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An Assessment of the Regional Comprehensive Economic Partnership (RCEP) Tariff Concessions

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Abstract

This paper analyses the tariff concessions of the Regional Comprehensive Economic Partnership (RCEP). The paper first summarizes the tariff concessions across members and economic sectors finding that most of the reduction in tariffs applies to trade related to the major economies of RCEP. Then the paper investigates whether the heterogeneity in the concessions reflects political economy forces. The findings suggest cooperation among RCEP members which resulted in reciprocal tariff concession balancing the interests of importing governments and exporters' lobbies. Finally, the paper provides a quantification of the trade effects of the RCEP agreements for members and non-members economies. The analysis finds that the tariff concessions increase trade among its members by almost two per cent, with trade diversion dominating trade creation effects.

Key words: International trade, trade policy, tariffs, trade agreements, regional integration, RCEP

Contents

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1. Introduction

The Regional Comprehensive Economic Partnership (RCEP) is a free trade agreement promoting economic integration among the fifteen East Asian and Pacific nations of Australia, Brunei Darussalam, Cambodia, China, Japan, the Republic of Korea, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand, and Viet Nam. RCEP was signed on November 15 2020 and should enter into force 60 days after six ASEAN[1] member states and three non-ASEAN member states have ratified the Agreement.

The impact of RCEP on international trade is expected to be significant. RCEP members account for about 30 per cent of global GDP. Trade in goods among RCEP members was close to US$ 2.5 trillion in 2019, or about 13 per cent of global trade. RCEP should be instrumental to advance trade relationships between the economies whose bilateral trade relationships were not previously regulated by any trade agreement. The RCEP agreement aims to further advance regional trade by providing members with better market access conditions largely by reducing tariffs and implementing trade facilitation measures, therefore bringing RCEP countries a step closer to becoming a regional trading bloc.

This paper focuses on a particular aspect of the RCEP agreement: tariff concessions. While the RCEP agreement encompasses other areas of cooperation, tariff concessions are a very important element. RCEP's tariff concessions should ultimately eliminate tariffs on more than 90 per cent of goods traded within the bloc. The RCEP framework allows for significant discretionality in the form of postponements (the implementation period is 20 years), exemptions for sensitive and strategic sectors and discrimination across members.

The first contribution of this paper is to provide a meaningful summary of RCEP tariff concessions across importers, exporters and economic sectors. Overall, the analysis finds that most of the reduction in tariffs will apply to trade related China, Japan and the Republic of Korea, as the tariffs applied to trade among many of the other members are already low due to existing trade agreements. Still, the magnitude of concessions is not trivial. Average concessions are in the order of about 9 percentage points and concerns about 6 per cent of tariff lines. The tariff concessions present substantial heterogeneity as several RCEP members have been relatively more cautious in committing to the liberalization of imports originating from particular members. Moreover, while RCEP's tariff concessions encompass all economic sectors, there is also heterogeneity at the product level.

A second contribution of this paper is an analysis of the political economy forces behind the negotiation outcome.[2] The analysis of this paper takes advantage of the heterogeneity and level of detail of the tariff concessions by confronting them with the patterns as predicted by economic theory (Bagwell and Staiger, 2011). The results suggest a degree of cooperation among RCEP members during negotiations which resulted in reciprocal tariff concession balancing the interests of importing governments and exporters' lobbies. This outcome should lead to an increase in overall economic efficiency and welfare within the RCEP area. The results also suggest that tariff concessions do not exclusively reflect the interests of the largest economies. Smaller members also succeeded to improve market access where it mattered for them.

[1] The Association of Southeast Asian Nations (ASEAN) is an economic union comprising Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.

[2] Tariff concessions have been painstakingly negotiated during eight years of negotiations and are detailed in thousands of pages in Annex I of the agreement. For example, the tariff concessions of Japan are 1344 pages long and the tariff concessions of the Republic of Korea cover about 590 pages for each of the RCEP members.

A third contribution of this paper is to quantify the trade effects of RCEP tariff concessions on signatories and non-signatories of the agreement . The analysis adapts a partial equilibrium model taking into account demand and supply shifts from tariff concessions in order to calculate trade creation and trade diversion effects. Overall, RCEP tariff concessions are expected to increase trade within RCEP by about US$ 40 billion, equivalent to an increase of almost 2 per cent. Most of the increase in intra-RCEP trade would be driven by trade diversion away from non-member countries. Trade creation effects due to lower tariffs are found to be of lower magnitude. The trade effects show a large degree of heterogeneity both across countries and across products.

This paper proceeds as follows. Section 2 provides a brief overview of trade integration among RCEP members. Section 3 details and summarizes RCEP tariff concessions. Section 4 investigates the political economy behind RCEP tariff concessions. Section 5 calculates the trade effects of tariff concessions for members and non-member economies. Section 6 concludes.

2. Trade integration among RCEP members

In 2019, merchandise trade among RCEP members was close to US$ 2.3 trillion, or about 13 per cent of global trade in goods. RCEP membership includes some of the largest and most advanced economies in the world alongside with several lesser-developed economies. China's merchandise trade with RCEP members was in the order of about US$ 750 billion in imports and US$ 700 billion in exports. Japan was second with about US$ 380 billion in imports and US$ 360 billion in exports. The Republic of Korea is third with imports of about US$ 280 billion, and exports of about US$ 230 billion. On the other hand, countries such as the Lao People's Democratic Republic, Myanmar and Brunei Darussalam contribute only a minimal fraction of the intra-RCEP trade (Table 1).

Table 1. Trade among RCEP members

	Intra-RCEP Trade (US$ billion)		Percentage of Trade with RCEP members	
	Imports	*Exports*	*Imports*	*Exports*
Australia	122	206	56	73
Brunei Darussalam	3	7	52	88
Cambodia	22	9	85	33
China	738	688	39	27
Indonesia	115	101	67	57
Japan	355	321	49	43
Lao People's Democratic Republic	5	6	94	91
Myanmar	16	13	84	67
Malaysia	123	142	60	56
New Zealand	24	26	56	62
Philippines	79	37	68	49
Republic of Korea	233	284	46	50
Singapore	168	222	47	54
Thailand	130	134	61	54
Viet Nam	179	117	72	42
RCEP	**2 311**	**2 311**	**51**	**45**

Source: Key Statistics and Trends in Trade Policy 2020 (UNCTAD). *Note:* figures refer to trade in goods.

The RCEP economies are already well integrated with each other. Overall, the share of intra-RCEP trade is about 50 per cent of the RCEP members' total trade. Although contributing less in value terms, the smaller members' trade is relatively more dependent on RCEP. In the example of Brunei Darussalam, Myanmar, and the Lao People's Democratic Republic, more than 70 per cent of their total trade is with other RCEP members. In contrast, China's trade with RCEP countries is much more modest in relative terms as RCEP countries represent only about 27 per cent of China's exports and about 39 per cent of China's imports. The trade integration with RCEP countries is also below average in the cases of Japan and the Republic of Korea.

RCEP economies are generally open to trade, both because of their low WTO MFN rates and because of their participation in other regional trade agreements. In fact, prior to the RCEP, most of its member countries already had some trade agreement already in place (Table 2).

