for the purpose of projecting an image of the concerned grouping being non-exclusive and not targeting any third party. In the specific realm of trade liberalisation, putting "open regionalism" into practice means voluntarily lowering trade barriers to non-members (and ideally to the rest of the world) without reciprocal liberalisation. It has not been a very popular policy option except for a few ultra-liberal economies like Australia.

show that regional trade agreements could generate economic gains to members, and should be preferred by Asian countries to the sub-optimal status quo where multilateral trade liberalisation is on the brink of falling to a state of permanent stasis and domestic political economy prevents governments from pursuing unilateral measures.

Between the two mega-FTAs that currently define the landscape of trade governance in the Asia-Pacific, relevant parties should prioritise RCEP over the CPTPP not least for the reason that the former, as the only multi-party trade grouping that brings together Asia's three largest economies (i.e. China, Japan and India), would unleash more substantial gains. Our GTAP simulations also suggest that Asian countries should explore the possibility of pursuing both the CPTPP and RCEP to maximise trade creating potentials and to strike a geopolitical balance between their ties with China and those with Japan. Recognising that such multi-track FTA strategy could be too resource intensive to be followed by the region's low-income economies, prudent policy sequencing that presumably puts RCEP ahead of the CPTPP in the short run would be wise. Once both the CPTPP and RCEP are implemented, a follow-up strategy would be merging the two into an FTAAP+ that encompasses all key Asia-Pacific economies. While the gap between the CPTPP and RCEP in terms of the differing levels of ambition might prove challenging to close, dual-track economies, and single-track economies that are ready to ratchet up their existing commitments, would drive the convergence between the CPTPP and RCEP and push it in positive directions. In this paper, we also illustrate the case for greater trade openness. Transitioning from a "noodle bowl" of preferential regional trade agreements to open regionals and eventually to a more open global trading system is estimated to offer far greater benefits.

To sum up, when it comes to trade liberalisation, the preference ordering exercise based on CGE modelling suggests that the first best option remains a multilateral solution and regionalism is demonstrably the second best. Open regionalism that extends preferential market accesses to all parts of the world would generate greater economic gains than closed agreements. The same goes for larger regional agreements (e.g., RCEP) vis-à-vis smaller ones (the CPTPP) and multiple mega-FTA memberships vis-à-vis single mega-FTA membership. The worst outcome is for countries to stay idle, not only forgoing the opportunity to liberalise trade with external partners but also possibly crumbling in the face of protectionist pressures, as per the "bicycle theory" (Bergsten, 1996).

Appendix 1. Modifications Made to the Standard GTAP Model

- Changes to the model theory

Variable
Capital;
Equation E_capital
capital = sum{r,reg, VKB(r)/sum{s,reg, VKB(s)} * qo(“capital”, r)};
Variable (all,r,reg)
f_rorc(r);
Variable
rorc_r;
Equation E_rorc2 (all,r,reg)
rorc(r) = rorc_r + f_rorc(r);
Variable
qgdpwld;
Equation E_qgdpwld
sum{r,reg, GDP(r)} * qgdpwld = sum{r,reg, GDP(r) * qgdp(r)};

- Change to the default GTAP short-term closure

Swap qo(“capital”,reg) = f_rorc(reg);

Source: Productivity Commission (2009)

Appendix 2. Regional Aggregation

No.	Region	Original GTAP Regions[a]
1	Australia	aus
2	Brunei	brn
3	Cambodia	khm
4	Canada	can
5	Chile	chl
6	China	chn
7	European Union	aut, bel, cyp, cze, dnk, est, fin, fra, deu, grc, hun, irl, ita, lva, ltu, lux, mlt, nld, pol, prt, svk, svn, esp, swe, gbr, bgr, hrv, rou
8	Indonesia	idn
9	India	ind
10	Japan	jpn
11	South Korea	kor
12	Laos	lao
13	Malaysia	mys
14	Mexico	mex
15	Myanmar[b]	xse
16	New Zealand	nzl
17	Peru	per
18	Philippines	phl
19	Singapore	sgp
20	Thailand	tha
21	United States	usa
22	Viet Nam	vnm
23	Rest of the world	xoc, hkg, mng, twn, xea, bgd, npl, pak, ika, xas, xna, arg, bol, bra, col, ecu, pry, ury, ven, xsm, cri, gtm, hnd, nic, pan, slv, xca, dom, jam, pri, tto, xcb, che, nor, xef, alb, blr, rus, ukr, xee, xer, kaz, kgz, xsu, arm, aze, geo, bhr, irn, isr, jor, kwt, omn, qat, sau, tur, are, xws, egy, mar, tun, xnf ,ben

[a] See https://www.gtap.agecon.purdue.edu/databases/regions.asp?Version=9.211 for the GTAP countries and regions.

