

THE COSTS OF BEING OUT OF THE MEGA-AGREEMENTS: THE ECONOMIC IMPACTS OF CPTPP AND RCEP ON BRAZIL, ARGENTINA, INDIA, RUSSIA AND SOUTH AFRICA¹

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SINOPSE

Mega-acordos comerciais são aqueles cujos membros, em conjunto, respondem por parcela significativa dos indicadores macroeconômicos mundiais, tais como exportações, importações e produto interno bruto (PIB). Esses acordos visam aumentar os vínculos comerciais por meio da redução (ou eliminação) de barreiras tarifárias e não tarifárias e fornecem uma estrutura baseada em regras para resolver as diferenças nos ambientes de investimento e negócios. Os dois mega-acordos comerciais mais recentes são o Acordo Abrangente e Progressivo para a Parceria Transpacífica (Comprehensive and Progressive Agreement for Trans-Pacific Partnership – CPTPP) e a Parceria Regional Econômica Abrangente (Regional Comprehensive Economic Partnership – RCEP). A União Europeia já é um mega-acordo e continua expandindo seus laços comerciais. O objetivo deste estudo é avaliar os impactos macroeconômicos e comerciais sobre o Brasil, a Argentina, a Rússia, a Índia e a África do Sul (acrônimo BARISA), por não fazerem parte da RCEP e do CPTPP ou terem acordos com a União Europeia. As simulações utilizam o Global Trade Analysis Project (GTAP) dinâmico, um modelo de equilíbrio geral computável (EGC). Os resultados mostram que todos os países enfrentarão queda no PIB e nos investimentos, com exceção da Índia, que, apesar de não ser membro da RCEP e do CPTPP, possui acordos comerciais com a maior parte de seus membros. Os impactos no comércio também serão negativos, com redução do comércio total em todos os países do BARISA, e um desvio de comércio entre os países do BARISA e a RCEP e/ou o CPTPP, para outras regiões.

Palavras-chave: CPTPP; RCEP; GTAP; mega-acordos comerciais; isolacionismo.

ABSTRACT

Mega trade agreements are agreements that have a significant share of the world's macroeconomic indicators such as trade flow and gross domestic product (GDP). Their objective is to increase trade links by the reduction (or elimination) of tariff and non-tariff barriers and provide a rules-based framework for investment and business. The two new mega trade agreements are the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP). The European Union is itself a mega-agreement and continues to increase its influence through a significant number of new agreements. The aim of this study is to assess the macroeconomic and trade impacts of the isolation of Brazil, Argentina, Russia, India and South Africa (acronym BARISA) from RCEP and CPTPP, using dynamic Global Trade Analysis Project (GTAP), a computable general equilibrium model. The results show that all

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countries, especially Brazil, will face a decrease in GDP, investments and trade flows. India is an exception because it already has trade agreements with most members of RCEP and CPTPP. The impacts on trade will also be negative, with reduction in total trade in all BARISA countries, and trade deviation from RCEP and/or CPTPP members to other regions.

Keywords: CPTPP; RCEP; GTAP; mega trade agreements; isolationism.

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1 INTRODUCTION

Mega trade agreements can be considered as trade agreements involving groups of countries which, jointly, have a large share of world's macroeconomic indicators such as gross domestic product (GDP) and trade flows, combined with common rules on trade activities. As any other trade agreement, the objective is to increase trade links by the reduction (or elimination) of tariff and non-tariff barriers and providing a rules-based framework for investments and business. The two newest mega trade agreements are the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP). The European Union is itself a mega-agreement, increasing its influence through a significant number of new agreements.

In numbers, CPTPP have currently eleven signatory countries (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam), accounting for almost 7% of the world's population (500 million people), contributing for almost 15% of global GDP (approximately US\$ 12.2 trillion), 14% of global exports of goods and services (approximately US\$ 3.4 trillion), and 14% of global imports of goods and services (approximately US\$ 3.3 trillion). The CPTPP agreement contains measures to lower both non-tariff and tariff barriers to trade and dispositions regarding investments, labor mobility, environment, intellectual property (IP), digital economy and government procurement.

It is relevant to remember that the United States was the political proponent of Trans-Pacific Partnership (TPP-12) during the Obama presidency. However, president Trump first act was to pull out the United States from TPP-12. With the new Biden administration, there is a discussion to launch a new initiative to Asia-Pacific and include the United States in this agreement. If we consider the United States as part of the CPTPP (the previous TPP-12), the numbers mentioned on the previous paragraph become even more relevant, with total population reaching almost 850 million people and 37% of global GDP (approximately US\$ 29.4 trillion), 25% of global exports of goods and services (approximately US\$ 5.7 trillion), and 27% of global imports of goods and services (approximately US\$ 6.2 trillion).

RCEP, in turn, was signed by fifteen countries (Australia, Brunei, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, New Zealand, Philippines, Singapore, South Korea, Thailand and Vietnam) accounting for almost 30% of the world's population (2.2 billion people), and contributes for about 27% of global GDP (about US\$ 21.7 trillion), 41% of global exports of goods and services (approximately US\$ 6 trillion), and 42% of global imports of goods and services (approximately US\$ 5.5 trillion). RCEP dispositions aim at lowering trade barriers and securing improved market access for goods and services in the countries that are part of the agreement. It is worth noting that RCEP is the first free trade agreement (FTA) between China, Japan and South Korea, three of the

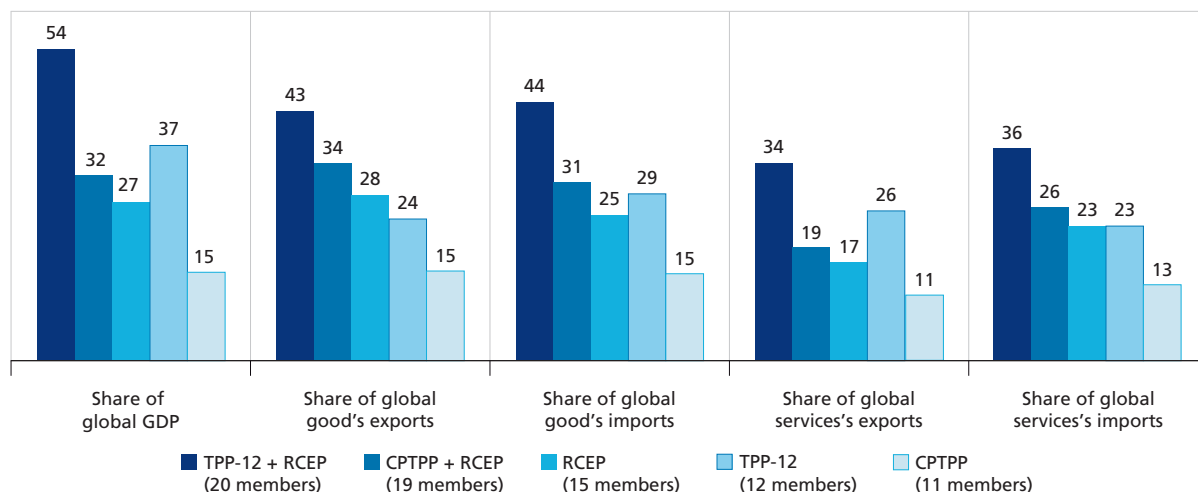
four major Asian economies, pulling the world economy's center of gravity towards Asia. Also relevant is the fact that India decided to stay out of the agreement.

Figure 1 summarizes the numbers mentioned previously and reinforces the relevance of CPTPP and RCEP due to their large share of global macroeconomic indicators.

FIGURE 1

Share of global macroeconomic indicators of RCEP, TPP-12 and CPTPP

(In %)



Authors' elaboration.

In the case of the European Union, despite not being part of the RCEP and CPTPP, it is responsible for about 27% of global trade in goods, and 35% of global trade in services. The European Union continues its expansion program, negotiating new preferential trade agreements (PTAs) with different countries all around the world, following its model of deep integration. The European Union signed PTAs with several members of RCEP and CPTPP, such as Vietnam (2020), Japan (2019), Singapore (2019), Canada (2016), South Korea (2011), Chile (2005) and Mexico (2000).⁴

In an opposite direction of the members of CPTPP and RCEP, Mercosur, formed by Brazil, Argentina, Uruguay and Paraguay, until recently preferred not to engage itself in integration processes with other developed or big developing countries. After 20 years of negotiations, a PTA was concluded between Mercosur and the European Union. However, mainly due to Brazil's environmental policy, there is mounting pressure, from the European side, to delay the approval of the agreement, until new environmental obligations are reached. Historically, Brazil and Argentina have been quite reluctant in negotiating any trade agreement, against the evidence that economic integration and the opening of their economies are important strategies to boost both industry and services areas, modernizing and innovating the economies and bringing development and employment. Brazil and Argentina have FTA with Chile, a member of CPTPP.

However, Brazil and Argentina are not alone in this isolationist position in relation to the two main hub groups. Other major emerging countries like India, Russia and South Africa are also countries that until very recently also preferred not to engage in integration process with other

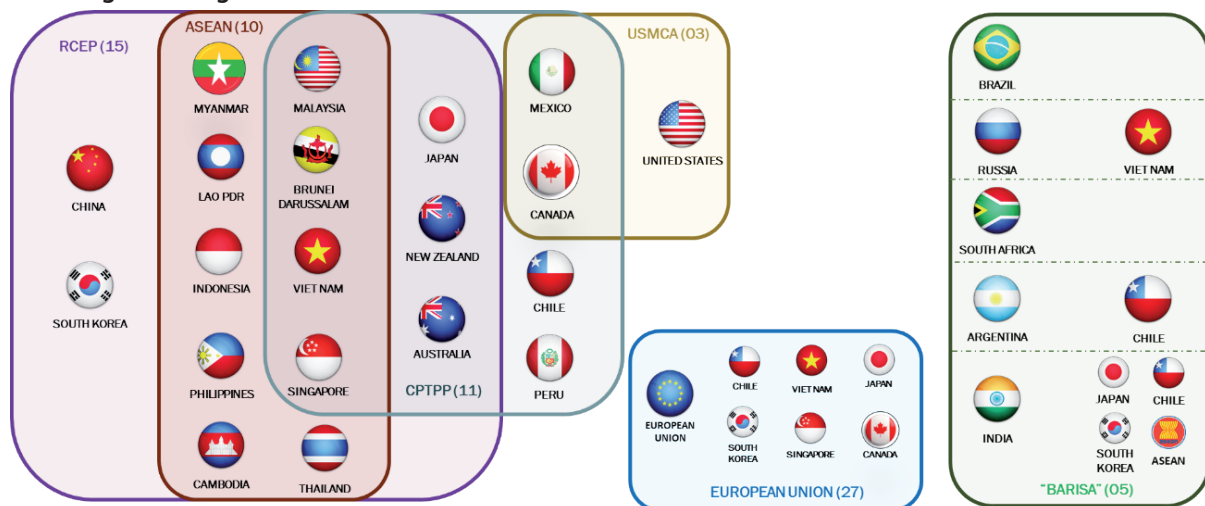
4. Available at: <<https://www.macmap.org/en/query/trade-agreement>>.

developed or big emerging countries. Apart from India's FTA with the Association of Southeast Asian Nations (Asean) members, Japan and South Korea, the other countries signed FTAs only with small emerging economies – Russia signed an FTA with Vietnam in 2016.

In order to facilitate this study, the acronym BARISA was created to refer to the five countries: Brazil, Argentina, Russia, India and South Africa. Jointly, BARISA countries account for 23.5% of the world's population (about 1.8 billion people) and contribute for about 6.9% of global GDP (about US\$ 7.5 trillion), a share that grows to 17.4% if we consider only the developing economies.⁵ Perhaps, in the future, these countries could face the challenge of creating their own PTA.

Figure 2 shows how RCEP and CPTPP are interconnected by the Asian countries, the movement of European Union to sign FTA with members of CPTPP and RCEP, and the isolation of BARISA countries.

FIGURE 2

Mega trade agreements and BARISA

Authors' elaboration.

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Although not part of the RCEP and the CPTPP, European Union has FTAs with members of both, such as Vietnam (2020), Japan (2019), Singapore (2019), Canada (2016), South Korea (2011), Chile (2005) and Mexico (2000). In turn, BARISA countries are more isolated: India has FTAs with Asean (2010), Japan (2011), South Korea (2014) and Chile (2007); Russia has an FTA with Vietnam (2016); and Argentina with Chile (2019). Brazil and South Africa still don't have any FTA signed with RCEP or CPTPP members.⁶

The isolation of BARISA countries from CPTPP and RCEP should receive attention from policymakers due to the relevance of trade and investment flows with members of these agreements. As will be detailed further, 19.0% of BARISA exports go to RCEP members, and 30.0% of BARISA imports come from the same countries. Similarly, 8.4% of BARISA exports go to CPTPP (a share

5. Available at: <<https://databank.worldbank.org/source/world-development-indicators>>.

6. Brazil and Chile have signed an FTA which is coming into force in January 25, 2022.

that increases to 16.5% if we consider the United States), and 12.5% of BARISA imports come from CPTPP (percentage that increases to 19.5% if we consider the United States).⁷

An important question facing the present world is how to solve the deep crises surrounding the multilateral system centered at the World Trade Organization (WTO) and not to stay as a passive testimony of the increasing fragmentation of trade rules, and the concentration of trade flows within some mega-agreements. The core players – the United States, the European Union and China – are imposing their trade models to create their own trade rules and are expanding their areas of influence. The paralysis of the WTO is already nursing the creation of three different trading systems, a very difficult scenario for trading activities of the excluded countries.

In face of these facts, there is considerable interest of some constituencies in BARISA countries, such as governments, business and academic sectors, on the real costs of this “anti-mega approach” or “isolationist approach”.

Therefore, this article aims to assess the macroeconomic and trade impacts of the isolation of BARISA countries from recent mega-agreements as the RCEP (centered in China) and the CPTPP, with a possible re-entering of the United States in the agreement (CPTPP + US or TPP-12). Recent expansions of the European Union toward new PTA are also considered in the exercise.

1.1 Macroeconomic comparison of the mega trade agreements

Figure 3 shows the relevance of RCEP and CPTPP/TPP-12 regarding their global share of some key macroeconomic indicators. As can be seen, RCEP and TPP-12 jointly encompass approximately 54% of global GDP, more than 40% of global exports and imports of goods, and more than 30% of global exports and import of services. It is worth noting the relevance of United States to CPTPP.