Table 2. Trade agreements between RCEP members

	Australia	China	Japan	Republic of Korea	New Zealand
ASEAN	AANZFTA	ACFTA	AJCEP	AKFTA	AANZFTA
Australia		ChAFTA	JAEPA, CPTTP	KAFTA	ANCERTA, CPTTP
China			-	CKFTA	NZCFTA
Japan				-	CPTTP
Republic of Korea					NZKFTA

Source: Asia Pacific Trade and Investment Database (ESCAP). Note: AANZFTA is the ASEAN-Australia-New Zealand Free Trade Area (2010); ACFTA is the ASEAN-China Free Trade Area (2003); AJCEP is the ASEAN-Japan Comprehensive Economic Partnership (2008); AKFTA is the ASEAN- Republic of Korea Free Trade Agreement (2007); ChAFTA is the China-Australia Free Trade Agreement (2015); CPTTP is the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (2018); KAFTA is the Republic of Korea-Australia Free Trade Agreement (2014); ANZCERTA is the Australia - New Zealand Closer Economic Relations Trade Agreement (2013); CKFTA is the China- Republic of Korea Free Trade Agreement (2015). NZCFTA New Zealand–China Free Trade Agreement (2008), NZKFTA is the New Zealand–Republic of Korea Free Trade Agreement (2015). In parenthesis is the date of entry into force.

RCEP members' low MFN rates and the existing bilateral agreements inherently result in very low tariffs for intra-RCEP trade overall. Still, there are some significant differences among members. Australia, Brunei Darussalam, New Zealand and Singapore have already liberalized all, or almost all trade originating from other RCEP members (Table 3). On the other hand, tariffs on imports from RCEP members are relatively higher for Cambodia, China, and the Republic of Korea, and substantial also for Japan and Thailand. Across broad economic sectors, the existing level of protection between RCEP members tends to be relatively higher in agriculture while being minor for natural resources. Tariffs are also relatively important in the manufacturing sectors especially for Cambodia, China and the Republic of Korea, whose average import tariffs stand above 3 per cent.

Table 3. Average effectively applied tariffs on intra-RCEP trade

	Overall	Agriculture	Natural Resources	Manufacturing
Australia	0.0	0.0	0.0	0.0
Brunei Darussalam	0.0	0.0	0.0	0.0
Cambodia	3.3	0.6	0.0	4.0
China	2.8	6.7	0.4	3.1
Indonesia	0.9	1.0	0.0	1.0
Japan	1.7	10.2	0.0	1.2
Lao People's Democratic Republic	0.2	0.2	0.0	0.2
Myanmar	0.6	0.2	0.0	0.7
Malaysia	0.9	0.1	0.0	1.1
New Zealand	0.0	0.0	0.0	0.0
Philippines	0.7	0.4	0.0	0.8
Republic of Korea	4.8	44.7	0.3	3.1
Singapore	0.0	0.0	0.0	0.0
Thailand	1.7	1.0	0.0	2.0
Viet Nam	1.2	1.1	0.1	1.3

Source: Author's calculation based on UNCTAD TRAINS. Note: tariffs are trade weighted averages and include preferences from existing trade agreements.

3. Tariff concessions of RCEP

This section provides a meaningful summary of RCEP tariff concessions across importers, exporters and economic sectors. Tariff concessions are detailed in Annex I "Schedules of Tariff Commitments" of the RCEP agreement and cover thousands of pages.[3] RCEP tariff concessions cover only a small part of tariff lines (on average about 6 per cent) as most of intra-RCEP trade is already free from tariffs. Still, trade liberalization in these lines is significant, on average the tariff reduction is about 9 per cent.

Under the RCEP framework, trade liberalization will be achieved with gradual tariff reductions allowing for significant exemptions in sensitive and strategic sectors. RCEP tariff concessions should ultimately eliminate tariffs on over 90 per cent of goods traded within the bloc. Many tariffs will be abolished immediately, while others will be reduced gradually during a 20 year period (Figure 1). Remaining tariffs will be largely limited to strategic sectors, in which many of the RCEP members have opted out from any liberalization commitments. Overall, RCEP will gradually reduce tariffs for trade among members, especially in regard to the imports of China, Japan and the Republic of Korea because the import tariffs for the other RCEP members are already low.

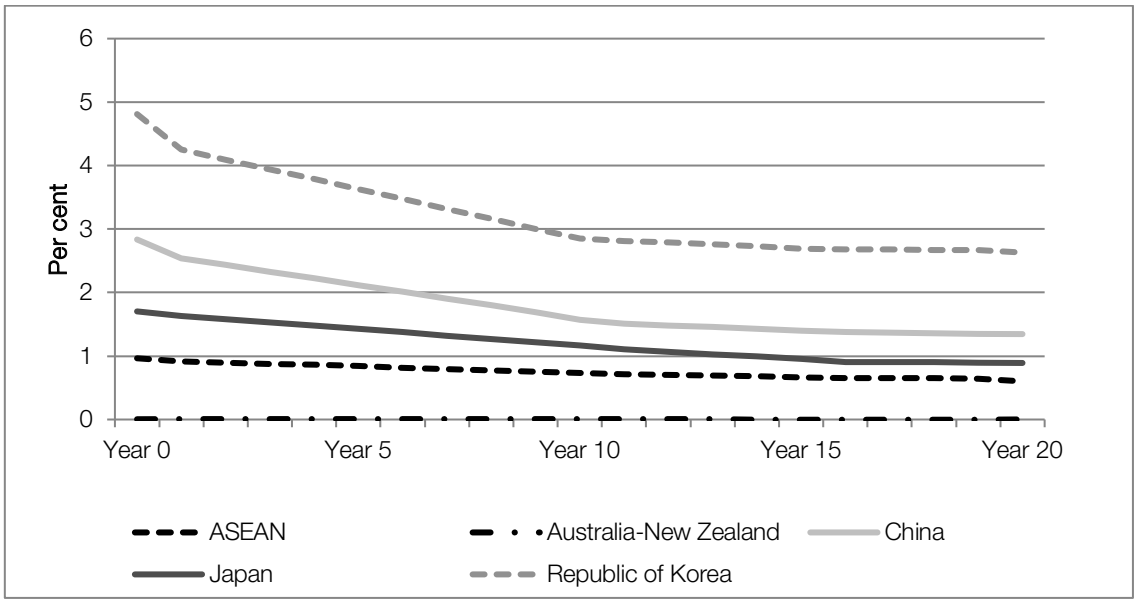
Tariff concessions vary substantially across RCEP members (Table 4).[4] Tariff concessions of countries already applying low tariffs would necessarily be lower than the concessions of countries where the existing tariffs are higher. In the example of Australia and New Zealand the percentage of products covered by tariff concessions is very low because almost all of their tariffs are already at zero (98.6 per cent). On the other hand, tariff concessions by China, Japan and the Republic of Korea are larger and wider in coverage because of the relatively higher tariffs they currently apply.

[3] see: https://www.dfat.gov.au/trade/agreements/not-yet-in-force/rcep/rcep-text

[4] The statistics of ASEAN countries, as well as Australia and New Zealand, are aggregated as their tariff concessions have similar patterns and their bilateral trade has already been largely liberalized.

On average, RCEP concessions by China and the Republic of Korea cover about 20 per cent of their HS 6-digit lines[5] for an average reduction of almost 10 percentage points. Japan's tariff concessions are notably smaller than the concession of China and Republic of Korea, both in coverage and magnitude. Importantly, the three major economies remained uncommitted to liberalize tariffs on a substantial share of HS 6-digit products (8.8 per cent for China, 12.3 per cent for Japan, and 9.3 per cent for Republic of Korea). Average tariffs on these products are substantially high, especially for the Republic of Korea.

