

Understanding the relationship between Pacific Alliance and the mega-regional agreements in Asia-Pacific: what we learned from the GTAP simulation

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Abstract

The Asia-Pacific region is the epicenter for the emergence of a series of mega-regional agreements such as the Trans-Pacific Agreement (TPP), the Regional Comprehensive Economic Partnership (RCEP), and the Pacific Alliance (PA) established in 2011 among Chile, Colombia, Mexico and Peru. However, since early 2017 the region has experience rising protectionism, as seen in the decision of the United States to withdraw from TPP, sending shockwaves across the region. The PA has decided to continue with its process, recently launching negotiations with four associated members (Australia, Canada, New Zealand and Singapore). This is the context of structural changes and uncertainty that the Pacific Alliance must now face. This raises questions such as: What role should the Pacific Alliance play in the new regional architecture in the Asia Pacific? How should the Pacific Alliance prepare to maintain its relevance in a context of mega-regional agreements that include several of its members? Based on these and other questions, the authors formulated a total of six scenarios that describe possible interactions among the Pacific Alliances and the other mega-regional agreements. These scenarios were tested using GTAP to understand which of them would have a more positive impact on regional exports via both tariff reduction and trade facilitation measures. The results from these scenarios, suggest that the one that would have the greatest effect on exports would be the Integration of the Pacific Alliance economies to the Regional Comprehensive Economic Partnership (RCEP), followed by the Comprehensive and Progressive Trans-Pacific Partnership with the participation of Colombia and China (CPTPP 13). These scenarios offer significant increases in the aggregate exports of the group, both in the face of the tariff reduction and in response to trade facilitation reforms.

Introduction

The Asia Pacific region is the center of the global economy, with a growing prominence in both trade and foreign direct investment flows and with good prospects for the coming years. Since the 1990s, the region has become a model for economic integration, with a pragmatic approach focused on trade liberalization, trade facilitation, and economic cooperation among regional economies. This open regionalism has managed to generate links across the Pacific and has been the foundation for the emergence of a series of mega-regional agreements such as the Comprehensive and Progressive Trans-Pacific Agreement (CPTPP), the Regional Comprehensive Economic Partnership (RCEP), among several other regional economic integration initiatives.

However, 2017 was a year of profound disruptions across the region, marked by the appearance of protectionist movements, one of the most obvious being the change in US trade policies with the arrival of its new administration. Trump's government announced both its withdrawal from the TPP, and its decision to renegotiate the North American Free Trade Agreement (NAFTA), sending shock waves throughout the region. This led not only to the revision of the TPP, which has now become the Comprehensive and Progressive Trans-Pacific

Partnership (CPTPP) recently signed among its members in March 2018 but also to delays in the RCEP negotiations whose conclusion was expected in 2017 and had to be postponed until the end of 2018.

This is the context of structural changes and uncertainty that the Pacific Alliance must now face. Back in 2011, Chile, Colombia, Mexico, and Peru created the Pacific Alliance, as a deep integration mechanism to liberalize flows of goods, services, capital and people among themselves, but also with the explicit purpose of articulating their projection as a group to Asia-Pacific. The group has decided to move forward despite changes in the regional scenario, announcing in 2017 negotiations with its future associated states, including Australia, Canada, New Zealand and Singapore; therefore, giving a more positive outlook to regional integration.

There still remind some questions answer: What role should the Pacific Alliance play in the new regional architecture in the Asia Pacific? How should the Pacific Alliance prepare to maintain its relevance in a context of mega-regional agreements that include several of its members? Can the Pacific Alliance consolidate itself as an alternative for regional integration in the face of the difficulties that other agreements are facing? How can the Alliance of the Pacific take advantage of its relationships with its future associated states? Based on these questions, discussing the Pacific Alliance's role in the new integration scenarios in the Asia Pacific region becomes a matter of importance and hence, the objective of this work.

The fulfillment of this objective is supported by the development of a series of specific objectives that include 1) contextualizing the mega-regional agreements in Asia Pacific (Pacific Alliance, CPTPP, and RCEP) in terms of its history, members, macroeconomic context (especially its trade figures), advances and controversies that have been generated in its negotiations. ; 2) describe possible scenarios for the evolution of trade agreements in Asia-Pacific region; 3) Estimate potential effects of mega-regional agreements on the Pacific Alliance's exports under conditions of both tariff reduction and trade facilitation using GTAP; and 4) Conclude about the role the Pacific Alliance could play and how the group can adapt to changes in the regional trade architecture.

1. Comparing the Pacific Alliance to other mega-agreements in the Asia-Pacific region.

The Pacific Alliance was established between the governments of Chile, Colombia, Mexico, and Peru in April 2011. This group has with two main objectives: internally, to constitute a deep regional integration area, characterized by the free circulation of goods, services, capital and people; and externally, to become a Latin American platform towards Asia-Pacific (Perez and Roldan, 2015). The general guidelines of the Pacific Alliance were defined with the signing of the Framework Agreement among the presidents in 2012. This document was later ratified in 2015. The Additional Protocol to the Framework Agreement, serving as a trade agreement between the members was signed in 2014 and entered into force two years later in 2016.

The Pacific Alliance has been the subject of extensive academic research including the works of George (2014); Gutiérrez and González (2014); Aichele and Felbermayr (2015); Durán and Cracau (2016), Estevadeordal and Talvi (2016), Herreros (2016), Villareal (2016), Perez and Castro (2017), among others. These documents have focused on describing the motivations of the creation of the group, its main achievements in matters of trade in goods, services and investments, and even, in some cases, have laid the foundations for the government-academy-business dialogue towards the achievement of both its internal and external goals. Although smaller

than the CPTPP¹ or RCEP² in the number of its members or its contribution to the world economy, the Pacific Alliance is more advanced than the other two, due to the fact that its trade protocol is already in place, and in addition this, the group has achieved important advances in the liberalization of the services sector and the integration of its financial markets. Likewise, the Pacific Alliance has begun to advance in its projection towards Asia Pacific, through a series of initiatives such as the establishment of a Framework of Cooperation with ASEAN, the participation of the group as a bloc in APEC. One of the most recent announcements was its invitation to Australia, Canada, New Zealand and Singapore, all of them Asia Pacific economies, to negotiate their membership as associate members. All these advances suggest that the Pacific Alliance is emerging as an exceptional case of promoting commercial integration in a context of increasing protectionism at the international level (Terán and Rouvinski, 2017).