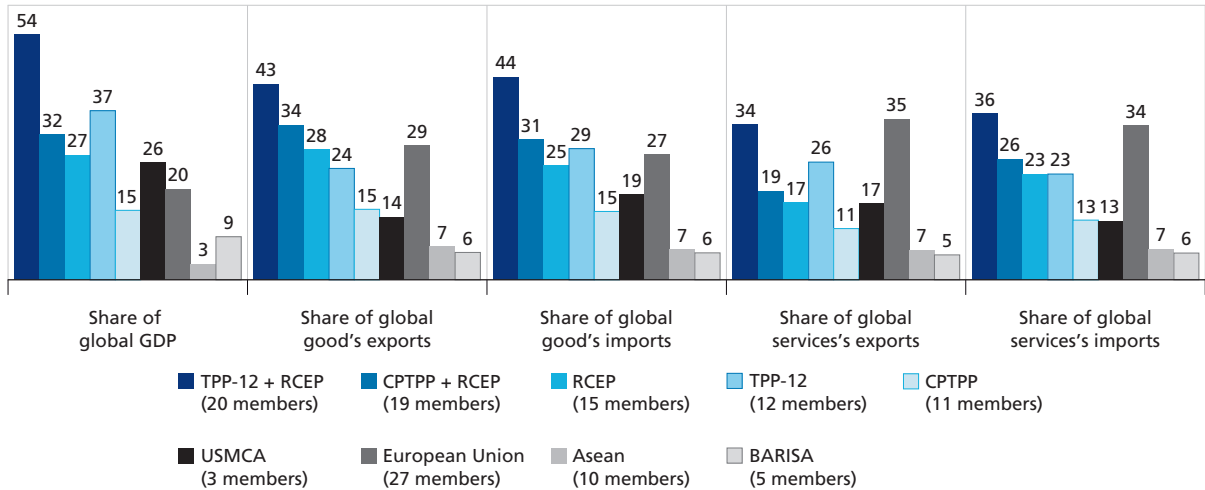
In turn, BARISA countries have a smaller share, with 9% of global GDP, between 6-7% of global exports and imports of goods, and 5-6% of global exports and imports of services. It is worth noting the similarity of BARISA numbers with Asean region (except for GDP share).

Combined, TPP-12, RCEP and European Union, account for more than 70% of world's GDP, exports and imports. The other 30% are encompassed by Latin America (excepted by Mexico, Chile and Peru, members of CPTPP), Africa, Russia and other smaller Asian economies. Therefore, becoming (or not) part of those agreements is not an option – developing bilateral FTAs with RCEP and CPTPP/TPP-12 members (as it is being done by European Union and India) is almost vital to BARISA countries.

7. Available at: <<https://wits.worldbank.org/>>.

FIGURE 3

Share of global macroeconomic indicators of RCEP, TPP-12, CPTPP, USMCA, European Union, Asean and BARISA
(In %)



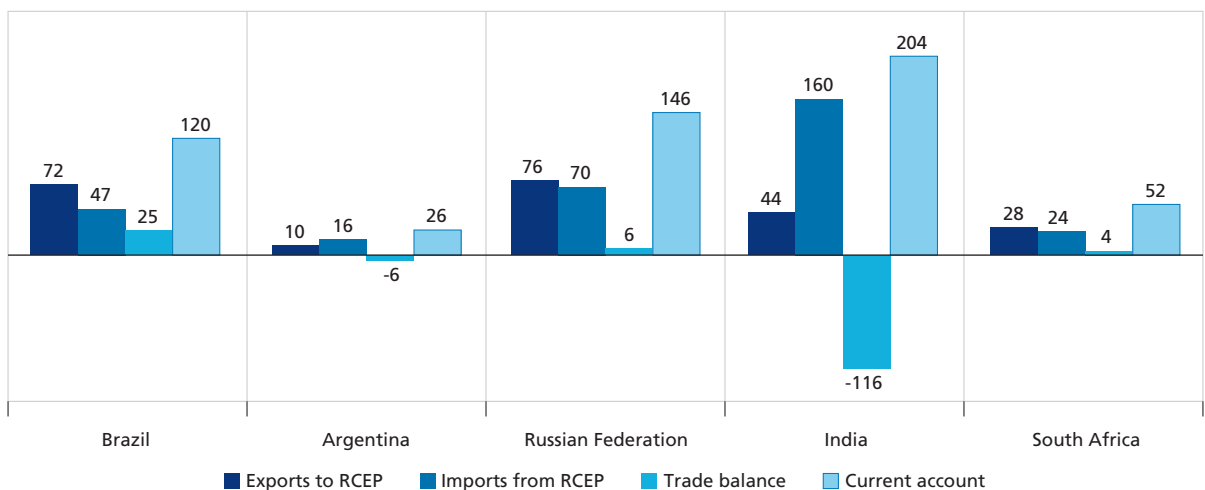
Authors' elaboration.
Obs.: USMCA – United States-Mexico-Canada Agreement.

1.2 BARISA and RCEP trade flows

Figure 4 shows the average trade flow between each BARISA country with RCEP over the period 2015-2019. In absolute terms, Russia was the country with largest annual exports to RCEP (US\$ 76 billion/year on average), while India was the country with the largest volume of imports (US\$ 160 billion). It is worth noting that Brazil was the country with largest trade surplus (US\$ 25 billion), while India was the country with the largest trade deficit (-US\$ 116 billion).

FIGURE 4

Average trade flows between BARISA countries and RCEP (2015-2019)
(In US\$ billion)



Authors' elaboration.

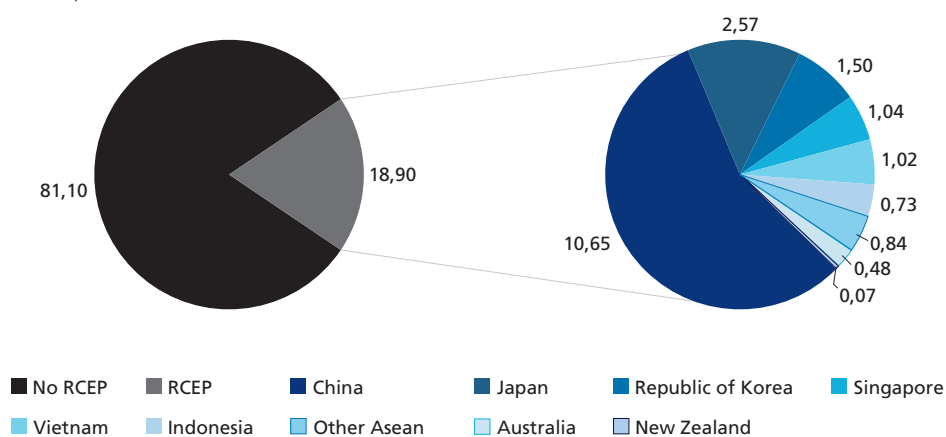
Figure 5 shows that, between 2015 and 2019, on average, 18.9% of BARISA exports were destined to one of the RCEP members, being China (10.7%), Japan (2.6%) and South Korea (1.5%) the main destinations. It is worth noting that more than 50.0% of BARISA exports to RCEP had China as destination. In turn, 5.4% of RCEP annual exports went to BARISA countries, being India (2.7%), Russia (1.2%) and Brazil (0.8%) the main destinations.

FIGURE 5

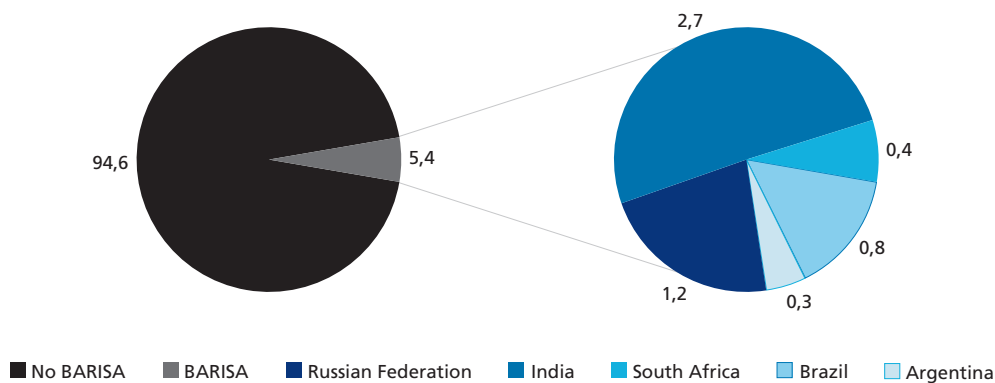
BARISA exports to RCEP and vice versa, per trade partner (2015-2019)¹

(In %)

5A – BARISA exports to RCEP



5B – RCEP exports to BARISA



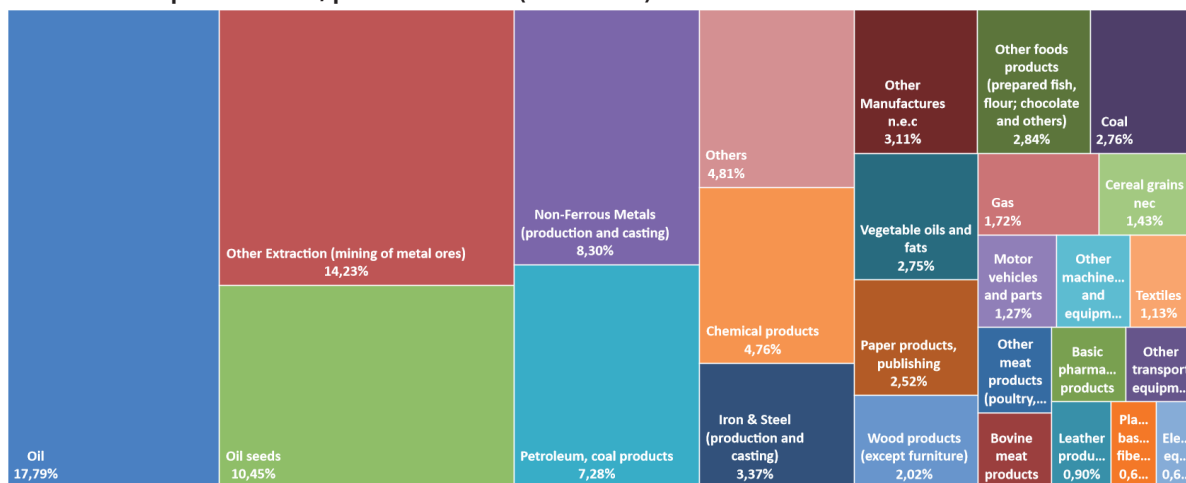
Authors' elaboration.

Note: ¹ In share of total exports.

Figure 6 shows that five sectors⁸ encompassed more than 50.0% of BARISA exports to RCEP: mineral oil (17.8%); mining of metal ores (14.2%); oil seeds (10.5%); non-ferrous metals (8.3%); and petroleum and coal products (7.3%).

8. This sectoral nomenclature is based on GTAP nomenclature, whose sectoral classification follow the United Nations (UN) general classifications International Standard Industrial Classification of All Economic Activities (ISIC) and Central Product Classification (CPC). Detailed information regarding what is encompassed in each sector can be found here: <<https://www.gtap.agecon.purdue.edu/databases/contribute/detailedsector.asp>>.

FIGURE 6
BARISA exports to RCEP, per GTAP sector (2015-2019)



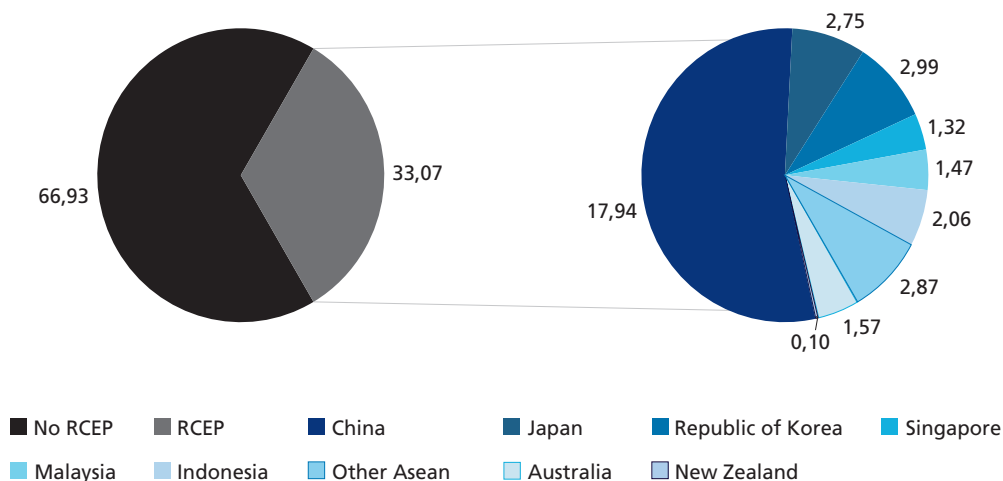
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Regarding imports, as shown on figure 7, 33.0% of BARISA imports came from RCEP members during the period 2015-2019, being China (17.9%), South Korea (3.0%) and Japan (2.8%) the main origins. It is worth noting that more than 50.0% of BARISA imports from RCEP came from China. In an opposite direction, 6.0% of RCEP annual imports came from BARISA countries over the same period, being Russia (2.0%), Brazil (1.9%) and India (1.1%) the main sources of imports.

FIGURE 7
BARISA imports from RCEP and vice versa, per trade partner (2015-2019)¹
 (In %)

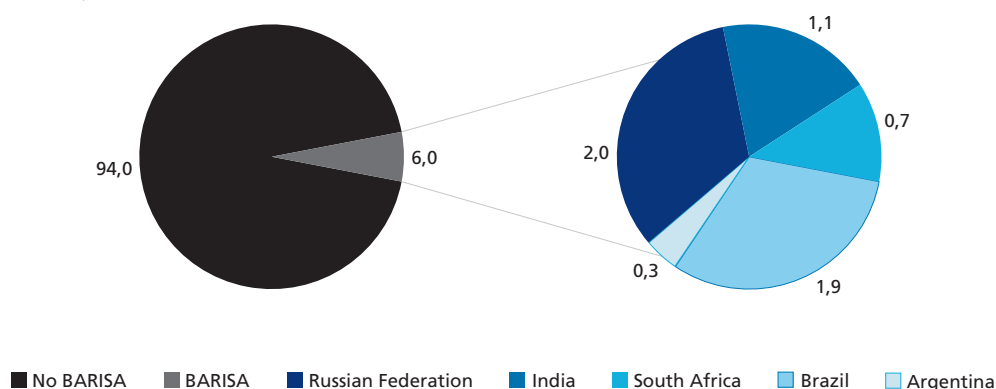
7A – BARISA imports from RCEP



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(Continuation)

7B – RCEP imports from BARISA

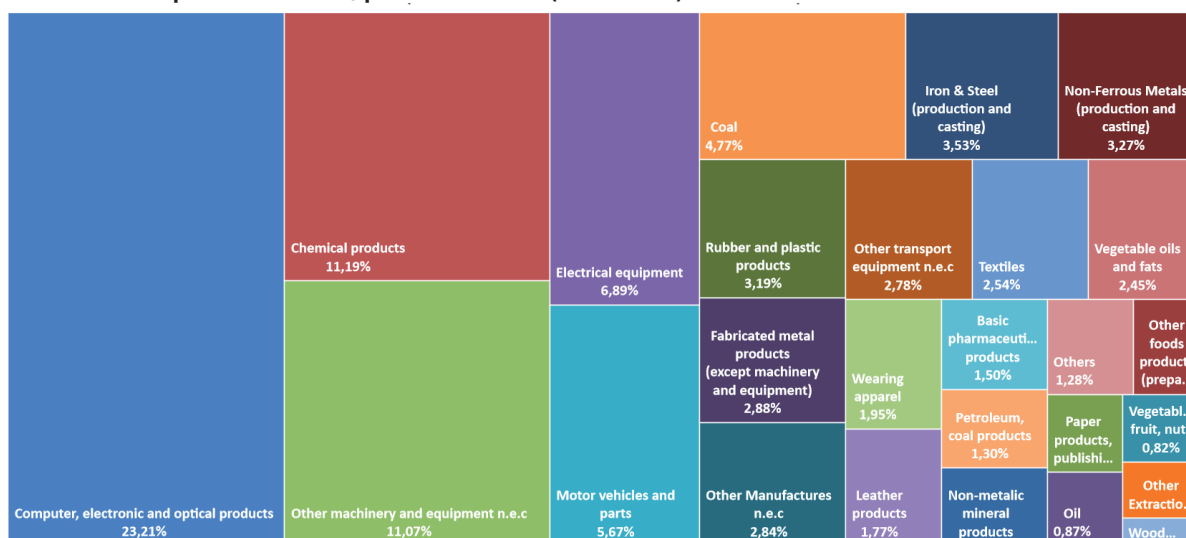


Authors' elaboration.