Figure 1. Average tariffs on intra-RCEP trade during 20 year implementation



Source: Author's calculation based on the Annex I "Schedules of Tariff Commitments" of the RCEP agreement.
Note: tariffs are trade weighed.

Table 4. Tariff concessions by RCEP member

	Pre-RCEP		RCEP concessions		RCEP exceptions	
	Percentage of lines with zero tariff	Percentage of lines with non-zero tariffs	Percentage of lines for tariff reduction	Average concession (percentage points)	Percentage of lines remaining uncommitted	Average tariff on uncommitted lines
ASEAN	91.1	8.9	3.9	9.0	5.0	20.9
Australia and New Zealand	98.6	1.4	1.0	4.9	0.4	3.6
China	71.6	28.4	19.6	9.8	8.8	16.7
Japan	79.5	20.5	8.2	7.4	12.3	32.3
Republic of Korea	70.4	29.6	20.3	9.7	9.3	110.7

Source: Author's calculation based on the Annex I "Schedules of Tariff Commitments" of the RCEP agreement.

[5] In the "Schedules of Tariff Commitments" RCEP countries' tariff concessions are detailed up to the 10-digit of the Harmonized System (HS). However, the Harmonized System (HS) for classifying goods is internationally harmonized at the 6-digit level. The analysis of this paper aggregates the data at the HS 6-digit categorization comprises approximately 5,300 article/product descriptions.

RCEP allows for tariff concessions to discriminate across members. More specifically, countries can remain uncommitted to liberalization, or decide to reduce tariffs more slowly on trade originating from specific RCEP members. In practice, while some members' tariff concessions uniformly apply to all members, many RCEP members have decided to substantially vary their level of commitments across trading partners, both in relation to uncommitted products and magnitude of concessions. Table 5 shows the percentage of uncommitted HS 6-digit products across trading partners. Overall, there has been lower propensity to liberalize markets toward imports originating from the three major economies. In the example of Japan, the percentage of products uncommitted to tariff liberalization is about 14.9 per cent for goods originating from China and about 18.5 per cent for goods originating in the Republic of Korea, while being much lower for other members. Similar patterns are found for most of the RCEP members except for Australia and New Zealand which, for their few uncommitted HS 6-digit products, do not discriminate across RCEP members.[6]

Table 5. Percentage of bilateral lines remaining uncommitted

	Exporter				
Importer	ASEAN	Australia and New Zealand	China	Japan	Republic of Korea
ASEAN		4.3	6.4	5.4	5.5
Australia and New Zealand	0.4		0.4	0.4	0.4
China	4.1	4.5		13.6	13.0
Japan	8.5	8.5	14.9		18.5
Republic of Korea	3.6	3.8	12.9	17.0	

Source: Author's calculation based on the Annex I "Schedule of Tariff commitments" of the RCEP agreement.

The pattern of a lower level of commitments towards the largest RCEP economies is also found when examining the scale of bilateral tariff concessions (Table 6). The tariff concessions of the three major economies are relatively lower for the trade among each other. In the example of the Republic of Korea, the average tariff concession is about 10.2 percentage points for ASEAN members but only 7.7 percentage points for Japan. The comparison is unfeasible in the case of ASEAN countries and Australia and New Zealand as their bilateral trade is mostly liberalized.

Table 6. Average tariff concessions on committed lines (percentage points)

	Exporter				
Importer	ASEAN	Australia and New Zealand	China	Japan	Republic of Korea
ASEAN			10.2	8.7	8.8
Australia and New Zealand			4.2	4.7	5.6
China	9.2	11.0		9.4	10.9
Japan	8.4	6.9	6.2		5.7
Republic of Korea	10.2	13.0	9.3	7.7	

Source: Author's calculation based on the Annex I "Schedule of Tariff commitments" of the RCEP agreement.

[6] Among ASEAN members the tariff concessions of Indonesia, Philippines, Thailand and Viet Nam vary across RCEP members, other ASEAN members have similar concession across RCEP trading partners.

RCEP tariff commitments vary across sectors (Table 7). Overall, RCEP tariff concessions are presents in all economic sectors, including the relatively more protected agricultural sectors RCEP commitments in agriculture are significant as they will result in a tariff reduction of about 12.8 percentage points in about 8.4 per cent of products. However, the agricultural sectors are to remain relatively more protected as seen by the relatively high number of uncommitted lines (17 per cent for agriculture vs about 5 per cent for manufacturing). Among agriculture, the sector comprising food products will remain the least liberalized with about 18 per cent of tariff lines on which RCEP members remain uncommitted. A significant share of tariff lines in the animal and vegetable sector also remains uncommitted, about 16 per cent.

Table 7. RCEP tariff concessions, by sector

	Pre-RCEP		RCEP concessions		RCEP exceptions	
	Percentage of tariff lines with zero tariff	Percentage of tariff lines with non-zero tariffs	Percentage of tariff lines for tariff reduction	Average concession (percentage points)	Percentage of tariff lines remaining uncommitted	Average tariff on uncommitted lines
Agriculture	75	25.2	8.4	12.8	16.8	69.8
Animal Products	74	25.5	9.1	11.8	16.4	29.4
Food Products	73	27.4	9.5	15.7	17.9	29.8
Oils and Fats	83	16.9	7.3	6.6	9.6	36.8
Tobacco, Beverages	84	16.3	5.0	6.3	11.2	30.1
Vegetable Products	76	23.7	7.3	12.5	16.4	154.2
Natural Resources	90	10.0	4.5	4.8	5.5	13.7
Mining and Metal Ores	96	4.1	2.2	2.5	1.9	19.0
Non-Metallic Mineral	92	8.0	5.9	8.8	2.0	18.8
Oil, Gas, Coal	95	4.8	3.1	3.3	1.7	0.3
Petroleum Products	81	19.0	5.7	5.9	13.2	8.0
Manufacturing	91	9.4	5.5	8.0	3.9	14.5
Apparel	91	9.1	7.7	12.7	1.5	16.4
Basic Metals	89	10.6	4.3	5.0	6.3	10.5
Chemicals	92	7.8	5.5	5.9	2.3	13.2
Communication Eq.	94	5.8	4.1	9.7	1.6	18.7
Electrical Machinery	92	8.1	5.5	7.8	2.6	13.9
Machinery Various	91	8.8	5.2	7.9	3.7	14.4
Metal Products	91	9.0	5.2	9.2	3.8	13.5
Motor Vehicles	74	25.6	8.5	8.7	17.1	21.3
Office Machinery	95	4.8	3.8	6.2	1.0	15.3
Paper Products	90	9.7	2.7	5.5	6.9	6.8
Precision Instruments	94	5.6	5.0	9.3	0.6	10.9
Rubber/Plastics	89	11.1	7.5	8.3	3.6	19.9
Tanning	82	18.2	8.7	10.2	9.5	16.5
Textiles	93	7.4	5.5	8.3	1.9	15.1
Transport Equipment	90	9.7	5.8	7.8	3.9	31.1
Wood Products	90	9.8	6.0	9.1	3.9	14.0

Source: Author's calculation based on the Annex I "Schedule of Tariff commitments" of the RCEP agreement.

Among the natural resource sectors, trade among RCEP members was already largely liberalized, with about 90 per cent of HS 6-digit products already facing zero tariffs. Still, RCEP commitments will result in an average reduction of about 4.8 percentage points in about 4.5 per cent of natural resource products. Among the various natural resource sectors, petroleum products will remain relatively protected with about 13 per cent of lines uncommitted.