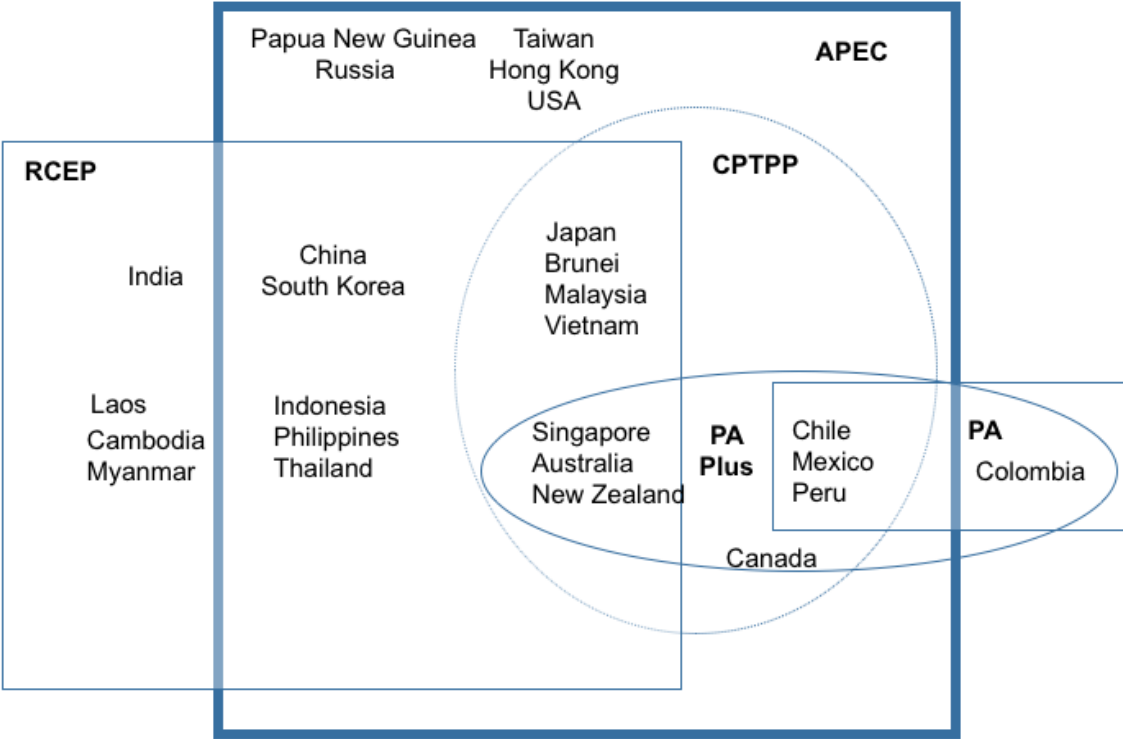
One way to identify the potential of the Pacific Alliance compared to other mega-regional agreements in Asia-Pacific is to assess its scope and main progress in some of the most important negotiation issues. These include access to markets for goods, services, foreign investment and various new generation issues, including trade facilitation, intellectual property protection, competition, and mobility of people. This comparison should also include elements that are related to development, such as, support to SMEs and environmental protection. Previous authors such as Perez and Roldan (2015) have already established a similar comparison. However, at that time, the TPP was in the final stages of its negotiation, the RCEP was going through even earlier in its negotiations, and the Additional Protocol of the Pacific Alliance was not yet in force. The progress made by these three mega-regional agreements based on their current status and circumstances.

Among the mega-regional agreements in Asia-Pacific, the RCEP has the greatest weight in the world economy and trade as it brings together the Asian main economies, including China, Japan, India and South Korea. This group represents 31% of world GDP. The CPTPP lost prominence within the world economy after the U.S., however, the agreement still includes influential economies such as Japan, Canada and Australia, and a number of emerging economies such as Mexico, and Vietnam, making for up to 13% of the world economy. The Pacific Alliance, represents about 3% of the world economy, is hence smaller, but its influence is increasing as seen on the current negotiations with its four future associate members and its relationship with its 52 observer states.

¹ The Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) formerly known as the Trans-Pacific Economic Cooperation Agreement (TPP) was negotiated between March 2010 and October 2015 and is currently comprised of 11 Pacific economies (Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam). According to figures from the World Bank, this group has a joint GDP of US \$ 10,151 billion, equivalent to about 13.4% of world production (World Bank, 2017). The negotiations led to the signing of the TPP in February 2016, thus beginning the process of ratification in each of its members. The agreement was to enter into force in 2018; However, it suffered a major setback after the Trump administration in the United States, withdrew from it in February 2017. This forced participating economies to hold a series of additional meetings, leading to a new trade ministers' declaration in November 2017. The leaders decided to change the name to the agreement, transforming into the CPTPP, and also laid the foundations of a renewed text which was later signed in Chile in March 2018. With this signature, the members must now start the ratification process and the CPTPP could come into force in 2019.

² The Regional Comprehensive Economic Partnership (RCEP) agreement is based on the agreements previously negotiated between among the Association of Southeast Asian Nations (ASEAN)² and its regional partners in the framework of ASEAN + 6 (ASEAN-China, ASEAN-Japan, ASEAN-South Korea, ASEAN-India, ASEAN-Australia and New Zealand). According to World Bank data, these economies had a GDP of US \$ 23,758 billion, equivalent to 31% of world production. This agreement has been in negotiation since 2012, having 21 rounds and a presidential summit held in November 2017.

Chart 1. Participating economies in the mega-regional agreements in Asia-Pacific



Source: authors based on the agreements

2. Defining integration scenarios for the Asia-Pacific

Having described of the Pacific Alliance’s trade integration from a historical perspective and as well as the most recent trends on Asia-Pacific integration including the evolution of both the CPTPP and the RCEP, this chapter aims to quantify the economic effects to these different forms of integrations could have on the PA economies. These effects are estimated using the Global Trade Analysis Project (GTAP). The GTAP allows the observation of the relationships between economic integration, commercial links, environmental constraints, among a number of other factors that influence the productive structure of countries in a context of globalization. One of the most commonly used tools in the analysis of international trade are the micro-based models of computable general equilibrium (CGE). This methodology consists of integrating the behavior of economic agents (households, government, companies, external sector, central bank) through the implementation of social accounting matrices (Social Accounting Matrix), therefore allowing to link the productive structure of income and expenses through a double accounting system (Dervis et al, 1982; Robinson 2003).

Within the CGE models, the GTAP is among the most widely used tools among the international scholars to evaluate for ex-ante evaluation of free trade agreements, trade liberalization, and even more complex economic integration scenarios. CGE models and in particular the GTAP have serves of trade policy analysis tool in the studies of Hertel et al. (1996), Harrison et al. (1997), Francois et al. (1996), and Brown et al (2000). The study of trade relationships and mega-agreements in the Asia-Pacific region are among the subject matters where the CGE and GTAP tools have been widely used. Some of the most valuable contributions include the work of Petri

et al (2012, 2013, 2014, and 2016); Li and Whalley (2014); Strutt et al (2015); Gilbert et al (2016); and Cerdeiro (2016), among a number of authors and scholars across the region.

The works of Petri et al (2012, 2013, 2014, and 2016) constitute one of the most significant contributions to the study of mega-agreements in the Asia-Pacific using GTAP. These authors have evaluated both the TPP, the RCEP and even the potential Free Trade Area of Asia Pacific (FTAAP) using GTAP. These authors used a GTAP model that incorporated innovative elements such as the heterogeneity of firms, non-tariff policies and investment flows in goods and services. Based on their assessment, global economic growth could face difficulties over the short term, but over a long-term, both the world and regional economies would obtain substantial from the negotiation of these mega-agreements in the Asia Pacific region.

Lee and Itakura (2014) implemented a recursive GTAP model to assess different TPP and RCEP scenarios. These authors simulated the reduction of both tariff barriers and trade time costs to identify non-tariff barriers in agricultural goods negotiations. The authors suggest that the implementation of these regional agreements would lead to significant increases in the agricultural sector productivity, thus generating regional growth and a positive impact on regional trade flows. However, the authors point out the possible contraction in the production of processed foods in some of the regional economies, which would require the implementation of both agricultural reforms and the negotiation of complementary trade agreements.

Other authors such as Li and Whalley (2014) resorted to game theory to analyze the potential effects of China's incorporation to the TPP vis-à-vis other regional tariff reduction scenarios. The results show that this country's participation in the regional agreement could benefit most member economies. Strutt et al (2015) also use a GTAP model and game theory to assess the potential impacts of TPP negotiations. These authors evaluate the effects that tariff reduction, trade facilitation, services liberalization, and the elimination of Non-tariff barriers (NTBs) in the context of Asia-Pacific mega-agreements would have on the New Zealand economy. Their results suggest that the country would benefit from both tariff reductions and reduction of NTBs.