Note: ¹ In share of total imports.

Figure 8 shows that five sectors encompassed more than 50.0% of BARISA imports from RCEP: computer, electronic and optical products (23.2%); chemical products (11.2%); other machinery and equipment (11.1%); electrical equipment (6.9%); and motor vehicles and parts (5.7%).

FIGURE 8
BARISA imports from RCEP, per GTAP sector (2015-2019)



Authors' elaboration.

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1.3 BARISA and CPTPP/TPP-12 trade flows

Figure 9 shows, in the left, the trade flows between BARISA and CPTPP countries, while the flows between BARISA and TPP-12 (including United States) is displayed in the right. In absolute terms, India is the country with the largest annual average of exports and imports to/from CPTPP, with US\$ 29 billion and US\$ 63 billion, respectively, over the period 2015-2019. Russia was the

country with the largest trade surplus (US\$ 9 billion), while India was the only country with trade deficit (-US\$ 34 billion).

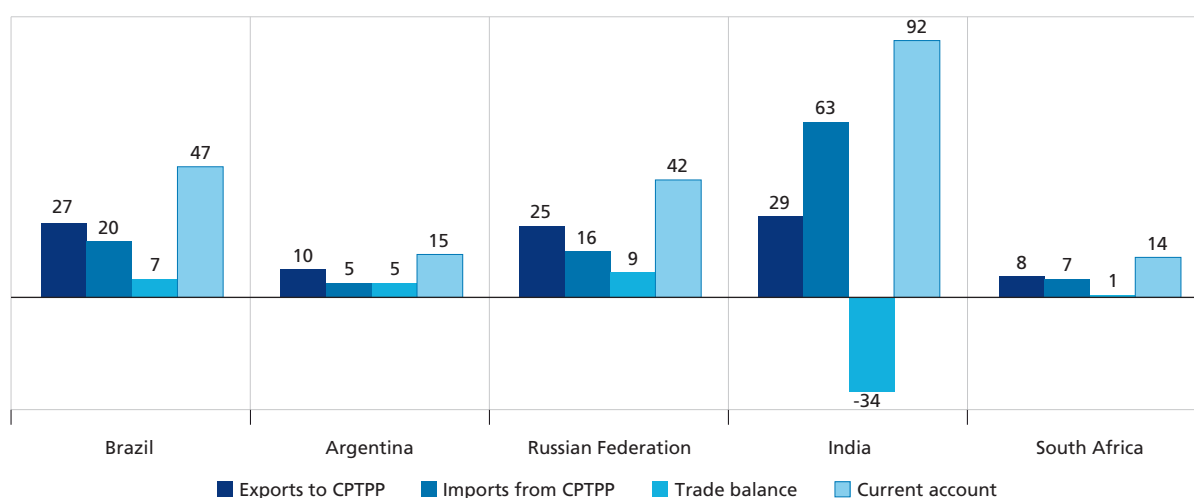
BARISA's trade with TPP-12 reproduces the same pattern, with India being the country with the largest annual average of exports and imports to/from TPP-12, with US\$ 81 billion and US\$ 90 billion, respectively, over the period 2015-2019. Russia was the country with the largest trade surplus (US\$ 13 billion), while India was the only country with trade deficit (-US\$ 9 billion).

FIGURE 9

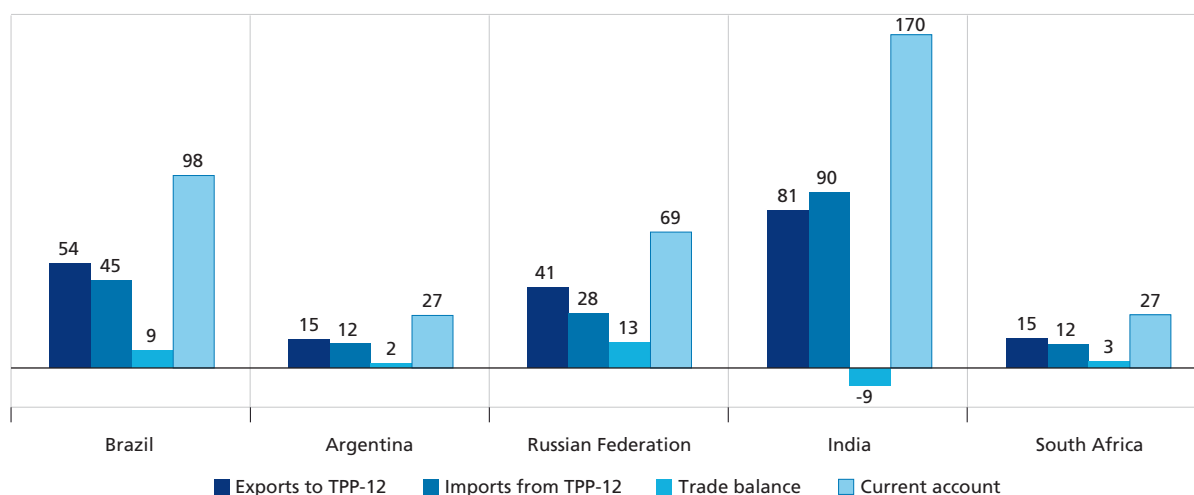
Average trade flows between BARISA countries and CPTPP, and TPP-12 (2015-2019)

(In US\$ billion)

9A – Trade flow between CPTPP and BARISA countries



9B – Trade flow between TPP-12 and BARISA countries



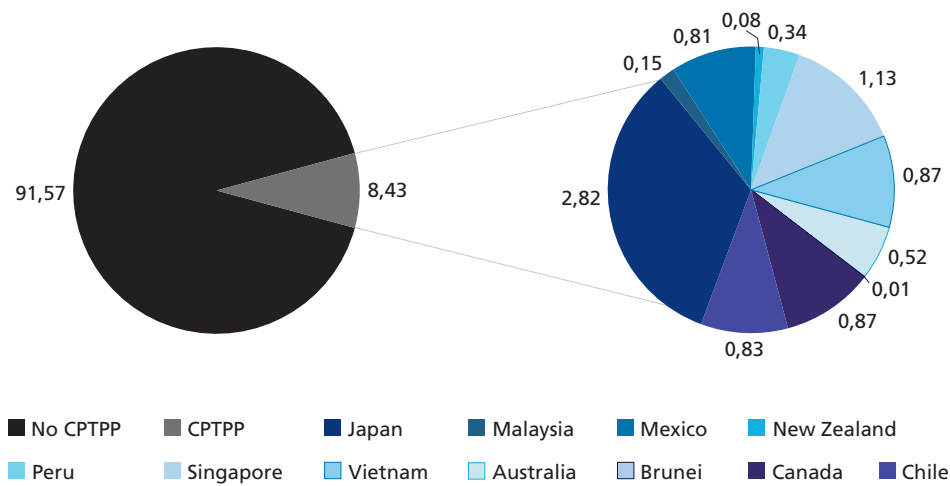
Authors' elaboration.

Figure 10 details the trade flows between BARISA with each one of the CPTPP and TPP-12 members. It shows that between 2015 and 2019, on average, 8.4% of BARISA annual exports were destined to one of the CPTPP members, being Japan (2.8%), Singapore (1.1%) and Canada (0.87%) the main destinations. However, if we consider the United States, the share in BARISA's exports

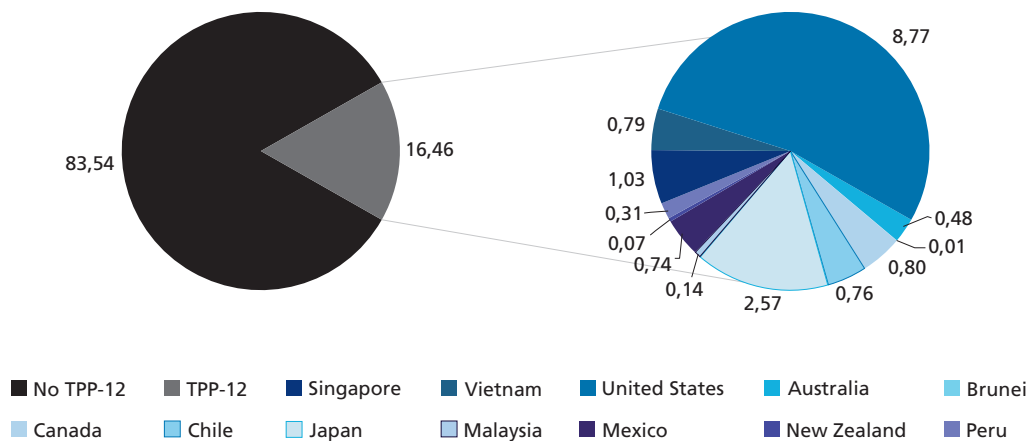
almost double (in comparison to CPTPP) – 16.0% of the exports went to TPP-12, being United States (8.8%), Japan (2.6%) and Singapore (1.0%) the main destinations. It is worth noting that more than 50.0% of BARISA exports to TPP-12 had the United States as destination, resembling China’s share in BARISA’s exports to RCEP, reinforcing the relevance of the two countries to BARISA. On average, 4.1% of TPP-12 annual exports were destined to one of the BARISA countries, being India (2.0%), Brazil (1.0%) and Russia (0.6%) the main destinations.

FIGURE 10
BARISA exports to CPTPP and TPP-12, per trade partner (2015-2019)¹
 (In %)

10A – BARISA exports to CPTPP



10B – BARISA exports to TPP-12

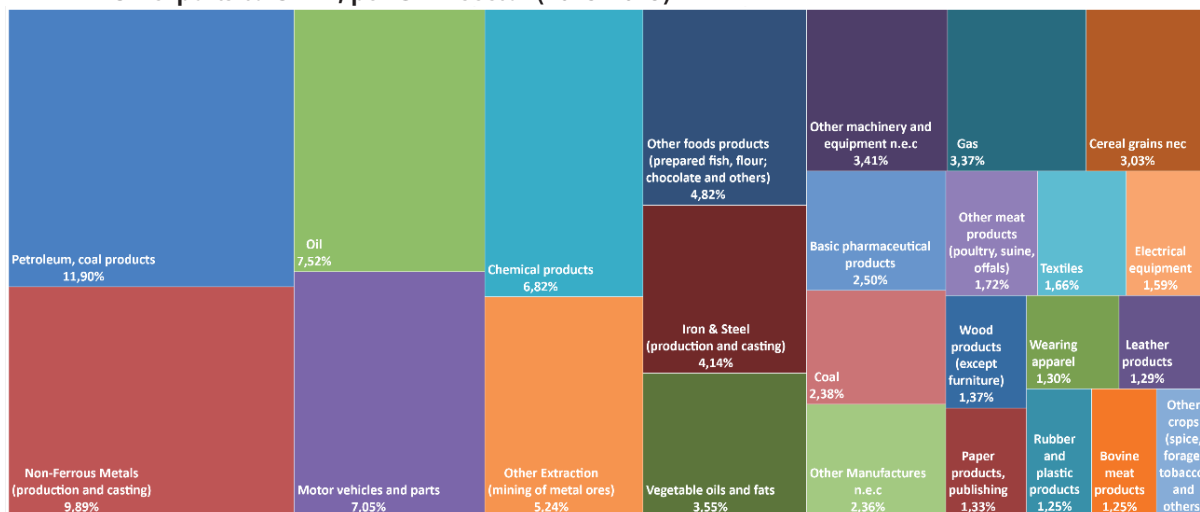


Authors’ elaboration.

Note: ¹ In share of total imports.

As shown in figure 11, between 2015 and 2019, on average, the following six sectors encompassed almost 50.0% of BARISA exports to CPTPP: petroleum and coal products (11.9%); non-ferrous metals (9.9%); oil (7.5%); motor vehicles and parts (7.1%); chemical products (6.8%); and other mining extractions (5.2%).

FIGURE 11
BARISA exports to CPTPP, per GTAP sector (2015-2019)



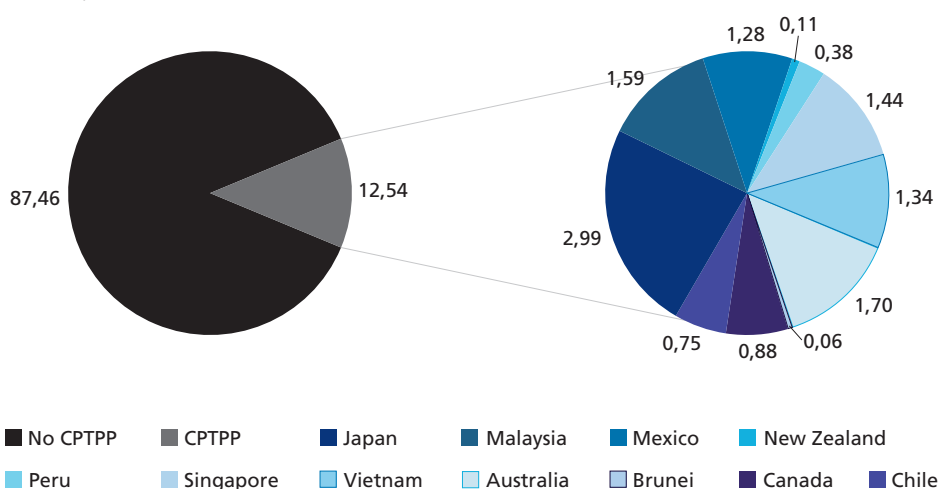
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As shown in figure 12, between 2015 and 2019, on average, 12.5% of BARISA's imports came from one of the CPTPP members, being Japan (3.0%), Malaysia (1.5%) and Mexico (1.3%) the main origins. However, if we include the United States, 19.5% of BARISA's imports came from one of the TPP-12 countries, being United States (7.9%), Japan (2.8%) and Malaysia (1.5%) the main origins. As in the case of exports, the United States also have a significant share of BARISA's imports.