The manufacturing sectors also are largely already liberalized, as about 91 per cent of HS 6-digit products have a zero tariff. Even so, RCEP further liberalize the manufacturing sector by bringing an average reduction of about 8 percentage points in the about 5.5 per cent of tariff lines which have been committed to liberalization. RCEP commitments will leave only 4 per cent of lines uncommitted. Importantly, there is significant variance among manufacturing sectors. Some of the most sensitive sectors such as basic metals, motor vehicles, and tanning remain relatively more protected. In the example of motor vehicles, RCEP commitments will reduce tariffs by about 8.7 percentage points for about 8.5 per cent of lines. However, the percentage of uncommitted lines stands at a very high level, about 17 per cent.

Overall, RCEP commitments significantly reduce tariffs across RCEP member but only for a limited number of products and countries. This general result can be described with a number of stylized facts.

First, most of the tariff concessions apply to trade related to the three major economies of RCEP, as trade among many of the others is occurring at already low tariffs due to existing trade agreements.

Second, RCEP will reduce tariffs for RCEP members, but only in a limited number of products and bilateral trade flows. This is both due to the majority trade already being liberalized whether under MFN or other trade agreements, as well as due to the significant amount of lines uncommitted to liberalization under RCEP. Average concessions are in the order of about 9 percentage points for about 6 per cent of HS 6-digit lines.

Third, liberalization commitments vary across trading partners both in relation to uncommitted tariff lines and magnitude of concessions. Overall, many RCEP members have been more cautious about committing to the liberalization of imports originating from the three major economies: China, Japan and the Republic of Korea.

Fourth, RCEP members have opted out of any commitment in a number of sensitive and strategic sectors. While tariff concessions on agriculture have been substantial, the sector will remain relatively protected largely because the large number of uncommitted products. Tariff liberalization and commitments also vary substantially across industrial sectors. In particular, substantial tariffs will continue to affect intra-RCEP trade in motor vehicles.

4. Mutually beneficial tariff concessions

This section explores whether the outcome of the negotiations, as reflected by the patterns of tariff concessions can be consireded mutually beneficial to RCEP members. One issue of relevance is whether the tariff concessions described above would bring tariffs closer to economically efficient levels. To answer this question, the analysis of this paper confronts the negotiated tariff concessions with the patterns predicted by economic theory. This analysis is relevant for two reasons. First, trade agreements where the concessions follow these patterns are expected to improve national incomes. The rationale is that large countries may be able to manipulate its terms of trade at the expense of its trade partners, but trade agrements move countries toward efficient policy choices by causing them to internalize the terms-of-trade effects of their policies. Second, the negotiated concessions may have implications for members joining the agreement at a later stage. The rationale is that latecomers may find little left to negotiate, as the large economies'

concessions could be already shaped around the interests of the incumbents. This is the argument of the "latecomer hypothesis" which is thought to be a fundamental reason why the WTO failed to incorporate priorities of the new members (Bagwell and Staiger, 2014).[7]

One initial consideration is that for trade agreements to occur, they should result in mutual gains for the countries involved. From the perspective of the terms-of-trade theory, these mutual gains are made possible by reciprocal tariff concessions (Bagwell and Staiger, 2011; Ludema and Mayda, 2013). In a nutshell, a higher tariff from one country imposes a negative international externality in the form of a terms-of-trade loss on its trading partners. Countries whose trade policy is able to influence international prices have an incentive to exploit their market power by setting tariffs to improve their terms of trade.[8] Governments can mutually gain from liberalization only if the new tariffs entail reciprocal trade liberalization. Multilateral agreements offer the exporting governments an opportunity to influence the trade policy of trading partners thereby providing an escape from a terms-of-trade driven prisoner's dilemma.[9]

According to the terms-of-trade theory, governments acting unilaterally will then tend to overuse tariffs, to the extent that they are able to shift the cost of protecting domestic industries onto foreign producers by altering the terms of trade. Intuitively, the more the pre-negotiated tariff is the outcome of the cost-shifting process, the larger should be the negotiated tariff cuts required to reach the optimal tariff level. Under the assumption of linear demands and supplies, the theory identifies the parameters that define cost-shifting behaviours as the elasticity of import demand, the elasticity of export supply, and the volume of exports (Bagwell and Staiger, 2011). In summary, the cost-shifting motives are greater under the following conditions: the higher is the elasticity of import demand (so that the non-cooperative tariff generates a larger reduction in imports), the lower is the elasticity of foreign export supply (so that the non-cooperative tariff generates a larger fall in the foreign exporter price), the larger is the volume of imports (so that the fall in the foreign exporter price generates a larger positive income effect for the importing country).[10] In other words, the incentives for exporters to obtain tariff concessions are higher for goods with higher import demand elasticity, lower export supply elasticity and large import volumes.[11]

To test whether the above predictions are observed in the patterns of negotiated tariff cuts, the analysis is based on the following regression model.

$$\tau_{ij}^{p} = \beta_0 + \beta_1 ToT_{ij}^{p} + \omega_{ij} + \vartheta_{s}^{p} + \varepsilon_{ij} \qquad (1)$$

[7] However, in the case of RCEP this could be of lesser importance as RCEP allows for bilateral concessions and for substantial exceptions which may still offer scope for incumbents to further negotiate with new members.

[8] This outcome is internationally inefficient as the high tariffs lead to a decline in the foreign price, which therefore results in benefiting the importing country to the expense of the exporting country

[9] The theory considers that the existing tariffs are unilaterally set levels that are too high from an international perspective, as they are the results of importers shifting some of the cost of import protection onto foreigners. Such cost shifting has the effect of improving the terms-of-trade of the importing nation while also reducing national income.

[10] A tariff imposes larger costs for exporters when their export supply elasticity is relatively low. Therefore, the decline in exporters' profits induced by the pre-existing tariffs is larger the more inelastic is the export supply elasticity. This gives the incentive to exporters to lobby for tariff cuts in products where their export supply is less elastic. The outcome of negotiations should reflect those dynamics and result in larger tariff cuts when the export supply elasticity is small.

[11] Another argument for which concessions should be larger where import levels are large is that such concessions would imply the largest gains for foreign exporters. Still, these concessions would need to be reciprocated as they do not come for free during negotiations.

