

Structure and Tariff Impact of the TPP Agreement

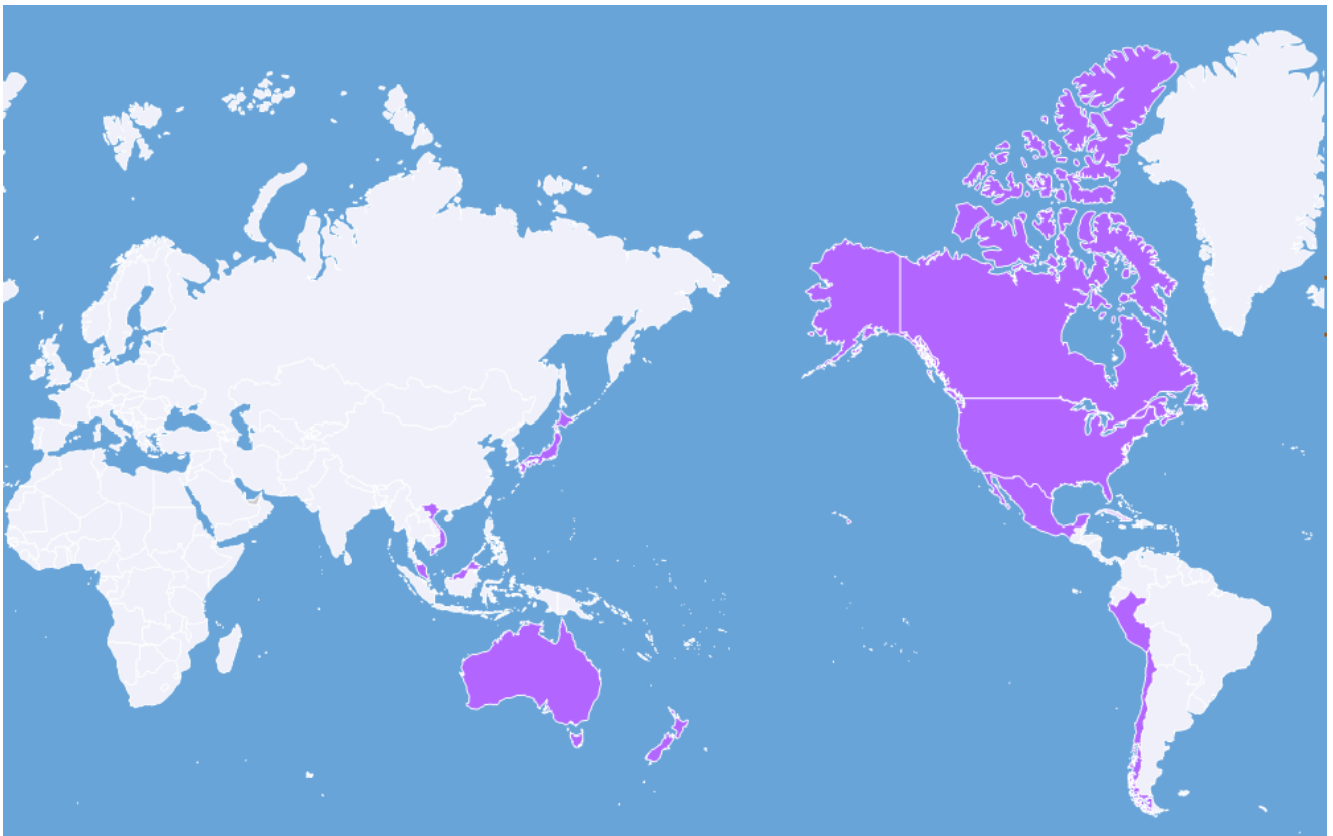


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Abbreviations and Acronyms

AANZFTA	ASEAN Australia New Zealand FTA
AAP.CE	Partial Scope-Economic Complementarity Agreement
AGOA	African Growth Opportunity Act
ASEAN	Association of Southeast Asian Nations
ATIGA	ASEAN Trade in Goods Agreement
AVE	Ad Valorem Equivalent
CER	Closer Economic Relation
CGE	Computable General Equilibrium
DFATD	Canada Department of Foreign Affairs, Trade, and Development
EFTA	European Free Trade Association
EIF	Entry into Force
EPA	Economic Partnership Agreement
EU	European Union
FTA	Free Trade Agreement
GRIPS	National Graduate Institute for Policy Studies of Japan
GSP	Generalized System of Preferences
GTAP	Global Trade Analysis Project
HS	Harmonized System
ITC	International Trade Centre
LAC	Latin America and Caribbean
LDC	Least Developed Countries
MAcMap	Market Access Map
MAR	Market Analysis and Research
MFN	Most Favoured Nation
MNZFTA	Malaysia New Zealand FTA
NAFTA	North American FTA
NAV	Non-Ad Valorem duty
nec	Not Elsewhere Classified
nes	Not Elsewhere Specified
NTB	Non-Tariff Barriers
p.p.	Percentage Point
P4	Trans-Pacific Strategic Economic Partnership
PIIE	Peterson Institute for International Economics
RCA	Revealed Comparative Advantage
ROOs	Rules of Origin
SACU	Southern African Customs Union
TIA	Trade Integration Agreement
TPP	Trans-Pacific Partnership
TradeMap	Trade Map
USITC	United States International Trade Commission
USTR	United States Trade Representative

Structure and Tariff Impact of the TPP Agreement

The Trans-Pacific Partnership (TPP) agreement is a vast and ambitious free trade agreement concluded on October 5, 2015, and is expected to be ratified by all signatories in 2017¹. The accord involves two of the three world's largest economies, United States and Japan, and ten other Pacific Rim countries, namely Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. The newly created TPP free trade zone will account for 26% of world trade². Along with social and environmental provisions, the pact aims to ***promote comprehensive market access by reducing tariffs and to facilitate the development of supply chains among the partners***³. Subsequently, certain non-member countries risk to find themselves at a tariff disadvantage and to witness trade diversion on their existing exports to TPP markets.

While the impact of the agreement on its members has been the subject of a number of recent investigations, assessments of potential detrimental effects from the TPP on third parties, particularly on developing countries, remain scarce⁴. In May 2016, ITC's MAR section evaluated the effects of the TPP on non-member countries using a computable general equilibrium model (CGE) and found a minor threat for non-signatories at the regional level. However, the global approach of the CGE modelling⁵ itself may lead to an underestimation of the adverse effects of the TPP on specific non-members. In this study, we performed a risk scanning analysis using a simple filtering framework, and we found that, indeed, some third parties could be negatively impacted, and the magnitude of the threat varies according to a country's reliance on a given TPP market and to the preferential gains of TPP partners in that market. Overall, our analysis reveals that 132 countries are likely to suffer at least some market losses during the TPP implementation, and two-thirds of them are developing countries and LDCs.

Additionally, this analysis contributes to the literature on the effects of the TPP agreement by providing full information about liberalization schedules. The construction of the dataset is detailed in Section 1.

The remainder of this report is structured as follows. Section 2 provides an overview of tariff liberalization schedules under the TPP agreement. In Section 3, we list broad estimates on preference erosion. Section 4 identifies third countries, sectors, and important products at risk of trade diversion. Then, in Section 5, we compare the outcomes of our study with those of the CGE modelling performed in May 2016 by ITC. Finally, Section 6 provides broad conclusion and general insights.

I. Scope of the dataset and its construction

ITC has conducted in collaboration with the National Graduate Institute for Policy Studies (GRIPS) of Japan, the United States International Trade Commission (USITC) and the Foreign Affairs, Trade and Development department of Canada a tariff analysis of the existing agreements between the TPP members as well as an analysis of the TPP agreement itself.

¹ In this analysis, we assume the year of entry into force of TPP to be 2017. This coincides with the assumption in the final, "revised" schedule of TPP signed on February 4, 2016.

² Based on Trade Map, www.trademap.org

³ The TPP's objective are fully provided in the [TPP Full Text](#).

⁴ Studies based on the actual TPP text involving CGE models on aggregate level were done by Peterson Institute (2016), USITC (2016), ITC (2016, forthcoming). To our knowledge, no study focusing on TPP's trade diversion effects on third countries using actual, disaggregated TPP tariff data has been done so far.

⁵ Drawbacks are discussed in the methodology (Annex-3)

With support from TPP members' government, the Market Analysis and Research (MAR) section of ITC has created a comprehensive database in order to understand the evolution of tariff dismantling of current FTAs and TPP tariff schedule from 2014 to 2046. This database was processed and aggregated using the same methodology as the GTAP tariff protection database 2011 for the subsequent impact estimation in a CGE model.

The data is given at the most detailed tariff-line level, aligned according to the HS revision 2012 nomenclature. For years 2014 to 2046 tariff projections were calculated based on the commitments within existing trade agreements between TPP nations. The same work was done for the TPP agreement when its text became available online on November 5, 2015. The entry into force of the TPP agreement is assumed to be in 2017. The implementation (i.e. phasing out of duties) of existing trade agreements will be completed by 2031 (beef products within Australia-Japan FTA) while the implementation of the TPP will take until 2046 (trucks on US market imported from Japan).

This database covers existing trade agreements and the TPP agreement. It includes treatment of non-ad valorem duties and of tariff rate quotas. We go through each of them below:

Trade agreements. 37 existing regional, bilateral, and non-reciprocal trade agreements between TPP members were processed, and tariff phase-downs were calculated. Note that the analysis does not take into account recent Pacific Alliance free trade agreement which entered in force on May 1, 2016.

NAV duties. Non-ad valorem duties were converted into Ad Valorem Equivalents (AVE) using ITC's standard methodology. The AVE conversion is done based on the product unit values computed for GTAP database for year 2011 using the World Tariff Profiles methodology⁶. For technical duties AVEs could not be estimated, and thus all such tariff lines were dropped from the analysis. Finally, any tariff lines from HS chapters 00, 98, and 99 were removed as they are country-specific.

Tariff rate quotas. Several TPP countries apply tariff rate quotas (TRQ) within existing FTAs as well as within the TPP agreement. For a tariff line on which a TRQ is applied, the AVE value is equal either to the outside-quota duty rate or to the inside-quota duty rate depending on whether the value of imports exceeded the quota contingent or not.

For each dataset, rates at the tariff line level were selected by choosing the lowest rate under all existing import regimes by comparing MFN with existing rates under FTA or TPP, if any. The MFN rates were assumed to remain unchanged in any year.

Based on this data, we consider two standard projections over time: FTA and FTA+. In the 'FTA' projection, we account for the tariffs applied under existing agreements, or for the so-called effectively applied tariff rates. Throughout the study we call them 'Applied Tariffs'.⁷ Rates at the tariff line level were selected by choosing the lowest rate under all existing import regimes by comparing MFN with existing rates under FTA, if any for a given year. In the 'FTA+' projection, the 'TPP Tariff' at the tariff line level constitutes the most advantageous rate amongst the MFN rate, any existing preferential rates, and the tariff rate committed under the TPP Agreement⁸.

The MFN rates were assumed to remain unchanged in any year.

In order to use these two datasets in a CGE model, tariff rates were aggregated from tariff line to 6 digit-level by simple averages. Finally, tariff rates were aggregated to the GTAP sector levels using three-year averages of bilateral trade weights.

⁶ For details see pp. 186-197 of [World Tariff Profiles 2006](#).

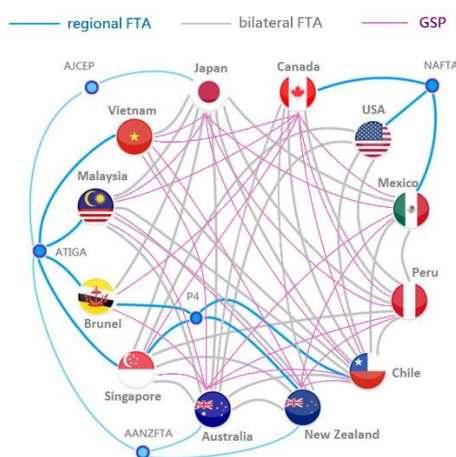
⁷ In some cases, MFN rate can be lower than preferential rate. This happens when the projected preferential duty rate based on the phasing-down schedule of the base rate is above MFN rate that has been lowered recently by the country in unilateral manner.

⁸ In some cases, the tariff rate under TPP agreement can be higher than the one under an existing preferential agreement or than MFN rate. This is because TPP base rates were MFN rates in 2010 when the negotiations began.

II. Tariff structure under the TPP Agreement

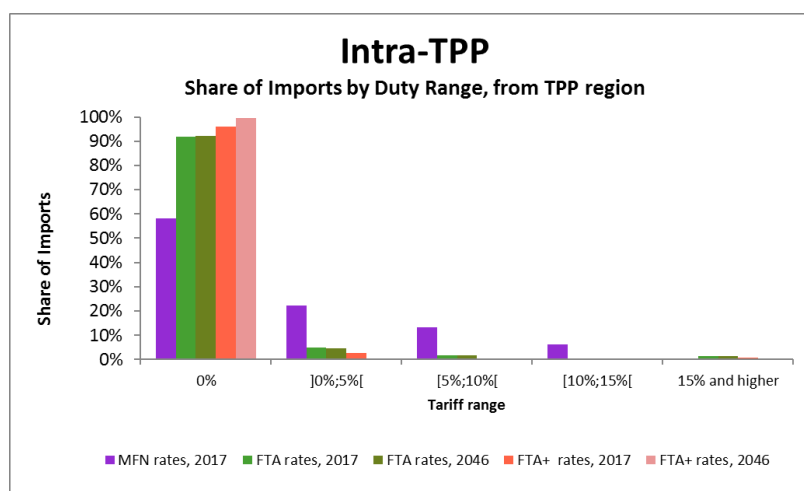
Currently, most of intra-TPP trade is covered by FTAs⁹. Historically, the TPP finds its origin in the P-4 agreement which ties Singapore, New Zealand, Chile, and Brunei since 2006. It now involves Australia, Peru, NAFTA countries, and 4 of the 10 ASEAN members. When the TPP was signed, 37 trade agreements between the 12 TPP members were already in force¹⁰, out of which 28 are bilateral, 5 are regional, and 4 are non-reciprocal (see Figure 1). Japan has the most trade agreements with other TPP members whereas Mexico appears to have the least. Importantly, 6 of these 37 trade agreements¹¹ are relatively new (implemented after 2012), and failing to take them into account would effectively overestimate the impact of TPP liberalization. A full list of these 37 agreements can be found in Annex-4.

Figure 1: Network of bilateral and regional trade agreements between TPP nations



Parties to the TPP agreement resolve to liberalize trade among member countries by further lowering tariffs, which are already low by international comparison. As shown in Figure 2, 92% of exports and imports¹² within the area are already subject to zero tariffs in 2017, and only 1.2% are associated with “international peaks” (duties of more than 15% in ad valorem equivalent). Once the TPP enters into force, the share of trade that are totally liberalized will reach 96%, and that subject to tariffs higher than 15% will be halved.

Figure 2: Share of Imports by Duty Range



⁹ Including NAFTA, ASEAN, ASEAN-Australia and New Zealand, ASEAN – Japan, MNZFTA, P4 Agreement.

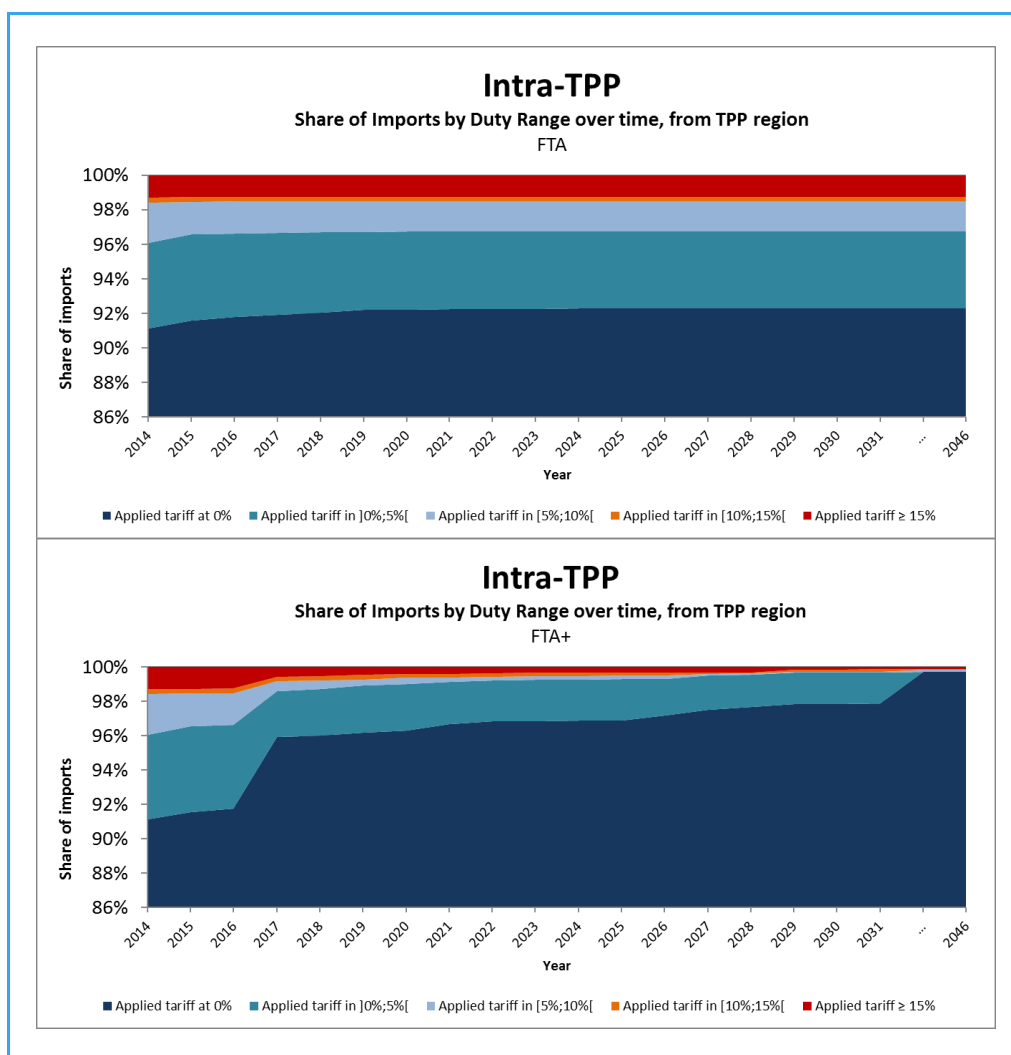
¹⁰ This number doesn't include GSP schemes and older trade agreements (e.g., Australia-Canada (1931)), but they were also taken into account when building the tariff dataset.

¹¹ These are Japan - Peru EPA, Australia - Japan FTA, Mexico - Peru TIA, Chile - Malaysia FTA, Australia - Malaysia FTA, Chile - Vietnam FTA.

¹² Trade data at the tariff-line level, year: 2014, source: Trade Map

Although the removal of tariffs will mostly occur in the first date of implementation, we will also assist to their gradual reduction during the following years (Figure 3). As a consequence, tariffs levied on 99.7% of existing intra-TPP trade will no longer be significant¹³ once the accord is fully implemented.

Figure 3: Trade Liberalization Schedule under the TPP Agreement



However, these aggregates conceal disparities across TPP members who are of heterogeneous sizes, openness, and levels of development.

- Australia, Chile, New Zealand, Peru, and Singapore already had very low MFN tariffs and no international peaks when joining the accord. In fact, 93% of TPP members' exports to Australia are subject to tariffs below 5%, and this rate equals 88% for New Zealand. Almost all Chilean imports from TPP partners are already fully liberalized, 99.4% are duty free in 2017 under the FTA projection. Moreover, Singapore does not levy tariffs on nearly 99.997% of its FTA imports, and the TPP will immediately draw the remaining peaks down to zero. At date, only 4% of Peru's imports from TPP partners are not duty-free, and the ratification of the pact by Peru will clear 92% of non-zero tariffs. In a nutshell, nearly all the tariffs in this open economies group will be removed in the first year the TPP is in force. Additionally, these countries will achieve complete free trade with their partners very early. For instance, Australia will levy zero tariffs to all goods from the fourth year, and despite a relatively longer phase-out timeline, Peru will impose non-zero tariffs to only 2% of imports until 2031.

¹³ Significant tariffs are those higher than 5%.

- More than 86% of TPP exports to Canada, Japan, and the United States are duty-free under the FTA projection. However, international peaks, which are often perceived as a protectionist device to shield sensitive sectors, remain non-negligible, particularly in Japan¹⁴. Of the burdensome tariffs, i.e. those higher than 5%, the United States will eliminate more than 92% immediately and nearly all by 2046. Canada and Japan will do the same for respectively 96% and 63% of non-zero tariffs, as soon as the agreement comes into force. Nonetheless, even after the phase-out, a small percentage of trade will not be fully liberalized in the two aforementioned countries although associated tariffs will be reduced over the phase-in period. Overall, tariffs decrease and/or expire at a reasonable pace but not as fast as in the previous group of countries.
- Brunei, Malaysia, and Mexico are countries with relatively high MFN tariffs, but the share of tariffs-free imports from other TPP members is considerably high¹⁵ when one takes into account existing FTAs. Accordingly, under the FTA projection, Brunei and Malaysia will levy tariffs on fewer than 6% of parties' exports in 2017, and this share is even smaller for Mexico. Moreover, Brunei will remove 15% of substantial tariffs immediately and will complete full liberalization after 5 years. In contrast, some Mexican and Malaysian tariffs will not expire under the TPP, but they will tend to decrease as the agreement phases in. For instance, more than 30% of Malaysia's tariffs of at least 5% will be eliminated under the TPP regime in 2017. On the other hand, Mexico will undertake a gradual reduction of tariffs over the years of TPP implementation.
- Vietnam appears to be a peculiar case. Without the TPP Agreement, less than 75% of intra-TPP trade will be fully liberalized in 2017. Under the 'FTA+' projection, the country commits to open 84% of its market to its new partners in 2017 and will carry out sharp tariff cuts in order to complete full liberalization by 2037. Notably, TPP countries will benefit from a considerable removal of tariffs in sensitive sectors.