Gilbert et al (2016) illustrate the effects of the TPP under different policy scenarios. The authors suggest that the potential economic benefits of trade liberalization under the TPP are particularly important in scenarios with large tariff reductions. Their results suggest the agreement is likely to benefit all its member, being Japan the economy that is would obtain the greater benefits. Cerdeiro (2016) brings a Latin American perspective into the analysis of mega-agreements to the region. Based on his results, there are two important conclusions: first, the Asian economies in TPP are likely to obtain greater benefits from the agreement than the Latin American participants. Second, some Latin American economies that did not participate in the TPP negotiations could obtain benefits from joining the TPP. According to the author's findings, Colombia and Guatemala would experience the greatest welfare gains from their potential incorporation to this agreement.

2.1. Formulation of the GTAP model for mega-regional agreements in the Asia-Pacific

Based on the literature review on the mega-regional agreements in Asia-Pacific and our research objectives, we have formulated six scenarios that reflect some of the most relevant mega-regional agreements in the Asia Pacific region and the possible interactions among the Pacific Alliance members and other regional economies. The scenarios are: (1) Pacific Alliance; (2) Pacific Alliance PLUS scenario; (3) Comprehensive and Progressive Trans-Pacific Partnership (CPTPP); (4) Comprehensive and Progressive Trans-Pacific Partnership with the participation of Colombia (CPTPP 12); (5) Comprehensive and Progressive Trans-Pacific Partnership with the participation of Colombia and China (CPTPP 13); and (6) Integration of the Pacific Alliance economies to the RCEP. The main variable of analysis in the analysis is the value regional of exports and the effects that both tariff reduction and trade facilitation reforms shocks could have on them.

We used GTAP version 9 and we conducted tariff reduction and trade facilitation policies shocks. Tariff reductions were modeled using the TMS shock (import tariff variable). This shock is useful to look at the sensitivity of the different variables to changes in tariffs. For the sake of the analysis, we used tariff reduction shocks of 85% and 100%. These values were determined from the reduction margins included in the regional mega-agreements and based on Wignaraja et al (2012) interpretation. According to these authors' estimations, an FTA is sufficiently broad when it achieves a tariff reduction of more than 85% over a 10-year period. The 100% liberalization was tested to see the effects of total trade liberalization among participating economies.

For trade facilitation, we used the AMS shock (efficiency effect policy variable). This shock allows the simulation of measures that reduce transportation costs or that increase foreign trade operations efficiency (Andriamananjara, et al 2003). This reduction in transportation costs is consistent with the trade facilitation policies undertaken in mega-regional agreements. For the sake of the analysis we used reductions in transport costs of 15% and 20%. These values were determined Based on Moise and Sorescu (2013) who determined that ambitious trade facilitation reform could reduce transportation costs by up to 15.5% and new generation agreements, are expected to produce even higher yields, therefore, our decision to also test higher reductions.

CGE models and GTAP include both tradable and non-tradable goods and services. While both were included when running the simulations, our analysis only focuses on the behavior of tradable goods across seven sectors. The sectors of analysis are: grains and crops; Livestock and meat products; processed foods; mining and extractive industries; textiles and clothing; Light manufactures; and heavy manufactures. These sectors are analyzed in depth in order to examine the immediate sensitivity of their trade flows to changes in the prices of productive factors generated by trade policy shocks such as the reduction of tariffs or the implementation of trade facilitation policies. For modeling purposes, services will be considered a non-tradable element and therefore, although they are included in the model, their analysis will not be included in the text.

There are two additional caveats that must be taken into account when interpreting the results presented. First, the reduction of obstacles to foreign direct investment (FDI) among member countries is not considered because it requires data on FDI flows at the industry level, which is not easy to access. For example, UNCTAD (2017) provides inward and outward FDI data, but not at industry-level. Secondly, the compliance costs associated with the rules of origin are not incorporated, nor are the costs mitigation effects that arise from the consolidation of the mega-agreements. It is difficult to measure or estimate compliance costs, however, it is expected that these costs will fall as the broader FTAs are consolidated among regional economies.

The differentiating element of this model as compared to previous regional studies will be its focus on the effects of the different mega-agreements in the Pacific Alliance economies. This not only adds an innovative element to the discussion about the projection of this group to the world, but it will be the basis to propose possible responses by this Latin American group to the changes in the Asia-Pacific regional architecture.

2.1.1. Pacific Alliance Scenario (Baseline Scenario)

This scenario considers the process of trade liberalization and trade facilitation among the full members of the Pacific Alliance (Chile, Colombia, Mexico and Peru). These countries had already liberalized a substantial part of their trade through bilateral agreements and even in some cases through regional agreements, such as the Andean Community of Nations (CAN) in which Colombia and Peru participate. However, the Additional Protocol in force since 2016, constitutes an agreement that goes beyond the previous commitments. The Additional Protocol achieved an immediate liberalization in over 92% of the tariff lines trade among its members and established a liberalization schedule for the rest of the products in less than 20 years. This agreement has also managed to incorporate important elements such as the accumulation of origin and trade facilitation.

Consistent with the formulation of the model, we tested both 100% and 85% tariff reductions among the Pacific Alliance economies. Although the 85% scenario is lower than the current level of tariff reduction among members, it is interesting to see this group's sensitivity to tariff reduction. The results suggest an increase of 0.05% in the value of exports in the face of a 100% reduction in tariffs and 0.04% for lower tariff reductions. The analysis of marginal effects at the country level reveals that Peru is the country within the group that would have the largest increases in exports, with an increase of up to 0.042%. The results for the other members are lower. The growth of exports from Colombia and Mexico could reach up to 0.01%. Finally, the agreement has a neutral effect for Chile, regardless of the amount of tariff reduction.

Table 1. Tariff reduction and trade facilitation effects in the Pacific Alliance (baseline scenario)

Region	Pacific Alliance			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
Pacific Alliance**	0.05	0.04	0.95	0.72
Chile*	0.00	0.00	0.30	0.22
Colombia*	0.01	0.01	-0.06	-0.04
Mexico*	0.01	0.01	0.19	0.14
Peru*	0.04	0.03	0.76	0.57
Australia	0.00	0.00	-0.01	-0.01
Canada	0.00	0.00	0.00	0.00
New Zealand	0.00	0.00	0.00	0.00
Singapore	0.00	0.00	0.00	0.00
Other CPTPP 11	0.00	0.00	0.00	0.00
Other RCEP	0.00	0.00	0.00	0.00
USA	0.00	0.00	-0.05	-0.04
China	0.00	0.00	-0.01	-0.01
EU_28	0.00	0.00	0.00	0.00
ROW	0.00	0.00	-0.01	-0.01

Source: authors based on GTAP ** Aggregated effects for the trade bloc. * Marginal effects for each country

The effects at the sectoral level are studied to determine which industries could benefit the most from the tariff elimination in the Pacific Alliance. Under total tariff reduction, the Pacific Alliance exports as a group present increases in processed food industries with an increase of 0.80%, followed by the textile and garment industry with a growth of up to 0.20 %. Chile exhibits increases in the processed food exports, as well as in livestock and meat products, and decreases in grain and crop exports. For its part, Colombia shows significant increases in processed food exports and decreases in the livestock and meat products sector. Mexico would face increases in its light manufacturing exports, along with decreases in livestock and meat products. Finally, Peru presents increases in light manufacturing, textiles and clothing, but reductions in livestock and meat exports.

Reductions in transportation costs between the countries of the Pacific Alliance could also impact the Pacific Alliance exports. The group would face increases of up to 0.95% in the value of its exports if a 20% reduction in transportation costs is achieved. The 15% reduction could also increase regional exports in up to 0.72%. The results suggest that Peru is the economy that is likely to obtain the greatest benefits from cost reductions, with exports increases of up to 0.76%. The impacts for the other members are minimal and Colombia could have a slight contraction. These results suggest that for Colombia to benefit from the trade facilitation measures in the group, it will have to make a greater effort than the other members in both transportation costs and eliminating logistical barriers.