Where the dependent variable τ_{ij}^{p} is the tariff cut of country *i* to country *j* in product *p* (at the HS 6-digit level). ToT_{ij}^{p} is the set of variables which should be correlated to the negotiated tariff cuts as predicted by the terms-of-trade theory: import demand elasticity (φ_{i}^{p}), export supply elasticity from the importer point of view (θ_{i}^{p}), and trade volumes (M_{ij}^{p}). Finally, ω_{i} denotes importer exporter (or importer) fixed effects, ϑ_{s}^{p}denotes sector fixed effects (at the 2-digit ISIC classification, or at the 3-digit HS classification) and ε_{ij} is an error term. In some of the specifications an additional term controls for the share of trade within RCEP countries. The estimation is based both on OLS and on the Tobit model.[12]

The estimation of equation (1) is performed for import volumes, import demand and export supply elasticities. Import volumes at world prices are calculated as the value of total imports divided by the total quantities. Import volumes enter the estimation by imposing a restriction that world prices do not vary across ISIC 2-digit or HS 3-digit sectors, so that the world price term can be picked up by the fixed effect model. [13]

Import demand elasticities are from Kee, Nicita and Olarreaga (2008). These elasticities do not vary across trading partners and are valid under the assumption that imports are undifferentiated or substitutable across origins.[14] Export supply elasticities are derived from Nicita, Olarreaga and Peri (2018). One issue with the Nicita, Olarreaga and Peri elasticities is that they measure the rest of the world supply responses, which may be different than the responses of RCEP countries. This issue is taken into account by estimating export supply elasticities using the methods of Nicita, Olarreaga and Peri (2018), but only in regard to supply from RCEP countries.[15]

As discussed above, in order to be consistent with the terms of trade theory, RCEP tariff concessions should be positively correlated to import volumes. The reason is that non-cooperative pre-existing tariffs are predicted to be higher for larger import volumes. And trade agreements, by allowing for cooperative tariff setting, result in larger cuts for relatively large imports. Table 8 reports the results of estimating equation (1) for trade volumes. The estimation is in semi-log form so as to deal with outliers. The dependent variable is the tariff concession at 20 years. The unit of observation is importer-exporter-HS 6-digit products.

The first and second columns of Table 8 report the results by employing sectoral ISIC 3-digit levels effects, with importer and exporter fixed effects (column 1) and importer*exporter fixed effects (column 2). Column 3 and 4 estimate the same specification but replace ISIC 2-digit (about 25 sectors) with much more restrictive HS 3-digits sectors (about 175 sectors). Columns 5 to 8 replicate the earlier specifications using the TOBIT model instead of OLS.[16] Overall, the result

[12] In order to estimate equation (1) data is purged for observations in which tariffs that were already at zero under WTO terms, as further concessions would be impossible. Data also is purged for prohibitive tariffs as import volumes for these products are unobservable.

[13] Alternatively, world prices can be computed as total import values (over RCEP members) divided by total quantities (over RCEP members) at some level of aggregation. Import quantities are then divided by world prices so as to obtain import volumes at world prices. Results remain qualitatively unchanged when world prices are calculated at the two-digit HS level. Also note that the unit of observation always remains importer, exporter, 6-digit HS product.

[14] Moreover, import demand elasticities reflect the existing level of tariffs under WTO terms, therefore they can be assumed as importer-product specific.

[15] Results using the supply elasticities of the rest of the world remain statistically significant, although to a lower magnitude. This difference is consistent with overall expectations as the rest of the world supply should be relatively less elastic.

[16] About 15 per cent of concessions in the sample are zero, suggesting that TOBIT estimation may be more appropriate than OLS. TOBIT esitmations are to address the significant censoring (i.e. large numbers of zeroes), for which OLS estimators would be biased and inconsistent.

indicating a positive correlation between RCEP's tariff concessions and trade volumes are supported by all specifications, regardless of the type of fixed effects and econometric model.

Table 8. Regressions of tariff concessions on the level of trade

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) TOBIT	(6) TOBIT	(7) TOBIT	(8) TOBIT
Level of trade	0.0270***	0.0330***	0.0123**	0.0185***	0.0357***	0.0424***	0.0175***	0.0237***
	-0.0053	-0.0054	-0.005	-0.0051	-0.0062	-0.0062	-0.0058	-0.0058
Constant	3.0269***	6.9415***	3.4796***	9.7400***	2.3889***	5.5673***	5.9304***	8.4863***
	-0.2555	-0.1162	-0.2336	-0.4081	-0.3363	-0.357	-0.5435	-0.5428
Observations	25 985	25 985	26 271	26 271	25 985	25 985	26 271	26 271
R-squared (Pseudo)	0.3604	0.3743	0.4724	0.4845	0.0874	0.092	0.122	0.127
Fixed effects	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively.

The result of a positive correlation between concessions and volumes of trade is also found by estimates for specific RCEP members. Table 9 reports the results of the base specification, as in column 1 of Table 8 (ISIC 2 digits with importer and exporter fixed effects), on the concessions granted by each of the three major economies and then for the remainder of the RCEP members. Results remain positive and significant for China, Japan the rest of the RCEP members (although only at the 10 per cent level), while they lose significance for the Republic of Korea.

Table 9. Regressions of tariff concessions on the level of trade, reduced samples

	(1) OLS China	(2) OLS Japan	(3) OLS Republic of Korea	(4) OLS Others	(5) TOBIT China	(6) TOBIT Japan	(7) TOBIT Republic of Korea	(8) TOBIT Others
Level of trade	0.0410***	0.0503***	0.0049	0.0270*	0.0486***	0.0978***	0.0063	0.0323*
	(0.0091)	(0.0153)	(0.0077)	(0.0160)	(0.0107)	(0.0192)	(0.0084)	(0.0189)
Constant	4.3777***	4.3161***	5.5152***	5.1494***	4.6154***	1.2477*	5.6825***	6.3928***
	(0.3025)	(0.3675)	(0.3518)	(0.2709)	(0.4794)	(0.6388)	(0.4103)	(0.5579)
Observations	10,700	3,969	9,094	2,222	10,700	3,969	9,094	2,222
R-squared (Pseudo)	0.5226	0.2105	0.2389	0.2611	0.152	0.0413	0.0467	0.0521

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively. Results include ISIC 2-digit, importer and exporter fixed effects.

Turning to trade elasticities, one prediction of the terms-of-trade model is that cost-shifting motives are greater the higher the elasticity of import demand.[17] Moreover, exporters' motives may be stronger for tariff concessions on products where import demand is greater, so that liberalization would result in relatively higher trade. Table 10 reports the results on import demand elasticity. The model is estimated in a semi-log form to account for outliers in the elasticity variable.

Table 10. Regressions of tariff concessions on the import demand elasticity

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) TOBIT	(6) TOBIT	(7) TOBIT	(8) TOBIT
Import demand elasticity	0.1005***	0.0903***	0.1010***	0.0903***	0.1729***	0.1523***	0.1804***	0.1544***
	(0.0304)	(0.0300)	(0.0290)	(0.0287)	(0.0389)	(0.0384)	(0.0373)	(0.0368)
Constant	1.5242***	5.3216***	1.8082***	6.0291***	0.0490	3.5575***	1.2012**	3.9998***
	(0.1952)	(0.1019)	(0.1834)	(0.3805)	(0.2975)	(0.3091)	(0.5395)	(0.5345)
Observations	24,405	24,405	24,711	24,711	24,405	24,405	24,711	24,711
R-squared (Pseudo)	0.3014	0.3180	0.3920	0.4063	0.0815	0.0868	0.114	0.120
Fixed effects	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively.

As before, the first four columns report the results from the OLS model. Columns 5 to 8 replicate the earlier specifications using a TOBIT model. Fixed effects are as in Table 8. All specifications are supportive in finding that RCEP tariff concessions have been higher in products where import demand elasticities are higher. The specifications of Table 11 mimic those of Table 9, and show that the result of a positive correlation between the magnitude of tariff concessions and import demand elasticities is also found at the country level, but only for China and Japan. No correlation is found for tariff concessions by the Republic of Korea and the remainder of RCEP members. [18]

Another prediction of the terms-of-trade theory is for tariff concessions to be negatively correlated with the elasticity of foreign export supply . Since pre-existing tariffs impose larger costs for exporters when their export supply elasticity is relatively low, exporters of products with lower export supply have more incentives to lobby for tariff concessions. This dynamic is reflected in the results of Table 12. Note that, following the approach of Broda, Limao and Weinstein (2008), the regression uses market power (the inverse of the elasticity measure). Therefore, larger concessions would be expected the higher the market power. As for the other variables the estimation is in semi-log form.