FIGURE 12
BARISA imports from CPTPP and TPP-12, per trade partner (2015-2019)¹
 (In %)

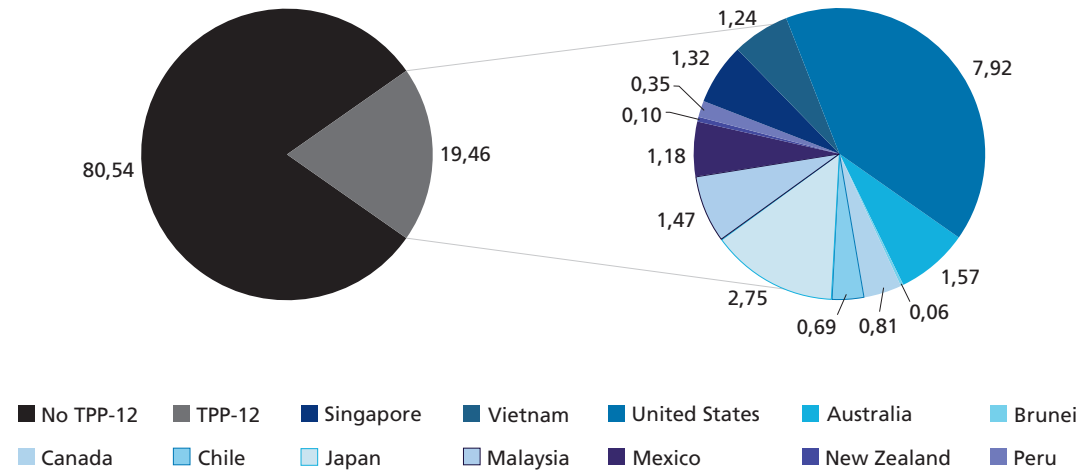
12A – BARISA imports from CPTPP



(To be continued)

(Continuation)

12B – BARISA imports from TPP-12



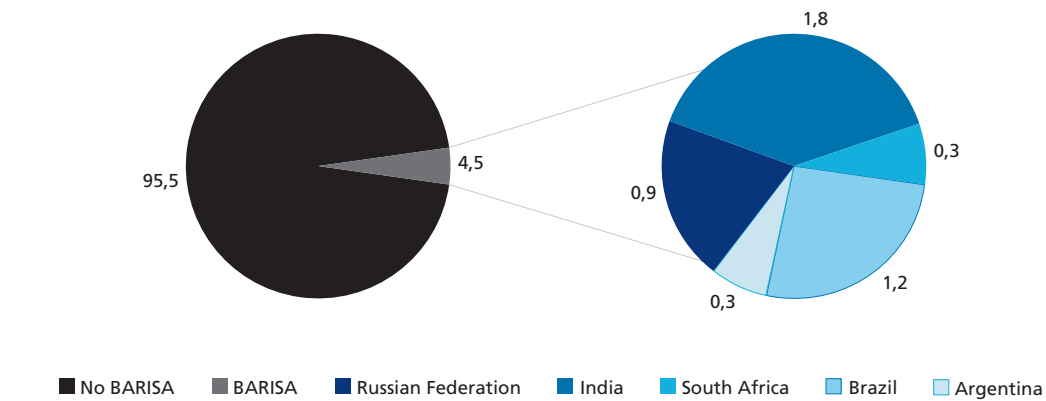
Authors' elaboration.

Note: ¹ In share of total imports.

Figure 13 shows that, on average, 4.5% of TPP-12 annual imports came from one of the BARISA countries, being India (1.8%), Brazil (1.2%) and Russia (0.9%) the main origins.

FIGURE 13

TPP-12 imports from BARISA, per trade partner (2015-2019)¹
(In %)



Authors' elaboration.

Note: ¹ In share of total imports.

As shown in figure 14, between 2015 and 2019, on average, the following six sectors encompassed almost 60% of BARISA imports from CPTPP: computer, electronics and optical products (15.5%); chemical products (10.6%); non-ferrous metals (8.9%); coal (8.8%); other manufactures (7.9%) and non-metallic mineral products (7.9%).

FIGURE 14

BARISA imports from CPTPP, per GTAP sector (2015-2019)

Authors' elaboration.

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2 METHODOLOGY

The analysis of impact carried out in this study uses the version 10.1 of the GTAP database. The standard GTAP is a comparative-static general equilibrium model, whose database has information of 65 sectors (45 goods and 20 services) of 141 countries/regions. The countries in the database account for 98% of world GDP and 92% of world population. In this research, the dynamic version of GTAP (henceforth GDyn) is used. GDyn is a recursively dynamic general equilibrium model largely used in analysis of impact of PTAs. GDyn extends the standard GTAP model to include international capital mobility, capital accumulation and an adaptive expectations theory of investment. The main objective of GDyn is to provide a better treatment of the long run within the GTAP framework (Ianchovichina and McDougall, 2001).

To evaluate the impacts of an external shock in the global economy (like an FTA), GDyn projects two paths to the global economy: a baseline, that simulates what is expected the world economy look like without an external shock; and a policy, that considers how the economy will look like with the external shock (like the mega-agreements). The difference between the two paths shows the effect of the policy under analysis.

Three different policy scenarios are simulated in this article.

- 1) TPP-12: this scenario aims to evaluate solely the impacts of TPP-12 on BARISA countries. Therefore, in such scenario it is considered the eleven countries of CPTPP and the return of the United States.
- 2) RCEP: this scenario aims to evaluate solely the impacts of RCEP on BARISA countries. Therefore, in such scenario we consider that RCEP will enter into force in 2022 for all the fifteen members, with a 10-year transition period. By the end of the transition period, most tariff lines will have been reduced by 90% of their initial levels.

- 3) CPTPP + TPP-12: this scenario aims to evaluate the joint impacts of RCEP and TPP-12 on BARISA countries. For those countries that are members of both agreements, only the tariff elimination of TPP-12 is considered, as it entered into force first.

The details of each scenario regarding timeline, tariff elimination and non-tariff measures (NTMs) simulation are provided in the next sections.

Regarding regional and sectoral disaggregation, for the present exercise the 141 countries/regions of GTAP are aggregated in a fashion to better evaluate the impacts of different policy scenarios simulated. Therefore, the regions disaggregated in the model are:

- all five countries of BARISA: Brazil, Argentina, Russia, India and South Africa;
- all twelve members of TPP-12 Australia, New Zealand, Japan, Canada, Mexico, Peru, Chile, Singapore, Vietnam, Malaysia, Brunei and United States;
- ten regions of RCEP: Australia, New Zealand, Japan, China, South Korea, Singapore, Vietnam, Malaysia, Brunei and other Asean;⁹
- European Union (27 countries);
- Latin America; and
- rest of the world.

As previously described, version 10.1 of GTAP distinguishes 65 sectors (45 goods and 20 services), in 141 countries/regions. For this research all sectors are kept disaggregated.

2.1 Baseline scenario

The baseline scenario constitutes the situation without the policy under analysis and provides a counterfactual scenario to evaluate the effects of that policy. To project the global economy in the future, GDyn uses the forecast of growth of the main macroeconomic indicators comprising GDP, unskilled labor and skilled labor. Those forecasts are extracted from the World Bank, the Centre d'Études Prospectives et d'Informations Internationales (CEPII) and the International Monetary Fund (IMF) databases.¹⁰

2.2 Policy scenarios

The policy scenarios of this article were built based on previous analyzes of RCEP and CPTPP/TPP-12 using general equilibrium methodology as in Petri, Plummer and Zhai (2011), Petri et al. (2017), Cheong and Tongzon (2013), Whalley and Li (2014), Areerat et al. (2012) and USITC (2016).

9. The region other Asean encompasses Indonesia, Thailand, Philippines, Myanmar, Laos and Cambodia. These are the Asean countries that are not members of CPTPP.

10. GDP: actual growth from 2014 to 2019 and growth forecasts from 2020 to 2025 were extracted from the IMF database; growth forecasts from 2026 to 2040 were extracted from CEPII database. Population: actual growth from 2014 to 2019 extracted from the World Bank; growth forecasts from 2020 to 2040 extracted from CEPII. Skilled labor (people with higher education used as proxy) and unskilled labor (people with basic education used as proxy) real data from 2014 to 2019 extracted from the World Bank; growth forecasts from 2020 to 2040 extracted from CEPII database.

However, differently from the previous papers that were written prior to CPTPP/TPP-12 entry into force, we took the advantage of having much more details regarding the schedule of tariff elimination, quotas and NTMs. For instance, several information regarding CPTPP were extracted from the report prepared by the WTO secretariat and were used as a baseline to RCEP. We also highlight the paper of Strutt et al. (2018), that using a comprehensive new dataset on NTMs, generated sector-specific bilateral estimates of the price impact of harmonizing NTMs for CPTPP countries. We use their estimates to simulate the cost reduction on imports due to NTM harmonization on CPTPP and use this estimation as a reference to RCEP.

As the database of version 10.1 of GTAP is from 2014, we decided to include in the simulation other relevant FTAs that entered into force after 2014¹¹ that could also affect BARISA countries. Those agreements are:

- European Union – Canada (2016);
- European Union – Vietnam (2020);
- European Union – Singapore (2019);
- European Union – Japan (2020); and
- Japan – United States (2019): this agreement is included only in the simulation of RCEP.

It is worth to reinforce that this research aims to evaluate the consequences of the isolationism of BARISA countries, mainly due to CPTPP and RCEP. Therefore, since it is not the main objective evaluating the impacts of those mega-agreements on their members, other relevant agreements such as South Korea-China (2015), South Korea-Australia (2014), South Korea-New Zealand (2015) – which should be considered if the objective of the paper was to evaluate the impacts of RCEP on South Korea – were not taken into consideration, because the impacts of those agreements on BARISA countries will be captured by the simulation of RCEP.

2.2.1 Policy scenario I: TPP-12

Most of the information used to prepare the policy scenario of TPP-12 and CPTPP simulation were extracted from the factual presentation prepared by the secretariat of WTO (WTO, 2021), that was released in April 2021.¹² It is worth noting that the factual presentation only brings information about the six countries that had already ratified the TPP-12/CPTPP: Australia, New Zealand, Japan, Mexico, Singapore and Vietnam. Therefore, the information about the other countries (Peru, Brunei, Malaysia and United States) were based on other studies¹³ and official documents of CPTPP.

11. Agreements that entry in force previously of 2014 were not included once we consider that GTAP information was already capturing the effects of those agreements.

12. According to the document, the factual presentation is: "a report that was prepared for the consideration of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), has been drawn up by the WTO secretariat on its own responsibility and in full consultation with the parties. The factual presentation reproduces as closely as possible the terminology used in the agreement and in the comments provided and does not imply official endorsement or acceptance by the secretariat of such terminology" (WTO, 2021, p. 1).

13. Relevant papers include Whalley and Li (2014), Cheong and Tongzong (2013), Areerat et al. (2012), USITC (2016) and Petri, Plummer and Zhai (2011).

Simulation of the elimination of tariff barriers in CPTPP/TPP-12

Since CPTPP entered into force in 2018, the simulation tries to replicate as close as possible the timeline of tariff elimination for each one of the twelve countries. The simulation considered 2018 as the entry into force year for Australia, New Zealand, Canada, Mexico, Japan and Singapore; 2019 for Vietnam; 2022 for Peru;¹⁴ and 2023 for Chile, Brunei, Malaysia and United States.¹⁵

Figure A.1 (appendix A) shows which HS chapters would remain dutiable even after the transition period, while table A.2 (appendix A) summarizes the size of tariff reduction during entry into force, after ten years and by the end of the transition period. Such details were useful to create the policy scenario for CPTPP and TPP-12. Another important information that was taken into consideration when defining which specific sectors would face a partial tariff elimination in some countries is the presence of tariff rate quotas – presented in table A.1 (appendix A). It is worth noting the ambitiousness of CPTPP regarding the elimination of tariff barriers, once the final weighted tariffs for most of the countries will be lower than 1%.

The tariff cuts were done on an annual basis, and it was also considered a larger tariff cut when the agreement enters into force. A catch-up mechanism for the latecomers was also included in the simulation, so that Vietnam, for instance, had two tariff cuts in 2019. Although some countries have a transition period that ends before 2032, since most tariff lines will already be duty free up to 2032, it was considered for the simulation that the end of transition period will be in 2032, and the simulation was carried out up to 2035 to capture the effects of the last tariff cut. A summary of tariff elimination simulated to TPP-12 scenario can be seen on table B.1 of appendix B.

Simulation of NTMs and services in CPTPP/TPP-12

According to UNCTAD, NTMs are policy measures other than tariffs that can potentially have an economic effect on international trade in goods. Though many NTMs aim primarily at protecting public health or the environment, they also substantially affect trade through information, compliance and procedural costs. NTMs include policies such as quotas, price controls, sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT) that stem from important non-trade objectives.¹⁶

As stated by Fugazza and Maur (2008), the most common way of measuring NTM effects on trade is through *ad valorem* equivalents (AVE), that is the difference between world and domestic prices. According to the authors, where the import side is directly affected, change in the AVEs of NTMs can be implemented in GTAP to simulate either a change in taxes affecting imports or efficiency effects representing the change in the price of imports from a particular trading partner.

According to Strutt et al. (2018), the CPTPP aims to be a trade agreement that will improve market access for goods and services through the reduction of both tariff and NTMs, as well as addressing regulations in areas such as IP, labor standards, state owned enterprises and investment, among others. In their study, the authors focused on evaluating the potential impact of harmonizing

14. The government of Peru approved the CPTPP in July 2021. Thus, 2022 was considered the year of entry into force in this country.

15. Chile, Brunei and Malaysia had not yet ratified the CPTPP at the moment of preparation of this article. For this reason, 2023 was considered as the year of entry into force for those 3 countries. In the case of United States, although president Biden had mentioned the possibility of coming back to CPTPP, nothing had been formally defined when this article was being written. So, 2023 was considered as the year of entry into force in the United States, as in the previous cases.

16. Available at: <<https://unctad.org/topic/trade-analysis/non-tariff-measures>>.

the NTMs in the CPTPP region, using comprehensive new data on NTMs to generate sector-specific bilateral estimates of the price impact of harmonizing NTMs for CPTPP countries.

Regarding trade liberalization in services, as mentioned by Fontagné, Mitaritonna and Signoret (2016), trade in services do not involve tariffs. In fact, most trade agreements currently under negotiation, including the mega-agreements CPTPP and RCEP, particularly aim at reducing services NTMs. Thus, in this study, the simulation of the impacts of services liberalization between the CPTPP/TPP-12 members is based on a reduction of NTMs.