For each TPP signatories, Table 1 summarizes the share of tariff-free imports in 2017 and 2046 before and after the TPP agreement enters into force. It also provides the date at which implementation will come to an end in each countries.

Table 1. Share of imports liberalized, by TPP market

Country	Share liberalized 2017			Share liberalized 2046		End of TPP implementation
	MFN	FTA	FTA+	FTA	FTA+	
INTRA-TPP	58.2%	91.9%	95.9%	92.3%	99.70%	2046
AUSTRALIA	56.4%	91.8%	98.5%	93.1%	99.96%	2020
BRUNEI DARUSSALAM	67.2%	94.0%	96.7%	94.1%	100.00%	2023
CANADA	64.1%	97.4%	98.5%	97.4%	99.72%	2028
CHILE	0.7%	99.3%	99.4%	100.0%	100.00%	2024
JAPAN	79.5%	86.2%	93.0%	87.0%	97.69%	2032
MALAYSIA	80.3%	96.0%	98.2%	96.0%	100.00%	2032
MEXICO	68.2%	99.3%	99.5%	99.3%	99.97%	2032
NEW ZEALAND	70.8%	87.6%	97.3%	88.1%	100.00%	2023
PERU	77.4%	95.9%	98.1%	98.8%	100.00%	2032
SINGAPORE	99.9%	100.0%	100.0%	100.0%	100.00%	2017
UNITED STATES	42.6%	88.5%	94.2%	88.6%	99.98%	2046
VIETNAM	53.7%	74.9%	83.9%	85.8%	100.00%	2037

Source: International Trade Centre (ITC), Market Analysis and Research section calculation

Finally, liberalization also concerns strategic sectors for which tariffs are traditionally peaking. TPP members will further lower the barriers on these sensitive products¹⁶ also through quota release. In aggregate, barriers on rice (paddy and processed), meat, and dairy products will fall within the TPP region once the TPP agreement is implemented (Figure 4). However, the extent of the liberalization of these commodities deemed 'sensitive' is country specific. For instance, Australia will reduce tariffs applied on motor vehicles and parts from 14% (FTA rate

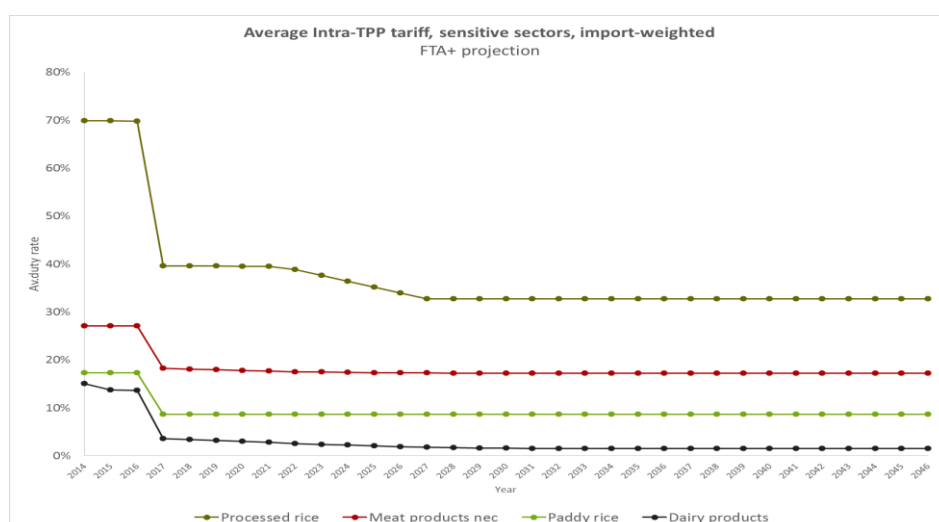
¹⁴ Concerns 4% of trade.

¹⁵ More than 92%.

¹⁶ Tariffs rate $\geq$ 15%

in 2017) to 12 % (FTA+ rate in 2017) only whereas Japan will halve the duty it levies on paddy rice¹⁷.

Figure 4: Tariff Liberalization under the TPP Agreement, Sensitive Sectors Only



III. Preference erosion on third countries as a result of TPP

This section presents broad results on preference erosion for all non-TPP countries¹⁸ as a consequence of the TPP agreement. Countries are grouped into 3 standard categories: developed, developing, and LDCs. The time points used in the analysis are the year of Entry in Force (EIF) of the TPP (2017) and the year of the end of implementation (2046). For each year, the current average margin of preference¹⁹ under 'FTA' baseline projection and the erosion from FTA+ projection²⁰ are both provided in percentage points (p.p.) in Tables 1 to 12²¹ in Annex-2.

Overall, our analysis reveals that:

- The change in the preference margin due to the TPP is always less than or equal to zero for outsiders, i.e. there is only an erosion of preference margin²².
- LDCs tend to have a positive margin of preference whereas developed and developing countries have a negative one. Indeed, LDCs are more often benefitting from an existing preferential scheme to a TPP market.
- The sectors where LDC exporters will see the largest erosion of preference do not usually coincide with those of developed and developing exporters. This can be explained by the difference in export baskets between these country groups.

¹⁷ More details on the liberalization schedules of the sensitive products are provided in the Annex-1 for Australia, Canada, Japan, Malaysia, and Vietnam.

¹⁸ In this analysis we only focus on outside-TPP countries. Indeed, TPP countries will also see some trade diversion in specific products due to increased competition from another TPP member but we assume it was taken into account at the negotiation table and trade creation effects in other products will at least partially compensate for these losses.

¹⁹ Average preference margin of exporter i on market j in product k in year y is defined as a difference between the tariff faced by exporter i on the market j in product k and the average tariff faced by all other exporters in the world to market j in product k . The 'average tariff' is import-weighted, i.e. it is computed using imports of every other exporter to market j in product k as a weight.

²⁰ Erosion of the preference margin of exporter i on market j in product k in year y is defined as the difference between the margin of preference (see footnote above) assuming TPP is not implemented and the margin of preference assuming the TPP is implemented.

²¹ For each TPP market and country group Top 3 GTAP sectors were displayed where the erosion from the TPP in 2017 or 2046 is the highest (in descending order), but if group exports to TPP market exceeded \$1 million in 2014. The remaining GTAP sectors were aggregated into 'Rest of sectors'.

²² This is a trivial result.

- Sectors that will witness an erosion of preference²³ usually represent a small share of total exports of any country group to the TPP market (i.e. in comparison to ‘rest of sectors’). For LDCs, however, this share of total exports tends to be higher and the sectors most frequently affected are apparel, textiles, and leather products.
- The highest degree of preference erosion is expected to occur in the Japanese, US, and Vietnamese markets. In the Japanese market, this result is driven by serious tariff liberalization of highly protected agriculture and food markets under the TPP. Regarding the US market, the threat of preference erosion is the highest in apparel, textiles, and leather products. These most tariff-protected sectors will be gradually opened for free access to strong TPP exporters such as Vietnam. The Vietnamese market is characterized by a high average MFN tariff and a lack of trade agreements with some large TPP suppliers. Therefore, a noticeable tariff reduction and thus erosion of preference margin for outsiders across a number of sectors will occur under the TPP.

A shortcoming of this analysis is the high level of aggregation. The reader might get a false impression that the burden of the preference erosion falls equally on all HS6-level products and on all exporters within a country group than exports to the TPP market. In reality, however, in many cases the burden falls on one or several exporters that happen to export a specific product which accounts for most of the erosion and on which these exporters are highly dependent. This is the motivation of the next section wherein we provide a more refined analysis at the most disaggregated level available down to a specific exporter and a specific HS6 product.

IV. Impact of the TPP Agreement on non-member countries

This section assesses the potential implications of preference erosion experienced by countries exporting non-oil products²⁴ to TPP signatories. Particularly, it identifies in which countries and in which products trade diversion is likely to occur as a consequence of the TPP agreement. To do so, we use criteria-based filtering approach exploiting International Trade Centre’s detailed²⁵ tariff and trade databases.

In the following, all else being equal, ‘Preference erosion’ defines a situation where a destination market grants new and more favourable tariff schemes to some partners which are likely to gain competitive advantages and market shares to the detriment of the competing third-country exporters. The extent of this risk, which we try to measure with a synthetic index²⁶, depends on the degree of liberalization, on the diversification of exports in terms of product and destination, and on the competitiveness of the exporter. Additionally, we assume full utilization of the preferences by the TPP members, so the preference margin²⁷ is a proxy for the degree of liberalization. Moreover, we consider that a non-signatory country is at risk of trade diversion in a competitive product as a result of increased competitiveness of TPP member-exporters if all of the following conditions are present:

- One or several TPP members have a proven capacity²⁸ in producing and exporting a good;

²³ All of them are retained as separate entries in the tables below

²⁴ We exclude oil exports (HS code 270900) from the analysis for two reasons. On the one hand, they are exogenous in a sense of not being influenced by trade policy and trade agreements. On the other hand, oil prices were volatile in 2015 and are influenced by numerous factors, including them violates our *Ceteris Paribus* assumption. As a robustness check, we have included them but obtained similar results.

²⁵ Trade data at the HS 6-digit levels from Trade Map and Tariff data at the national tariff lines levels from Market Access Map. See section-1 for more details

²⁶ More on the construction of the index in the annex.

²⁷ The preference margin, for a given good, can be expressed as the difference between the applied tariff and the TPP tariff faced by a TPP beneficiary in a particular TPP market.

²⁸ TPP exporters represent more than 10% of world exports in this product and will probably redirect its exports to the TPP markets.

- These TPP members have incentives to increase exports to the TPP country-market as a result of a significant tariff reduction, i.e. they benefit from an improvement in their tariff margin of at least 5 percentage points;
- The third country is indeed competitive in exporting the product, i.e. it has a Revealed Comparative Advantage (Balassa's RCA > 1) in this product.
- Finally, this third non-TPP country is dependent on the specific TPP market if the latter represents at least 10% of its total exports of the product.

For a full description of this method see Annex-3.

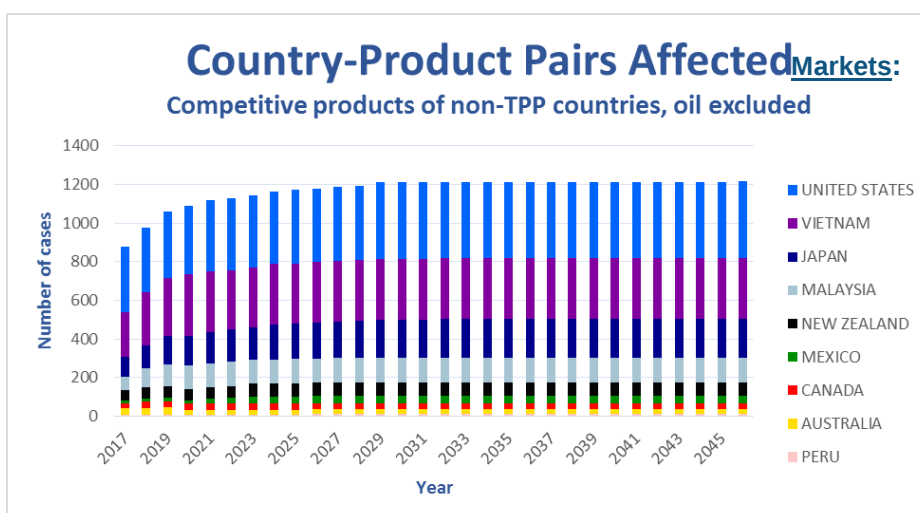
Further below, we provide an overview of the results in general, and then we cover the results by each TPP market.

1. Overview of the results

132 countries exporting non-oil products to 9 of the 12 signatories, could potentially suffer market share losses over the next 30 years due to the TPP. Two-thirds of them are developing economies. The TPP agreement is forecasted to affect 119 countries as soon as it comes into force. This number rises to 130 partners at the end of the TPP implementation in 2046²⁹.

Figure 5 : Country-Product Pairs Affected, 2017-2046

and Japanese markets are most often impacted, while countries which export to Singapore, Chile, and Brunei will be relatively unaffected. In the case of the United States, Japan, and Brunei, the magnitude of the shock is mainly explained by the market's size. Indeed, Brunei is small in terms of trade while the two others are the biggest economies



in the TPP and are thus significant trade partners for most countries. Regarding Vietnam, Singapore, and Chile, the extent of the TPP impact is mainly attributable to margin effects. Singapore and Chile are fully liberalized economies where the preferential gains are null for TPP exporters. On the other hand, TPP exporters are projected to benefit from significant preferential gains in Vietnam's market, and thus the number of threatened country-product cases is also high. Figure 5 displays the number of country-product pairs affected in each market between 2017 and 2046.

Moreover, the more a country's exports are diversified in terms of markets, the less vulnerable that country is to the threat from TPP competition, because it will be easier for the partner to switch from the less significant TPP market to another export destination. In terms of the share of their export basket at risk, small countries are the most vulnerable because their economy is often specialized in the production of a few items geared to a specific

²⁹ The number of affected partners in 2046 is 130, and not 132, because in some cases liberalization under FTA (baseline scenario) later catches up with TPP and thus neutralizes the tariff advantage obtained by the TPP exporter. Thus the non-TPP country in this specific product is no longer considered under the risk of trade diversion starting from that year onwards.

market. For instance, 41% of Samoan exports consist of wiring sets for vehicles and aircraft, and they are all bound for Australia. In contrast, big developing countries such as Thailand, Indonesia, China, or India are the most impacted in terms of threat cases because they export a large variety of HS6 products to several markets. Nonetheless, the combined export share of these products on identified TPP markets relative to country's total exports is not significant for these countries. Figure 6 and Figure 7 maps the countries impacted in terms of number of cases and share exposed. For the top 22 affected partners, detailed distributions across markets are also provided in the bottom panel of the same figures.

Figure 6 : Number of Threat Cases Identified per Non-TPP Partners

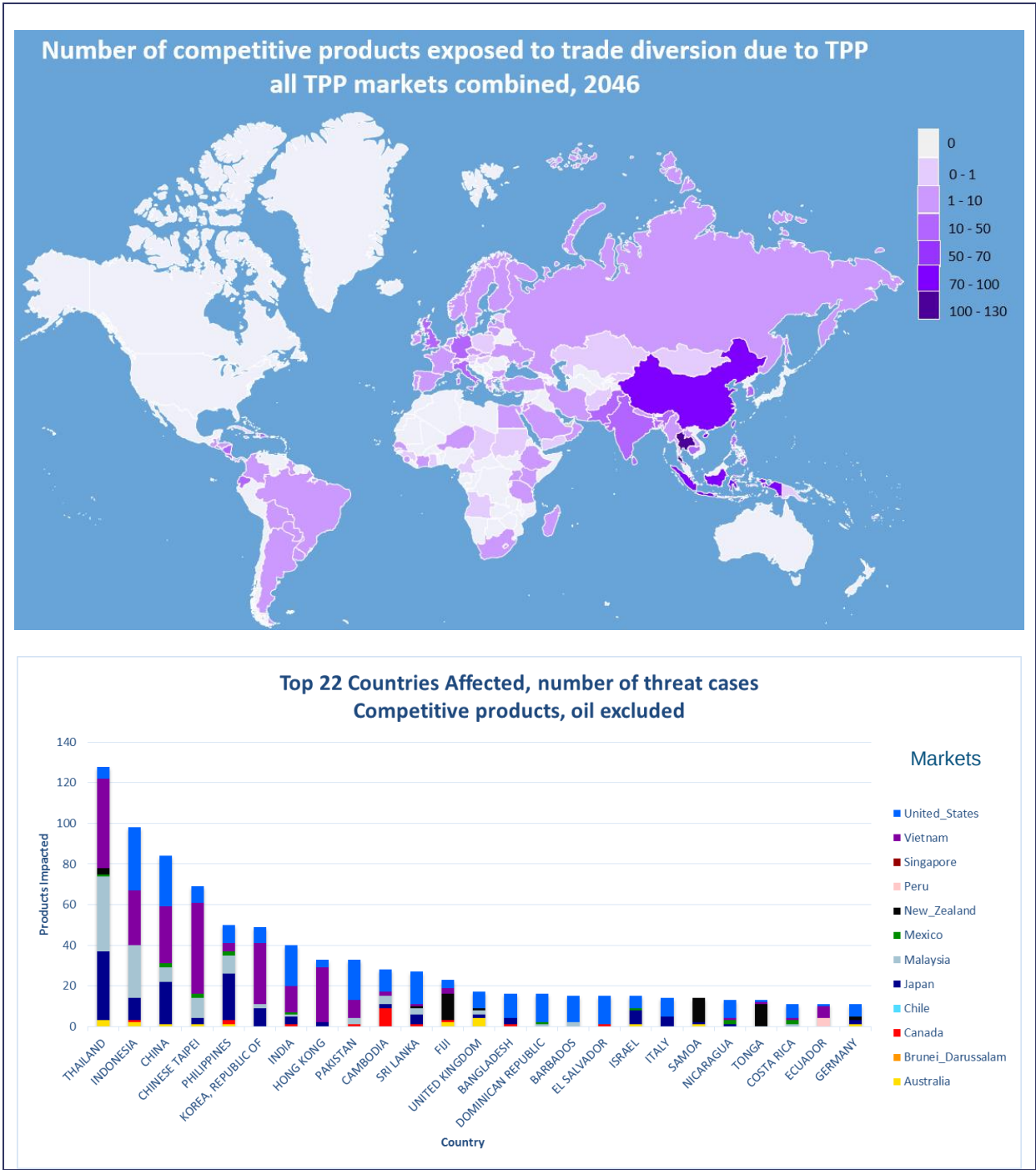
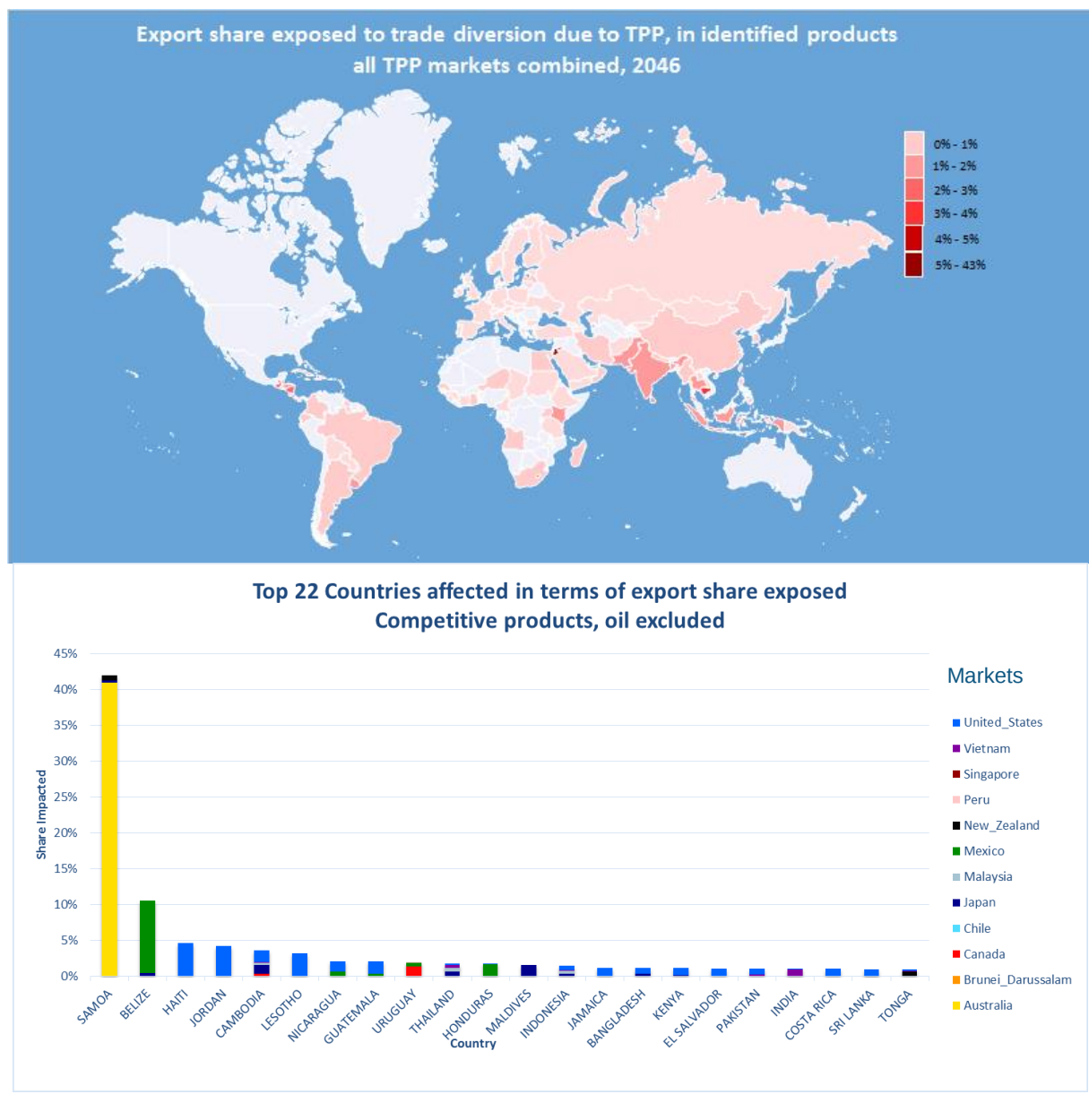


Figure 7: Export Share exposed to Trade Diversion in identified products



2. United States

The United States is an important market for many countries. It is not surprising that the number of country-product pairs affected on the US market is the highest among all TPP markets. The number of such cases reaches 396 in 2046. Overall, 81 countries are exposed to market losses, and almost 70% of them are developing countries and LDCs.