[b] In the current GTAP Data Base, Myanmar and Timor-Leste are bundled in 'Rest of Southeast Asia (xse)'. This study used 'xse' to represent Myanmar.

Appendix 3. Sectoral Aggregation

No.	Code	Aggregated Sector	GTAP Sectors	Description
1	GrainsCrops	Grains, Crops, Forestry	pdr, wht, gro, v_f, osd, c_b, pfb, ocr, frs	Paddy rice; wheat; cereal grains and others; vegetables, fruit, nuts; oil seeds; sugar cane, sugar beet; plant-based fibres; crops and others; forestry
2	MeakLstk	Livestock, fishing	ctl, oap, rmk, wol, fsh,	Cattle, sheep, goats, horses; animal products and others; raw milk; wool, silk-worm cocoons; fishing
3	Mining	Mining	coa, oil, gas, omn	Coal; oil; gas; minerals and others
4	ProcFood	Processed food	cmt, omt, vol, mil, pcr, sgr, ofd, b_t	Meat; meat products and others; vegetable oils and fats; dairy products; processed rice; sugar; food products and others; beverages and tobacco products
5	TextWapp	Textiles and clothing	tex, wap	Textiles; wearing apparel
6	LightMnfc	Light manufacturing	lea, lum, ppp, omf	Leather products; wood products; paper products, publishing; manufactures and others
7	HeavyMnfc	Heavy manufacturing	p_c, crp, nmm, i_s, nfm, fmp, mvh, otn, ele, ome	Petroleum, coal products; chemical, rubber, plastic products; mineral products and others; ferrous metals; metals and others; motor vehicles and parts; transport equipment; electronic equipment; machinery and equipment and others
8	Const	Construction	cns	Construction
9	Transport	Transport	otp, wtp, atp	Transport and others; sea transport; air transport
10	Comm	Communication	cmn	Communication
11	FinSvc	Financial services	ofi	Financial services and others
12	Trade	Trade	trd	Trade
13	Insurance	Insurance	isr	Insurance
14	Business	Business	obs	Business services and others
15	Others	Other services	ely, gdt, wtr, ros, osg, dwe	Electricity; gas manufacture, distribution; water; recreation and others; public administration, defence, health and education; dwellings

Appendix 4. Modelling Assumptions on RCEP's Actionability

Tariff-cuts on Merchandise Trade (%)

	GrainsCrops	MeatLstk	Extraction	ProcFood	TextWapp	LightMnfc	HeavyMnfc
Australia	-100	-100	-100	-100	-100	-100	-100
Brunei	-100	-100	-100	-100	-100	-100	-100
China	-95	-95	-95	-90	-95	-95	-95
Indonesia	-95	-95	-95	-95	-95	-95	-95
India	-90	-90	-90	-85	-90	-90	-90
Japan	-90	-95	-95	-95	-95	-95	-95
Cambodia	-85	-85	-90	-90	-85	-85	-85
Korea	-85	-90	-95	-90	-95	-95	-95
Laos	-90	-85	-90	-85	-90	-85	-90
Myanmar	-90	-90	-90	-90	-90	-90	-90
Malaysia	-90	-95	-95	-95	-95	-95	-90
New Zealand	-100	-100	-100	-100	-100	-100	-100
Philippines	-95	-95	-95	-95	-95	-95	-95
Singapore	-100	-100	-100	-100	-100	-100	-100
Thailand	-90	-90	-90	-85	-90	-85	-85
Vietnam	-90	-90	-90	-85	-85	-85	-85

NTM Reduction on Services Trade (%)

	Construction	Communication	Business	Finance	Insurance	Trade	Transport	Others
Australia	-5	-5	-8	-8	-5	-8	-5	-5
Brunei	-5	-8	-5	-5	-5	-5	-8	-5
China	-	-	-3	-	-	-	-3	-
Indonesia	-	-3	-	-	-	-5	-	-1
India	-	-5	-	-	-	-	-	-
Japan	-	-3	-5	-3	-3	-	-	-3
Cambodia	-	-8	-	-3	-	-	-8	-8
Korea	-	-3	-	-	-	-3	-3	-
Laos	-5	-	-	-	-3	-	-3	-1
Myanmar	-3	-3	-	-	-	-	-3	-3
Malaysia	-	-5	-	-3	-	-	-3	-
New Zealand	-	-5	-	-	-	-	-	-
Philippines	-	-	-	-	-	-	-5	-
Singapore	-3	-8	-8	-5	-5	-5	-5	-5
Thailand	-	-3	-	-	-	-3	-3	-1
Vietnam	-	-3	-	-	-3	-3	-3	-

- denotes no liberalisation in this sector

Source: Authors' assumptions.