The effects at the sectoral level of trade facilitation reveal that faced with a 20% reduction in transportation costs, Pacific Alliance exports are likely to increase in the textile and garment industries with a growth of 4.17%, as well as in livestock and products meat that would have an increase of 3.24%. For Chile and Colombia, there are significant increases in textiles and clothing. Peru shows increases in light manufacturing, livestock and meat products. For Mexico, the biggest gains could be linked to both light and heavy manufacturing.

Chart 2- Sectoral effects of trade liberalization in baseline scenario

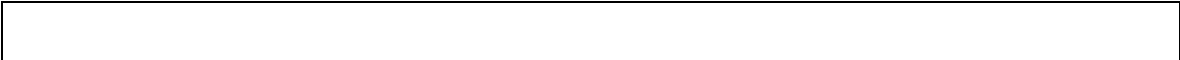
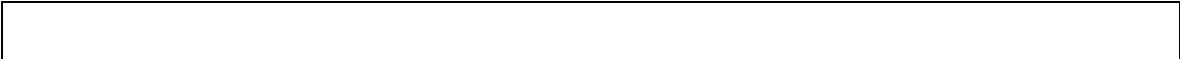


Chart 3- Sectoral effects of trade facilitation in baseline scenario



The Pacific Alliance could have effects on economies that are not part of the agreements. The results suggest a slight increase in exports for the United States, while there would be a small contraction for other regional economies such as Australia, China and New Zealand, while there were neutral effects for other economies, including the European Union, the other members of the CPTPP 11. On the other hand, the results suggest that reduction in transportation costs within the Pacific Alliance, countries such as Canada, Singapore and some of the other members of the CPTPP 11, could increase their exports despite not being part of the group. However, other countries such as Australia, China, the United States, New Zealand, the other RCEP members, and even the European Union, among other countries, would see a slight contraction in their exports.

The Pacific Alliance as a base scenario seems to offer marginal results to its members, with the impacts of trade facilitation greater than those derived from tariff reduction. However, it is important to bear in mind that, as mentioned above, a substantial part of the trade between members of the Pacific Alliance was already duty-free, thus the limited increases in the value of their exports upon further tariff reductions. However, the Pacific Alliance contribution goes beyond tariff reductions, including the advantages of accumulation of origin and other new generation issues that are not necessarily reflected in this modeling exercise.

2.1.2. PA PLUS: negotiations of the Pacific Alliance and its partners (scenario 2)

This scenario reflects the negotiations between the Pacific Alliance and its future associate members (Australia, Canada, New Zealand and Singapore). The Pacific Alliance announced the beginning of negotiations with these partners during the Summit held in Cali, Colombia in 2017. Since then the group is negotiating a new generation agreement (with important scope in tariff and non-tariff matters) with them. The negotiations were launched in October 2017 and there are still no announcements about their results. However, considering the scope of the PA and the intentionality to achieve new generation agreements, liberalization margins close to 100% can be foreseen over a 20 years period. Based on these considerations, the negotiations are also expected to establish an accumulation of origin mechanism, and commitments in non-tariff areas, such as trade facilitation. For the sake of the analysis, this group of eight economies will be called as PA PLUS.

Access to markets will be one of the essential elements of the agreement, for this reason the impacts that would have on exports a total (100%) and partial tariff reduction (85%) have been modeled. The results of the model suggest an increase of exports of 0.08% in the event of a total reduction of tariffs and of 0.07% in the face of partial reduction. Both results are superior to those obtained in the baseline scenario. The results suggest that within the group of countries that are full members in the Pacific Alliance, Peru would be the one that will be able to increase its exports in a greater proportion, reaching an increase of up to 0.04%. The increases for Colombia and Mexico are slightly higher than those for the baseline scenario. Colombian exports could increase up to 0.02% and for Mexico up to 0.01%. This scenario would have a neutral effect on Chile's exports.

Table 2. Tariff reduction and trade facilitation effects in the Pacific Alliance Plus (scenario 2)

Region	Pacific Alliance Plus			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
PA PLUS**	0,08	0,07	1,32	0,99
Chile*	0,00	0,00	0,58	0,43
Colombia*	0,02	0,01	-0,08	-0,06
Mexico*	0,01	0,01	0,52	0,39
Peru*	0,04	0,04	1,87	1,41
China	0,00	0,00	-0,06	-0,05
Other CPTPP 11	0,00	0,00	0,00	0,00
Other RCEP	0,00	0,00	-0,07	-0,05
USA	0,00	0,00	-0,10	-0,07
EU_28	0,00	0,00	-0,02	-0,01
ROW	0,00	0,00	-0,05	-0,03

Source: authors based on GTAP. ** Aggregated effects for the trade bloc. * Marginal effects for each country

The sectoral level analysis reveals that total tariff reduction in the framework of AP PLUS, would lead to increases in the exports of the processed food sector in up to 1.51%, and in the livestock sector and meat products in up to 1.04%. A more detailed analysis of the trends for each Pacific Alliance members suggests that under an agreement such as AP PLUS, Chile's exports would present significant increases in the livestock and

meat products and processed foods sectors, and with some reduction in the sectors such as grain and crops, and heavy manufacturing. Colombia would see significant increases in its exports of processed foods, textiles and apparel sectors, but would face declines in sectors such as livestock and meat products. As for Mexico, the results suggest that it would increase its exports of processed foods and light manufacturing, but it would face some contractions in the livestock and meat products sector. Finally, Peru would present increases in its exports of light manufacturing, textiles and clothing, and processed foods, however, within this scenario, its livestock and meat products sector would lose dynamism.

Negotiations between members of the Pacific Alliance and its future partners will also have elements related to trade facilitation. For AP PLUS economies, reductions of 20% and 15% in transportation costs could produce increases in exports of 1.32% and 0.99%, respectively. Among the full members of the Pacific Alliance, it would be Peru, the one member with a greater increase in its exports with up to 1.87%, followed by Chile with up to 1.32% and Mexico with up to 0.52%. These are all important values and higher than those that could be achieved through tariff reduction. The situation is contrary in Colombia, where transportation costs reduction within the group could lead to a contraction of its exports to the world of about 0.08%. The explanation for this result in Colombia and its possible solutions were already addressed in the previous scenario.

Chart 4- Sectoral effects of trade liberalization in scenario 2



Chart 5- Sectoral effects of trade facilitation in scenario 2



At the aggregate level, the sectors within the AP PLUS that would benefit the most from trade facilitation are textiles and garments whose exports could increase up to 3.63%, followed by heavy manufacturing which would grow up to 3.33%. However, the negotiation of an agreement like this could lead to a decrease of 0.20% in the international sales of the livestock and meat sector. The sectoral analysis in each of the full members of the Pacific Alliance reveals that Chile and Colombia would see significant increases in exports from the textiles and clothing and light manufacturing sectors. However, the decrease in transportation costs could affect Chile's mining sector and the grain and crops sector in Colombia. Mexico would increase its light manufactures, grains and crops exports, which could compensate for the lower exports of livestock and meat products sector. Peru could export more livestock and meat, light, and heavy manufacturing products, but less textiles and clothing.