Asian countries, namely Indonesia, China, India, Pakistan, and Sri Lanka are the most affected in terms of the number of products at risk. In these countries, the products in danger are predominantly in wearing apparel and textiles. In addition, Indonesian supplies of wood products will also face tougher competition in the US market.

The exports of some Latin American and Caribbean (LAC) countries, namely the Dominican Republic, El Salvador, and Barbados, are also at risk. For instance, the wearing apparel sector in the Dominican Republic and El Salvador will face fiercer competition. We observe a similar scenario in Barbados for textiles and textile articles. Brazil's exports of metal products

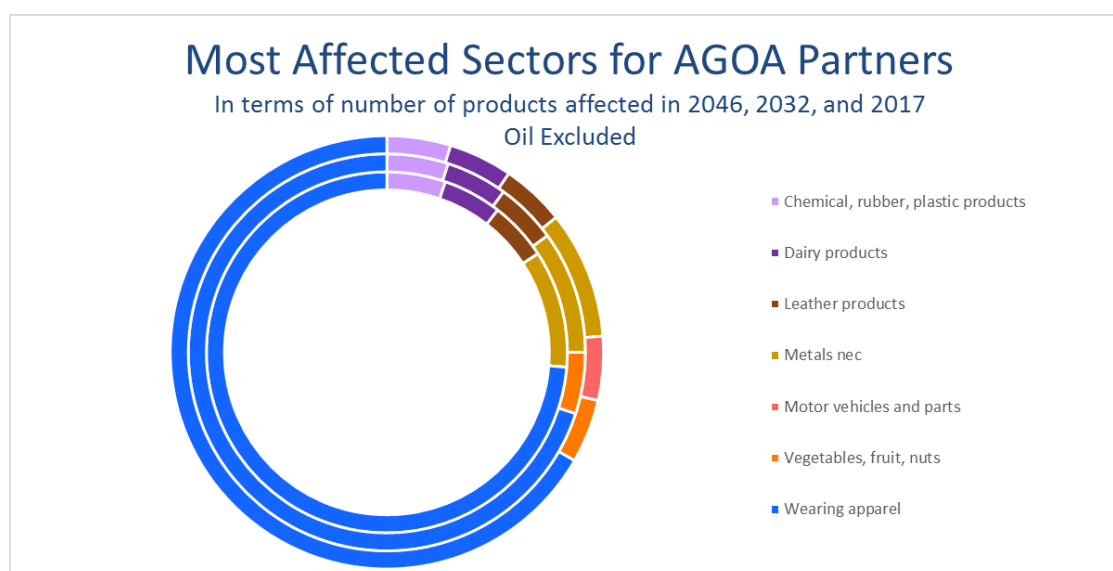
will also be impacted. In fact, this LAC's economic powerhouse currently supplies 70% of its production of tools for taping and threading to the United States.

Small developing countries are the most vulnerable in terms of the export share impacted. Some countries will be a victim of the lack of diversification of their economy in terms of products and destinations. For example, Haiti happens to export solely wearing apparel to the United States, and the HS6 products identified to be under threat on US market represent 5% of Haiti's total exports

Ten AGOA countries, nine of which are eligible for apparel provision³⁰, are also impacted. Of the 21 product they currently export, 14 fall under the Wearing Apparel sector (Figure 8). The most affected AGOA country is found to be Lesotho. Indeed, 40% of its exports are apparel and the main destination is US market. The 4 products that will suffer trade diversion are all from the wearing apparel sector, and the United States is the main, if not the exclusive, destination market for most of them. For instance, 97% of the product 610520 (Men's or boys' shirts of man-made fibres, knitted or crocheted) is destined for the US market.

Nonetheless, in general AGOA countries are less vulnerable than other developing apparel exporters. Indeed, on average, 3 AGOA products are affected while this number more than doubles for non-AGOA developing countries.

Figure 8 : Vulnerable Sectors in AGOA countries



In general, wearing apparel is the sector that will see the most drastic liberalization in the US market, and developing TPP competitors will see considerable preference gains in this industry³¹ (Figure 9). A number of wearing apparel exporters might see their market share eroded in favour of TPP producers like Vietnam and Malaysia. In fact, the former is already the second biggest US supplier of textiles and apparel, and the latter exports 34% of its garments production to the USA³². Fortunately, in the short-run, the negative spill-over effects will likely be mitigated by the long tariff phase out for textiles and wearing apparel³³,

³⁰ For more info on AGOA and the apparel provision see [OTEXA](#).

³¹ Note that the number of sectors in Figure 9-a is smaller than in Figure 9-b because in Figure 9-a we display only those sectors where there is at least one non-member exporter whose export share exposed exceeds 0.1%.

³² Data from ITC's Trade Map.

³³ Apparel and textiles are among the most sensitive sectors for the USA, thus they are highly protected in the US tariff schedule. Very few tariffs on these items will be eliminated at the TPP entry into force, and they will be fully liberalized no earlier than year 10.

the stringent rules of origins (ROOs)³⁴ applied to these items, the geographic proximity of the LAC countries to the United States³⁵, and existing PTAs³⁶. Nonetheless, Asian countries such as Bangladesh, Cambodia or Sri Lanka, which do not have preferential access to the United States and must pay the normal high MFN tariff in addition to shipping costs, will likely experience significant damage.

Figure 9: Sectors that are likely to be impacted by trade diversion in the United States

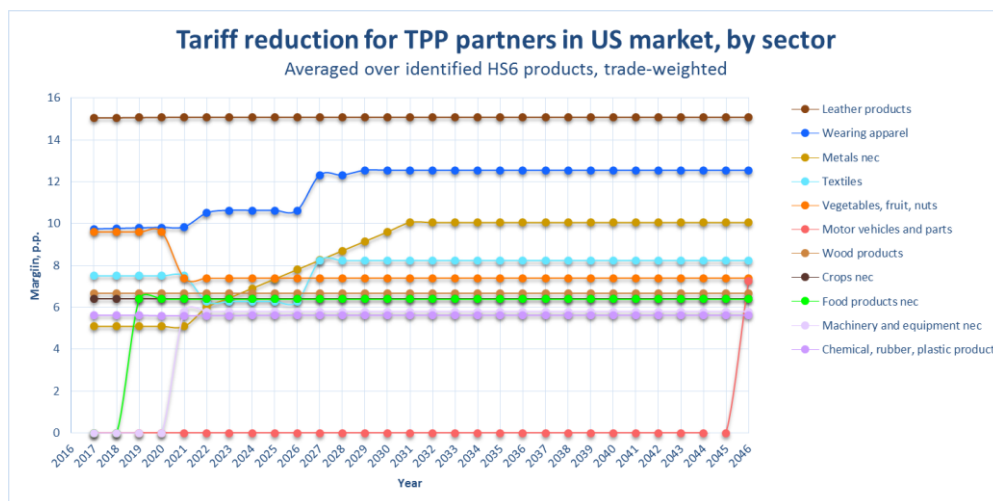


Figure 9-a

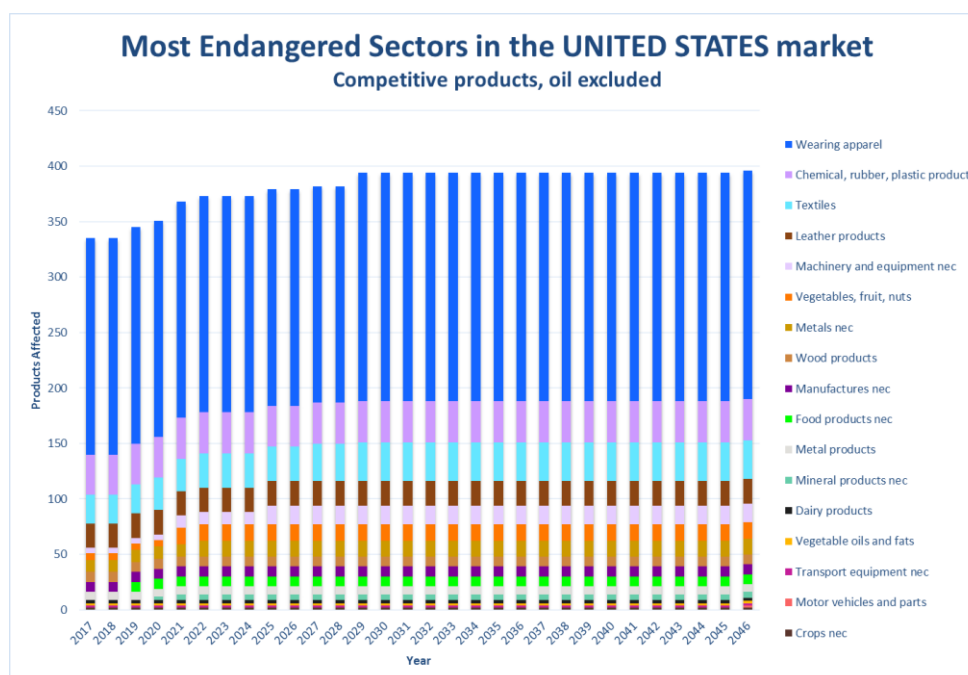


Figure 9-b

³⁴ The agreement includes a Triple Transformation rule in textiles and apparel, also known as 'yarn forward' rule which states that only fabric/clothes produced from yarn made by a TPP country would be granted duty-free status. However, Vietnam imports most of the inputs it uses for its wearing apparel from outsider countries, and structural adjustment will require time.

³⁵ The distance between the United States and Southeast Asia constitutes a comparative disadvantage for Vietnam, because the shipping cost is higher than those of LAC countries which are located neighbouring the USA.

³⁶ AGOA countries also benefit from duty-free access for apparel and textiles. Haitian apparel is granted preferential access under the Hope Programme until 2025.

3. Japan

As soon as the TPP agreement takes effect in 2017, competition will be stiffer for 55 non-signatories exporting to Japan³⁷, particularly for food producers. In fact, the accord will significantly lower barriers among the member countries in many agricultural commodities, which are often deemed sensitive. As a consequence, Japanese TPP partners will enjoy significant tariff reductions in Dairy, Beverage, Bovine meat, and Vegetable products,³⁸ which are currently subject to high MFN tariffs. Important food exporting countries such as Australia, New Zealand, and the United States will benefit from the shift. Competitiveness of Asian, LAC, and European countries will be undermined whereas African exporters are not at risk, except those from South Africa, Uganda, and Kenya. We also observe a slightly higher proportion of developing countries that are likely to suffer trade diversion in Japan than in the US market.

Thailand, the Philippines, China, and the Republic of Korea have reasons to worry about the TPP agreement. Indeed, 34 products that Thailand exports to Japan, mostly prepared foodstuffs and vegetable products, will be impacted. The same trend holds for China and the Republic of Korea. For the Philippines, the affected products will range from sugar, sea foods, and fishing products to wooden products, leather, and textiles. Sugar from the Philippines will compete mainly with Australian, Mexican, and US products.

Moreover, the two biggest economies in Latin America, namely Argentina and Brazil, will suffer as well. For instance, 37% of Argentine productions of dried birds' eggs are exported to Japan and will come under threat. For Brazil, food and meat products are the most affected. In fact, Brazilian meat and related exports will especially lose market share in favour of Australian, Canadian, New Zealander, and US exports.

In Europe, Denmark and the Netherlands will face a competitive disadvantage in exporting their dairy products to Japan. This is the sector where TPP exporters will reap the highest benefits in terms of the tariff margin.

Finally, five South African and one Kenyan food products will also be impacted.

³⁷ The number of cases and share affected are mapped in the Annex-3.

³⁸ Figure 5-a

Figure 10 : Sectors that are likely to be impacted by trade diversion in Japan

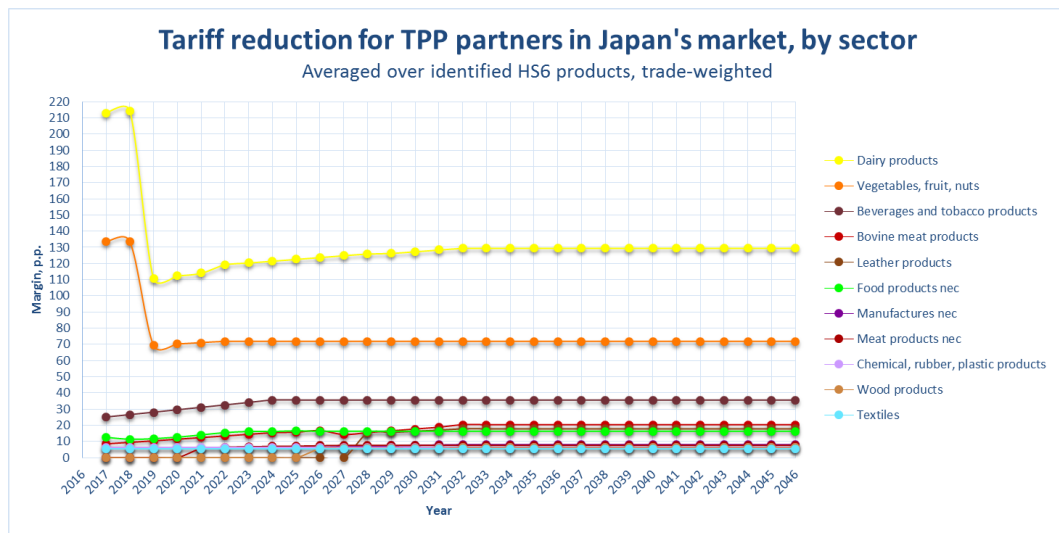


Figure 10-a

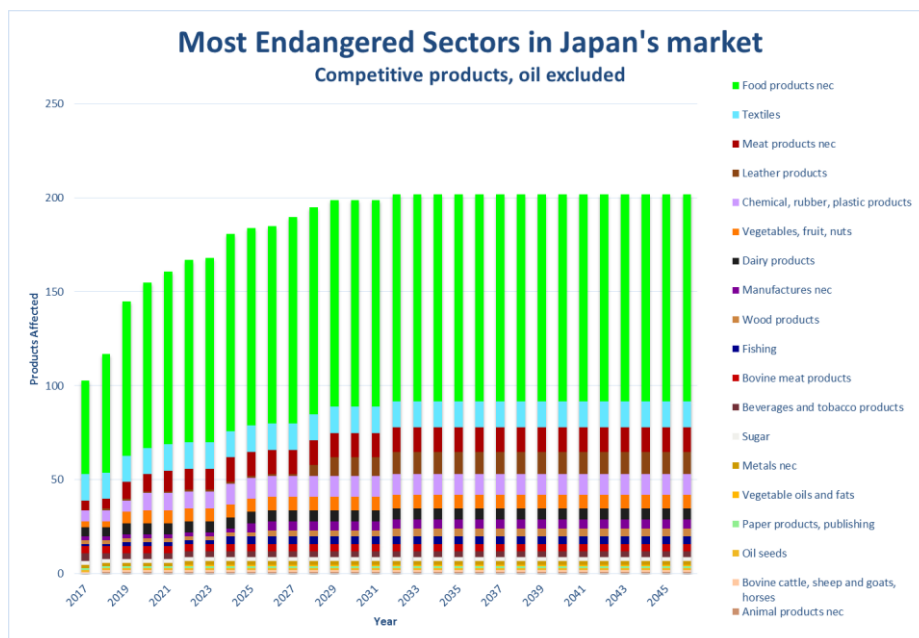


Figure 10-b

4. Australia, New Zealand, and Canada

In the Australian market, machinery exporters will suffer the most in the year when the TPP enters into force. Other sectors such as metals, vehicles, and foodstuffs will also be highly impacted. In terms of number of products, Fiji, the United Kingdom, Thailand, and Indonesia, along with 18 other countries could be affected, but the share of these products in their export baskets is not significant. However, more than 40% of the Samoan total exports will be at risk from 2019 onwards. And this huge share is entirely attributable to wiring sets for cars and aircrafts, in which the country has a strong specialization.

Figure 11 : Sectors that are likely to be impacted by Trade Diversion in Australia

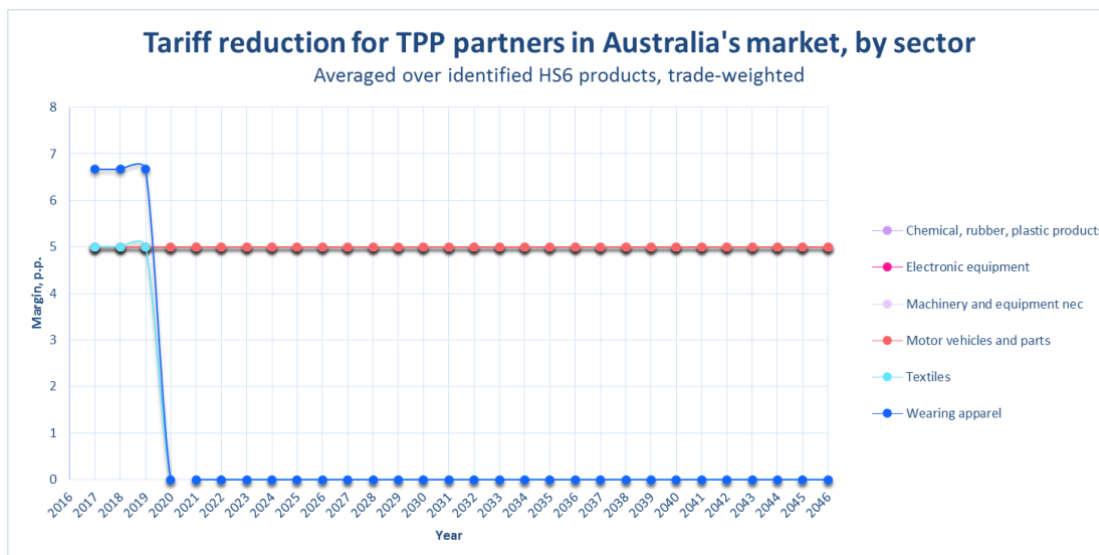


Figure 11-a

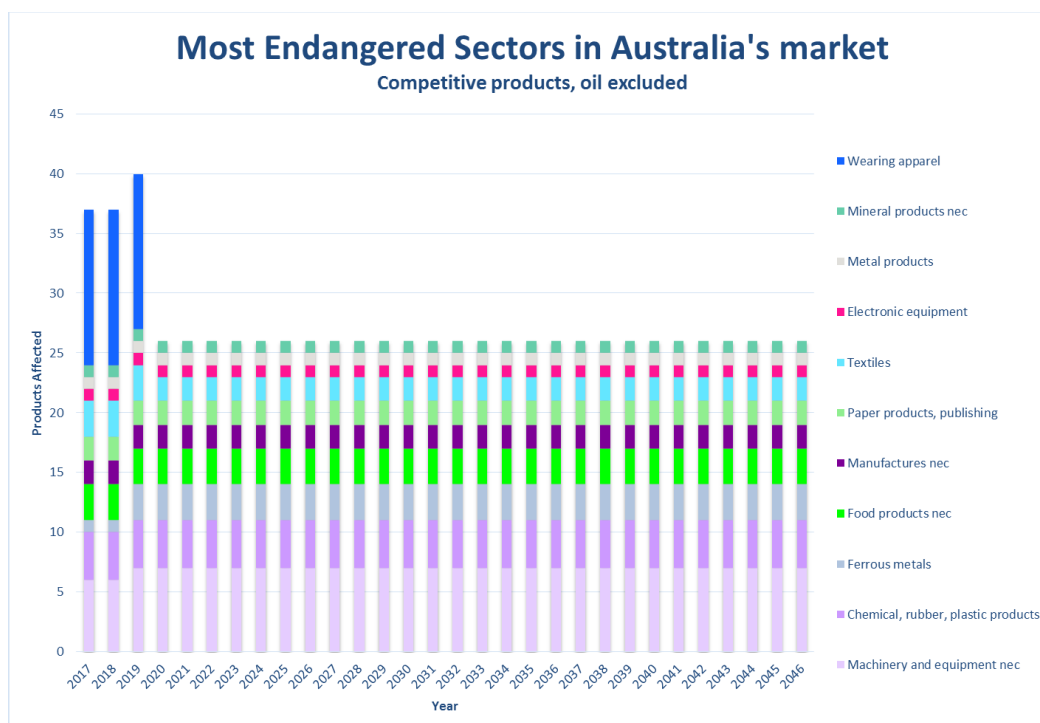


Figure 11-b

In New Zealand, 57 and 67 country-product pairs will be impacted in 2017 and 2046 respectively. During the first 3 years of the TPP implementation, Fiji will suffer the most in terms of the number of products impacted. Fijian ceramic sinks, wash basins and similar sanitary fixture producers will bear most of the impact. Exports from Tonga, Thailand, and Samoa are also under a threat during the whole implementation period. The remaining countries are impacted at approximately the same level. Machinery and equipment sectors are most frequently concerned.