In sum, the impacts of NTM harmonization between CPTPP partners are calculated in this article as an increase in trade efficiency, as mentioned by Fugazza and Maur (2008), so that the shocks are applied based on the AVE of NTM calculated by Strutt et al. (2018) – a summary can be seen in table B.2 (appendix B).

2.2.2 Policy scenario II: RCEP

Simulation of the elimination of tariff barriers in RCEP

Since RCEP had not yet been ratified when this article was being written,¹⁷ we proceed the simulation considering that the agreement will entry into force in 2022 for all countries, with a tariff cut of 50% in that year, with a 10-year transition period, so that the last tariff cut will occur in 2031.

Following Petri et al. (2017), we also assume RCEP as a less ambitious agreement compared to CPTPP. Thus, we consider that, by the end of the transition period, the initial tariff will be reduced by 90% of its original value. As in the CPTPP simulation, we also consider that some sectors with have a partial tariff reduction.¹⁸ A summary of the tariff elimination simulated in the RCEP scenario can be seen in table C.1 (appendix C).

Simulation of NTMs and services in RCEP

The simulation of NTM harmonization between RCEP members followed the same methodology used for CPTPP simulation. However, since RCEP is less ambitious than CPTPP, we consider 50% of the cost calculated by Strutt et al. (2018).¹⁹ A summary can be seen in table C.2 (appendix C).

2.2.3 Policy scenario III: RCEP + TPP-12

This scenario is the combination of the two previously described scenarios. Therefore, it reproduces the timelines of entry into force, tariff elimination/reduction and NTMs improvement of TPP-12 and RCEP in a single simulation.

17. RCEP came into force on January 1, 2022, for the following countries: Australia, Brunei, Cambodia, China, Japan, Laos, New Zealand, Singapore, Thailand and Vietnam. The agreement entered into force for South Korea on February 1, 2022.

18. Since South Korea, China and other Asean are not part of CPTPP, the sectoral sensibility of those regions was proxied by CPTPP members (Japan was used as reference to South Korea, while Vietnam, Brunei and Malaysia were used as proxies to China and other Asean). The analysis of sectoral sensibility also took into consideration some prohibitive tariffs of GTAP – for instance, some South Korean tariffs on sectors like “other cereal grains” and “vegetable and fruits”, and Asean tariffs on “beverage and tobacco” that are higher than 100%. Therefore, we considered any sector with a tariff higher than 50% as a critical sector and applied a partial tariff reduction.

19. Since South Korea, China and other Asean are not part of CPTPP, the cost reduction due to NTM harmonization was proxied by CPTPP member as followed: Japan was used as proxy to South Korea; the average of Vietnam, Brunei, Singapore and Malaysia was used as proxy to China and other Asean.

For countries that are members of both agreements (Australia, New Zealand, Japan, Vietnam, Singapore, Brunei and Malaysia), we considered only the improvements due to TPP-12, once this agreement is more ambitious and entered into force first.

3 RESULTS

In this section, the results of the three policy scenarios are presented. It is relevant to remember that the following agreements were also included in the simulation of the three policy scenarios: European Union – Canada (2016); European Union – Vietnam (2020); European Union – Singapore (2019); European Union – Japan (2020); and Japan – United States (2019), included only in the simulation of RCEP.

The results presented in this section are cumulative changes relative to the baseline scenario (in US\$ billion and percentage), for each BARISA country. More specifically, the cumulative change is the sum of the difference between the policy and the baseline projections, for each year of the simulation, between 2016 and 2035.²⁰

First, we compare the impacts of the mega-agreements on real GDP, investments, exports and imports. Next, we present the impacts of TPP-12, RCEP and TPP-12 plus RCEP at the macro and sectoral level, for each of the BARISA countries.

3.1 General results

Table 1 shows that the impacts of TPP-12 and RCEP on almost all macroeconomic indicators of BARISA countries would be negative, except for India.

TABLE 1

Impact of mega FTAs on BARISA macroeconomic indicators – cumulative change relative to baseline

Country	Real GDP						Investments					
	TPP-12		RCEP		RCEP + TPP-12		TPP-12		RCEP		RCEP + TPP-12	
	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion
Brazil	-0,02	-9,86	-0,02	-10,15	-0,03	-16,77	-0,07	-8,85	-0,05	-5,78	-0,10	-12,46
Argentina	-0,05	-5,47	-0,01	-1,66	-0,05	-5,64	-0,30	-6,32	-0,03	-0,55	-0,28	-5,71
Russia	-0,08	-40,46	-0,07	-31,64	-0,12	-59,52	-1,05	-110,43	-0,53	-55,57	-1,36	-143,16
India	0,08	63,67	0,03	26,35	0,10	86,20	0,43	104,96	0,42	103,55	0,74	181,86
South Africa	-0,05	-4,14	-0,09	-7,04	-0,11	-8,56	-0,63	-10,43	-0,81	-13,34	-1,18	-19,35
Country	Exports						Imports					
	TPP-12		RCEP		RCEP + TPP-12		TPP-12		RCEP		RCEP + TPP-12	
	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion
Brazil	-0,09	-5,16	0,20	10,87	0,16	8,99	-0,58	-42,58	-0,62	-46,12	-0,99	-73,21
Argentina	-0,39	-6,63	-0,22	-3,80	-0,51	-8,63	-0,59	-9,86	-0,13	-2,26	-0,56	-9,35
Russia	-0,02	-2,52	-0,09	-9,76	-0,08	-9,08	-0,42	-57,70	-0,39	-52,62	-0,62	-85,01
India	-0,25	-67,00	-0,53	-141,76	-0,57	-152,15	-0,04	-7,52	-0,33	-57,94	-0,19	-34,18
South Africa	0,15	3,81	0,47	12,19	0,60	15,63	-0,73	-21,41	-1,31	-38,18	-1,56	-45,66

Authors' elaboration.

20. Even though we consider that TPP-12 and RCEP entered into force in 2018 and 2022, respectively, we consider the cumulative impacts since 2016 due to other relevant bilateral agreements also included in the simulations.

Regarding impacts on real GDP, the cumulative change relative to the baseline for RCEP plus TPP-12 scenario shows a decrease of -0.03% (or -US\$ 16.8 billion) in Brazil, -0.05% (or -US\$ 5.6 billion) in Argentina; -0.12% (or -US\$ 59.5 billion) in Russia and -0.11% (or -US\$ 8.6 billion) in South Africa. In turn, positive impacts of 0.10% (or US\$ 86.2 billion) are expected for India.

The results, that will be further detailed, indicate that the positive impacts on India's real GDP and investment are due to the increase of consumption of goods and services domestically produced, in consequence of a reduction in exports and imports. Other countries present a decrease in consumption of goods and services locally produced, with a reduction of exports, what explains negative impacts on GDP.

Table 2 summarizes the impacts of TPP-12 and RCEP in all regions. It is interesting to observe that each agreement has a positive impact only on its members, and a negative impact on most non-members, except by India (positive impacts of TPP-12 and RCEP) and Mexico (positive impacts of RCEP on GDP and investments, even not being an RCEP member). Those results show that membership in one of the agreements has a positive effect that mitigates the negative impacts of not being part of the other agreement. For instance, TPP-12 have positive impact on the United States' GDP, while RCEP have negative impact, but when both agreements are simulated jointly the negative impact is eliminated. The same happens with almost all members that are not part of both agreements (Chile, Peru, Canada, China, South Korea, Japan and other Asean).

TABLE 2

Impact of RCEP and TPP-12 in all regions – change to baseline in 2035
(In %)

	Country	Real GDP			Investments			Exports			Imports		
		TPP-12	RCEP	TPP-12 + RCEP	TPP-12	RCEP	TPP-12 + RCEP	TPP-12	RCEP	TPP-12 + RCEP	TPP-12	RCEP	TPP-12 + RCEP
BARISA	Brazil	-0,03	-0,05	-0,07	-0,12	-0,09	-0,18	0,13	0,85	0,99	-0,87	-1,28	-1,75
	Argentina	-0,14	-0,04	-0,14	-0,78	-0,04	-0,72	-0,66	-0,64	-1,04	-0,94	-0,30	-0,88
	Russia	-0,27	-0,14	-0,36	-2,45	-0,67	-2,88	0,03	-0,20	-0,13	-0,67	0,00	-0,55
	India	0,21	0,11	0,30	1,04	0,95	1,79	-0,07	-0,28	-0,23	0,20	-0,48	0,01
	South Africa	-0,18	-0,29	-0,36	-1,48	-2,11	-2,94	0,27	1,25	1,50	-1,38	-2,96	-3,32
Member of TPP-12 only	United States	0,5	-0,1	0,4	0,6	-0,6	0,2	5,5	-1,3	4,6	5,3	-2,3	3,9
Members of CPTPP only	Peru	0,2	-0,1	0,1	-0,1	-0,9	-0,8	2,9	1,0	3,8	1,6	-2,4	-0,1
	Chile	1,7	-0,6	1,3	2,0	-2,8	0,0	2,4	2,0	4,0	1,8	-2,6	0,1
	Canada	3,7	0,0	3,7	4,8	-0,2	4,7	9,9	0,0	9,9	6,9	-0,5	6,6
	Mexico	6,1	0,1	6,2	10,6	0,6	11,3	8,5	-0,7	8,2	9,8	-0,2	9,8
Members of CPTPP and RCEP	Australia	1,0	1,3	0,9	-0,1	0,9	-0,6	2,3	3,2	4,0	-1,1	0,8	-1,1
	New Zealand	3,1	2,7	3,3	5,5	5,1	6,5	5,1	3,9	5,5	7,7	7,4	9,7
	Japan	1,5	2,5	2,0	1,4	3,7	2,8	1,0	5,3	2,8	5,1	13,1	12,1
	Singapore	9,4	9,1	10,1	11,0	13,0	13,5	6,3	8,9	8,9	6,6	10,5	10,3
	Vietnam	8,7	18,3	9,7	14,8	24,8	17,4	14,1	21,9	20,7	15,0	20,7	21,1
	Malaysia	0,6	5,6	0,8	0,3	10,5	1,1	3,0	7,7	4,4	4,5	8,8	6,9
	Brunei	0,2	2,6	0,1	-1,4	1,4	-1,7	0,2	0,1	0,2	-0,9	-1,0	-1,0
Members of RCEP only	Other Asean	-0,3	4,0	3,5	-1,1	5,9	4,4	0,0	8,5	7,6	-1,5	7,5	5,1
	China	-0,1	2,1	1,8	-0,3	2,3	1,7	-0,8	5,9	4,7	-1,6	7,8	5,2
	South Korea	-0,2	5,5	5,3	-1,7	10,3	8,5	-0,9	10,7	10,0	-1,2	17,1	15,8
Other regions	European Union	-0,3	-0,2	-0,5	-2,3	-1,3	-3,3	-0,7	-0,8	-1,3	-0,9	-1,3	-1,9
	Rest of world	-0,4	0,1	-0,2	-1,5	1,2	-0,4	-0,5	-2,1	-2,1	-0,8	-0,5	-1,1

Authors' elaboration.

3.2 Impacts of TPP-12

The results presented in this section come from simulations that consider the impacts of TPP-12 and of the bilateral FTAs described in section 2.2. Therefore, they do not take into consideration the RCEP impacts. However, since those bilateral FTAs are also included in the RCEP simulation, the results presented here are described as the impacts of TPP-12, only to differ from the results of the RCEP simulation.

3.2.1 Trade diversion impacts of TPP-12

The results indicate trade diversion of BARISA countries from members of TPP-12 (mainly United States and Japan) to non-members (mainly China and European Union). Brazil, for instance, compensates the decline in its trade with TPP-12 members like United States, Mexico and Japan, with non-TPP-12 members such as China, Latin America, European Union and other non-RCEP members. It is worth noting that the impact of TPP-12 on total trade flows, exports and imports is negative in all BARISA countries.

The TPP-12 members with which BARISA countries would mostly reduce their trade (in absolute terms) are:

- Brazil: United States (-US\$ 46.4 billion);
- Argentina: United States (-US\$ 9.8 billion);
- Russia: United States (-US\$ 49.9 billion);
- India: United States (-US\$ 57.3 billion); and
- South Africa: Japan (-US\$ 19.5 billion).

As shown in table 3, the TPP-12 members with which BARISA countries would mostly reduce their exports (in percentage and in absolute terms) are:

- Brazil: Mexico (-16.5%) and Mexico (-US\$ 14.5 billion);
- Argentina: Canada (-17.3%) and Canada (-US\$ 9.3 billion);
- Russia: Mexico (-11.5%) and Japan (-US\$ 9.1 billion);
- India: Mexico (-15.9%) and Australia (-US\$ 38.9 billion); and
- South Africa: Canada (-12.9%) and Japan (-US\$ 11.5 billion).

TABLE 3

Impact of TPP-12 on BARISA exports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	-	0,00	3,43	0,93	0,16	0,42	-0,25	-0,06	0,31	1,78
Argentina	1,61	0,58	-	0,00	0,01	0,09	-0,10	-0,20	0,04	0,86
Russia	1,39	1,18	0,34	1,17	-	0,00	1,01	0,17	0,20	1,18
India	0,85	0,79	0,26	0,90	0,61	0,63	-	0,00	2,43	1,20
South Africa	0,08	0,30	0,03	0,31	0,01	0,14	-0,40	-0,17	-	0,00
United States	-0,89	-0,14	-0,20	-0,18	-2,57	-0,69	-7,78	-0,23	-3,66	-2,03
Peru	0,81	1,75	0,27	1,14	-0,05	-1,43	0,26	0,45	0,02	1,79
Chile	-1,87	-1,82	-1,91	-2,76	0,00	0,06	-0,68	-1,05	-0,02	-0,90
Canada	-6,65	-9,33	-9,33	-17,26	-0,50	-2,12	-12,64	-2,67	-2,84	-12,99
Mexico	-14,46	-16,47	-3,91	-14,28	-1,13	-11,53	-24,97	-15,85	-0,57	-11,69
Australia	-2,22	-8,22	-3,40	-13,65	-0,83	-5,86	-38,78	-9,04	-2,78	-11,75
New Zealand	-0,18	-4,04	-0,57	-11,78	-0,05	-1,18	-1,66	-3,42	-0,24	-8,35
Japan	-12,63	-7,54	-1,83	-7,02	-9,09	-2,71	-11,21	-2,39	-11,45	-8,49
Singapore	-2,56	-2,07	-0,29	-2,10	-2,82	-3,50	-18,99	-2,97	-0,68	-4,20
Vietnam	1,25	3,29	1,50	5,68	-0,52	-2,70	21,32	5,31	-0,27	-4,07
Malaysia	0,32	0,77	0,18	1,02	0,15	0,58	5,96	1,60	-0,07	-0,33
Brunei	-0,02	-2,12	0,00	0,47	-0,01	-2,18	-0,25	-2,60	-0,00	-0,51
Other Asean	0,83	0,62	0,24	0,50	-0,38	-0,30	0,19	0,02	0,76	1,40
China	11,16	0,98	1,94	1,37	4,46	0,51	6,21	0,26	5,14	1,04
South Korea	0,80	0,73	0,17	1,16	-0,35	-0,11	0,66	0,13	0,57	1,21
European Union (27)	4,57	0,55	1,70	0,69	3,59	0,11	-22,35	-0,37	3,16	0,90
Latin America	8,77	1,68	2,37	1,20	0,50	0,76	-3,86	-1,04	0,15	1,78
Rest of world	6,16	0,65	2,00	0,66	0,70	0,03	26,50	0,24	14,60	1,40
Total	-2,86	-0,05	-7,00	-0,39	-8,10	-0,10	-81,81	-0,28	4,81	0,18

Authors' elaboration.