2.1.3. Comprehensive and Progressive Trans-Pacific Partnership with its original members (scenario 3)

This scenario is about the liberalization process among current members of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP or CPTPP 11). Several of the members of the CPTPP 11 already had bilateral trade agreements, such as the economic partnership agreement between Japan and Mexico, and in some regional agreements, such as the P4 that already generated tariff preferences between Brunei, Chile, New Zealand and Singapore. The CPTPP 11 achieved a 100% tariff reduction among its members, however, it is important to take into account that these concessions were achieved in relatively long periods (more than 20 years) and exceptions were accepted. The CPTPP 11 includes a mechanism of accumulation of origin that is fundamental for the strengthening of GVCs in the region. The agreement also achieved important advances in non-tariff matters, such as customs cooperation, regulatory harmonization, intellectual property and support for SMEs, competition among a number of other elements that go beyond trade.

The results suggest that total (100%) and partial (85%) tariff reductions within the economic bloc, would increase exports in about 0.64% and 0.55%, The results indicate that all Latin American economies in this group: Chile, Mexico and Peru, would increase the volume of exports. The greatest benefits would be Chile with of up to 0.10%, while the other Latin American countries involved in the CPTPP 11 will have more modest results. For Peru, the increase could be up to 0.05%; being Mexico the country of the group that has smaller benefits, with an increase of its exports of up to 0.04%. These results could be due to the number of trade agreements with other regional partners in the CPTPP that Chile and Peru already have, something that Mexico lacks.

Table 3. Tariff reduction and trade facilitation effects in the CPTPP (scenario 3)

Region	CPTPP11			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
CPTPP11*	0,64	0,55	2,50	1,88
Chile*	0,09	0,08	1,02	0,76
Mexico*	0,03	0,03	0,47	0,35
Peru*	0,05	0,04	1,70	1,28
Other RCEP	0,00	0,00	-0,41	-0,31
USA	0,09	0,07	0,18	0,13
China	-0,04	-0,03	-0,18	-0,14
Colombia	0,00	0,00	0,87	0,65
EU_28	0,02	0,01	0,07	0,05
ROW	-0,01	-0,01	0,22	0,17

Source: authors based on GTAP ** Aggregated effects for the trade bloc. * Marginal effects for each country

These results can be better understood when analyzing the impacts at the sectoral level. Under a total tariff reduction, the sector with the highest growth among the member economies of the CPTPP 11 would be livestock and meat products, whose exports would grow in 27.43%, followed by processed foods whose sales abroad would have an increase of 3.76% as a consequence of this measure. These sectors would tend to exhibit higher growth in all the Latin American economies that are part of the CPTPP 11, with particularly high increases for Chile. Although at the aggregated level, CPTPP 11 exports of light manufactures would also have 2.76%

increase, the model data suggest that this industry's exports from Chile and Mexico would have a slight contraction. There is a similar trend for Mexico in the textiles and clothing industry.

The results of the reduction of transportation costs as an indicator of trade facilitation are quite illustrative among the CPTPP 11 economies. The reductions of 20% and 15% in transport costs would generate exports growth of 2.50% and 1.88%, respectively. Within the Latin American economies that are part of the CPTPP 11, Peru would obtain the greatest benefit, since its exports could increase up to 1.70% as consequence of this measure.

Within the CPTPP 11 as a bloc, the sectors benefiting the most from the implementation of trade facilitation policies, would be mining and extraction whose exports could increase by 12.04%, and the livestock sector and meat products that would have an increase of 8.04% in its international sales. Within the group of Latin American economies in the CPTPP 11, Chile would obtain the most substantial benefits with its mining and extraction sectors, as well as livestock and meat products benefiting the most, although it faces considerable decreases in heavy manufacturing exports. Benefits for Mexico, are particularly high in the livestock and meat products, although there would be a contraction in the textile and clothing sector. Peru could observe increases in its exports of both heavy manufacturing, and mining and extractive industries.

On the other hand, other countries such as Colombia, the European Union and the United States could expand their exports despite not being part of the economic group. However, China and other regional economies would face declines in their exports as a result of the CPTPP 11. The Colombian case requires particular attention as it is the only Pacific Alliance member that is not part of the CPTPP 11. Colombia's export growth is lower than that of this agreement's participant, however, it is interesting to observe how both the heavy manufacturing sector and the mining and extractive sector of the country could increase their export's values.

Chart 6- Sectoral effects of trade liberalization in scenario 3

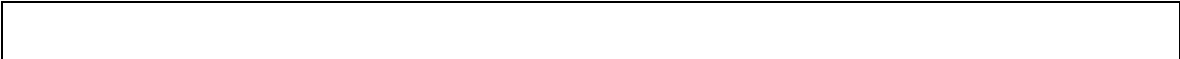
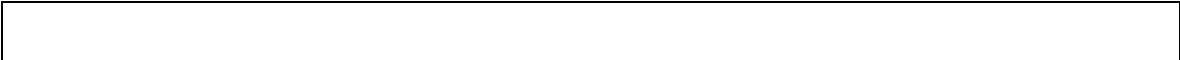


Chart 7- Sectoral effects of trade facilitation in scenario 3



The results of the model also suggest that Colombia, the European Union, and the United States could also benefit from the advances in trade facilitation that can be achieved in the CPTPP 11 despite not being part of this agreement. For Colombia, the reduction of transport costs in the CPTPP 11 would have positive impacts on its estimated exports of up to 0.87%, concentrated particularly in sectors such as livestock and meat products, and light manufactures. This situation contrasts with the effects that CPTPP 11 would have on China and the other RCEP participants, which would see declines in the value of their exports to the world.

Within the CPTPP 11, the greatest benefits are obtained through trade facilitation policies, as well as other regulatory advances reached in the agreement. Although there is already an extensive network of trade agreements among the members of the CPTPP 11, this agreement achieves tariff reduction among important economies such as Canada and Japan for the very first time. The CPTPP 11 offers positive results both through the reduction of tariffs and through trade facilitation to all the economies of the Pacific Alliance, including Colombia. This makes it pertinent to make a simulation that includes Colombia within the CPTPP.

2.1.4. CPTPP with the participation of Colombia (CPTPP 12) (Scenario 4)

This scenario is about the participation of Colombia in the CPTPP hence leading to the consolidation of a new group that could be called CPTPP 12. Based on the CPTPP declarations, the accession of other Asia Pacific economies will be possible after the agreement enters into force for its current members. This would be an opportunity for Colombia. The agreement is expected to maintain a level of liberalization close to 100% and comprehensive trade facilitation commitments. The results show how a total (100%) and partial tariffs reduction (85%) within the economic bloc, would increase regional exports by 0.65% and 0.56% respectively. These results are slightly higher than those obtained in the CPTPP 11 scenario. In this scenario, Mexico obtains the best results, with its exports increasing of up to 0.05%, followed by Colombia with up to 0.03% and Peru with 0.02%. The agreement would have a neutral effect on Chile's exports.

Table 4. Tariff reduction and trade facilitation effects in the CPTPP12 (scenario 4)

Region	CPTPP12			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
CPTPP12*	0,65	0,56	2,59	1,94
Chile*	0,00	0,00	1,07	0,81
Colombia*	0,03	0,03	-0,02	-0,02
Mexico*	0,05	0,04	0,47	0,35
Peru*	0,02	0,02	1,96	1,47
Other RCEP	0,00	0,00	-0,41	-0,31
USA	0,09	0,08	0,23	0,17
China	-0,04	-0,03	-0,18	-0,13
EU_28	0,02	0,01	0,08	0,06
ROW	-0,01	-0,01	0,22	0,16

Source: authors based on GTAP ** Aggregated effects for the trade bloc. * Marginal effects for each country

The results suggest that the tariff reduction would produce particularly high increases in the trade of livestock and meat products whose exports could increase up to 27.38%. The processed food and light manufacturing sectors would also have an export growth of up to 3.79% and 2.88%, respectively. For Chile, the greatest gains would be in the sectors of livestock, meat products, and processed foods. Colombia would increase its exports of processed foods, as well as textiles and clothing. For Mexico the sector with the highest growth would be livestock and meat products, while in Peru would be livestock, meat products, as well as textiles and clothing. However, sectors such as grains and crops in Chile and Mexico, the livestock and meat sector in Colombia, and the heavy manufactures sector in Peru, could see contractions in their exports values.