Figure 12: Sectors that are likely to be impacted by Trade Diversion in New Zealand

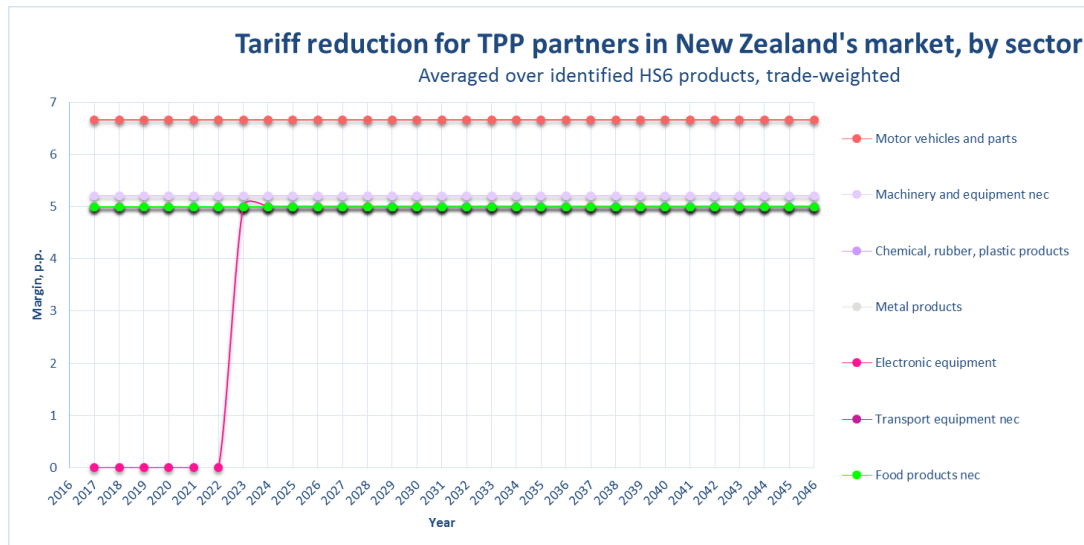


Figure 12-a

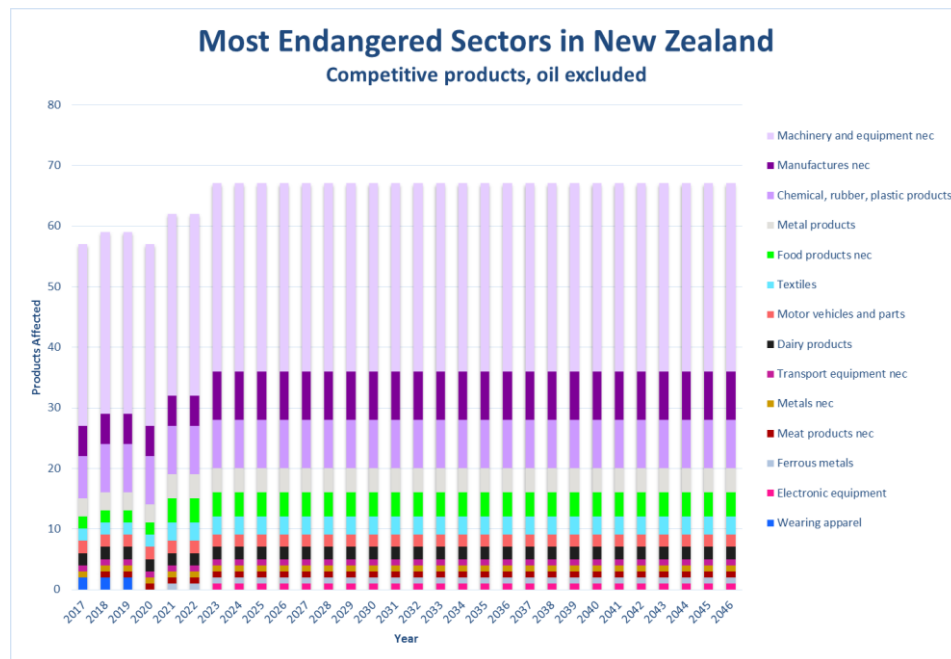


Figure 12-b

In Canada, 22 and 32 third-partner countries might suffer of trade diversion in 2017 and 2046, respectively. 90% of which are developing countries and LDCs. Cambodia is the most impacted in terms of number of products, but its eroded export share is not significant. Moreover, Uruguay sees its market shares, particularly in frozen and boneless bovine cuts, reduced by 1.4% right after the TPP's entry into force. Similar to the US case, overall, wearing apparel is the most vulnerable sector.

Figure 13 : Sectors that are likely to be impacted by Trade Diversion in Canada

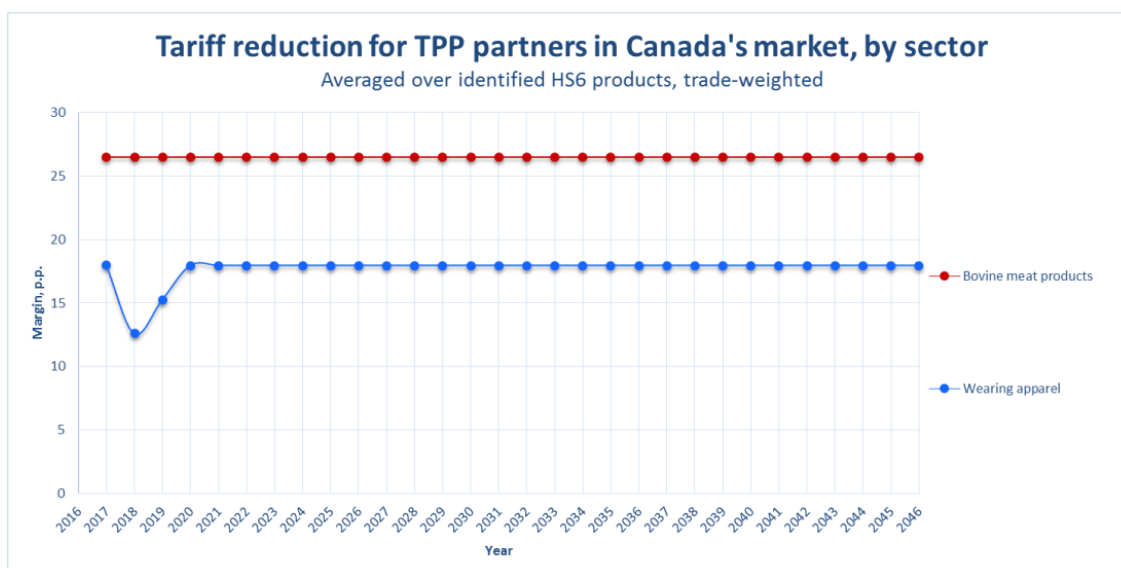


Figure 13-a

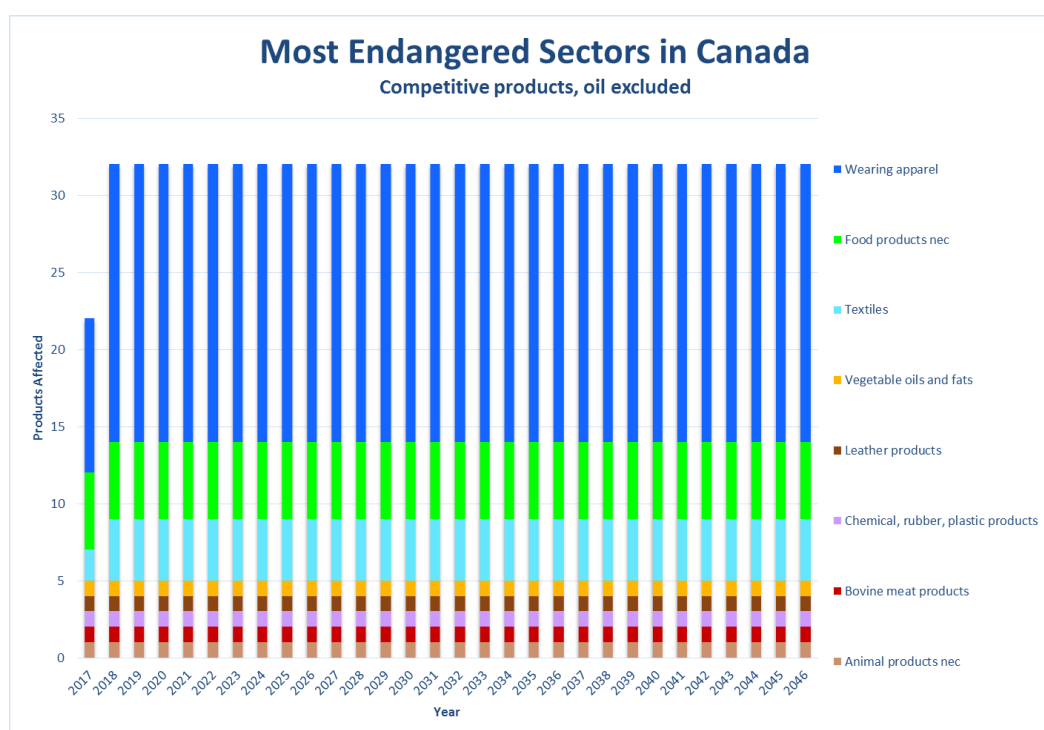


Figure 13-b

5. Malaysia and Vietnam

In the Malaysian market, 31 countries will suffer market losses once the TPP agreement enters into force, and the majority is developing nations. With the exception of a few countries, the most exposed partners are located in Asia. The top 5 impacted countries in terms of the number of HS6 products are Thailand, Indonesia, Chinese Taipei, Philippines,

and China³⁹. All these countries are also major trade partners for Malaysia. As such, various trade diversion effects can be highlighted:

- In Thailand, 37 agricultural, extractive, and manufactured goods are under threat in 2046. The competition from TPP exporters, notably from Vietnam⁴⁰, will increase in eleven sectors, namely: Motor vehicles and parts; Metal products; Ferrous metals; Machinery and Equipment nec; Chemical, rubber, plastic products; Mineral products nec; Textiles; Wood products; Paper products, publishing; Food products nec; Minerals nec.
- Exports of 26 products from Indonesia are likely to suffer due to the TPP. They fall into 12 sectors: Beverage and tobacco products; Chemical, rubber, plastic products; Crops; Electronic equipment; Ferrous metals; Machinery and equipment nec; metal products; metals nec; mineral products nec; Motor vehicles and parts; Oil seeds; Paper products, publishing. Of special interest are Indonesian beverages and tobacco producers who will probably lose some market share in Malaysia in favour of TPP competitors (Singapore, Australia, and Vietnam⁴¹) that eventually stand to gain preference margins⁴² in this sector.
- In Chinese Taipei, the impacted sectors are: Ferrous metals; Paper products, publishing; Electronic Equipment; Metals nec; Metal products. Both in terms of the export share or the number of products affected, publishing paper producers are the most affected, and particularly those who manufacture uncoated papers and paperboards which are predominantly exported to Malaysia. The threat in this industry will likely come from the United States, the leading exporter to Malaysia, and Chile (10% of market share growth between 2011 and 2015).
- Although China is Malaysia's leading partner in terms of the value of imports, this Asian powerhouse will have only 7 products affected in 2046. The sectors in danger are: Ferrous metals; Machinery and equipment nec; Metals nec; Mineral products nec; Vegetables, fruits, nuts.
- In the Philippines, 10 products from 6 sectors are at risk. The affected sectors are: Chemical, rubber, plastic products; Food products nec; Machinery and equipment nec; Manufactures nec; Metal products; Mineral products nec. Also, producers of anti-knock preparations for motor fuel and of Derricks/cranes for work trucks, which export 85% and 92% of their outputs to Malaysia, will have to fight harder to keep their position in the Malaysian market.

Figure 14-b summarizes the number of HS6 products in the 21 sectors where non-TPP members will see their position into the Malaysian market under threat. 3 sectors stand out from the crowd: Chemical, rubber, plastic products; Machinery and equipment nec; Metal products.

³⁹ India, Pakistan, and Sri Lanka are also vulnerable.

⁴⁰ According to ITC's Trade Map, the annual growth of Vietnam's export to Malaysia is 17%.

⁴¹ Imports of Beverages (Tobacco) from Singapore, Australia, and Vietnam are growing at 13% (43%), 4%, and 33% (14%) between 2011- 2015.

⁴² Figure 10-a displays for each sector the extent of the tariff reduction granted to TPP members.

Figure 14: Sectors that are likely to be Impacted by Trade Diversion in Malaysia

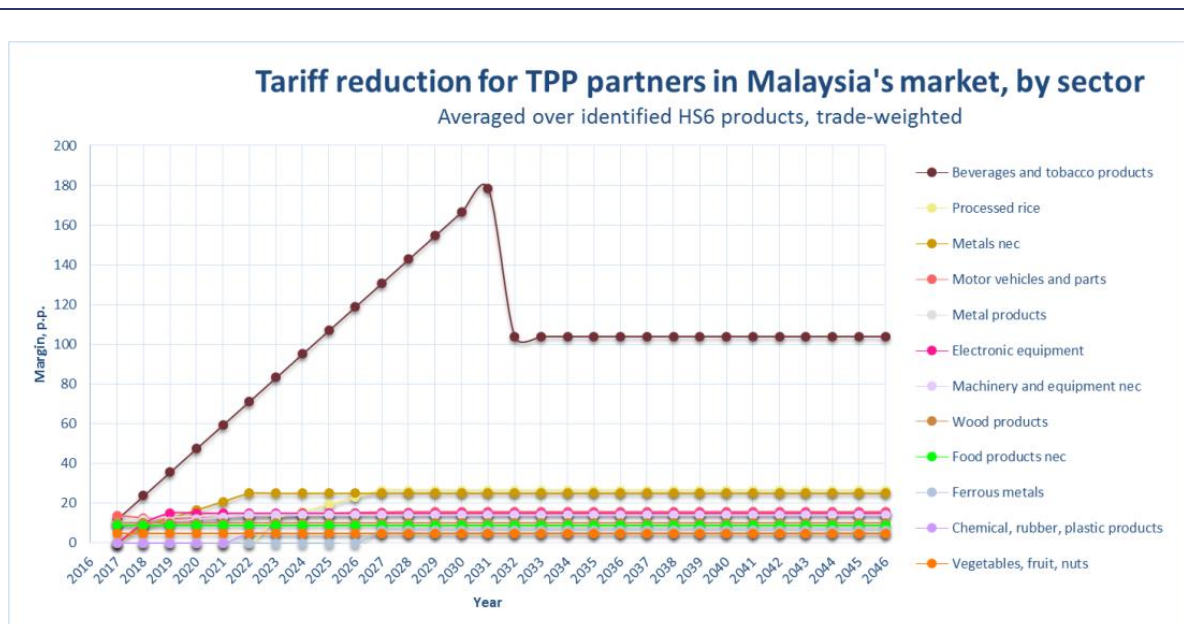


Figure 14-a

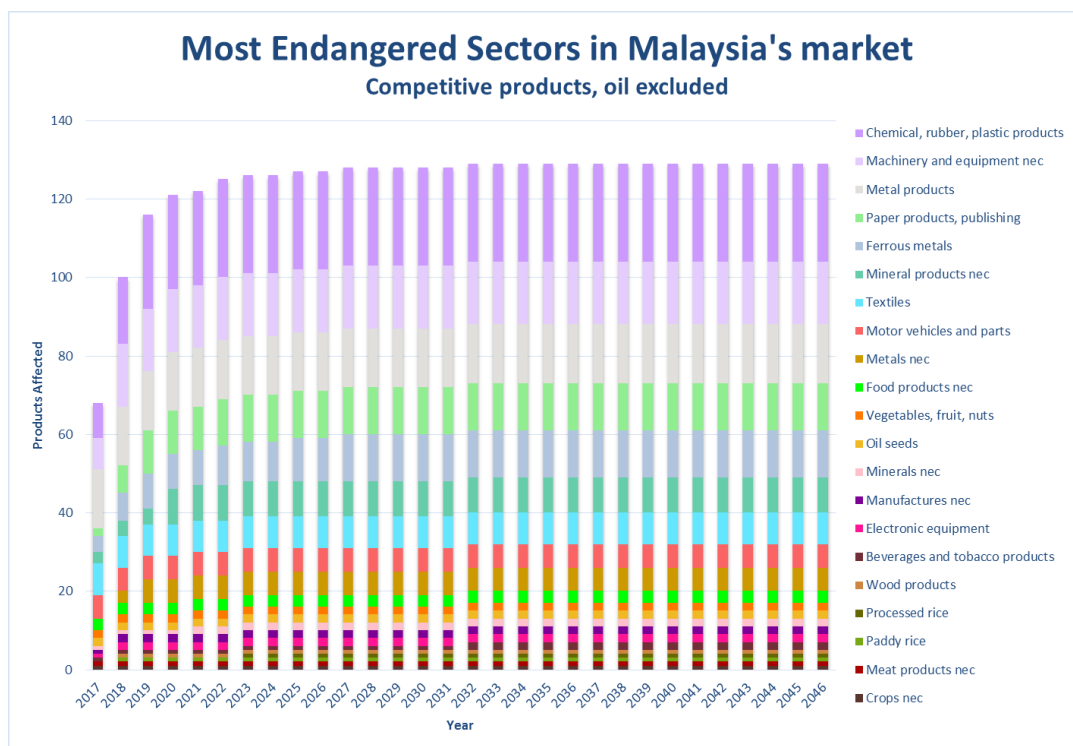


Figure 14-b

In Vietnam, 57 outsiders will experience negative spill-over effects due to the TPP Agreement. Almost 80% of them are developing economies. As for Malaysia, non-TPP Asian emerging economies⁴³ are the most impacted in the sense that the number of threat cases exceeds 10. In Africa, Gambia and Madagascar are the most vulnerable, and Ecuador is the most impacted LAC country. Moreover, Food products, Textiles, and Chemical, rubber, and plastics products are the sectors most at risk. For the most exposed countries aforementioned, our analysis reveals that the most vulnerable sectors in 2046,

⁴³Namely Chinese Taipei, Thailand, Republic of Korea, China, Hong Kong, Indonesia, India, Pakistan.

- For Chinese Taipei: Chemical, rubber, plastic products; Textiles; Paper products, publishing; Wearing apparel; Machinery and equipment nec; Ferrous metals; Leather products; Manufactures nec; Mineral products nec; Animal products nec; Metal products; Food products. Taipei is also the most vulnerable country in terms of the number of HS6 products affected, 45 in 2046. The most vulnerable commodities are those that are highly reliant to the Vietnamese market. In fact, for 14 of the exposed products, the share exported to Vietnam is more than the quarter of the world exports of this good.
- For Thailand, are: Vegetables, fruits, nuts; Chemical, rubber, plastic products; Machinery and equipment nec; Paper products, publishing; Motor vehicles and parts; Metal Products; Textiles; Mineral products nec; Ferrous metals; Animal products nec; Food products; Wood products. Overall, 44 Thai products are under threat, and for 5 of them Vietnam is the main target market. As an example, 87% of Thailand's twill weave cotton fabrics, 86% of its wire of iron, 79% of feathers and down, and 70% of its rosin salts are destined for the Vietnamese market.
- For the Republic of Korea,: Textiles; Machinery and equipment nec; Chemical, rubber, plastic products; Motor vehicles and parts; Electronic equipment; Wearing apparel; Ferrous metals; Paper products, publishing; leather products; Food products nec; Mineral products nec; Metal products. Moreover, in Korea, the second biggest⁴⁴ exporter to Vietnam, 30 products will be impacted. Among them, we notice items that are bound mostly for Vietnam and are used as inputs in the apparel industry⁴⁵, a sector that will see the biggest churning in this market.
- For China: Metal products; Transport equipment nec; Textiles; Vegetables, fruits, nuts; Machinery and equipment nec; Manufactures nec; Mineral products nec; Ferrous metals; Wearing apparel; oil seeds; Chemical, rubber, plastic products. China, which is Vietnam's leading trade partner⁴⁶, has 28 products affected. They are of different kinds and overlap commodities like hand sharpening or polishing stones (HS 680430), melon seeds (HS 120770), or playing cards (HS 950440).
- For Hong Kong: Meat products nec; Vegetables, fruit, nuts; Beverages and Tobacco products; Bovine meat products; Food products nec; Textiles; Paper products, publishing; Manufactures nec; Wearing apparel; Chemical, rubber, plastic products. Most of the 27 products that will be exposed to more intense competition from TPP members are almost exclusively exported to Vietnam. This is the case for frozen bovine edible offal (HS 020629), nuts (HS 080290), ethyl alcohol (HS 220890), or walnuts in shell (HS 0802231) exported at 95%, 86%, 85% or 80% respectively to Vietnam. These are also the goods for which tariffs will be considerably reduced for TPP members.
- For Indonesia: Food products nec; Paper products, publishing; Transport equipment nec; Chemical, rubber, plastic products; Manufactures nec; Machinery and equipment nec; Fishing; Mineral products nec; Textiles; Metals nec; Animal products nec. 27 products, mainly foostuffs, are likely to be impacted, and particularly those for which Vietnam is the main destination market as in the example of the jellyfish which are exported exclusively to Vietnam.
- For India: Bovine meat products; Food products nec; Oil seeds; Cereal grains nec; Crops nec; Chemical, rubber, plastic products; Meat products nec; Fishing. Of the 13 products at risk, twelve are from the fishing and agricultural sectors.
- For Pakistan: Food products nec; Bovine meat products; Textiles. In total, we count 9 Pakistanis products, notably frozen sole and fish nes, 100% and 97% of which go to Vietnam..
- For Gambia: Vegetables, fruits, nuts; Food products nec. 6 of the 7 products at risk are from the fishery industry, while the remainder is Brazil nuts for which the

⁴⁴ Share of Korea in Vietnam's imports is 14.71%

⁴⁵ 96% of Woven fabrics containing $\geq$ 85% acrylic or modacrylic staple fibres (HS 551221), 50% of Woven fabrics containing $\geq$ 85% synthetic staple fibres (HS 551299), 47% of Woven fabrics of filament yarn containing $\geq$ 85% nylon or other polyamides (HS 540742), etc.