[17] Estimation of trade elasticities requires time series information on a set of parameters that are not available for all HS 6-digit products, and for a number of countries. Therefore, the sample estimating the relation between trade elasticities and tariff cuts is restricted to a smaller set of HS 6-digit products (about 3400 instead of 5000), and RCEP countries (Australia, China, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, and Thailand). Although more analysis would be needed, this lack of correlation is possibly driven by different political economy motives of governments and relatively stronger domestic lobbies in some sectors (e.g. agriculture).

[18] Although more analysis would be needed, this lack of correlation is possibly driven by different political economy motives of governments and relatively stronger domestic lobbies in some sectors (e.g. agriculture).

Table 11. Regressions of tariff concessions on the import demand elasticity, reduced samples

	(1) OLS China	(2) OLS Japan	(3) OLS Republic of Korea	(4) OLS Others	(5) TOBIT China	(6) TOBIT Japan	(7) TOBIT Republic of Korea	(8) TOBIT Others
Import demand elasticity	0.1446***	0.2367***	0.0262	-0.0297	0.1629**	0.6076***	0.0604	0.0517
	(0.0499)	(0.0790)	(0.0451)	(0.0955)	(0.0640)	(0.1154)	(0.0540)	(0.1289)
Constant	4.0140***	3.2640***	6.8027***	4.6171***	-0.0152	1.8791***	5.4203***	3.6981***
	(0.1959)	(0.2842)	(0.1282)	(0.3361)	(0.4406)	(0.5659)	(0.3299)	(0.5037)
Observations	9,040	3,943	9,023	2,399	9,040	3,943	9,023	2,399
R-squared (Pseudo)	0.4120	0.2781	0.2893	0.2747	0.130	0.0667	0.0719	0.0587

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively. Result include ISIC 2-digit, importer and exporter fixed effects.

Table 12. Regressions of tariff concessions on the export supply elasticity

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) TOBIT	(6) TOBIT	(7) TOBIT	(8) TOBIT
Export supply elasticity	0.1089***	0.1026***	0.0504***	0.0447***	0.1587***	0.1509***	0.1587***	0.1509***
	(0.0118)	(0.0118)	(0.0113)	(0.0112)	(0.0151)	(0.0149)	(0.0151)	(0.0149)
Constant	1.7884***	5.3013***	2.0027***	6.0263***	0.2857	3.7397***	0.2857	3.7397***
	(0.1961)	(0.1069)	(0.1843)	(0.3800)	(0.2973)	(0.3160)	(0.2973)	(0.3160)
Observations	24,420	24,420	24,704	24,704	24,420	24,420	24,420	24,420
R-squared (Pseudo)	0.3029	0.3183	0.3935	0.4080	0.0817	0.0866	0.0817	0.0866
Fixed effects	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively.

Overall, the results of Table 12 are unanimous in finding that RCEP tariff concessions have been higher for products where importer market power was higher (or the export supply elasticity of the rest of RCEP countries was lower).[19] The same results are also found in the estimation at the country level (Table 13). In this case the coefficient on market power is always positive and statistically significant except for the remainder of RCEP members on the OLS model.

[19] Note that the results are not contrary to those of Nicita, Olarreaga and Peri (2018) that finds that tariffs are positively correlated with importer market power when tariffs are set cooperatively. Indeed, by regressing RCEP cooperative tariffs (those resulting from the tariff concessions) on market power, the results show a negative correlation when using ISIC 2-digit fixed effects, while finding no correlation with the more stringent fixed effects at the HS 3-digit level.

Table 13. Regressions of tariff concessions on the export supply elasticity, reduced samples

	(1) OLS China	(2) OLS Japan	(3) OLS Republic of Korea	(4) OLS Others	(5) TOBIT China	(6) TOBIT Japan	(7) TOBIT Republic of Korea	(8) TOBIT Others
Export supply elasticity	0.0859***	0.2175***	0.0703***	0.0493	0.1459***	0.3314***	0.0988***	0.0837*
	(0.0215)	(0.0315)	(0.0164)	(0.0363)	(0.0273)	(0.0452)	(0.0196)	(0.0481)
Constant	4.0038***	3.0128***	6.8661***	4.8496***	0.5719	1.4800***	5.3929***	4.8335***
	(0.2044)	(0.2668)	(0.1396)	(0.3849)	(0.4372)	(0.5180)	(0.3345)	(0.5820)
Observations	8,915	4,315	8,974	2,216	8,915	4,315	8,974	2,216
R-squared (Pseudo)	0.4186	0.2570	0.2773	0.2845	0.133	0.0590	0.0674	0.0761

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively. Results include ISIC 2-digit, importer and exporter fixed effects.

One final set of result consists of including all three terms-of-trade variables in the same regression model. This is presented in Table 14 and confirms the above results that RCEP tariff concessions reflect patterns as predicted by the terms-of-trade theory. All coefficients are positive and significant, except in the case of the benchmark model with importer, exporter and ISIC 2-digit sectoral fixed effects (Columns 1 and 5).

Table 14. Regressions of tariff concessions on terms-of-trade theory variables

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) TOBIT	(6) TOBIT	(7) TOBIT	(8) TOBIT
Import demand elasticity	0.0732**	0.0558*	0.1039***	0.0892***	0.1321***	0.1023***	0.1673***	0.1422***
	(0.0314)	(0.0310)	(0.0319)	(0.0316)	(0.0400)	(0.0394)	(0.0405)	(0.0400)
Export supply elasticity	0.0584***	0.0495***	0.1016***	0.0934***	0.0910***	0.0799***	0.1486***	0.1378***
	(0.0121)	(0.0120)	(0.0124)	(0.0123)	(0.0153)	(0.0151)	(0.0157)	(0.0155)
Level of trade	0.0018	0.0082*	0.0197***	0.0254***	0.0087	0.0174***	0.0337***	0.0408***
	(0.0049)	(0.0049)	(0.0049)	(0.0050)	(0.0062)	(0.0062)	(0.0063)	(0.0063)
Constant	1.8757***	6.0306***	1.7103***	5.2029***	1.2675***	4.2643***	0.2058	3.5919***
	(0.2007)	(0.2321)	(0.2078)	(0.1168)	(0.3966)	(0.3945)	(0.3126)	(0.3224)
Observations	22,827	22,827	22,565	22,565	22,827	22,827	22,565	22,565
R-squared (Pseudo)	0.3517	0.3699	0.3023	0.3194	0.101	0.108	0.0820	0.0876
Fixed effects	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter	ISIC 2digit, importer and exporter	ISIC 2digit, importer * exporter	ISIC 3digit, importer and exporter	ISIC 3digit, importer * exporter

Notes: Robust standard errors in parentheses. *, **, *** denote significance at 10%, 5% and 1% respectively.

Overall, the results of Tables 8 to 14 corroborate the prediction of trade theory that trade negotiations should result in higher tariff concessions for products with larger levels of import, higher import demand elasticities, and higher importer market power.