Reduction in transportation cost of 20% and 15% among these group of 12 economies could generate increases of 2.59% and 1.94% in the value of their exports, respectively. Within the group of Latin American economies participating in the CPTPP 12, Peru would have the greatest benefits from trade facilitation, increasing its exports up to 1.96%, followed by Chile with increases of up to 1.07%. The price for Mexico is lower with an increase of up to 0.47%, while Colombia would see a small contraction of its exports in the short term.

Trade facilitation would also have effects at the sectoral level. The CPTPP 12 as a group would increase its mining and extraction exports in of 11.31%, followed by growth in international sales of the livestock and meat products in about 7.95%. However, sectors such as light manufactures would see a contraction in their exports. The trade facilitation measures under the CPTPP 12, would represent gains for Chile's livestock and meat products, and mining and extraction exports. For Colombia, these measures would provide advantages for the textile and garment sectors, as well as for processed foods. For Mexico, trade facilitation would represent significant increases in the exports of its livestock and meat products, and light manufacturing sectors. For Peru, the sector that is more likely to increase its exports are the heavy manufactures.

Chart 8- Sectoral effects of trade liberalization in scenario 4



Chart 9- Sectoral effects of trade facilitation in scenario 4



Some of the actors outside the CPTPP 12 would also see some positive results from this group's consolidation. This is the case of the European Union and the United States, which could increase the value of their exports despite not being part of the agreement. However, countries such as China and other RCEP economies would see decreases in the volume of their exports as a result of this CPTPP coming into force.

The scenario of the CPTPP 12 includes all the economies of the Pacific Alliance by also incorporating Colombia. In this scenario, gains were obtained both from tariff reduction and from trade facilitation measures, the latter being greater in impact. The Colombian economy is small in comparison with other members of the agreement, so its inclusion does not generate significant changes at the aggregate level compared to that seen in the CPTPP 11, however, it does produce significant changes in terms of impact and the sectors benefiting from it. Some of the actors outside the CPTPP 12 would also see some positive results from this group's consolidation. This is the case of the European Union and the United States, both increasing the value of their exports despite not being part of the agreement. However, countries such as China and other RCEP economies would see decreases in the volume of their exports as a result of this CPTPP coming into force.

2.1.5. CPTPP with the participation of Colombia and China (CPTPP 13) (Scenario 5)

This scenario is about both China and Colombia becoming members of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP). This would form a mega-agreement including 13 economies of the Pacific basin or what could be called a CPTPP 13. Just as in the previous scenario, Colombia and China could consider accession into the CPTPP once the agreement comes into force. The agreement is expected to maintain a level of trade liberalization close to 100%, as well as substantial commitments in non-tariff matters. The results suggest that China's participation in the group would have a significant impact on trade flows within the group. The 100% tariff reduction among CPTPP 13 economies would generate increases of 2.00% in regional exports while a partial tariff reduction of 85% within the bloc, would increase exports in 1.70%. These are substantially higher than those obtained in CPTPP 11, showing China's importance as a trading partner for the region.

Table 5. Tariff reduction and trade facilitation effects in the CPTPP13 (scenario 5)

Region	CPTPP13			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
CPTPP13*	2,00	1,70	8,15	6,11
Chile*	0,00	0,00	3,12	2,34
Colombia*	0,02	0,02	-0,15	-0,12
Mexico*	0,08	0,07	0,65	0,48
Peru*	0,11	0,09	3,73	2,80
Other RCEP	-0,06	-0,05	-1,54	-1,15
USA	0,21	0,18	0,13	0,10
EU_28	0,05	0,04	0,03	0,02
ROW	-0,06	-0,05	0,29	0,22

Source: authors based on GTAP ** Aggregated effects for the trade bloc. * Marginal effects for each country

However, China's participation in the agreement would reduce the effects for some of the Latin American economies. Within the participating Latin American economies, Peru would be the one that obtains the greatest benefits of this agreement, since its exports could increase up to 0.11%. These results are superior to the base scenario of the CPTPP 11, however, the results for the other Latin American countries would be inferior. For Mexico, exports would increase by up to 0.09%, for Colombia up to 0.02%, and have a neutral effect for Chile.

Tariff reduction within a group such as the CPTPP 13 would have important effects in various sectors of the economy, the most important being livestock and meat products whose exports would rise up to 34.95% Textiles and clothing exports would be the second sector with the highest hikes, with an increase of up to 7.67%, followed by processed foods, a sector in which international sales could increase up to 5.83%. Within the Latin American economies, Chile and Mexico would have important increases in their exports of livestock and meat products, while their exports of grains and crops could have a contraction. The most benefited sector in Colombia would be processed foods while their exports of livestock and meat products could reduce. For Peru, the sector with the greatest benefits would be processed foods.

The evaluation of the effect of trade facilitation measures within a scenario such as the CPTPP 13 also offers a number of interesting perspectives on the impact that China's participation in this agreement would have. The

reduction of 20% and 15% in transport costs among this bloc's economies would generate increases in their exports of 8.15% and 6.11%, respectively.

Within the Latin American economies participating in the agreement, Peru would receive the most exports of up to 3.73%, followed by Chile with an increase in its exports of up to 3.12%, who would receive the greatest benefits. For Mexico, the increase would be up to 0.65%. Consistent with the previous scenario, these measures would lead to a slight decrease in Colombian exports up to 0.16%. The analysis of the impacts of trade facilitation within the CPTPP 13 at the sectoral level reveals that the exports that would have the greatest increase would be mining and extraction that could grow up to 35.41%, followed by livestock and meat products with an increase of up to 15.82%, and heavy manufactures up to 11.07%. The expansion of mining and extractive sectors is particularly important for Chile and Peru. There is also a significant increase in exports from the livestock and meat products sector in Mexico and Peru. For Colombia, the sectors that could increase that could benefit the most are textiles and clothing and processed foods. However, the results suggest that the CPTPP 13 would cause reductions in the grain sectors and crops, as well as in textiles and apparel exports of Chile and Peru.

Chart 10- Sectoral effects of trade liberalization in scenario 5

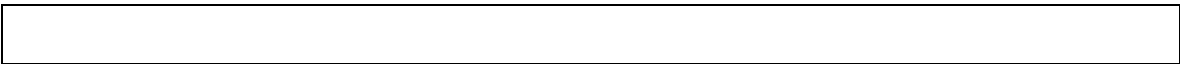
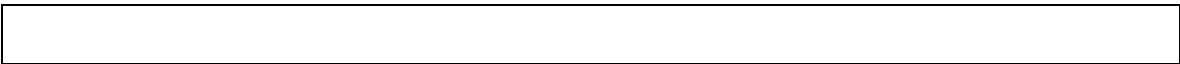


Chart 11- Sectoral effects of trade facilitation in scenario 5



The results obtained from modeling the CPTPP 13 indicate that both the reduction of tariffs and the implementation of trade facilitation measures among the members of this agreement could have positive effects on the value of exports of some economies outside the group. This is the case of the European Union and the United States. However, the agreement would generate negative effects for other Asian economies that, although participating in the RCEP negotiations, would not be part of the CPTPP 13. Moreover, these results suggest that the inclusion of China would have a positive impact in general terms for the economies participating in the agreement. However, the participation of this Asian giant in the agreement does not produce the same results for all the economies of the Pacific Alliance. This scenario would be particularly positive for Peru, but for the other economies of the Pacific Alliance, the effects, although positive, are less than those observed in the CPTPP 11 scenario. These results can be explained since China is a commercial partner particularly important for Peru. For Chile, despite being its main export destination, exports are more diversified than in the Peruvian case. On the other hand, exports from Colombia and Mexico to China are still very low in comparison to other markets.