⁴⁶ China accounts for 35.16% of Vietnamese total imports in 2015.

vulnerability is even greater because Gambia exclusively exports this commodity to Vietnam.

- For Madagascar: Oil seeds; Bovine meat products; Crop nec. For the 4 products affected, Vietnam is a very important market since more than 60% of exports of these products are destined for it.
- For Ecuador: Food products; Fishing. Also, 6 products will be impacted.

TPP countries will encroach on both Malaysian and Vietnamese markets to the detriment of neighbouring emerging Asian nations, especially Thailand, Indonesia, China, Taipei, and Korea. However, the magnitude of the threat, which we measure as the number of products affected, is larger in Vietnam due to the difference of the degree of liberalization in the two countries.

Figure 15 : Sectors that are likely to be Impacted by Trade Diversion in Vietnam

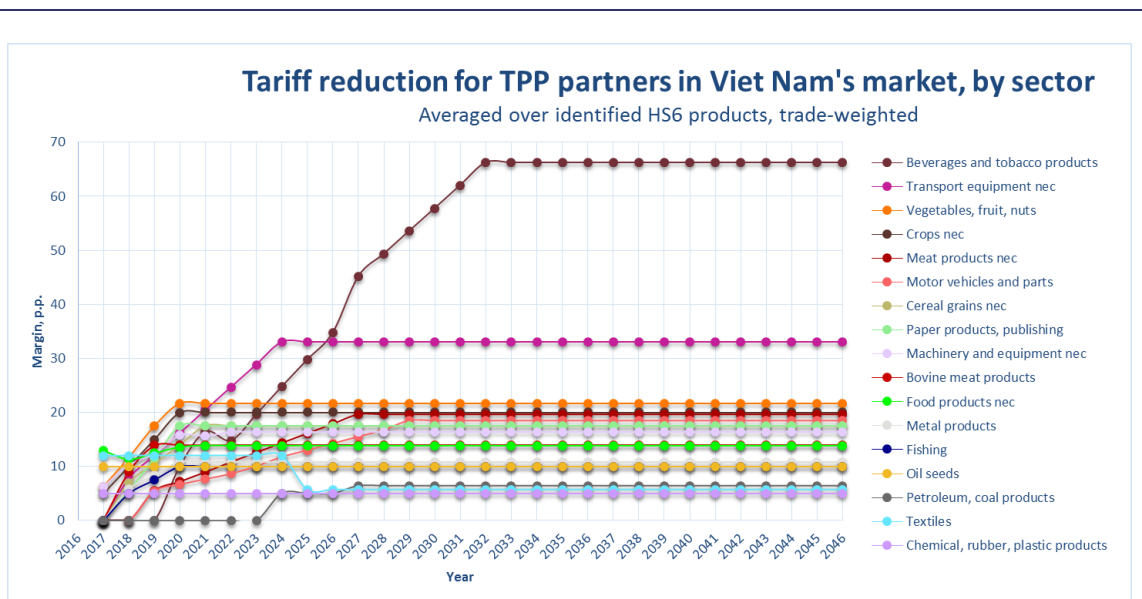


Figure 15-a

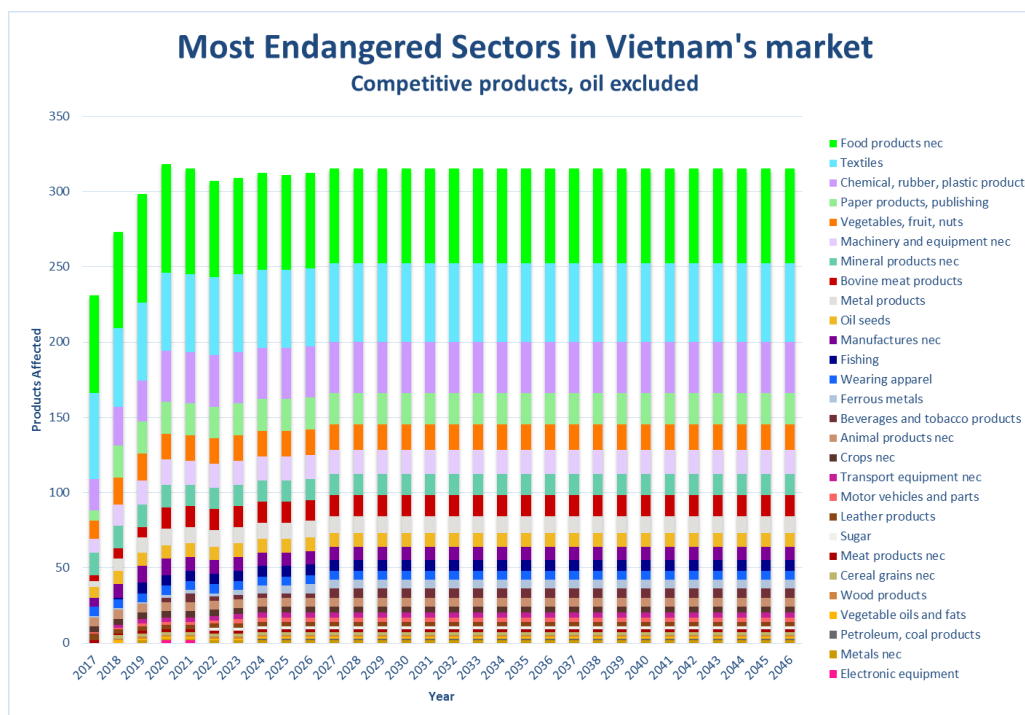


Figure 15-b

6. Mexico and Peru

The increase of TPP countries' market access in Mexico will negatively affect the competitiveness of 23 nations in 2046, of which three-quarters are developing countries. In addition, we see that emerging economies are the most impacted. In Latin America, Guatemala, Uruguay, Argentina, Brazil, Costa Rica, and Nicaragua will face stiffer competition from TPP members. Notably, in Guatemala where a total of 5 products are likely to be impacted, textiles, foodstuffs, vegetable oils and fats, and wearing apparel producers will be the most vulnerable sectors. In Uruguay, 3 commodities will also be impacted. Only 2 products each are endangered in the remaining countries, and the sectors impacted include Bovine meat, Chemical, rubber, plastic, Paper, Wood, to Food products. In the list of Asian countries impacted, we find China, India, Thailand, Chinese Taipei, Philippines, and Israel. Lesotho which exports 90% of its *Crops* (HS140490) to Mexico is the only African country impacted. Finally, Spain, particularly for its handbags (HS420229), France and Belgium are those impacted in Europe.

Figure 16: Sectors that are likely to be impacted by Trade Diversion in Mexico

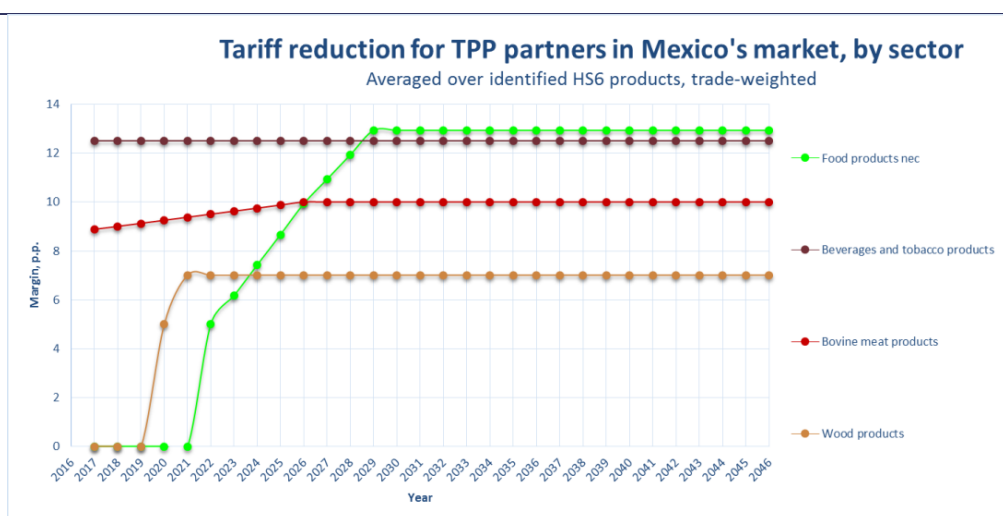


Figure 16-a

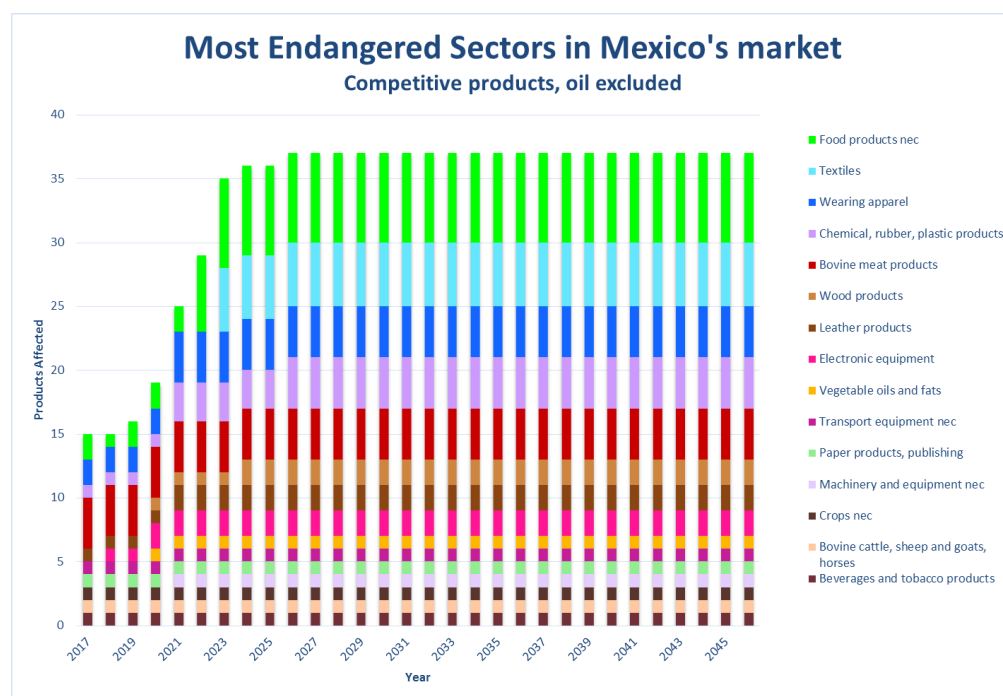


Figure 16-b

Except for Turkey, the nations that will experience fiercer competition from TPP members in Peru are developing LAC countries. Ecuador is the most impacted with 4 affected products. It is followed by Colombia for which the products at risks are Cocoa powder and Glycerol, then Bolivia, Brazil, and Uruguay each have only a single good affected.

Both in Mexico and in Peru, LAC countries will see their competitiveness challenged by more favourable market access granted to TPP members. While as a destination market Peru is not irreplaceable for all affected products, Mexico is the main destination for the majority of the commodities at risk in the Mexican market. Moreover, in both countries, TPP countries and in particularly those from Asia such as Malaysia and Vietnam, will see great liberalization in the agricultural sectors.

Figure 17 : Sectors that are likely to be impacted by Trade Diversion in Peru

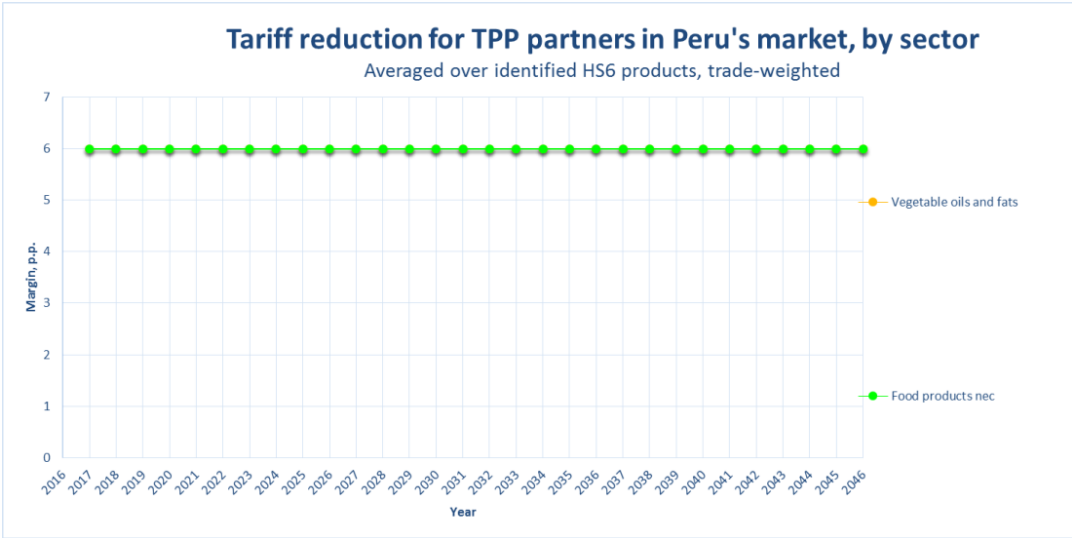


Figure 17-a

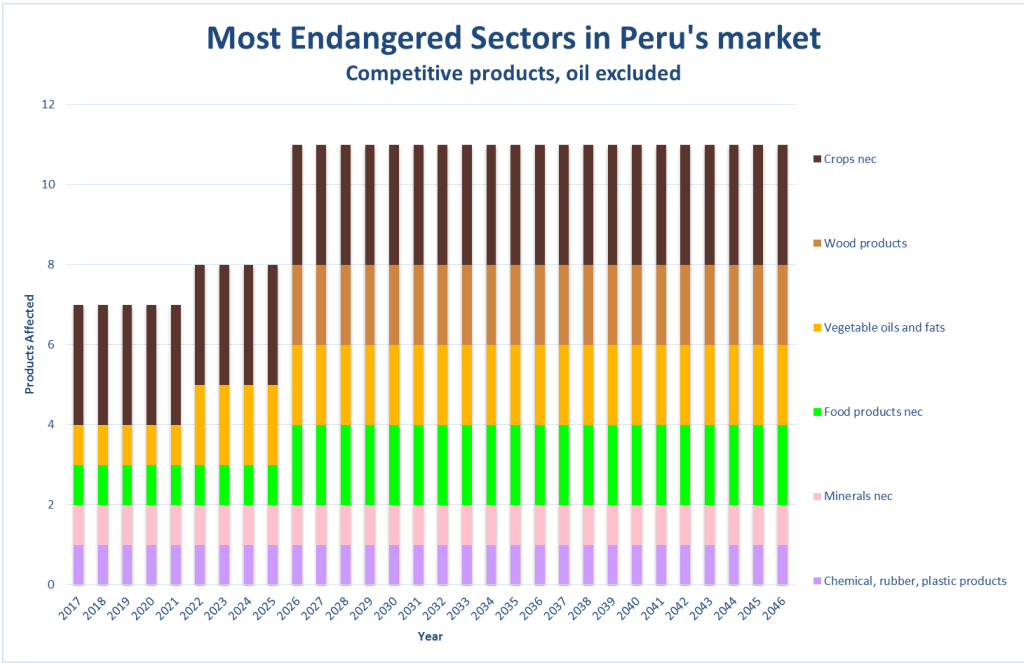


Figure 17-b

7. Singapore, Chile, and Brunei

Finally, no trade diversion risks have been identified in Singapore, Chile, and Brunei. Indeed, Singapore does not levy tariffs on imports, except for very few goods, and Chile has FTAs with almost all the signatories before joining the TPP; the effectively applied rate is zero in most cases. Regarding Brunei, it is by far the smallest market among TPP countries.

V. Comparison with the CGE results

Our analysis leads to a first identification of third countries, products, and/or sectors which are the most likely to witness trade diversion on partner's market as a result of the TPP agreement. However, this analysis is limited in the sense that we do not know by how much the actual export share of a country will be reduced, i.e. how much exactly the trade diversion will actually be on each product. Summing up the export values of potentially impacted products and presenting it as a share of total country's exports might lead to the impression that this entire share will be diverted away by the TPP. In reality, many other factors play a role such as variations in quality, consumer taste, elasticity of substitution between products exported by TPP competitor, absorption capacity of new imports by TPP market, whether the domestic producers will experience damages rather than supplying third nations, rules of origin, etc.

The 'gold standard' for measuring impacts of trade agreements is a computable general equilibrium (CGE) model. Thus for the analysis of the actual export share impacted we will exploit the results of a recent TPP study conducted by ITC (Decreux and Fontagné, 2016 forthcoming) based on MIRAGE model⁴⁷. This will also allow us to compare the results of this study with a 'standard' approach to a trade agreement impact assessment.

In Figure 18, the impact from trade diversion according to MIRAGE model is presented. The FTA+ projection only includes reduction in tariffs and doesn't include reduction in NTBs or positive spillovers on third nations from regulatory harmonization.

The relative impact on third nations from tariff elimination indeed is projected to be small overall. Around 80% of the actual impact on trade from TPP is expected to come from reduction in NTBs, not from trade diversion due to tariffs.

The most impacted 'region'⁴⁸ is found to be Bangladesh, as it is a big exporter of apparel on US market and it will be negatively impacted by the trade diversion in favour of Vietnam. Additionally, other South Asian countries will be impacted in apparel as well. For the remaining regions, the reduction in exports due to TPP will not exceed 0.2%.

However, our study did not identify Bangladesh among countries with a big export share under risk because Vietnam doesn't always exceed the 10% threshold in world exports in specific HS6 codes in which Bangladesh is strong at. It is possible that Vietnam could switch between exports in apparel HS6 codes in order to maximize benefits from the opened tariff opportunities. On the other hand, one should note that this CGE study didn't incorporate rules of origin, which in the case of apparel are quite restrictive on the US market (also known as "yarn forward" rule⁴⁹). World exports of Vietnam in apparel in 2014 were \$20 billion while world apparel imports of the US stood at \$86 billion with China being the biggest supplier. A recent USITC study⁵⁰ found that US imports of apparel from TPP area will increase by only \$2 billion as a result of the TPP agreement.

⁴⁷ See [Bchir et al., 2002, Decreux and Valin \(2007\)](#)

⁴⁸ In CGE models countries are aggregated into regions. However, some important countries are not aggregated and are used directly.

⁴⁹ See, for example, [TPP chapter summary textiles and apparel](#).

⁵⁰ USITC, Trans-Pacific Partnership Agreement : Likely Impact on the U.S. Economy and on Specific Industry Sectors, [2016](#).

The magnitude of the trade diversion effects at the regional level found in the ITC CGE study corresponds to the effect found in our study. However, our study was able to identify specific countries and specific HS6 products affected, in a simple and straight-forward manner. For example, Pacific Islands as a regional group are projected to suffer 0.11% loss in exports according to the CGE model, but we have been able to identify the case of Samoa with 40% of its exports consisting of a single product (electric wiring for cars) exported to Australia and under threat of trade diversion from Mexico who is world's biggest exporter of this product. Another example is Belize which will be disproportionately hit by competition from Vietnam in its frozen shrimp exports to Mexico which represent 10% of Belize's total exports. The CGE analysis found that the rest of Latin America will see export decline by only 0.1%. Finally, among African countries Lesotho is the most exposed as it is reliant on apparel exports to the US under AGOA. But on the regional SACU level the model found the impact to be negligible.

In these examples we see that small countries are the most vulnerable in terms of the share of export deviation from the baseline value because their economy is often specialized in the production of few items geared to a specific market. In contrast, big emerging countries (Thailand, Indonesia, China, or India) are the most impacted in terms of cases because they export a huge variety of HS6 products to several markets even though the share at risk is not significant.