Appendix 5. Preference Orderings Based on Welfare Gains

"Preference Orderings" for Dual-Track Countries based on welfare gains

(Billion dollars in parenthesis with two best scenarios in bold)

Scenario	Australia	Brunei	Japan	Malaysia	New Zealand	Singapore	Vietnam
1 CPTPP	1 (4.06)	1 (0.29)	1 (13.15)	1 (3.54)	3 (1.73)	1 (3.23)	1 (1.47)
2 RCEP	3 (8.63)	3 (0.39)	3 (37.79)	3 (4.73)	2 (1.18)	3 (5.47)	2 (2.26)
3 Open CPTPP	5 (9.95)	**9** **(0.71)**	4 (41.41)	6 (9.85)	**9** **(2.70)**	4 (6.58)	3 (2.36)
4 Open RCEP	6 (10.90)	6 (0.65)	6 (48.86)	5 (8.09)	1 (0.97)	5 (6.68)	5 (3.68)
5 CPTPP+RCEP	4 (9.04)	4 (0.44)	5 (43.43)	4 (6.01)	5 (2.08)	6 (6.90)	4 (3.28)
6 Open CPTPP + Open RCEP	**10** **(13.56)**	**10** **(0.78)**	**9** **(69.27)**	**9** **(10.90)**	7 (2.62)	8 (9.75)	7 (5.56)
7 FTAAP+	**9** **(13.36)**	7 (0.69)	8 (67.82)	7 (9.95)	8 (2.65)	**9** **(10.42)**	**9** **(8.04)**
8 Open FTAAP+	7 (12.84)	9 (0.71)	7 (59.82)	8 (10.64)	6 (2.31)	7 (9.72)	8 (8.02)
Memo (a) TPP12	2 (4.13)	2 (0.34)	2 (22.93)	2 (4.68)	4 (1.86)	2 (4.08)	6 (4.87)
Memo (b) Multilateral Tariff Reduction	8 (13.02)	6 (0.65)	**10** **(70.34)**	**10** **(11.65)**	**10** **(6.61)**	**10** **(12.00)**	**10** **(9.31)**

Source: Authors' simulations

"Preference Orderings" for Single Track (RCEP) Countries based on welfare gains

(Billion dollars in parenthesis with two best scenarios in bold)

Scenario	Cambodia	China	India	Indonesia	Laos	Myanmar	Philippines	South Korea	Thailand
1 CPTPP	2 (-0.01)	2 (-2.89)	2 (-0.50)	2 (-0.58)	3 (0.00)	3 (0.00)	2 (-0.21)	2 (-0.96)	2 (-1.32)
2 RCEP	4 (0.55)	4 (20.14)	5 (6.85)	5 (5.16)	5 (0.11)	5 (0.28)	5 (1.41)	5 (22.71)	5 (9.58)
3 Open CPTPP	5 (0.70)	5 (29.61)	3 (2.49)	3 (1.74)	1 (-0.05)	1 (-0.07)	3 (0.64)	3 (8.43)	3 (2.73)
4 Open RCEP	7 (1.16)	6 (49.44)	7 (22.37)	6 (8.07)	8 (0.18)	6 (0.34)	6 (2.65)	6 (50.42)	6 (14.90)
5 CPTPP+RCEP	3 (0.54)	3 (19.67)	4 (6.64)	4 (5.06)	5 (0.11)	5 (0.28)	4 (1.35)	4 (22.52)	4 (9.20)
6 Open CPTPP + Open RCEP	6 (1.13)	7 (53.95)	8 (23.34)	7 (8.77)	6 (0.17)	7 (0.35)	7 (2.86)	7 (53.08)	7 (16.25)
7 FTAAP+	**9 (1.92)**	8 (76.37)	6 (13.07)	**9 (12.31)**	**9 (0.20)**	**10 (0.52)**	**9 (4.29)**	8 (58.72)	8 (18.94)
8 Open FTAAP+	**10 (1.96)**	**9 (90.11)**	**9 (29.61)**	8 (11.82)	**10 (0.22)**	8 (0.47)	**10 (4.35)**	**9 (60.37)**	**9 (19.69)**
Memo (a) TPP12	1 (-0.09)	1 (-6.50)	1 (-1.36)	1 (-0.93)	3 (0.00)	2 (-0.01)	1 (-0.42)	1 (-1.75)	1 (-1.75)
Memo (b) Multilateral Tariff Reduction	8 (1.67)	**10 (142.87)**	**10 (43.62)**	**10 (13.31)**	8 (0.18)	**9 (0.48)**	8 (4.06)	**10 (74.71)**	**10 (24.89)**

Source: Authors' simulations

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