2.1.6. Integration of the economies of the Pacific Alliance to the agreement of the Regional Comprehensive Economic Partnership forming the RCEP PLUS (Scenario 6).

The RCEP is based on the agreements negotiated between the ten ASEAN members with each of its regional partners: Australia, China, South Korea, Japan, India, and New Zealand. The existing agreements between ASEAN and its regional partners had an average tariff reduction of 91%. Based on this, it is expected that as a result of RCEP negotiations the coverage will be of at least 85% of the tariff lines. The RCEP would not only generate an umbrella agreement that would bring all these agreements together but would also be the means to liberalize trade between countries such as Japan and China; Japan and South Korea; or even between China and India; all of them absent from the current regional architecture of trade agreements.

This scenario considers the accession of the four members of the Pacific Alliance to the RCEP. This would form an RCEP PLUS agreement that includes a total of 20 economies in the Pacific basin. Although at the present moment the RCEP is only composed of Asian economies, its negotiators have not excluded the possibility that once the negotiations are concluded the agreement can incorporate new economies. The governments of Chile and Peru have already expressed their interest in joining this initiative. Moreover, the Pacific Alliance is currently implementing a high-level work agenda with ASEAN, opening doors for a negotiation among these two blocs.

The results suggest under total tariff reduction in the RCEP PLUS, the group's exports could increase up to 3.62%, and up to 3.08% as a consequence of a partial reduction. Among the Latin American group, Peru would have the highest exports growth with an increase of up to 0.16%. Exports from Mexico could increase up to 0.10%, while for Chile and Colombia, the growth of their exports could be up to 0.03% and 0.02%, respectively.

Table 6. Tariff reduction and trade facilitation effects in the RCEP Plus (Scenario 6)

Región	RCEP Plus			
	Tariff reduction		Trade facilitation	
	Var -100%	Var -85%	Var 20%	Var 15%
RCEP Plus*	3,62	3,08	11,42	8,56
Chile*	0,03	0,03	3,52	2,64
Colombia*	0,02	0,02	-0,24	-0,18
Mexico*	0,10	0,09	0,36	0,27
Peru*	0,15	0,13	3,16	2,37
Canada	0,14	0,12	1,60	1,20
USA	0,52	0,44	0,48	0,36
EU_28	0,10	0,08	0,00	0,00
ROW	-0,12	-0,10	0,41	0,31

Source: authors based on GTAP ** Aggregated effects for the trade bloc. * Marginal effects for each country

RCEP PLUS exports could increase across the majority of the sectors as a consequence of tariff reductions in the group, being the livestock and meat products with increases of up to 78.69% the one sector which would obtain greater benefits. Other sectors with potential growth are grains and crops whose exports could increase up to 16.42% and processed foods with a growth of up to 16.41%. Within the RCEP PLUS, the most favored sectors in Chile, Colombia and Peru would be livestock and meat products, and processed foods. For Mexico, in addition to obtaining an increase in its exports of processed foods, this economy could also see an important

increase in its light manufactures exports. However, there are also some sectors that would perceive contractions in their exports values as a result of the RCEP PLUS. These are light manufactures in Chile, textiles and apparel in Colombia and Mexico, and heavy manufacturing in Peru.

The results suggest that the implementation of ambitious trade facilitation measures among RCEP PLUS members could have a considerable effect on their exports. As a consequence of 20% reduction in the transportation costs, the group's exports would increase by up to 11.42%. This rise the in the exports would be of up to 8.57% with a smaller cost reduction. The analysis at sector level reveals that the implementation of trade facilitation measures in the RCEP PLUS could generate advantages for sectors such as mining and extraction whose exports could increase by up to 59.02% and heavy manufactures with an increase of up to 17.35%

Within the group of Latin American economies, Chile would obtain the greatest increase of its exports as a result of trade facilitation policies in the RCEP PLUS. This country would have an increase of up to 3.52%. For Peru, the increase would reach 3.16%, and for Mexico would be up to 0.36%. However, Colombia would see a slight contraction of its exports of up to 0.24% as a result of these trade facilitation measures. The sectors could have a greater increase in their exports, would be mining and extraction in Chile and Peru, and the livestock and meat products sector both in Colombia and in Mexico.

Chart 12- Sectoral effects of trade liberalization in scenario 6



Chart 13- Sectoral effects of trade facilitation in scenario 6



The figures of the RCEP PLUS reveal that all members of the Pacific Alliance benefit from their accession to this agreement. Based on this outcome, it would be important to find avenues for the cooperation and convergence among both groups (the Pacific Alliance and RCEP). This could be achieved via the members that both groups have in common, such as Australia, New Zealand and Singapore, who are in the process of becoming associated states to the Pacific Alliance. Finally, it is also observed that other regions such as the European Union, the United States and other regional economies outside of the RCEP Plus, could indirectly benefit from the reduction of tariffs and the implementation of trade facilitation measures in this group.

Conclusions

The document evaluates the interactions between the Pacific Alliance or other mega-regional agreements in the Asia Pacific. Six scenarios were formulated to assess the effects of a tariff reduction and trade facilitation reforms among the participating economies. The first of these scenarios is precisely the Pacific Alliance with its four current members. This scenario is necessary to be able to compare the effects of the different configurations of the regional architecture with respect to the current scope of this agreement. The second scenario considers the negotiations between the Pacific Alliance and its future associated members (Australia, Canada, New Zealand and Singapore), forming a Pacific Alliance plus agreement. The third scenario is the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) with its eleven original members (CPTPP 11). This scenario is particularly interesting insofar as three of the members of the Pacific Alliance (Chile, Mexico, and Peru) are among its current participants so that its future evolution will be of great importance for this Latin American group. The other proposed scenarios included the participation of economies such as Colombia and China in the CPTPP, and a scenario in which the four members of the Pacific Alliance are integrated into the Regional Comprehensive Economic Partnership (RCEP) in what we have called the RCEP Plus.

The Pacific Alliance baseline scenario revealed that achieving total trade liberalization among its member economies would only have a marginal effect on the group's exports. This is because most of the trade between members of the Pacific Alliance is already free of tariffs and there are also other barriers to regional trade, particularly those related to the lack of connectivity between these economies. The results of the simulation of trade facilitation measures were consistent with this analysis, demonstrating that a 20% reduction in transportation costs would have a greater net effect than the total elimination of tariffs in the group.

The scenario of the Pacific Alliance and its future associate members (AP PLUS) is the most interesting considering the current context of the Latin American group. The results suggest that these negotiations would not have a high impact on regional exports over the short-term. Although the tariff reduction would benefit all the full members of the Pacific Alliance, especially Colombia and Peru, the increase is very low in all cases. The facilitation of trade between the Pacific Alliance and its partners would have somewhat greater effects.

The limited export growth observed in the Pacific Alliance Plus scenario could be attributed to several factors, including the existence of sufficiently broad trade agreements between the four Latin American economies and Canada, which, within future partners, represents the largest market. These agreements have already liberalized a substantial part of the tariffs, leaving little room for further reduction. On the other hand, trade between the Pacific Alliance and other partners is very low at present, so it would not be easy in the short term to generate a substantial change in its export offer, this added to the difficulties related to variables such as the distance, the cultural difference and in general terms, the lack of awareness of trade opportunities, which takes time to develop. However, the opportunities derived for negotiation between the Pacific Alliance and its future partners go beyond the trade of goods, to include service transactions, foreign investment and economic cooperation, among other potential areas of gains, but that are not captured enough in this model.