These statistical results suggest a few general points in regard to the RCEP negotiation outcome. A general finding is that tariff concessions, their magnitude and the presence of numerous expmptions broadly follow the patterns predicted by trade theory. Although there are several sectors thar remain relatively protected, the patterns of liberalization embedded in the RCEP tariff concessions result from a certain degree of cooperation among RCEP's members during negotiations. This implies not only that tariff concessions have been reciprocal and in product of interest of respective parties but also that govermments have been able to maintain tariff in their most sensitive sectors. From a political economy angle, these patterns suggest that tariff concessions are the results of importing governments seeking to improve national income under economic efficiency and distributional concerns, as well as exporters lobbies seeking to increase market access. Finally, the general results suggest that there is no loser from the negotiation process. The fact that the terms-of-trade predictions individually apply to RCEP's major economies suggests that all parties will be able to benefit from the negotiation process. Moreover, the results are stronger in regard to tariff concessions of China and Japan, indicating that negotiations were not only driven by these economies but other members also succeeded in improving market access where it mattered for them.

5. Trade effects of RCEP

RCEP tariff concessions are expected to increase trade among members while also diverting some trade away from non-member countries. Intuitively, lower tariffs directly result in lower import prices which stimulate demand and therefore increase imports. Additionally, RCEP tariff concessions will have the effect of diverting trade towards exporters which obtained relatively higher tariff concessions and away from exporters whose tariff concessions have been lower, or not existent as in the case of non-member countries. One complication is that lower tariffs may not fully reflect into lower domestic prices as exporters may have been absorbing part of the costs of the tariff. In such cases, lower tariffs would result in an increase of the exporters' prices rather than lower prices for importers, therefore not fully resulting in demand shifts. In practice, the percentage of a tariff concession that accounts for changes in importers' prices and what accounts to exporters are generally concurrent.

To account both for the demand and supply effects, the analysis of this paper first computes the change in world prices consequent to tariff concessions. In a partial equilibrium setup, the effect of the tariff concessions on the international price of a given product can be simply calculated using import demand and export supply elasticities as detailed in Kee, Nicita and Olarreaga (2007). In a nutshell, the percentage change in international prices (P^p) for a product *p* (at the HS 6-digit level) is given by:

$$P^p = \varphi_i^p \left(\tau_i^p \Big/ \left(\theta_i^p - \varphi_i^p \right) \right) \qquad (2)$$

where φ_i^p is the negative of the import demand elasticity for the importer *i* , θ_i^p is the overall export supply elasticity faced by country *i*, and τ_i^p is the tariff concession of country *i* from imports of product *p* originating from RCEP members.[20] Then, the trade creation effect (TC_i^p) for country *i* consequent to the change in the international price of product *p* is simply given by $P^p \varphi_i^p m_i^p$, where m_i^p denotes total imports of country *i* of product *p*. The above framework can be generalized to allow for bilateral effects by assuming that trade creation effects are distributed among the various

[20] This is the weighted average of the tariff concessions at the bilateral levels, including RCEP members and non-members.

exporters depending on the magnitude of their tariff concession (τ_{ij}^{p}), their total exports (x_j^p) and their own export supply elasticity (δ_j^p)

$$TC_{ij}^{p} = TC_{i}^{p}\left(\delta_j^p x_j^p \tau_{ij}^{p} \Big/ \sum_j \delta_j^p x_j^p \tau_{ij}^{p}\right). \qquad (3)$$

The second step in the analysis measures trade diversion effects. These can be thought of as the relative demand responses to relative changes in international prices. Intuitively, when a tariff concession does not apply to all trading partners, imports from countries benefiting from the concession would further increase due to substitution away from other countries that become relatively more expensive. Similar to Kee, Nicita and Olarreaga (2007), trade diversion effects for country *j* consequent to a tariff concession of country *i* can be calculated as:

$$TD_{ij}^{p} = \left(\rho_{ij}^{p}\sigma^{p} m_{ij}^{p} m_{i,ROW}^{p}\right) \Big/ \left(m_{ij}^{p} + m_{i,ROW}^{p}\right) \qquad (4)$$

where m_{ij}^{p} denotes imports of product *p* of country *i* from country *j*, $m_{i,ROW}^{p}$ are imports of country *i* from the rest of the world, σ^{p} is the substitution elasticity capturing the relative demand responses, and ρ_{ij}^{p} is the change in the relative preferential margin capturing the change in relative international prices.[21]

In computing trade creation and trade diversion effects, the import demand and export supply elasticities are those discussed in section 4. Own export supply elasticities are from Nicita, Peri and Olarreaga (2018), and substitution elasticities are those of Broda et Weinstein (2006).

Table 15 provides the results of RCEP tariff concessions on trade flows for members and selected non-member economies. Overall, RCEP tariff concessions are expected to increase trade within RCEP by about US$ 40 billion, equivalent to almost 2 per cent. Most of the effects would be driven by trade diversion (about US$ 25 billion) away from non-member countries. Trade creation due to lower tariffs contributes about US$ 17 billion.

At the country level, the largest beneficiary of RCEP tariff concession is Japan, largely because of trade diversion effects. In numbers, Japan's exports are expected to rise by about US$ 20 billion, an increase equivalent to about 5.5 per cent relative to Japan's exports to RCEP members in 2019. Substantial positive effects are also found for the exports of most of the other economies including Australia, China, the Republic of Korea and New Zealand. On the other hand, RCEP tariff concessions result in lower exports for Cambodia, Indonesia, Philippines and Viet Nam. The reason for this is the negative trade diversion effects is that some of the exports of these economies are expected to be diverted to the advantage of other RCEP members because they obtained relatively higher tariff concessions.[22] Importantly, the overall negative effects for some of the RCEP members do not imply that they would have been better off by excluding themselves from the RCEP agreement, as trade diversion effects would have accrued notwithstanding. Even without considering the other benefits of the RCEP agreement besides tariff concessions, the trade creation effects associated with participation in RCEP softens the negative trade diversion effects.[23]

[21] The relative preferential margin measures the change in tariff relative to that of other competitors. See Fugazza and Nicita (2013).

[22] For example, some of the imports of China from Viet Nam will be replaced by imports from Japan as a consequence of the tariff liberalization between China and Japan.

[23] For example Thailand's trade creation effects completely compensated the negative trade diversion effects, and Malaysia's trade creation is larger than the negative trade diversion.

As discussed above, the tariff concessions among RCEP member would results in some of trade being diverted from non-member to member economies. The magnitude of these effects is generally related to the exposure of each non-member economy to the RCEP area. In US$ terms, the largest export losses are expected to accrue to the European Union, the United States and to the economies of Taiwan, Province of China and Hong Kong, SAR. However, their losses are relatively low in relation to their total exports. The export losses of countries such as Bangladesh, Pakistan, Sri Lanka and India are more significant when measured in percentage terms. In the case of Bangladesh, it is expected that about 12 per cent of its export to RCEP would be diverted to favour RCEP members. Those effects are largely originating from the textiles and apparel sector.