Regarding imports, as shown in table 4, the TPP-12 members with which BARISA countries would mostly reduce their imports (in percentage and in absolute terms) are:

- Brazil: Vietnam (-11.0%) and United States (-US\$ 45.5 billion);
- Argentina: Vietnam (-13.2%) and United States (-US\$ 9.5 billion);
- Russia: Mexico (-13.2%) and United States (-US\$ 47.4 billion);
- India: Vietnam (-9.3%) and United States (-US\$ 49.6 billion); and
- South Africa: Mexico (-12.5%) and United States (-US\$ 9.8 billion).

TABLE 4

Impact of TPP-12 on BARISA imports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	-	0,00	1,61	0,58	1,39	1,18	0,85	0,79	0,08	0,30
Argentina	3,43	0,93	-	0,00	0,34	1,17	0,26	0,90	0,03	0,31
Russia	0,16	0,42	0,01	0,09	-	0,00	0,61	0,63	0,01	0,14
India	-0,25	-0,06	-0,10	-0,20	1,01	0,17	-	0,00	-0,40	-0,17
South Africa	0,31	1,78	0,04	0,86	0,20	1,18	2,43	1,20	-	0,00
United States	-45,50	-4,17	-9,52	-3,63	-47,39	-5,30	-49,56	-5,56	-9,79	-5,67
Peru	-0,77	-1,96	-0,11	-2,56	-0,19	-2,61	-0,21	-1,49	-0,08	-3,63
Chile	-1,61	-1,73	-0,58	-3,19	-1,02	-4,30	-0,23	-0,21	-0,10	-2,02
Canada	-1,87	-3,03	-0,39	-3,95	-4,31	-7,63	-4,57	-3,88	-0,65	-6,35
Mexico	-11,98	-8,94	-3,32	-8,43	-4,09	-13,28	-4,14	-3,71	-1,37	-12,46
Australia	0,14	0,45	0,05	0,82	0,49	2,00	-3,38	-1,17	0,17	1,39
New Zealand	-0,53	-7,60	-0,08	-5,98	-1,68	-11,02	-0,99	-5,46	-0,43	-9,21
Japan	-12,51	-8,27	-2,38	-7,56	-36,96	-8,72	-21,75	-7,14	-8,06	-8,35
Singapore	-3,37	-4,57	-0,43	-4,64	-4,48	-5,74	-5,08	-1,57	-0,45	-2,19
Vietnam	-8,10	-11,03	-0,94	-13,21	-14,15	-12,55	-18,59	-9,33	-3,12	-9,40
Malaysia	-4,67	-8,22	-0,65	-6,93	-5,45	-8,32	-22,37	-5,50	-1,65	-8,03
Brunei	-0,00	-0,10	-0,00	-0,21	-0,00	-0,02	0,05	0,18	-0,00	-0,37
Other Asean	3,04	1,89	0,67	1,76	5,74	2,40	24,32	2,44	1,42	1,33
China	25,17	1,53	5,28	1,42	35,56	1,02	61,16	1,69	4,52	0,62
South Korea	2,24	0,80	0,14	0,62	3,42	0,80	2,88	0,65	0,21	0,46
European Union (27)	5,39	0,36	0,76	0,27	9,28	0,18	10,99	0,54	-2,06	-0,29
Latin America	6,88	2,08	0,34	0,34	5,07	4,45	0,89	0,27	0,34	1,99
Rest of world	2,57	0,28	0,48	0,35	1,87	0,09	12,46	0,18	-1,59	-0,23
Total	-41,82	-0,56	-9,13	-0,54	-55,35	-0,40	-13,95	-0,08	-22,97	-0,77

Authors' elaboration.

3.2.2 Sectoral impacts of TPP-12 in Brazil

This section presents the five sectors most impacted by TPP-12 (positively and negatively), in terms of cumulative absolute change (in US\$ billion) relatively to baseline scenario, in Brazil.

The results indicate that the sectors most positively impacted in Brazil by TPP-12 in terms of output are “professional services” (US\$ 9.3 billion), “other machinery and equipment” (US\$ 6.1 billion), “oil seeds” (US\$ 4.2 billion), “computer, electronic and optical products” (US\$ 4.0 billion) and “fabricated metal products” (US\$ 2.6 billion). On the other hand, the sectors most negatively impacted are “human health and social work” (-US\$ 4.6 billion), “chemical products” (-US\$ 4.4 billion), “construction” (-US\$ 4.0 billion), “other services (government)” (-US\$ 3.1 billion) and “wholesale and retail trade” (-US\$ 2.9 billion).

Sectors positively impacted in terms of output benefit from an increase of consumption of goods or services domestically produced, in consequence of a decrease in imports in those sectors. It is worth noting that the sector most negatively impacted is services consumed mainly by families, evidencing a decrease in those agents' income. In turn, the decrease in chemical products is directly related to a large decrease in exports.

Sectors with the largest drops in exports are: “chemical products” (-US\$ 7.0 billion), “motor vehicles and parts” (-US\$ 4.0 billion), “non-ferrous metals” (-US\$ 3.3 billion), “petroleum, coal products” (-US\$ 2.0 billion) and “other extraction (mining of metal ores)” (-US\$ 7.0 billion). However, it is worth noting the increase in exports of some services – “professional services” (+ US\$ 6.2 billion), “financial intermediation” (+ US\$ 1.4 billion) and “insurance” (+ US\$ 1.0 billion) –, besides the positive impact on some goods – “oil seeds” (+ US\$ 4.0 billion) and “mineral oil” (US\$ 1.2 billion).

3.3 Impacts of RCEP

The results presented in this section come from simulations that consider the impacts of RCEP and of the bilateral FTAs described in section 2.2. Therefore, they do not take into consideration the TPP-12 impacts. However, since those bilateral FTAs are also included in the TPP-12 simulation, the results presented here are described as the impacts of RCEP, only to differ from the results of the RCEP simulation.

3.3.1 Trade diversion impacts of RCEP

The results indicate trade diversion of BARISA countries, from members of RCEP to non-members. Each BARISA country will shift its import and export flows to other strategic partners. Brazil, for example, will compensate the decline of its trade with China, Japan, South Korea and other RCEP members, with an increase of trade with United States, European Union and other non-RCEP members.

The RCEP members with which BARISA countries would mostly reduce their trade (in absolute terms) are:

- Brazil: South Korea (-US\$ 31.7 billion);
- Argentina: Japan (-US\$ 5.1 billion);
- Russia: South Korea (-US\$ 59.6 billion);
- India: Other Asean (-US\$ 73.3 billion); and
- South Africa: China (-US\$ 27.35 billion).

As shown in table 5, the RCEP members with which BARISA countries would mostly reduce their exports (in percentage and in absolute terms) are:

- Brazil: Australia (-7.6%) and China (-US\$ 8.5 billion);
- Argentina: Australia (-10.7%) and Australia (-US\$ 6.7 billion);
- Russia: Vietnam (-9.5%) and China (-US\$ 10.2 billion);
- India: Australia (-12.4%) and other Asean (-US\$ 66.5 billion); and
- South Africa: Malaysia (-11.8%) and China (-US\$ 8.6 billion).

TABLE 5

Impact of RCEP on BARISA exports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	0,00	0,81	0,88	0,24	0,09	0,22	-1,56	-0,35	0,36	2,08
Argentina	2,34	0,84	0,00	0,24	-0,00	-0,08	0,04	0,07	0,07	1,59
Russia	2,33	1,98	0,24	0,83	0,00	0,10	2,04	0,35	0,46	2,65
India	1,55	1,43	0,61	2,09	1,08	1,11	0,00	1,91	8,24	4,07
South Africa	0,12	0,44	0,08	0,74	-0,02	-0,29	-0,74	-0,32	0,00	2,26
United States	7,74	1,20	-0,60	-0,53	-1,04	-0,28	-1,34	-0,04	3,92	2,17
Peru	0,50	1,07	-0,12	-0,51	0,00	0,01	-0,10	-0,18	0,02	2,10
Chile	0,41	0,40	-0,41	-0,59	0,04	0,75	0,00	0,01	0,04	2,23
Canada	0,51	0,71	-1,01	-1,87	-0,02	-0,08	-2,11	-0,44	0,47	2,14
Mexico	1,51	1,72	0,19	0,71	-0,03	-0,29	2,14	1,36	0,10	2,09
Australia	-2,05	-7,58	-2,67	-10,71	-0,51	-3,58	-53,28	-12,42	-2,07	-8,74
New Zealand	-0,06	-1,44	-0,37	-7,56	-0,02	-0,53	-2,53	-5,21	-0,14	-4,73
Japan	-5,88	-3,51	-1,15	-4,41	-1,04	-0,31	-2,05	-0,44	-8,02	-5,94
Singapore	0,65	0,52	-0,04	-0,32	-0,93	-1,15	-3,68	-0,57	0,01	0,08
Vietnam	-0,45	-1,17	-0,63	-2,39	-1,81	-9,47	-21,18	-5,27	-0,65	-9,73
Malaysia	-0,86	-2,06	-0,15	-0,84	-0,65	-2,48	-20,34	-5,45	-2,35	-11,78
Brunei	-0,00	-0,63	-0,02	-5,92	-0,01	-2,99	-0,56	-5,84	-0,00	-1,64
Other Asean	-5,88	-4,40	-1,16	-2,36	-5,24	-4,14	-66,46	-7,53	-4,82	-8,87
China	-8,49	-0,74	-0,96	-0,68	-10,16	-1,17	-51,00	-2,11	-8,59	-1,74
South Korea	-4,05	-3,68	-0,12	-0,79	1,04	0,32	-4,22	-0,81	-3,44	-7,25
European Union (27)	7,95	0,96	0,68	0,28	0,18	0,01	-26,39	-0,43	5,46	1,55
Latin America	4,94	0,96	0,65	0,33	-0,66	-1,03	2,46	0,66	0,25	2,93
Rest of world	14,98	1,58	1,85	0,62	3,29	0,15	126,54	1,17	26,75	2,57
Total	17,80	0,32	-4,22	-0,24	-16,43	-0,21	-124,32	-0,43	16,10	0,61

Authors' elaboration.

Regarding imports, as shown in table 6, the RCEP members with which BARISA countries would mostly reduce their imports (in percentual and in absolute terms) are:

- Brazil: Japan (-13.6%) and South Korea (-US\$ 27.7 billion);
- Argentina: Japan (-12.4%) and Japan (-US\$ 3.9 billion);
- Russia: South Korea (-14.1%) and South Korea (-US\$ 60.6 billion);
- India: Japan (-13.4%) and Japan (-US\$ 40.7 billion); and
- South Africa: Japan (-13.5%) and China (-US\$ 18.8 billion).

TABLE 6

Impact of RCEP on BARISA imports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	0,00	0,81	2,34	0,84	2,33	1,98	1,55	1,43	0,12	0,44
Argentina	0,88	0,24	0,00	0,24	0,24	0,83	0,61	2,09	0,08	0,74
Russia	0,09	0,22	-0,00	-0,08	0,00	0,10	1,08	1,11	-0,02	-0,29
India	-1,56	-0,35	0,04	0,07	2,04	0,35	0,00	1,91	-0,74	-0,32
South Africa	0,36	2,08	0,07	1,59	0,46	2,65	8,24	4,07	0,00	2,26
United States	8,13	0,74	1,53	0,58	18,39	2,05	13,74	1,54	0,68	0,39
Peru	0,52	1,30	0,05	1,05	0,17	2,32	0,26	1,89	0,06	2,76
Chile	2,17	2,34	0,59	3,27	0,89	3,77	1,47	1,37	0,12	2,35
Canada	0,70	1,14	0,04	0,42	0,74	1,31	2,09	1,77	-0,06	-0,62
Mexico	0,51	0,38	0,02	0,06	0,53	1,72	1,25	1,12	-0,11	-0,98
Australia	-0,81	-2,60	-0,04	-0,69	0,30	1,23	-1,86	-0,64	-0,04	-0,30
New Zealand	-0,42	-6,08	-0,06	-4,18	-1,52	-9,98	-0,95	-5,23	-0,39	-8,35
Japan	-20,62	-13,62	-3,92	-12,43	-56,02	-13,20	-40,73	-13,36	-13,02	-13,47
Singapore	-4,13	-5,60	-0,52	-5,70	-5,10	-6,52	-10,89	-3,37	-0,71	-3,41
Vietnam	2,02	2,76	0,02	0,29	0,14	0,12	3,01	1,51	1,63	4,93
Malaysia	-2,30	-4,04	-0,41	-4,37	-3,72	-5,68	-11,36	-2,79	-0,98	-4,77
Brunei	-0,00	-0,40	-0,00	-0,10	-0,00	-0,44	-0,22	-0,90	-0,00	-0,75
Other Asean	-0,40	-0,25	0,55	1,46	-5,18	-2,17	-6,79	-0,68	0,12	0,11
China	-13,12	-0,80	-1,96	-0,53	-31,68	-0,91	12,60	0,35	-18,76	-2,56
South Korea	-27,61	-9,90	-2,17	-9,63	-60,62	-14,13	-38,09	-8,65	-6,02	-13,22
European Union (27)	5,50	0,37	0,86	0,30	53,89	1,06	16,63	0,82	-3,86	-0,54
Latin America	0,16	0,05	0,17	0,18	1,13	1,02	4,29	1,32	-0,26	-1,62
Rest of world	-2,11	-0,23	-0,11	-0,08	14,37	0,73	-19,89	-0,29	-2,59	-0,37
Total	-52,04	-0,69	-2,92	-0,17	-68,24	-0,49	-63,98	-0,37	-44,75	-1,50

Authors' elaboration.

3.3.2 Sectoral impacts of RCEP in Brazil

This section presents the five sectors most impacted by RCEP (positively and negatively), in terms of cumulative absolute change (in US\$ billion) relatively to baseline scenario, in Brazil.