Within the evaluated scenarios, the one that would have the greatest effect on exports would be the Integration of the Pacific Alliance economies to the Regional Comprehensive Economic Partnership (RCEP), followed by the Comprehensive and Progressive Trans-Pacific Partnership with the participation of Colombia and China (CPTPP 13). These scenarios offer significant increases in the aggregate exports of the group, both in the face of the tariff reduction and in response to trade facilitation reforms. However, for these scenarios to be feasible, it will be necessary not only the conclusion of the RCEP negotiations and the entry into force of the CPTPP but also the alignment of the interests of the Pacific Alliance members, particularly in view of the potential liberalization of sensitive sectors for their economies. This makes these scenarios less politically feasible.

A more comprehensive analysis of the different scenarios from the perspective of their effects at the sectoral level found important gains in agricultural sectors such as livestock and meat products, as well as processed foods, whose exports in most cases responded positively to tariff reductions. On the other hand, it was found that trade facilitation measures, increased exports in most sectors, including manufactured products such as textiles and clothing, light industries and even for mining activities.

The Pacific Alliance has forged a place of importance within the regional architecture. One of the advantages of the Pacific Alliance over other regional mechanisms is its commitment to go beyond the economic aspects, to generate a deeper cooperation framework that will allow the group to maintain its relevance even upon the emergence of other mega-regional agreements. Moreover, the negotiations with the future associated states (Australia, Canada, New Zealand and Singapore) show that the Pacific Alliance is a serious, deep integration initiative with a projection to the Asia-Pacific. These efforts complement the joint work being done by the Pacific Alliance with the Association of Southeast Asian Nations (ASEAN) and with Mercosur, with whom the group has already established a work agenda on issues such as trade facilitation and regulatory harmonization.

References:

- Aichele y Felbermayr (2015). The Trans-Pacific Partnership Deal (TPP): What are the economic consequences for in- and outsiders, CESifo Forum.
- Andriamananjara S, Ferrantino MJ and Tsigas M (2003). Alternative approaches in estimating the economic effects of non-tariff measures: results from newly quantified measures. U.S International Trade Commission, Economics Working Paper No.2003-12. C.
- Brown, D. K, Chadha, R., Deardorff, A. V., y Stern, R. M. (2000). Computational analysis of the impact on India of the Uruguay Round and the forthcoming WTO trade negotiations. Ann Arbor, 1001, 48109-1220.
- Cerdeiro, D. A. (2016). Estimating the effects of the Trans-Pacific Partnership (TPP) on Latin America and the Caribbean (LAC). International Monetary Fund.
- Dervis, K., & Dervis, K. (1982). General equilibrium models for development policy (No. 04; HD75. 5, D4.).
- Durán, J. y Cracau. D. (2016). The Pacific Alliance and its economic impact on regional trade and investment Evaluation and perspectives. CEPAL – International Trade Series No. 128. Santiago, Chile.
- Estevadeordal, A, y Talvi, E. (2016). Towards a New Trans-Pacific Partnership. Policy Brief Brooking CERES Economic and Social Policy in Latin America Initiative.
- Francois, J. and Douglas.N y Palmeter, D. (1996) Public Procurement: A Post-Uruguay Round Perspective CEPR Discussion Paper Series No. 1412.
- Gilbert, J. P., Furusawa, T., y Scollay, R. D. (2016). The economic impact of Trans-Pacific partnership: What have we learned from CGE simulation? ARTNeT Working Paper Series, (157).
- Gutiérrez, S., González-Pérez. M.A., Rodríguez-Ríos, D.y Gutiérrez, L. (2013), “Evaluación de la justificación económica y política de la Pacific Alliance”, Bogotá.
- Harrison, G. W., Rutherford, T. F., y Tarr, D. G. (1997). Quantifying the Uruguay round. The Economic Journal, 107(444), 1405-1430
- Herreros, S. (2016), “The Pacific Alliance: A Bridge between Latin America and The Asia-Pacific?”. Capítulo 14 en Basu Das and Kawai, “Trade Regionalism in the Asia Pacific: Development and Future Challenges.” ISEAS-Yusof Ishak Institute. Singapur.
- Hertel, T. W y Swaminathan, P., (1996). Introducing monopolistic competition into the GTAP model. GTAP Technical Paper, 6.
- Hertel, T. W., y Tsigas, M. E. (1997). Structure of GTAP. Global Trade Analysis: modeling and applications, 13-73.

- Lee, Hiro y Ken Itakura. (2014). The Implications of Region-wide FTAs for Japan and Emerging Asia. II Paper presented at the 126th Annual Meeting of the American Economic Association, Philadelphia, US.
- Li, C. y J. Whalley. (2014). China and the Trans-Pacific Partnership: A Numerical Simulation Assessment of the Effects Involved. *World Economy*, 37(2): 169–92.
- Moisés, E.; Sorescu, S. (2013), Trade Facilitation Indicators: The Potential Impact of Trade Facilitation on Developing Countries' Trade, OECD Trade Policy Papers, No. 144, OECD Publishing, Paris.
- Pérez, C & Roldán, A (2015). Is the Pacific Alliance a potential pathway to the Free Trade Area of the Asia-Pacific? *Philippines Journal of Development* Vol. 41-42 Nos. 1-2a (pp. 1-20). Manila: Philippine Institute for Development Studies.
- Pérez, C. y Castro, A. (2017). La proyección de la Alianza del Pacífico hacia el Asia Pacífico: logros y oportunidades-. En Prado Lallande, J.P, Ochoa Bilbao, L, & Velázquez Flores, R. (Ed), *La Alianza del Pacífico: nuevo mecanismo de cooperación e integración latinoamericano* (pp. 87-107). México, Ed: Asociación Mexicana de Estudios Internacionales.
- Petri, P.A.; Peter, A.; Michael, G.; Plummer, M.G. & Zhai, F. (2012). —Trans-Pacific Partnership and Asia-Pacific Integration: A Quantitative Assessment. Washington, DC: Peterson Institute of International Economics.
- Petri, P.A.; Plummer, M.G. & Zhai, F. (2013). “Adding Japan and Korea to the TPP”. *Asia Pacific Trade Working Paper*. 2013–5.
- Petri, P.A.; Plummer, M.G. & Zhai F. (2014) “The TPP, China and FTAAP: The Case for Convergence”. Chapter 6 in T. Guoqiang and P.A. Petri (eds). *New Directions in Asia-Pacific Economic Integration*. (East-West Center).
- Petri, P. A. & Plummer, M. G. (2016). The economic effects of the Trans-Pacific Partnership: New estimates.
- Robinson, S. (2003). Macro models and multipliers: Leontief, Keynes and CGE Models. In conference honoring Erik Thorbecke, Cornell University, October.
- Strutt, A.; Minor, P. & Rae, A. (2015) “A Dynamic Computable General Equilibrium Analysis of the Trans-Pacific Partnership Agreement: Potential Impacts on the New Zealand Economy”. Report prepared for the New Zealand Ministry of Foreign Affairs and Trade.
- Terán y Rouvinski (2017). Los Estados Asociados a la Alianza del Pacífico. Una nueva visión del Asia-Pacífico Documentos de trabajo del PEAP. Número 7.
- Villareal, M. A. (2016), “The Pacific Alliance: A Trade Integration Initiative in Latin America”, Report of the Congressional Research Service, R43748, March 29.
- Wignaraja, G., D. Ramizo, and L. Burmeister. 2012. Asia-Latin America free trade agreements: An instrument for interregional liberalization and integration. ADBI Working Paper 382. Tokyo: Asian Development Bank Institute.