Figure 18 : This study versus CGE model results

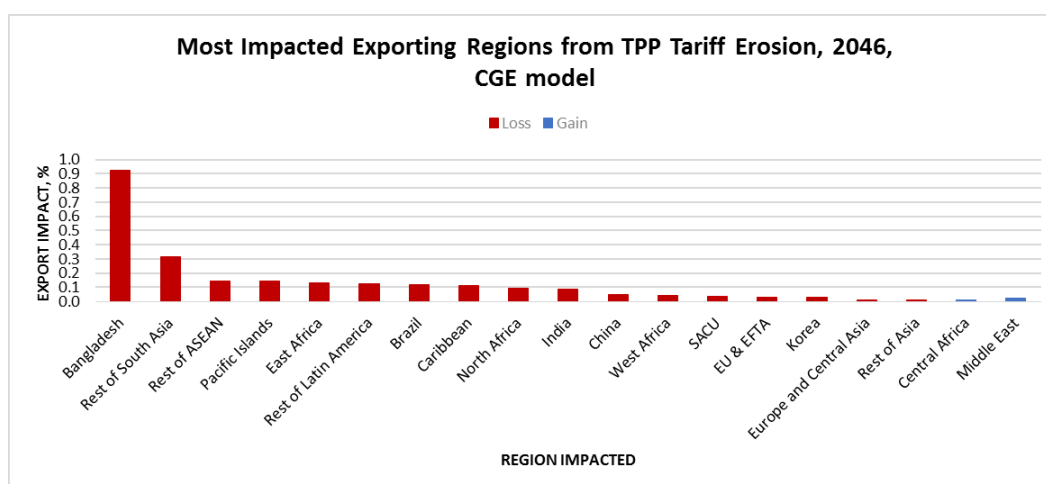


Figure 18-a

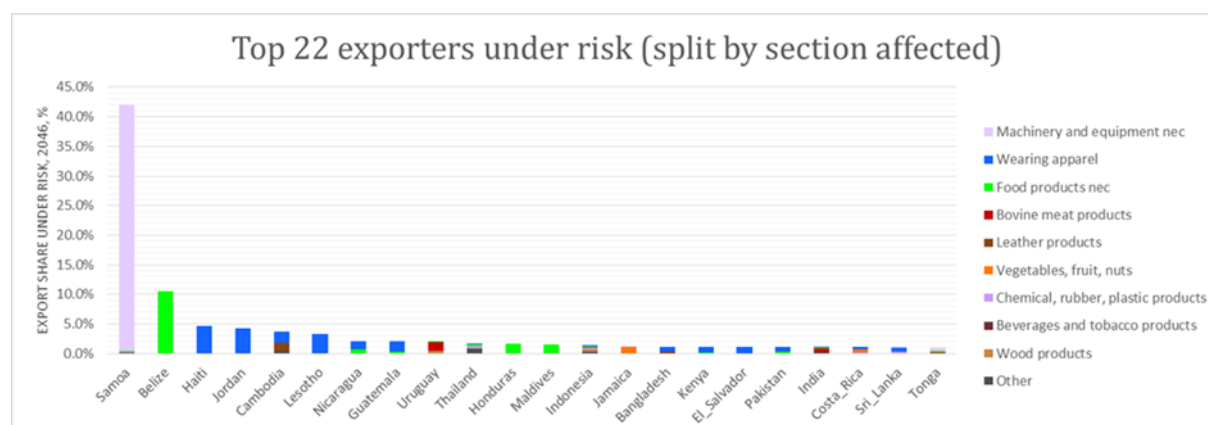


Figure 18-b

VI. Conclusion

At present, most of the trade between TPP countries is already liberalized thanks to a dense network of existing bilateral and regional trade agreements. Nevertheless, some TPP members have fewer agreements with other TPP participants such as Vietnam and Malaysia. Also, some major TPP signatories such as USA and Japan are still not connected by a trade agreement.

The TPP agreement will further deepen liberalization and 99.7% of existing trade will be duty-free by the end of implementation. The removal of tariff barriers also involves sensitive sectors. That presents a risk of trade diversion for non-participating countries which export products in these sectors to TPP markets.

In line with existing impact studies, our study confirms that on a global level the trade diversion effect is indeed relatively minor. However, there will be specific countries and industries that are likely to bear a disproportionate burden of the overall trade diversion. This especially concerns Samoa, Belize, Haiti, Jordan, Cambodia, and Lesotho. To a lesser extent it also applies for Thailand, Nicaragua, Guatemala, Indonesia, Uruguay, Honduras, Maldives, Tonga, Costa Rica, Kenya, Bangladesh, Jamaica, Pakistan, El Salvador, India and Sri Lanka.

We also find that most of the trade diversion cases stem from Vietnam's huge export potential in the US apparel market. An interesting finding of this study is that there are also a lot of trade diversion cases on Japan's and Vietnam's markets, and non-TPP ASEAN countries are the ones mostly affected.

This analysis presents some limitations. For instance, it does not take into account any trade diversion within supply chains caused by TPP's rules of origin. For example, Korea's, Chinese Taipei's and China's textile sectors are projected to lose from the TPP as their supplies of materials to Vietnam will be cut off by strict rules of origin on US market. The current study does not have visibility on this kind of effects and further work needs to be done in this direction.

Finally, we suggest that special attention should be paid by international community regarding the affected countries. Compensation schemes could be devised to include affected apparel exporters, such as Bangladesh, Cambodia, and Pakistan, into GSP scheme of the US. For non-TPP ASEAN countries this could include their subsequent "docking" to the TPP.

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VIII. ANNEXES:

A. ANNEX-1: Liberalization under the TPP Agreement in each market

In the figures shown in this Annex-1, we split imports across 5 categories according to the tariff applied: 'Applied Tariff' at 0%, in]0%;5%[, in [5%;10%[, in [10%;15%[, and 15% or higher. The chart in the top-left panel displays, for each regime⁵¹, the share of imports by tariff range, while the two charts in the bottom panel illustrate how trade liberalization will be carried out under the two projections, 'FTA' and 'FTA+.

For Australia, Canada, Japan, Malaysia, and Vietnam, we also display the evolution of tariffs levied on sensitive sectors under the currently existing FTA and when the TPP enters into force (FTA+). In this analysis, are deemed sensitive the sectors wherein the average ad-valorem tariffs are higher than 15%. They are:

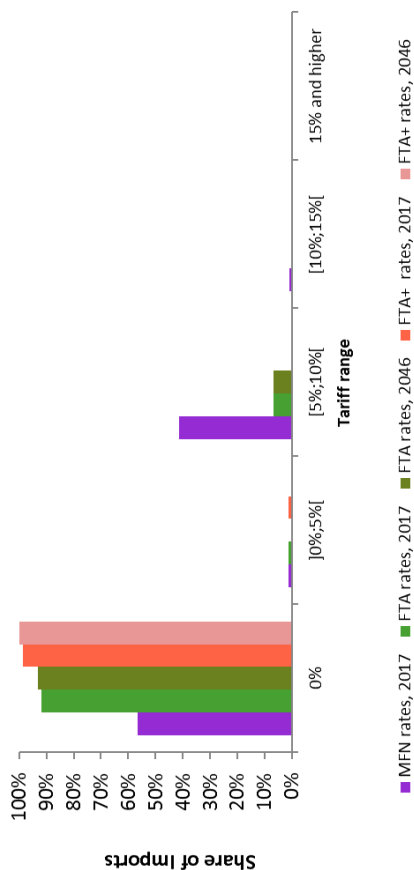
- Motor vehicles and parts: Australia, Vietnam;
- Dairy products: Canada, Japan;
- Meat products: Canada, Vietnam;
- Bovine meat products: Japan, Vietnam;
- Paddy rice: Japan, Malaysia, Vietnam;
- Processed rice: Japan, Malaysia, Vietnam;
- Sugar: Japan;
- Wheat: Japan;
- Cereal grains nec: Japan;
- Beverages and Tobacco products: Malaysia, Vietnam;
- Crops nec: Malaysia;
- Vegetables, fruits nuts: Vietnam.

⁵¹ MFN, currently existing FTA, and FTA+ regimes

1. AUSTRALIA

AUSTRALIA

Share of Imports by Duty Range, from TPP region



Australia (2014)

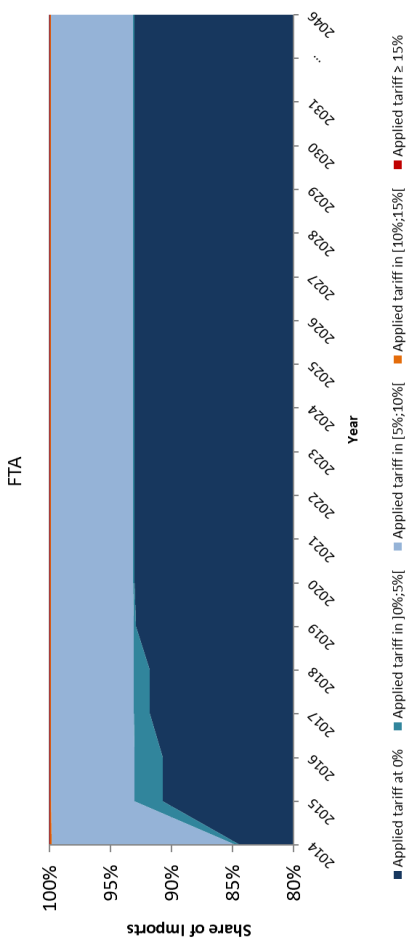
Gross domestic product, current prices	1,482,539 (billion U.S. dollars)
Population	23,599 (million people)
Imports from the TPP area	89,996,379 (thousand U.S. dollars)
Top 3 TPP exporters	United States (31%) Japan (22%) Singapore (17%)
Products mainly imported from the TPP area	Machinery and equipment nec (22%) Motor vehicles and parts (13%) Petroleum, coal products (12%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

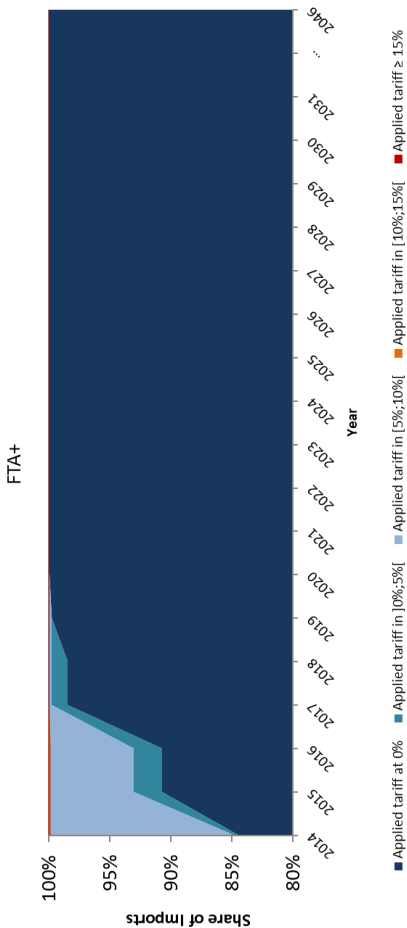
AUSTRALIA

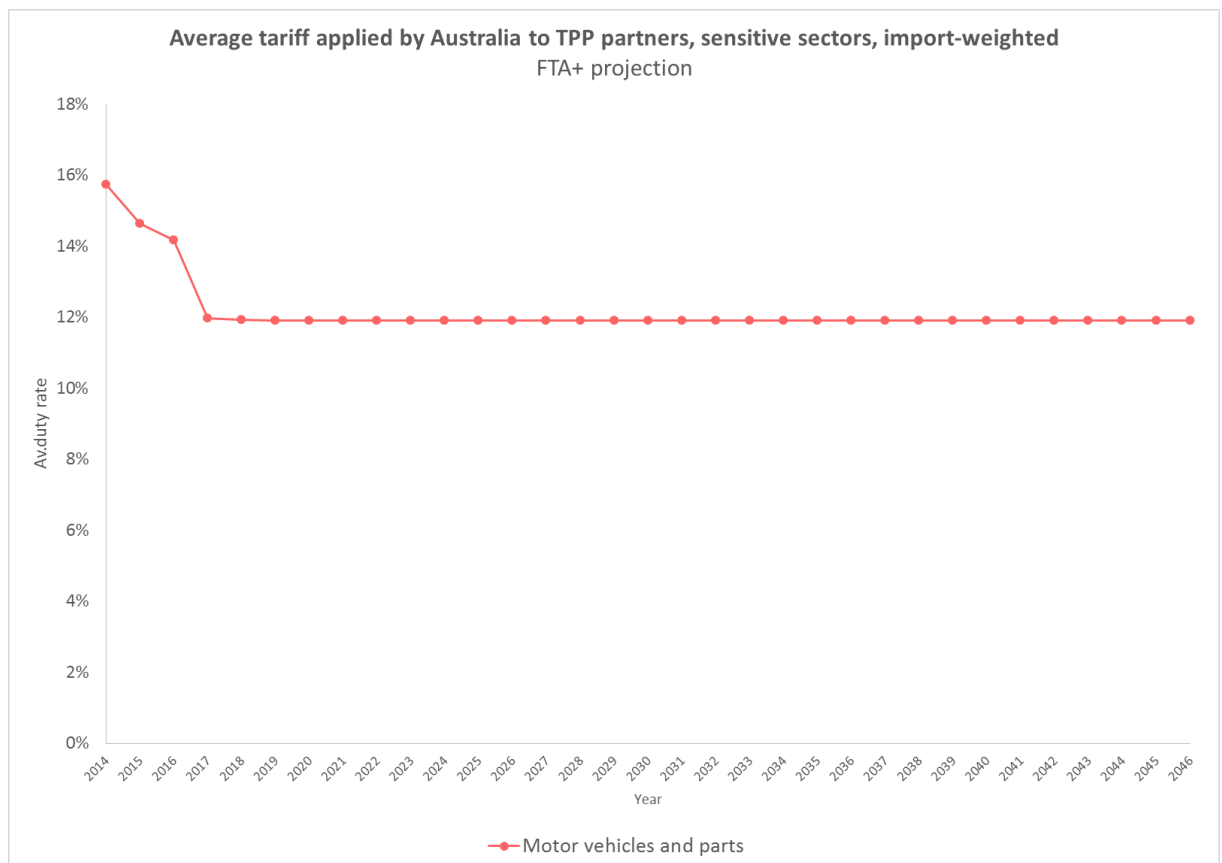
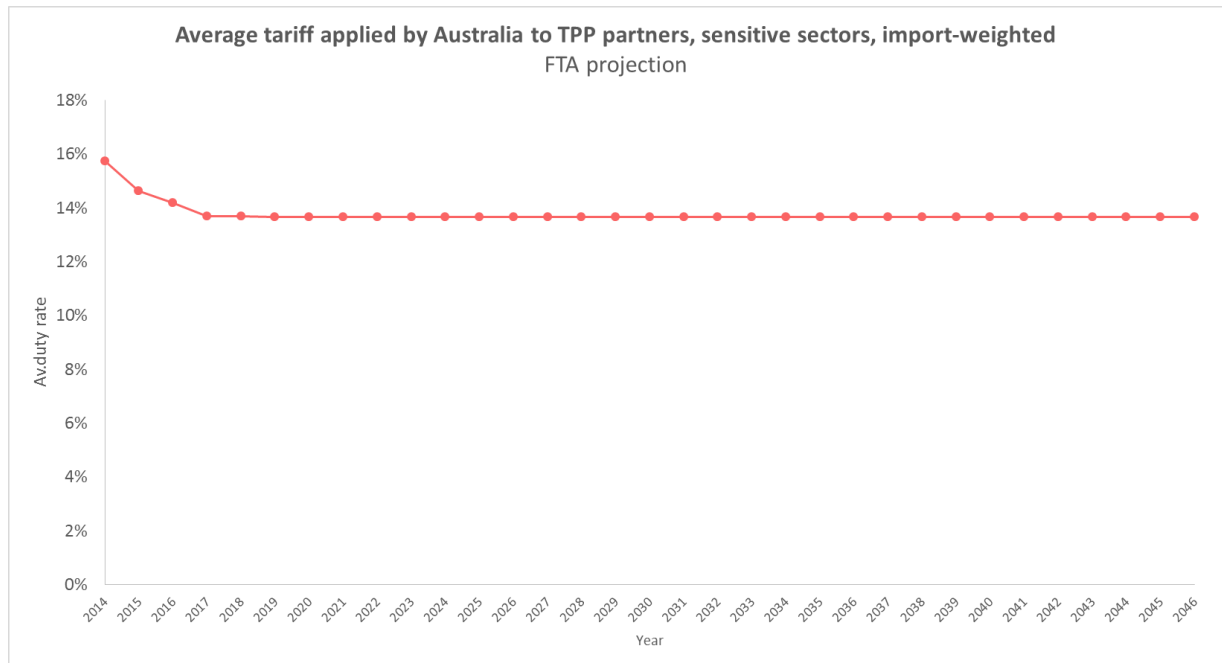
Share of Imports by Duty Range over time, from TPP region



AUSTRALIA

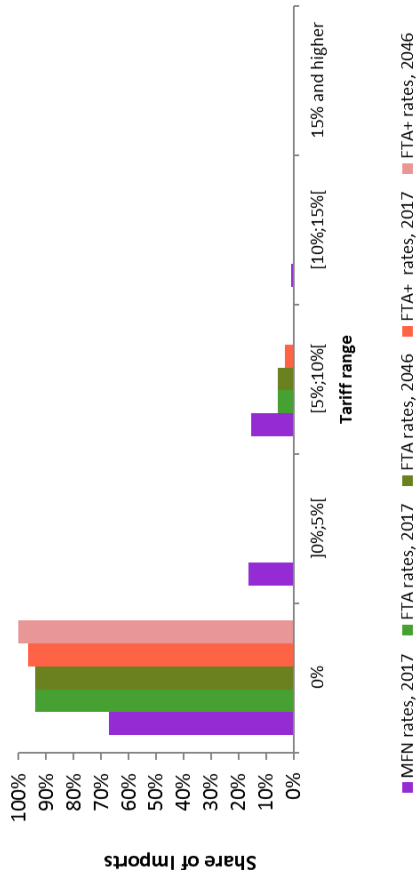
Share of Imports by Duty Range over time, from TPP region





BRUNEI DARUSSALAM

Share of Imports by Duty Range, from TPP region



Brunei Darussalam (2014)

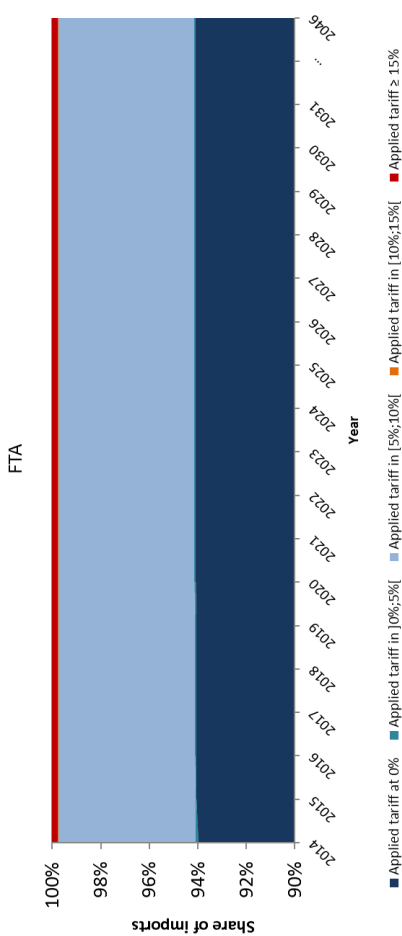
Gross domestic product, current prices	17,426 (billion U.S. dollars)
Population	0,413 (million people)
Imports from the TPP area	3,483,849 (thousand U.S. dollars)
Top 3 TPP exporters	Singapore (53%) Malaysia (25%) United States (9%)
Products mainly imported from the TPP area	Machinery and equipment nec (21%) Transport equipment nec (15%) Petroleum, coal products (9%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

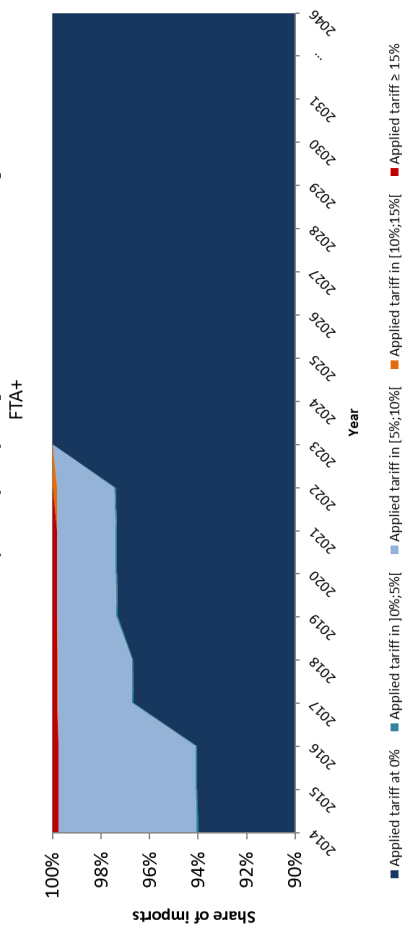
BRUNEI DARUSSALAM

Share of Imports by Duty Range over time, from TPP region



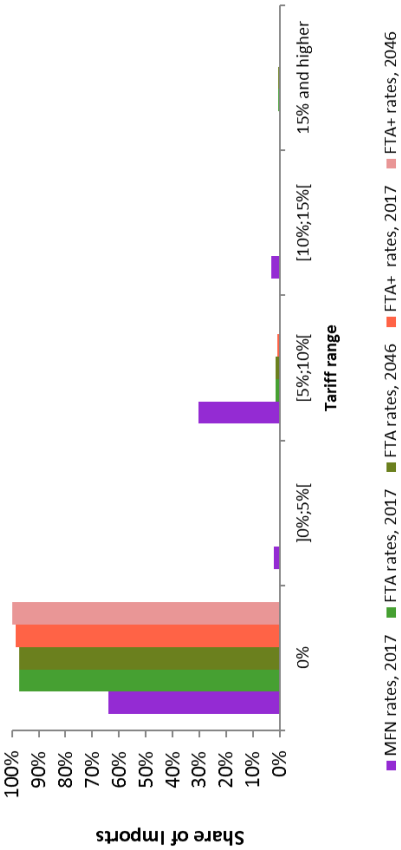
BRUNEI DARUSSALAM

Share of Imports by Duty Range over time, from TPP region



CANADA

Share of Imports by Duty Range, from TPP region



Canada (2014)