The results indicate that the sectors in which output is most positively impacted by RCEP are “professional services” (US\$ 14.6 billion), “other machinery and equipment” (US\$ 11.5 billion), “motor vehicles and parts” (US\$ 10.4 billion), “other transport and equipment” (US\$ 5.0 billion) and “rubber and plastic products” (US\$ 3.4 billion). On the other hand, the sectors most negatively impacted are “human health and social work” (-US\$ 8.1 billion), “other services (government)” (-US\$ 5.9 billion), “chemical products” (-US\$ 4.3 billion), “petroleum, coal products” (-US\$ 3.8 billion) and “accommodation, food and services activities” (-US\$ 2.7 billion).

Sectors positively impacted in terms of output benefit from both an increase in consumption of goods domestically produced (in consequence of a decrease in imports in those sectors), and an increase in exports (possibly to other non-RCEP members), mainly of “other machinery and equipment”, “professional services” and “motor vehicles and parts”. However, it is worth noting that the sector

most negatively impacted are services consumed mainly by families, thus evidencing a decrease in those agents' income.

Sectors most impacted with a decrease in exports are: “chemical products” (-US\$ 5.7 billion), “non-ferrous metals” (-US\$ 2.6 billion), “iron and steel” (-US\$ 2.5 billion), “computer, electronic and optical products” (-US\$ 1.8 billion) and “other extraction (mining of metal ores)” (-US\$ 1.8 billion).

3.4 Impacts of RCEP + TPP-12

The results presented in this section come from simulations that consider the joint impacts of RCEP, TPP-12 and of the bilateral FTAs described in section 2.2. It is worth remembering that the results are the cumulative change relatively to the baseline, for each of BARISA countries, between 2016 and 2035.

3.4.1 Trade diversion impacts of RCEP + TPP-12

The results indicate trade diversion of BARISA countries' trade flows, from members of RCEP or TPP-12 to non-members. Each country will shift its import and export flows to other strategic partners. Brazil, for example, will compensate the decline in its trade with United States, Mexico, Japan and other members of RCEP and/or TPP-12, with an increase in trade with Argentina, European Union, Latin America and other non-members of RCEP and TPP-12.

The members of TPP-12 and/or RCEP with which BARISA countries would mostly reduce its trade (in absolute terms) are:

- Brazil: United States (-US\$ 36.7 billion);
- Argentina: Canada (-US\$ 10.2 billion);
- Russia: Japan (-US\$ 78.2 billion);
- India: United States (-US\$ 56.7 billion); and
- South Africa: Japan (-US\$ 21.9 billion).

Table 7 shows the TPP-12 and/or RCEP members with which BARISA countries would mostly reduce their exports (in percentage and in absolute terms) are:

- Brazil: Mexico (-15.2%) and Mexico (-US\$ 13.4 billion);
- Argentina: Canada (-18.2%) and Canada (-US\$ 9.8 billion);
- Russia: Mexico (-9.5%) and China (-US\$ 12.2 billion);
- India: Mexico (-15.3%) and other Asean (-US\$ 78.7 billion); and
- South Africa: Canada (-11.7%) and China (-US\$ 9.8 billion).

TABLE 7

Impact of RCEP + TPP-12 on BARISA exports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	-	1,45	3,52	0,96	0,24	0,61	-1,96	-0,45	0,54	3,09
Argentina	3,50	1,26	-	0,00	0,00	0,07	-0,11	-0,22	0,09	2,02
Russia	3,27	2,78	0,44	1,50	-	0,00	1,92	0,33	0,53	3,04
India	1,98	1,83	0,65	2,22	1,43	1,47	-	0,00	8,46	4,18
South Africa	0,19	0,69	0,07	0,68	-0,00	-0,05	-1,19	-0,52	-	0,00
United States	7,00	1,09	-0,67	-0,60	-2,96	-0,80	-11,78	-0,34	-0,65	-0,36
Peru	1,19	2,57	0,11	0,48	-0,06	-1,44	0,02	0,04	0,04	3,08
Chile	-1,45	-1,41	-2,23	-3,22	0,04	0,70	-0,65	-1,01	0,01	0,59
Canada	-6,17	-8,66	-9,84	-18,20	-0,50	-2,12	-14,35	-3,03	-2,56	-11,72
Mexico	-13,38	-15,24	-3,81	-13,91	-1,13	-11,58	-23,83	-15,13	-0,51	-10,38
Australia	-2,08	-7,71	-3,16	-12,69	-0,82	-5,80	-48,15	-11,23	-2,40	-10,15
New Zealand	-0,07	-1,54	-0,46	-9,47	0,00	0,03	-0,83	-1,70	-0,16	-5,46
Japan	-7,87	-4,70	-1,20	-4,60	-1,42	-0,42	7,53	1,60	-4,45	-3,30
Singapore	1,20	0,96	0,03	0,21	-1,01	-1,25	-3,03	-0,47	-0,06	-0,37
Vietnam	1,51	3,96	1,92	7,28	-0,82	-4,27	18,07	4,50	-0,08	-1,25
Malaysia	1,17	2,81	0,57	3,25	0,90	3,44	12,89	3,46	0,40	2,02
Brunei	-0,00	-0,31	0,01	1,99	-0,01	-1,84	-0,18	-1,83	0,00	2,12
Other Asean	-6,57	-4,91	-1,48	-3,01	-6,24	-4,94	-78,67	-8,91	-5,06	-9,33
China	-3,63	-0,32	-0,11	-0,08	-12,17	-1,40	-68,07	-2,81	-9,82	-1,99
South Korea	-4,19	-3,81	-0,10	-0,65	-2,66	-0,81	-7,51	-1,44	-3,60	-7,61
European Union (27)	11,31	1,37	1,73	0,71	4,84	0,15	-40,92	-0,67	7,00	1,99
Latin America	12,40	2,38	2,22	1,13	-0,04	-0,07	-2,92	-0,78	0,32	3,81
Rest of world	17,82	1,88	2,61	0,87	3,53	0,16	103,85	0,96	32,17	3,09
Total	17,14	0,31	-9,19	-0,51	-18,85	-0,24	-159,86	-0,55	20,21	0,76

Authors' elaboration.

Regarding imports, as shown in table 8, the TPP-12 and/or RCEP members with which BARISA countries would mostly reduce their imports (in percentage and in absolute terms) are:

- Brazil: Japan (-18.2%) and United States (-US\$ 43.6 billion);
- Argentina: Japan (-16.6%) and Canada (-US\$ 9.3 billion);
- Russia: Japan (-18.3%) and Japan (-US\$ 18.8 billion);
- India: Japan (-17.6%) and Japan (-US\$ 53.5 billion); and
- South Africa: Japan (-18.1%) and Japan (-US\$ 17.5 billion).

TABLE 8

Impact of RCEP + TPP-12 on BARISA imports, per partner – cumulative difference relative to baseline

Partner	Brazil		Argentina		Russia		India		South Africa	
	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%	US\$ billion	%
Brazil	-	1,45	3,50	1,26	3,27	2,78	1,98	1,83	0,19	0,69
Argentina	3,52	0,96	-	0,00	0,44	1,50	0,65	2,22	0,07	0,68
Russia	0,24	0,61	0,00	0,07	-	0,00	1,43	1,47	-0,00	-0,05
India	-1,96	-0,45	-0,11	-0,22	1,92	0,33	-	0,00	-1,19	-0,52
South Africa	0,54	3,09	0,09	2,02	0,53	3,04	8,46	4,18	-	0,00
United States	-43,64	-3,99	-9,30	-3,55	-38,25	-4,28	-45,16	-5,07	-10,03	-5,80
Peru	-0,36	-0,90	-0,08	-1,78	-0,07	-1,00	0,00	0,03	-0,03	-1,37
Chile	-0,34	-0,36	-0,21	-1,17	-0,50	-2,09	0,50	0,46	-0,03	-0,64
Canada	-1,57	-2,54	-0,39	-3,97	-3,97	-7,04	-3,42	-2,91	-0,71	-6,98
Mexico	-12,12	-9,05	-3,47	-8,80	-3,85	-12,50	-3,59	-3,21	-1,48	-13,49
Australia	-0,71	-2,28	-0,04	-0,65	0,40	1,63	-6,03	-2,09	-0,01	-0,04
New Zealand	-0,77	-11,15	-0,12	-8,44	-2,45	-16,05	-1,61	-8,84	-0,66	-14,12
Japan	-27,57	-18,21	-5,25	-16,64	-76,82	-18,13	-53,49	-17,56	-17,45	-18,06
Singapore	-6,02	-8,15	-0,69	-7,57	-7,12	-9,11	-20,23	-6,27	-1,11	-5,34
Vietnam	-9,48	-12,92	-0,90	-12,62	-17,35	-15,39	-26,87	-13,49	-4,27	-12,86
Malaysia	-6,60	-11,62	-0,95	-10,05	-7,47	-11,41	-35,03	-8,62	-2,42	-11,79
Brunei	-0,00	-0,28	-0,00	-0,15	-0,00	0,00	-0,06	-0,27	-0,00	-0,83
Other Asean	5,31	3,29	1,84	4,87	4,38	1,83	26,26	2,64	3,51	3,29
China	34,64	2,10	7,52	2,02	49,78	1,42	124,08	3,43	-1,15	-0,16
South Korea	-23,42	-8,40	-1,93	-8,59	-55,04	-12,85	-32,74	-7,44	-5,45	-11,97
European Union (27)	7,13	0,48	1,03	0,36	43,57	0,86	20,42	1,01	-5,65	-0,79
Latin America	6,41	1,94	0,39	0,39	5,63	4,94	3,99	1,23	0,08	0,49
Rest of world	0,93	0,10	0,38	0,27	11,63	0,59	0,43	0,01	-3,44	-0,49
Total	-75,82	-1,01	-8,66	-0,51	-91,34	-0,66	-40,03	-0,23	-51,23	-1,72

Authors' elaboration.

3.4.2 Sectoral impacts of RCEP + TPP-12 in Brazil

This section presents the five sectors most impacted by RCEP plus TPP-12 (positively and negatively), in terms of cumulative absolute change (in US\$ billion) relatively to baseline scenario, in Brazil.

The results indicate that the sectors in which output is most positively impacted by RCEP and TPP-12 are “professional services” (US\$ 20.9 billion), “other machinery and equipment” (US\$ 14.9 billion), “motor vehicles and parts” (US\$ 6.8 billion), “iron and steel” (US\$ 5.1 billion) and “oil seeds” (US\$ 4.4 billion). On the other hand, the sectors most negatively impacted are “human health and social work” (-US\$ 10.8 billion), “dwellings” (-US\$ 8.9 billion), “other services (government)” (-US\$ 7.6 billion), “construction” (-US\$ 5.6 billion) and “petroleum, coal products” (-US\$ 4.2 billion).

Sectors most positively impacted in terms of output benefit from an increase in consumption of goods domestically produced, due to a decrease in imports (mainly “other machinery and equipment” and “motor vehicles and parts”), or from an increase in local consumption and an increase in exports (“professional services”). It is worth noting, however, that the sectors most negatively impacted are services consumed mainly by families, evidencing a decrease in those agents' income. In turn, the decrease in “petroleum, coal products” is directly related to large decreases in exports and in local consumption.

The sectors with the largest reductions in exports are “chemical products” (-US\$ 9.7 billion), “non-ferrous metals” (-US\$ 4.7 billion), “other extraction” (-US\$ 2.8 billion), “petroleum, coal products” (-US\$ 2.1 billion) and “paper products, publishing” (-US\$ 1.7 billion).

4 CONCLUSION

At the present time, the world is facing a challenging moment. The pandemics stroke economic life hardly, but activities are returning around the globe. The world trading system, for more than two decades, has been severely affected by the crises in the WTO, not only related to the launching of new negotiations but also related to the impasse between the United States and China and the reform of the dispute mechanism. As a consequence, multilateral trade negotiations are stalled and trade regulations are becoming outdated. This regulatory space is being filled not only by traditional PTAs but also by a more challenging construction – the mega-agreements around the European Union, United States and China imposing three different models.

Old questions such as whether PTAs are building blocks, or whether integration should be deep or shallow are on the table again. Another relevant question to discuss is whether – and how – these megas are affecting countries that have decided not to integrate their economies with any of these big blocks and chosen to follow only regional agreements.

Jointly, RCEP and TPP-12 encompass approximately 54% of global GDP, more than 40% of global exports and imports of goods, and more than 30% of global exports and imports of services. If we include European Union, those numbers increase to more than 70% of global GDP and trade flows.

The isolation of BARISA countries from CPTPP and RCEP should get attention from policymakers due to the relevance of trade with the members of those agreements. On average, from 2015 to 2019, 19% of BARISA exports went to RCEP members, which were the origin of 30% of BARISA imports. Similarly, 8.4% of BARISA exports went to CPTPP (a share that grows to 16.5% if we consider the United States), while 12.5% of BARISA imports came from CPTPP members (19.5% if we consider the United States).

The aim of this article was to analyze the impacts of these mega-agreements on Brazil, Argentina, Russia, India and South Africa (called, in this paper, by the acronym BARISA), taking into considering the expansion of the European Union trade network. Three different scenarios were simulated: two scenarios to evaluate the individual impacts of RCEP and TPP-12, and a third scenario to evaluate the joint impacts of TPP-12 and RCEP. Due to the relevance of the European Union, not just to BARISA countries, but also to members of TPP-12 and RCEP, the most recent European Union's PTAs with Canada (2016), Singapore (2019), Vietnam (2020) and Japan (2020) were also taken into consideration in all three scenarios simulated.

The results obtained through a dynamic general equilibrium model (dynamic GTAP) show that the isolationism of BARISA countries will have negative impacts on their real GDP, investments and trade over the next years. The third scenario (RCEP + TPP-12) – the one more likely to happen in the next years – indicates a decrease of -0.03% (or -US\$ 16.8 billion) in Brazil's GDP; -0.05% (or -US\$ 5.6 billion) in Argentina's; -0.12% (or -US\$ 59.5 billion) in Russia's; and -0.11% (or -US\$ 8.6 billion) in South Africa's. Positive impact – of 0.10% (or US\$ 86.2 billion)

was found only for India, perhaps a consequence of this country's bilateral agreements with Japan, South Korea, Asean and Chile.

Besides the overall negative impacts, reductions in trade flows with strategic partners such as China, United States and Japan should get special attention from BARISA policymakers, due to the economic and geopolitical relevance of those countries in the international trade scenario. The largest reduction for each BARISA country in a scenario with both megas would be: Brazil with United States (reduction of -US\$ 36.7 billion); Argentina with Canada (-US\$ 10.2 billion); Russia with Japan (reduction -US\$ 78.2 billion); India with United States (reduction -US\$ 56.7 billion); and South Africa with Japan (reduction -US\$ 21.9 billion).

The negative sectoral impacts are different for each BARISA country, however, the three scenarios presented similar impacts, with only a few differences. In Brazil and South Africa, the sectors more negatively impacted in terms of output would be the services consumed by families (construction, human health and social work, dwellings and other services (government)). In Argentina, the negative impacts would be highest on the sectors of non-ferrous metals, chemical products and construction. The negative impacts in Russia would be mainly on construction, wholesale and retail trade and iron and steel. And, in India, the negative impacts would be mainly on textiles, wearing apparel and chemical products.