Table 15. Export changes due to RCEP tariff concessions

	As percentage of exports to RCEP	Overall effects (billion US$)	Trade diversion (billion US$)	Trade creation (billion US$)
RCEP Members	*1.8*	*41.8*	*25.2*	*16.6*
Australia	1.9	4.1	2.8	1.3
Brunei	0.6	0.0	0.0	0.0
Cambodia	-3.9	-0.3	-0.4	0.0
China	1.8	11.2	6.9	4.3
Indonesia	-0.3	-0.3	-0.8	0.4
Japan	5.5	20.2	15.7	4.5
Lao People's Democratic Republic	2.7	0.1	0.0	0.1
Myanmar	1.2	0.1	0.0	0.1
Malaysia	0.1	0.2	-0.3	0.6
New Zealand	4.5	1.1	0.8	0.3
Philippines	-0.1	-0.1	-0.2	0.2
Republic of Korea	2.0	6.7	4.4	2.3
Singapore	0.2	0.2	-0.3	0.5
Thailand	0.0	0.0	-1.1	1.1
Viet Nam	-1.2	-1.5	-2.3	0.8
Non-Members (selected economies)	*-1.1*	*-25.2*	*-25.2*	-
European Union	-1.7	-8.3	-8.3	-
United States	-1.3	-5.1	-5.1	-
Hong Kong, SAR	-1.0	-3.3	-3.3	-
Taiwan, Province of China	-1.4	-3.0	-3.0	-
India	-2.1	-0.9	-0.9	-
Canada	-1.4	-0.6	-0.6	-
United Kingdom	-0.8	-0.5	-0.5	-
Bangladesh	-12.3	-0.4	-0.4	-
Russia	-0.4	-0.4	-0.4	-
Brazil	-0.2	-0.2	-0.2	-
Turkey	-0.2	-0.2	-0.2	-
Mexico	-1.1	-0.1	-0.1	-
South Africa	-0.4	-0.1	-0.1	-
Pakistan	-3.9	-0.2	-0.2	-
Sri Lanka	-3.3	0.0	0.0	-
Rest of the world	-0.1	-1.8	-1.8	-

Source: Author's calculation.

RCEP tariff concessions are found to significantly increase trade in many sectors (Table 16). In most cases the effects result both from trade creation and trade diversion effects away from non-members. In spite of the many exceptions exercised by member countries in liberalizing their agricultural sectors the effect of tariff concessions on agricultural trade are expected to be relevant. Agricultural trade is expected to see relatively large gains, about US$ 10 billion, equivalent to an increase of about 7 per cent. Lower tariffs within RCEP members are expected to result in an additional US$ 4 billion agricultural trade, and divert an additional US$ 5.6 billion from non-member countries. Among agricultural sectors the largest gains would be for vegetable products.

Table 16. Overall export changes for RCEP members due to tariff concessions, by sector

	Trade diversion (billion US$)	Trade creation (billion US$)	Overall effects (billion US$)	As percentage of exports to RCEP
Agriculture	*5.6*	*4.0*	*9.6*	*7*
Animal Products	1.7	0.6	2.4	7
Food Products	1.7	1.2	2.9	6
Oils and Fats	0.0	0.1	0.1	1
Tobacco, Beverages	0.1	0.3	0.4	3
Vegetable Products	2.0	1.8	3.8	10
Natural Resources	*1.7*	*1.2*	*2.9*	*1*
Mining and Metal Ores	0.0	0.0	0.0	0
Non-Metallic Mineral	0.8	0.5	1.2	5
Oil, Gas, Coal	0.2	0.0	0.2	0
Petroleum Products	0.7	0.7	1.5	1
Manufacturing	*17.8*	*11.3*	*29.1*	*2*
Apparel	1.2	1.2	2.4	7
Basic Metals	1.5	0.6	2.1	1
Chemicals	4.5	1.9	6.4	3
Communication Eq.	1.0	0.8	1.8	0
Electrical Machinery	0.7	0.4	1.1	1
Machinery Various	1.8	1.5	3.3	2
Metal Products	0.9	0.8	1.8	4
Motor Vehicles	0.6	0.4	0.9	1
Office Machinery	0.0	0.0	0.0	0
Paper Products	0.1	0.1	0.2	1
Precision Instruments	1.7	0.4	2.1	2
Rubber/Plastics	1.2	0.5	1.6	3
Tanning	0.5	0.2	0.7	3
Textiles	1.6	1.8	3.4	6
Transport Equipment	0.2	0.4	0.6	3
Wood Products	0.3	0.3	0.5	1

Source: Author's calculation.

Tariff concessions in the manufacturing sectors are found to add about US$ 30 billion to intra-RCEP trade, or about 2 per cent. Tariff concessions are expected to result in additional trade worth about US$ 11 billion, while US$ 18 billion is expected to be diverted away from non-members. Among the manufacturing sectors, apparel and textiles are the ones which should see larger increases in percentage terms, about 6 and 7 per cent respectively. In value terms the largest increases are in the chemical sector, with an increase of about US$ 6.4 billion, of which US$ 4.5 billion is due to trade diversion effects. Effects are found to be smaller for natural resources, except for non-metallic minerals for which intra-RCEP trade is expected to rise by about 5 per cent.

6. Conclusions

This paper reviewed the magnitude of RCEP's tariff concessions, analysed whether they follow patterns which can be explained by political economy forces, and calculated the impacts of the concessions on the trade of members and non-member economies. The paper provides empirical evidence to the literature on purposes of trade agreements (Grossman, 2016) and to the work of Bagwell and Staiger (2011) in finding that regional trade agreements such as the RCEP can mitigate terms-of-trade effects by removing some of the mutually harmful trade protectionism.

The results of this paper indicate that RCEP tariff commitments would substantially reduce tariffs across RCEP members but only for a limited number of products. Tariff reduction will mostly apply to trade related to the three major economies of RCEP (China, Japan and the Republic of Korea), as trade among many of the others countries is already occurring at low or zero tariffs due to existing trade agreements. The analysis of this paper also finds a substantial numbers of lines remain uncommitted to liberalization as countries have exercised caution about liberalizing their sensitive sectors. In particular, the tariff concessions for imports originating from the three RCEP major economies of China, Japan and the Republic of Korea are generally below RCEP averages. Among economic sectors, agriculture generally remains relatively more protected than industrial sectors due to the relatively large amount of agricultural products uncommitted to liberalization. Tariff concessions in the motor vehicles sector would be significantly below average among industrial sectors.

Another result of this paper is that RCEP tariff concessions broadly follow the patterns predicted by trade theory. This is relevant as trade agreements in which the concessions follow these patterns are expected to improve national incomes. In particular, RCEP tariff concessions are found to be larger in products where trade is greater, import demand is more elastic, and foreign supply is less elastic to prices. These patterns suggest a degree of cooperation among RCEP members during negotiations which resulted in a pattern of tariff concessions balancing the interests of importing governments and exporters' lobbies. Importantly, these results individually apply to the RCEP's major economies and therefore also suggest that negotiations were not driven exclusively by the interests of the largest economies, but that other members also succeeded to improve market access where it mattered for them. This finding may have implications for possible new members because the concessions of the existing RCEP members might already be shaped around the interests of the incumbents, therefore limiting further reciprocity and leaving new members with little to negotiate about.

Finally, the analysis of this paper quantifies the trade effects of RCEP tariff concessions for members and non-member economies. Overall, this paper finds that RCEP tariff concessions would increase trade among RCEP members by about 40 billion or almost 2 per cent. The results also show substantial heterogeneity across countries and across different sectors. Importantly, trade diversion effects are found to be relatively larger than trade creation effects. Moreover, trade diversion effects are found to be negative not only for non-member countries but also for some of the RCEP members. Negative trade diversion effects sometimes dominate trade creation effects with the result of an overall reduction in exports. Still, the overall negative effects for some of the

RCEP members do not imply that they would have been better off by excluding themselves from the RCEP agreement, as trade diversion effects would have accrued notwithstanding.

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