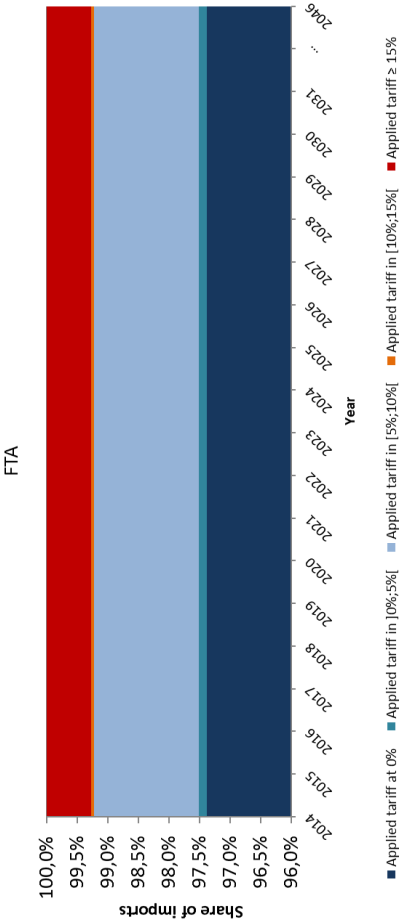
Gross domestic product, current prices	1,793.80 (billion U.S. dollars)
Population	35.467 (million people)
Imports from the TPP area	274,101,374 (thousand U.S. dollars)
Top 3 TPP exporters	United States (80%) Mexico (9%) Japan (5%)
Products mainly imported from the TPP area	Motor vehicles and parts (22%) Machinery and equipment nec (19%) Chemical, rubber, plastic products (14.5%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

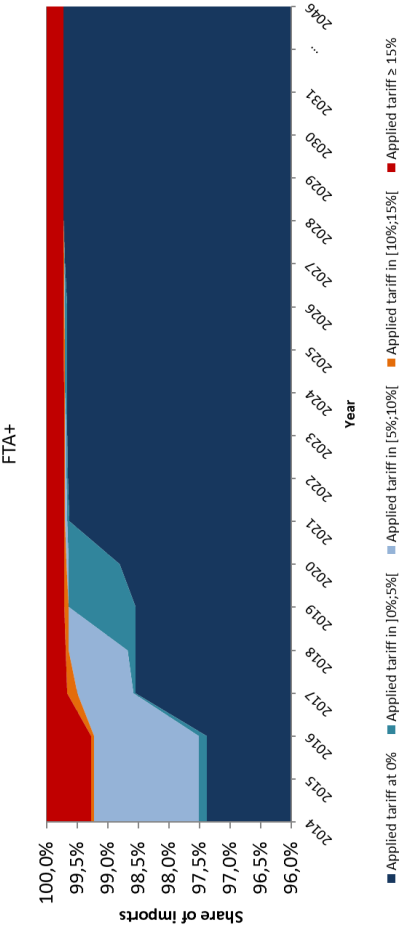
CANADA

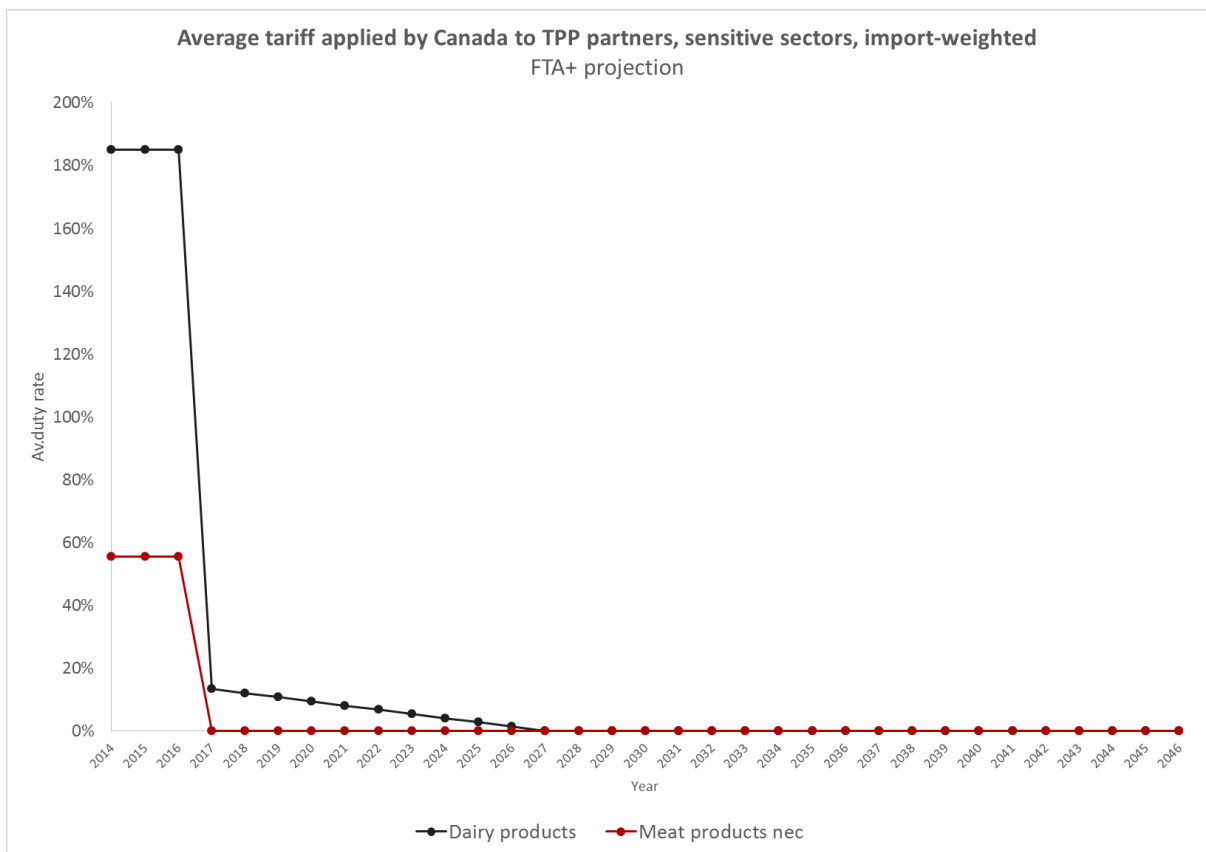
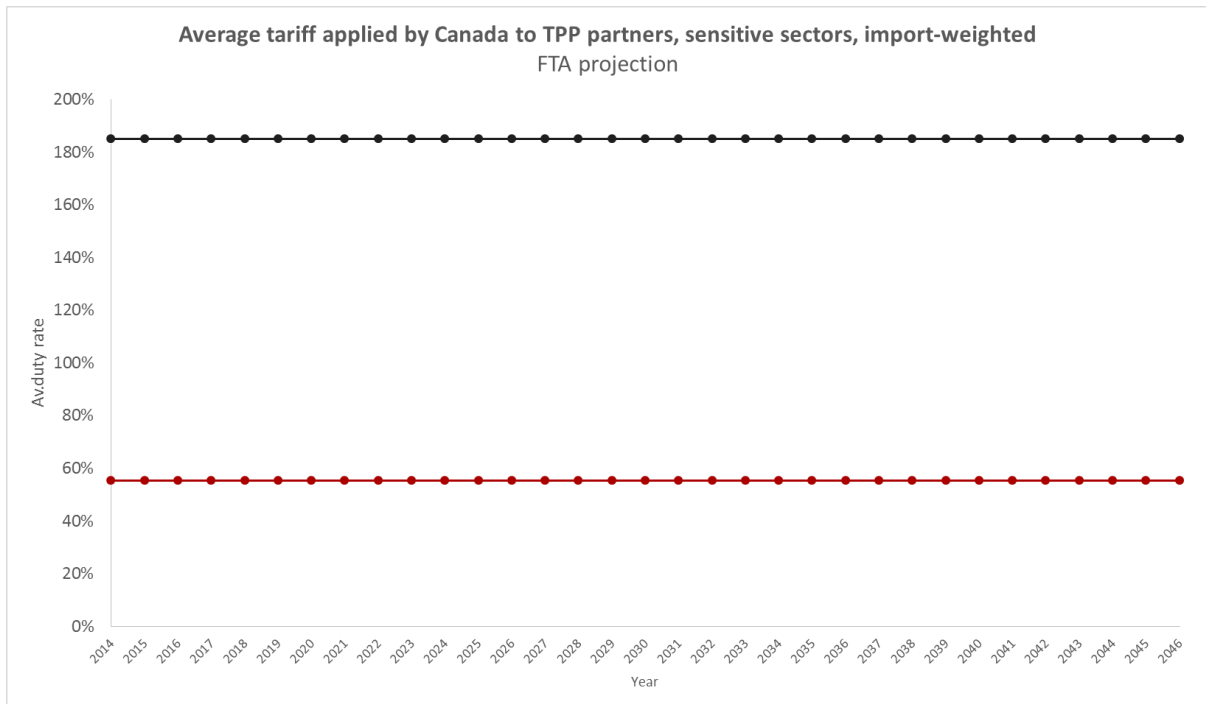
Share of Imports by Duty Range over time, from TPP region



CANADA

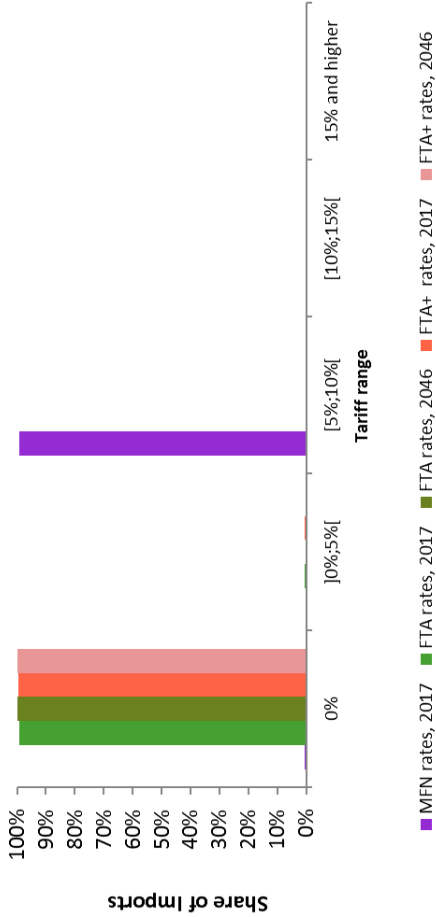
Share of Imports by Duty Range over time, from TPP region





CHILE

Share of Imports by Duty Range, from TPP region



Chile (2014)

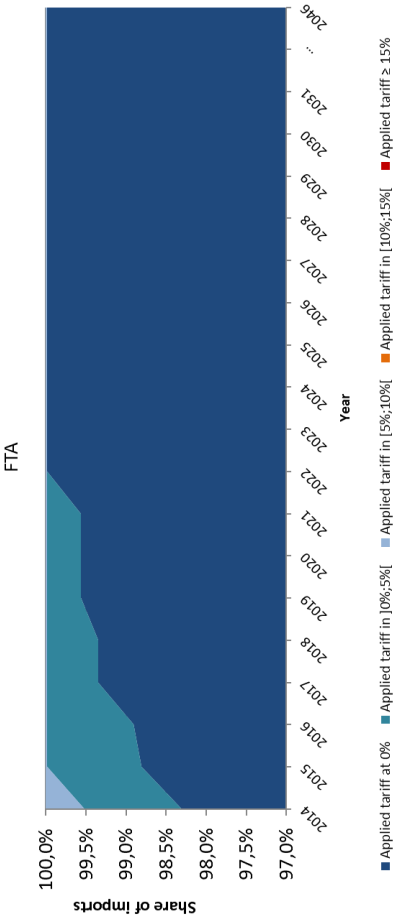
Gross domestic product, current prices	264.095 (billion U.S. dollars)
Population	17.711 (million people)
Imports from the TPP area	27,950,576 (thousand U.S. dollars)
Top 3 TPP exporters	United States (60.7%) Japan (12.6%) Mexico (10.1%)
Products mainly imported from the TPP area	Petroleum, coal products(23%) Machinery and equipment nec (18.5%) Chemical, rubber, plastic products (13.5%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

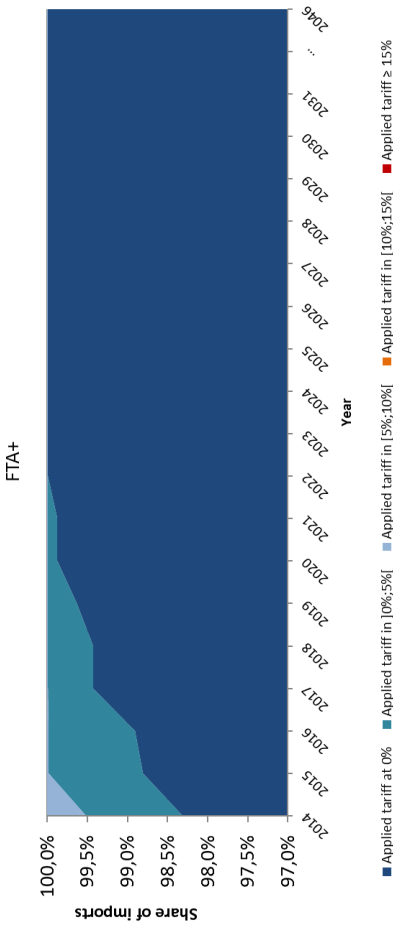
CHILE

Share of Imports by Duty Range over time, from TPP region



CHILE

Share of Imports by Duty Range over time, from TPP region



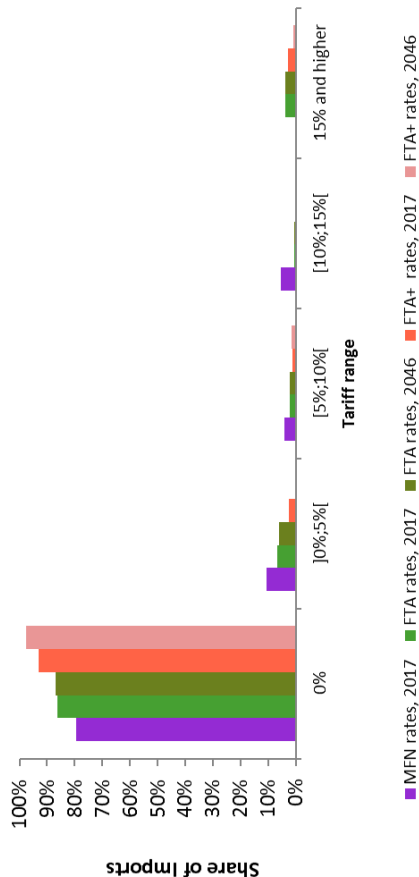
Japan (2014)	
Gross domestic product, current prices	4,769.80 (billion U.S. dollars)
Population	127.061 (million people)
Imports from the TPP area	220,702,052.53 (thousand U.S. dollars)
Top 3 TPP exporters	United States (35%) Australia (24.6%) Malaysia (13.6%)
Products mainly imported from the TPP area	Gas (12.9%) Chemical, rubber, plastic products (10.7%) Minerals nec (10.4%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