The consequences are evident: in the near future, Brazil, Argentina, Russia and South Africa will be deeply affected not only in GDP but also in trade. India is in a different position, certainly because of its PTAs with many Asian countries (the ten Asean members, plus Japan and South Korea).

These results should be considered with attention by developing countries when deciding their political strategies in choosing trade partners to negotiate PTAs, but also in relation to the future of the WTO.

In a world of mega-agreements, regional options or even isolationism are not the best choices. A world of mega-agreements presenting fragmenting trade rules will be a complex place to those developing countries. What will be the consequences of the megas scenario on the main principles of the WTO? How the megas will affect basic articles and principles of the General Agreement on Tariffs and Trade (GATT)? What will be the result of three different trading systems?

It is time to strengthen multilateral trade rules again and to bring the WTO to the center of the trade scenario.

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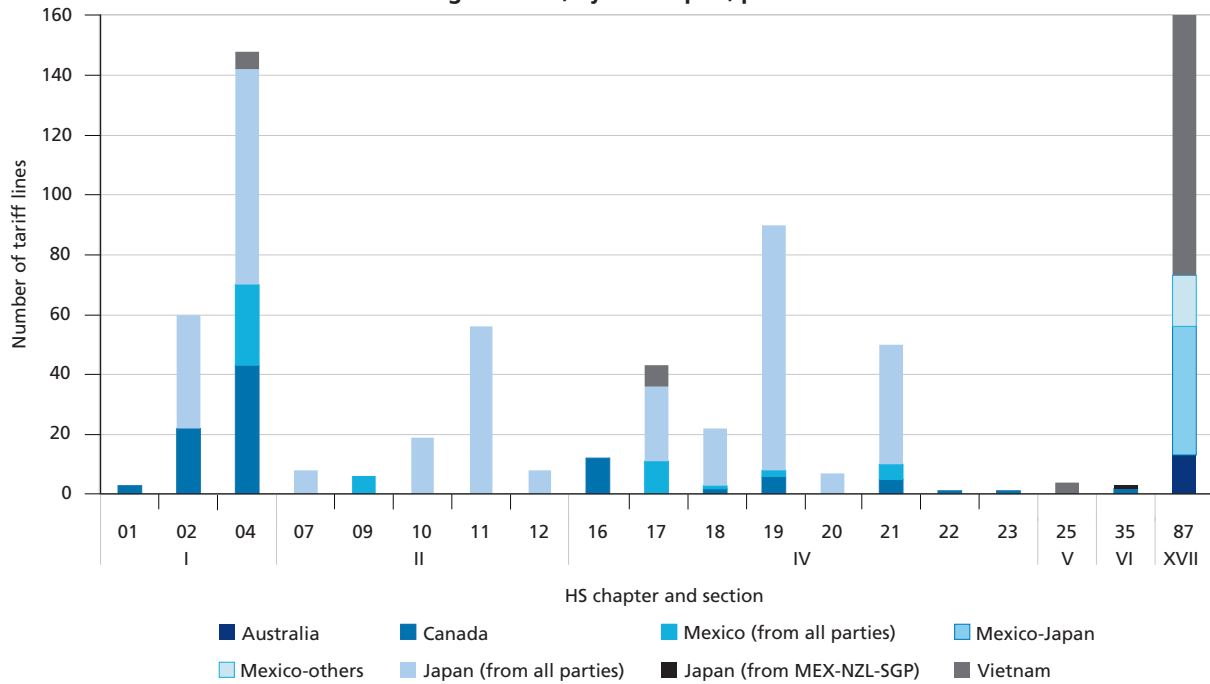
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APPENDIX A

**RELEVANT INFORMATION FROM WORLD TRADE ORGANIZATION
FACTUAL PRESENTATION OF CPTPP**

FIGURE A.1

Number of dutiable lines remaining in CPTPP, by HS chapter, per member



Source: WTO, 2021.

Obs.: CPTPP – Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

TABLE A.1
TRQs under CPTPP agreement

Goods subject to TRQs	Parties granting TRQs			
	Canada	Japan	Mexico	Vietnam
Chicken	X	-	-	-
Turkey	X	-	-	-
Dairy	X	X	X	-
Eggs	X	X	X	X
Wheat	-	X	-	-
Barley	-	X	-	-
Rice	-	X	-	-
Malt	X	-	-	-
Starch	-	X	-	-
Flour	-	X	-	-
Sugar	-	X	X	-
Candies	-	X	-	-
Ice-cream and mixes	X	-	-	-
Confectionery	-	X	-	-
Cocoa powder and preparations	-	X	-	-
Chocolate	-	X	-	-
Food preparations	-	X	-	-
Coffee, tea mixes, food preparations and doughs	-	X	-	-
Prepared edible fats and oils	-	X	-	-
Food preparations containing dairy	X	X	X	-
Unmanufactured tobacco and tobacco refuse	-	-	-	X
Used vehicles	-	-	-	X
From WTO TRQs				
Eggs	-	-	-	X
Sugar	-	-	-	X
Salt	-	-	-	X
Total number of TRQs				
Of which agreement-wide	20	33	-	3
Country-specific	-	12	9	-
From WTO TRQs	-	-	-	3

Source: WTO, 2021.

Obs.: TRQs – tariff rate quotas.

TABLE A.2

Indicators of MFN and preferential tariffs, and share of duty-free imports (2015-2017)
(In %)

Party	Year	All products			HS chapters 1-24		HS chapters 25-97	
		Average applied tariff, overall	Duty-free		Average applied tariff, overall	Duty-free tariff lines	Average applied tariff, overall	Duty-free tariff lines
			Lines	Imports				
AUS	MFN 2018	2,8	47,7	35.6-80.5	1,1	78,4	3,1	41,8
EIF	2018	0,2	93,3	87.7-98.7	0	99,9	0,3	92,1
EOI	2021	0	99,8	99.8-100	0	100	0	99,8
CAN	MFN 2018	5,4	72,3	54.2-95.3	17,5	57,8	2,4	76
EIF	2018	3,3	94	74.3-99.6	14,8	85,3	0,4	96,3
Y10	2027	2,8	96,8	89.5-99.9	14	86,8	0	99,4
EOI	2029	2,8	98,7	98.7-100	13,8	93,6	0	100
JPN	MFN 2018	4,8	40,3	39.9-89.8	10,8	17,5	3	47,8
EIF	2018	2,1	84.2-84.3	74.9-95	7,6	50,4	0,5	95.2-95.4
Y10	2027	0,9	88.3-88.4	80.1-95.3	3.4-3.5	66,7	0,1	95.3-95.5
EOI	2038	0,7	95,9	84.7-99.9	2,9	83.4-83.5	0	100
MEX	MFN 2018	5,7	57,2	63.8-87.5	14,5	16,4	4,6	62,3
EIF	2018 ¹	3,3	75.3-75.5	78.9-93.9	4,8	72,9	3,1	75.6-75.9
Y10	2027 ¹	0.4-0.8 ²	96.6 ² -96.8	88.1-99.9	1.5-1.9 ²	77.4 ² -90.7	0.3-0.7 ²	97.4-78.4 ²
EOI	2033 ¹	0,2	99.2 ² -99.4	89.2-99.9	0,8	96,3	0,1	99.6-99.8
NZL	MFN 2018	2,8	47,7	59.1-80	1,1	78,4	3,1	41,8
EIF	2018	0,2	93,3	74.4-96.5	0	99,9	0,3	92,1
EOI	2024	0	100	100	0	100	0	100
SGP	MFN 2018	0	99,9	99.7-100	0	99,6	0	100
EIF & EOI	2018	0	100	100	0	100	0	100
VNM	MFN 2018 ³	10,5	31,4	19.7-59.2	17,7	11,4	9,1	35,5
EIF	2019	4.4-5.7 ²	66.6 ² -66.7	51.6-93.7	9.1-11.3 ²	41.2 ² -41.5	3.5-4.5 ²	71,8
Y10	2028 ¹	0.5-0.7 ²	93.4 ² -97.6	98-99.9	0.8-1.2 ²	88.3 ² -95.2	0.5-0.6 ²	94.5 ² -98.1
EOI	2038 ¹	0,4	98,3	98.6-100	0,3	99,2	0,4	98,1

Source: WTO, 2021.

Notes: ¹ One year after on trade between Mexico and Vietnam due to the non-application of the catch-up mechanism.² Liberalization is delayed by one year on trade between Mexico and Vietnam due to the non-application of the catch-up mechanism.³ While the agreement only entered into force for Vietnam in 2019, 2018 MFN rates were used instead due to unavailability of 2019 rates.

Obs.: 1. MFN – most favoured nation.

2. More than one figure corresponds to minimum-maximum values.

APPENDIX B

TARIFF AND NON-TARIFF BARRIER OF TRANS-PACIFIC PARTNERSHIP

TABLE B.1

Summary of tariff elimination of TPP-12¹

Country	Entry in force	Tariff elimination entry in force (%)	End of transition period	Sectors with partial tariff elimination	% of partial tariff elimination
Australia	2018	80	2021	Motor vehicles and parts ("MVH")	30
New Zealand	2018	80	2024	-	-
Japan	2018	70	2030	Processed rice ("pcr")	0
				Paddy rice ("pdr")	0
				Dairy products ("mil")	50
				Raw milk ("raw")	0
				Wheat ("wht")	30
				Other foods ("ofd")	50
				Sugar ("sgr")	70
Canada	2018	70	2029	Bovine meat ("cmt")	60
				Other meat – poultry, suine ("omt")	10
				Other processed food ("ofd")	50
				Dairy products ("mil")	40
Mexico	2018	60	2030	Bovine meat ("cmt")	40
				Other processed food ("ofd")	40
				Dairy products ("mil")	70
United States	2023	80	2030	Other foods ("ofd")	70
				Sugar ("sgr")	50
				Motor vehicles and parts ("MVH")	80
Chile	2023	60	2030	-	-
Peru	2022	60	2030	Sugar ("sgr")	70
Brunei	2023	60	2030	-	-
				Other foods ("ofd")	60
Malaysia	2023	60	2030	Beverage and tabaco ("b_t")	20
				Processed rice ("pcr")	20
Singapore	2018	100	2018	Beverage and tabaco ("b_t")	20
Vietnam	2019	60	2030	-	-
				Motor vehicles and parts ("MVH")	30

Authors' elaboration.

Note: ¹ All other sectors not included on the column "sectors with partial tariff elimination" on table B.1 faced a full tariff elimination.

Obs.: TPP-12 – Trans-Pacific Partnership.

TABLE B.2

Average cost reduction in imported goods on CPTPP members due non-tariff measure harmonization
(In %)

Country	Agriculture	Extractive industry	Processed food	Manufacturing industry	Services
Australia	2,8	3,0	2,1	1,1	3,0
New Zealand	2,0	3,0	1,8	0,7	3,0
Canada	1,9	3,0	2,6	0,8	3,0
Mexico	1,7	3,0	1,8	0,8	3,0
Japan	2,6	3,0	3,6	1,0	3,0
Vietnam	3,3	3,0	3,7	2,2	3,0
Peru	2,3	3,0	2,3	0,9	3,0
Chile	1,6	3,0	2,2	0,8	3,0
Brunei	2,2	3,0	2,3	0,5	3,0
United States	1,9	3,0	2,6	0,8	3,0
Singapore	2,2	3,0	3,1	1,6	3,0
Malaysia	2,5	3,0	2,2	0,5	3,0

Authors' elaboration.

APPENDIX C

TARIFF AND NON-TARIFF BARRIER OF REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP

TABLE C.1

Summary of tariff elimination of RCEP¹

Country	Entry in force	Tariff elimination entry in force (%)	End of transition period	Sectors with partial tariff elimination	% of partial tariff elimination
Australia	2022	50	2031	Motor vehicles and parts ("mvh")	30
New Zealand	2022	50	2031	-	-
				Processed rice ("pcr")	0
				Paddy rice ("pdr")	0
				Wheat ("wht")	30
				Other cereal grains ("gro")	50
				Oil seeds ("osd")	70
Japan	2022	50	2031	Bovine meat ("cmt")	60
				Other meat – poultry, suine ("omt")	10
				Other foods ("ofd")	50
				Dairy products ("mil")	50
				Sugar ("sgr")	70
				Other foods ("ofd")	50
				Processed rice ("pcr")	0
				Paddy rice ("pdr")	0
				Wheat ("wht")	30
				Other cereal grains ("gro")	50
				Vegetables, fruits and nuts ("v_f")	50
				Oil seeds ("osd")	70
South Korea	2022	50	2031	Other crops ("ocr")	50
				Other animal products ("oap")	70
				Bovine meat ("cmt")	60
				Other meat – poultry, suine ("omt")	10
				Dairy products ("mil")	50
				Sugar ("sgr")	70
				Other foods ("ofd")	50
				Processed rice ("pcr")	20
China	2022	50	2031	Other foods ("ofd")	60
				Beverage and tobacco ("b_t")	20
				Motor vehicles and parts ("mvh")	30

(To be continued)

(Continuation)

Country	Entry in force	Tariff elimination entry in force (%)	End of transition period	Sectors with partial tariff elimination	% of partial tariff elimination
Brunei	2022	50	2031	Other foods ("ofd")	60
				Beverage and tabaco ("b_t")	20
Malaysia	2022	50	2031	Processed rice ("pcr")	20
				Beverage and tabaco ("b_t")	20
Singapore	2022	50	2031	-	-
Vietnam	2022	50	2031	Beverage and tabaco ("b_t")	70
				Motor vehicles and parts ("MVH")	30
Other Asean	2022	50	2031	Processed rice ("pcr")	20
				Other foods ("ofd")	60
				Beverage and tabaco ("b_t")	20
				Motor vehicles and parts ("mvh")	70

Authors' elaboration.

Note: ¹ All other sectors not included on the column "sectors with partial tariff elimination" on table C.1 faced a full tariff elimination.

Obs.: RCEP – Regional Comprehensive Economic Partnership.

TABLE C.2

Average cost reduction in imported goods on RCEP members due NTM harmonization

(In %)

Country	Agriculture	Extractive industry	Processed food	Manufacturing industry	Services
Australia	1,4	1,5	1,1	0,6	1,5
New Zealand	1,0	1,5	0,9	0,4	1,5
Japan	1,3	1,5	1,8	0,5	1,5
South Korea	1,3	1,5	1,8	0,5	1,5
China	1,3	1,5	1,4	0,6	1,5
Vietnam	1,7	1,5	1,9	1,1	1,5
Brunei	1,1	1,5	1,2	0,3	1,5
Singapore	1,1	1,5	1,6	0,8	1,5
Malaysia	1,3	1,5	1,1	0,3	1,5
Other Asean	1,3	1,5	1,4	0,6	1,5

Authors' elaboration.