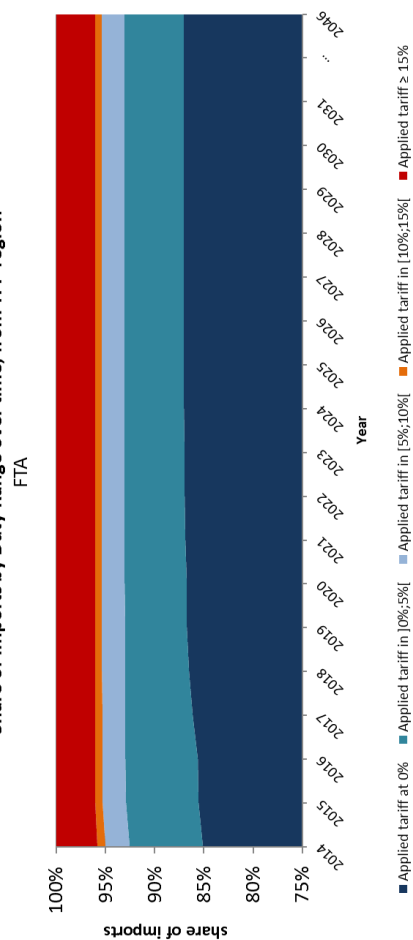
JAPAN

Share of Imports by Duty Range, from TPP region



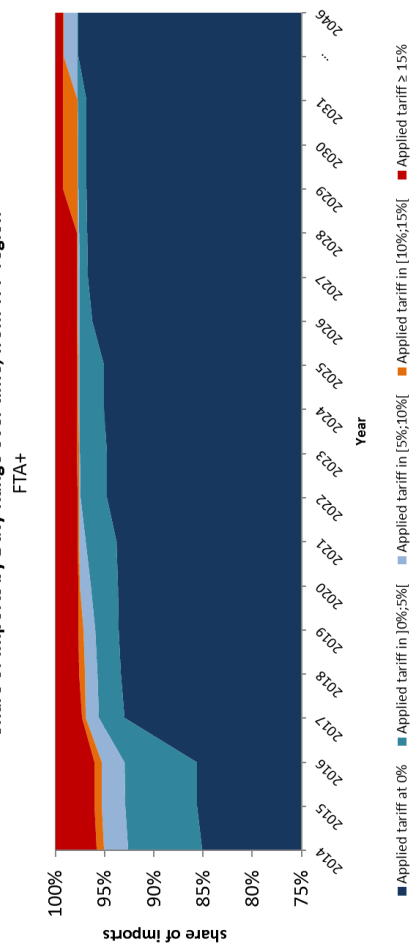
JAPAN

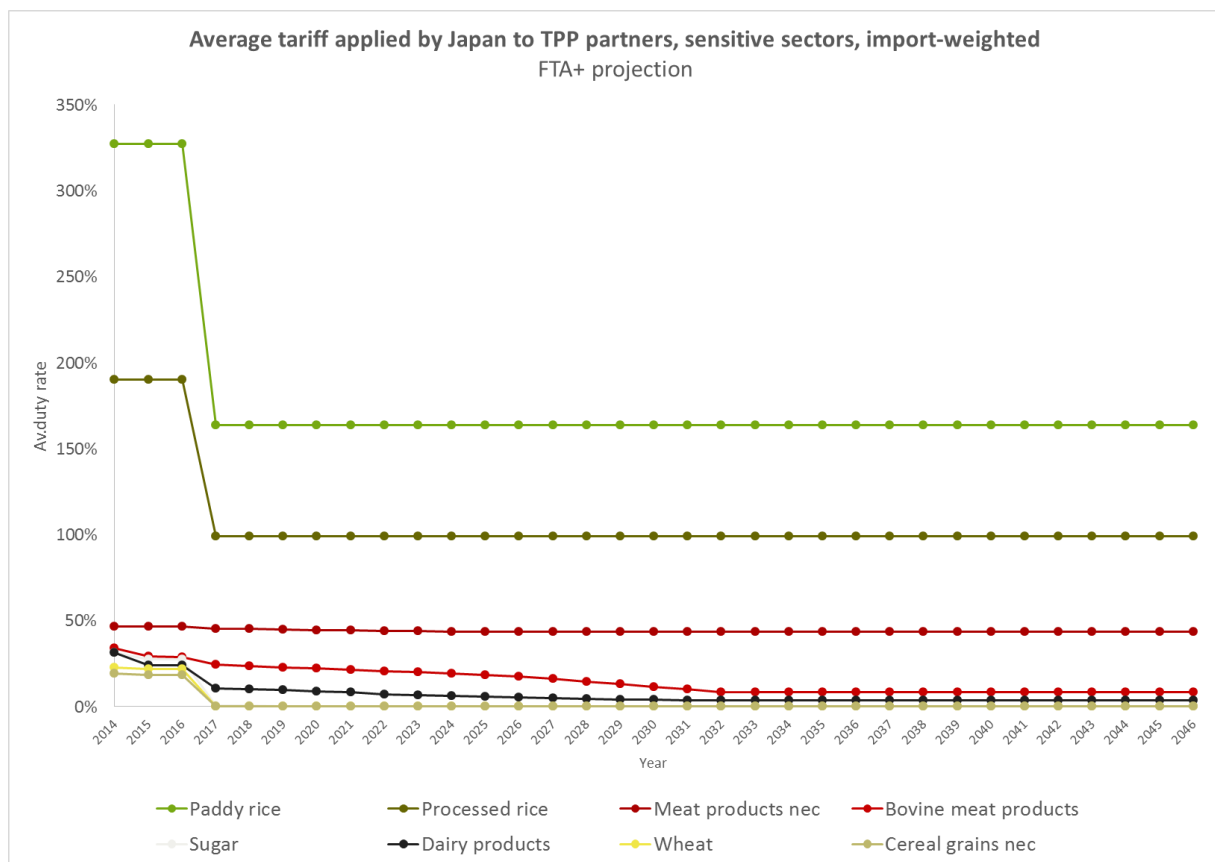
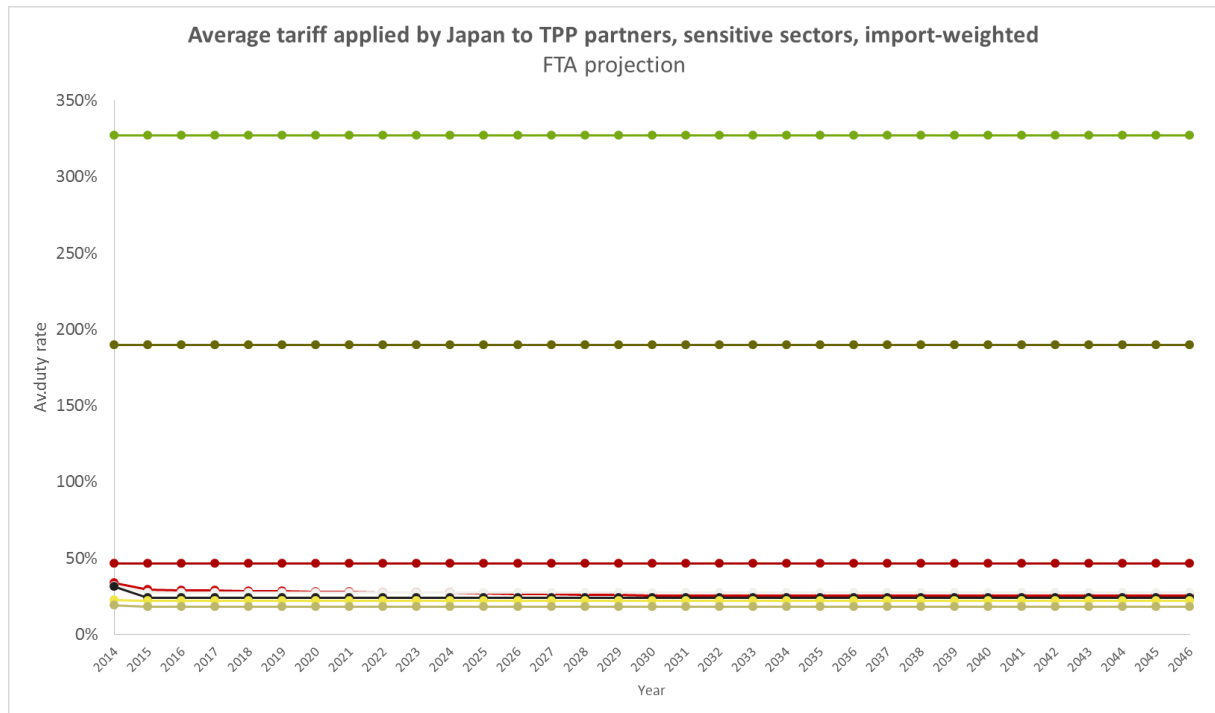
Share of Imports by Duty Range over time, from TPP region



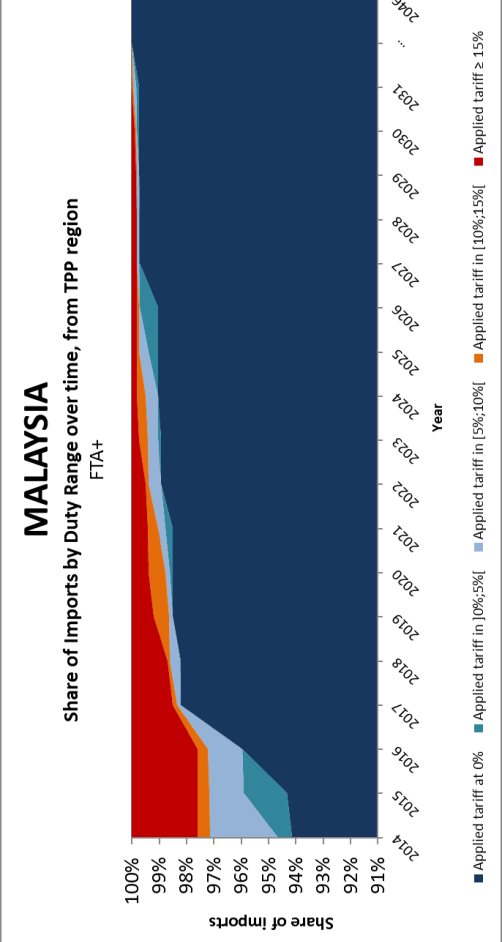
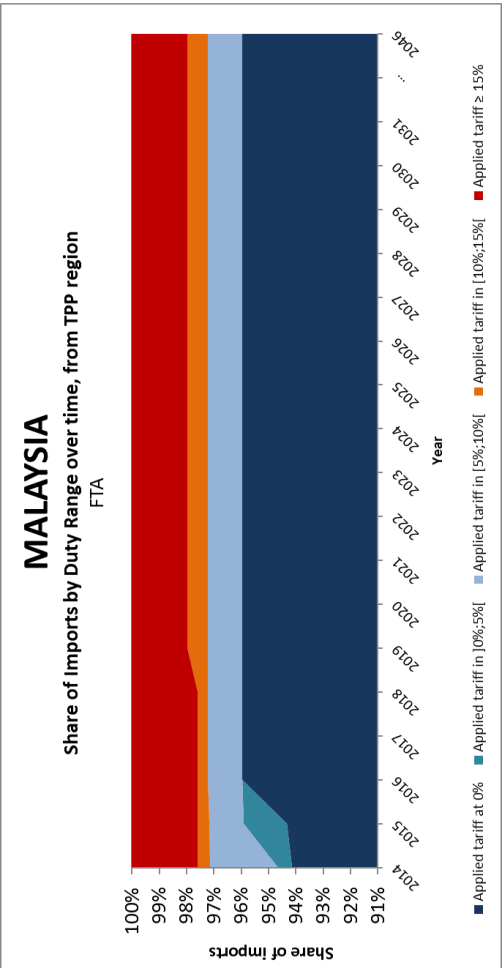
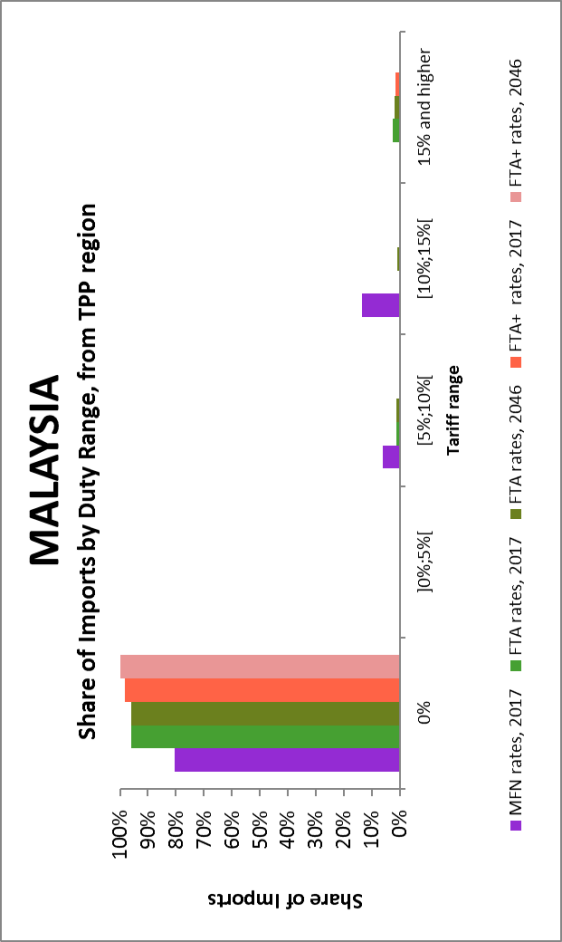
JAPAN

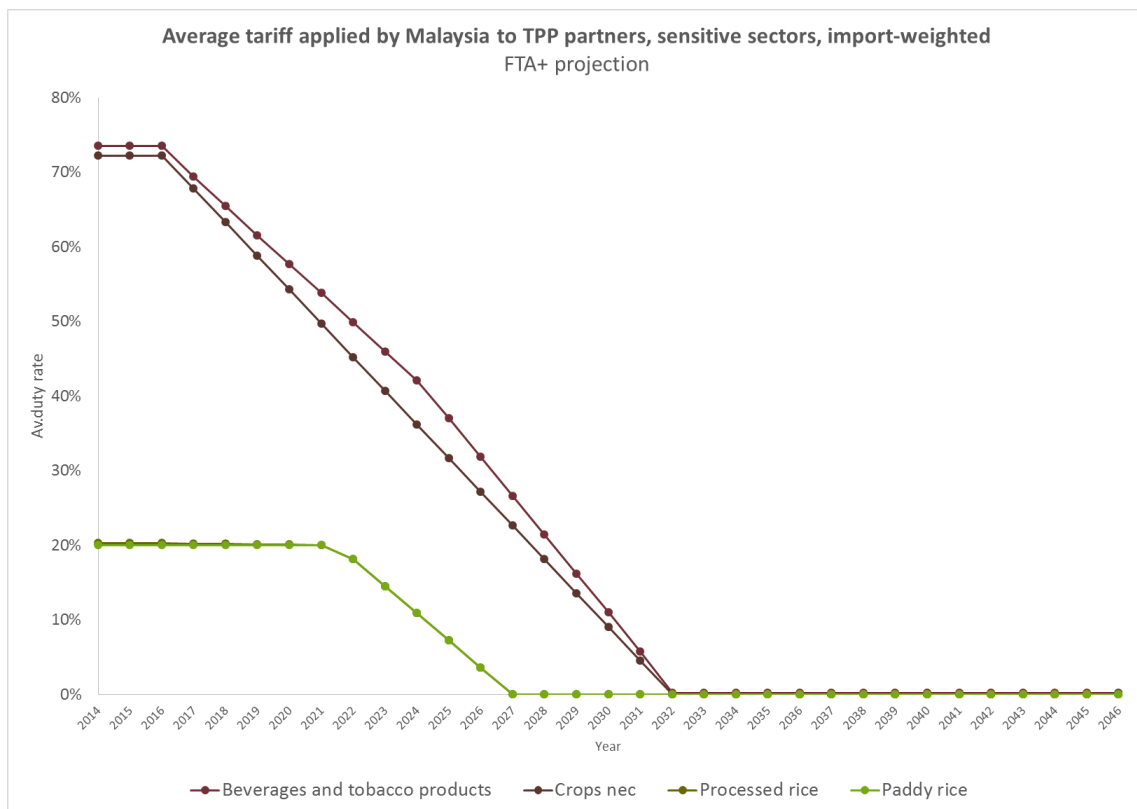
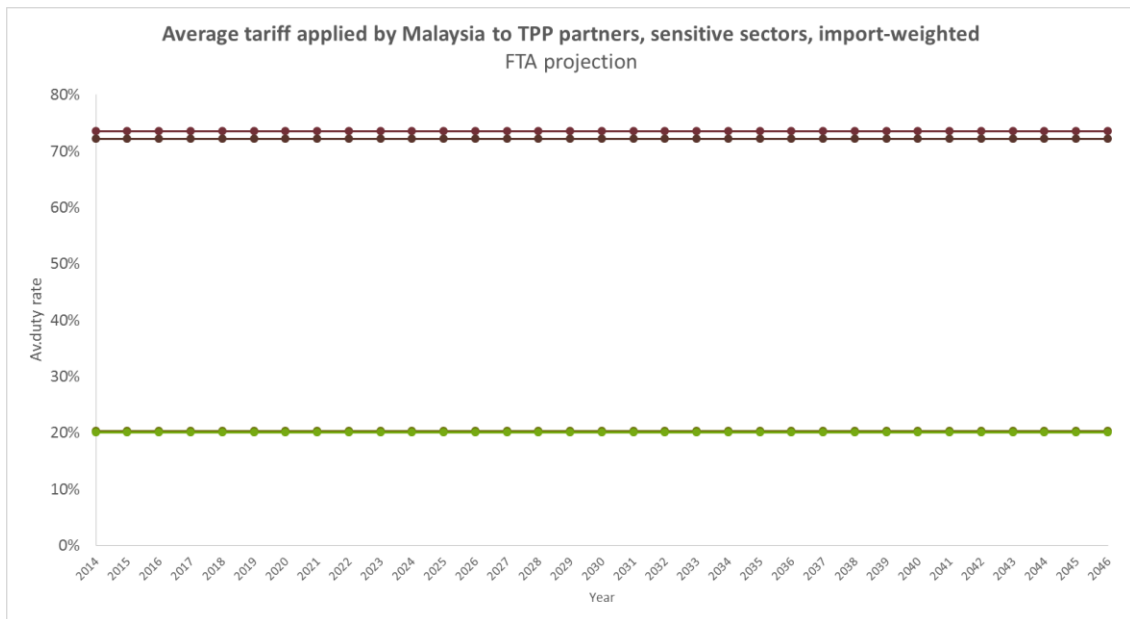
Share of Imports by Duty Range over time, from TPP region





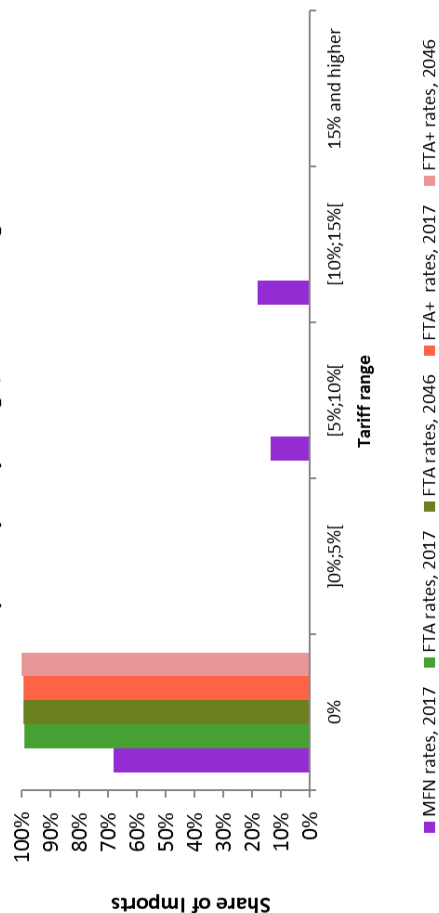
Malaysia (2014)	
Gross domestic product, current prices	336.913 (billion U.S. dollars)
Population	30.457 (million people)
Imports from the TPP area	3,483,849 (thousand U.S. dollars)
Top 3 TPP exporters	
Singapore (31.4%)	
Japan (28.4%)	
United States (23.8%)	
Products mainly imported from the TPP area	
Electronic equipment (27.2%)	
Machinery and equipment nec (17.5%)	
Petroleum, coal products (11.7%)	
Sources	
GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;	
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation	





MEXICO

Share of Imports by Duty Range, from TPP region



Mexico (2014)

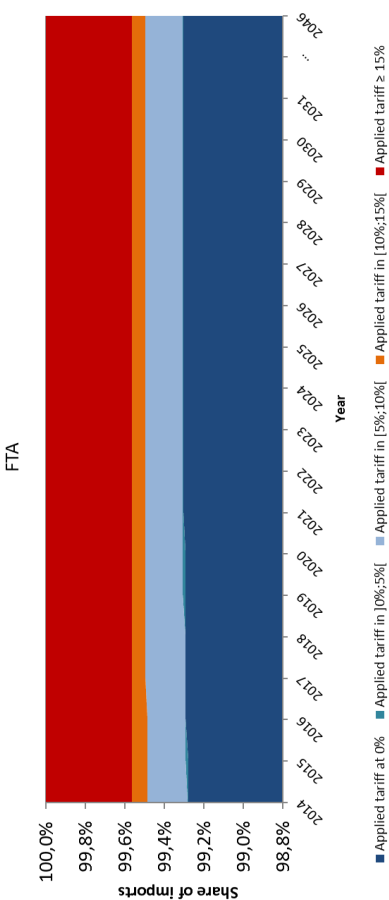
Gross domestic product, current prices	1,295.86 (billion U.S. dollars)
Population	119,581 (million people)
Imports from the TPP area	212,794,670 (thousand U.S. dollars)
Top 3 TPP exporters	United States (81.1%) Japan (8.1%) Canada (4.8%)
Products mainly imported from the TPP area	Machinery and equipment nec (19.8%) Chemical, rubber, plastic products (17.1%) Motor vehicles and parts (12.8%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

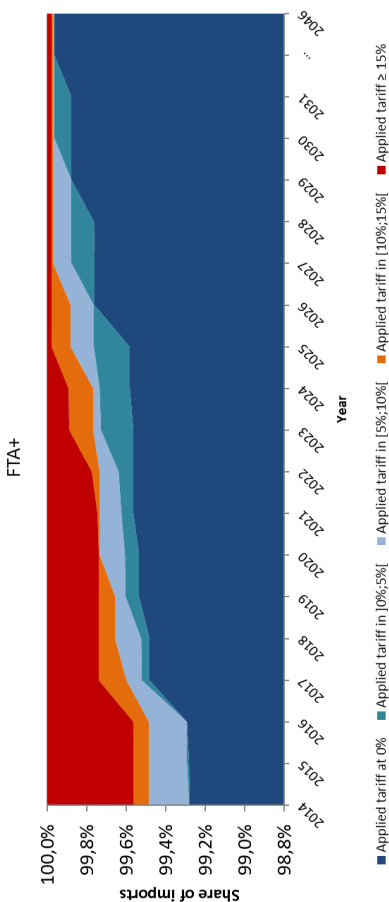
MEXICO

Share of Imports by Duty Range over time, from TPP region



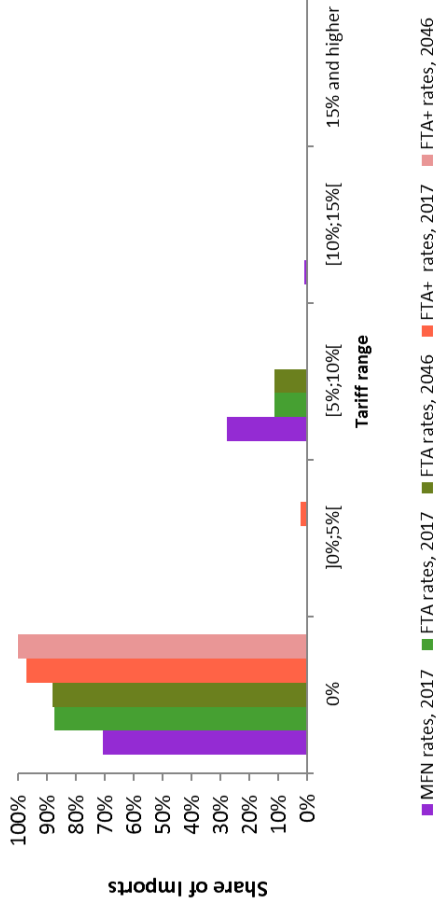
MEXICO

Share of Imports by Duty Range over time, from TPP region



NEW ZEALAND

Share of Imports by Duty Range, from TPP region



New Zealand (2014)

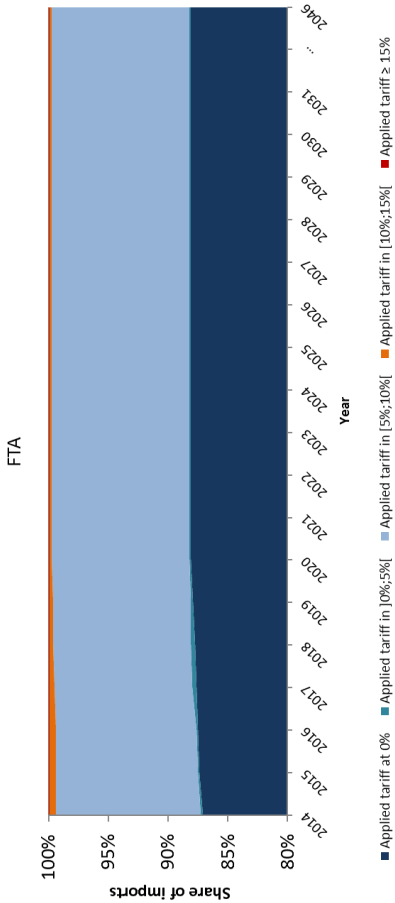
Gross domestic product, current prices	201.028 (billion U.S. dollars)
Population	4.538 (million people)
Imports from the TPP area	18,310,701.71 (thousand U.S. dollars)
Top 3 TPP exporters	Australia (34.1%) United States (9%) Japan (14.1%)
Products mainly imported from the TPP area	Machinery and equipment nec (14.8%) Chemical, rubber, plastic products (13.6%) Petroleum, coal products (12.1%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

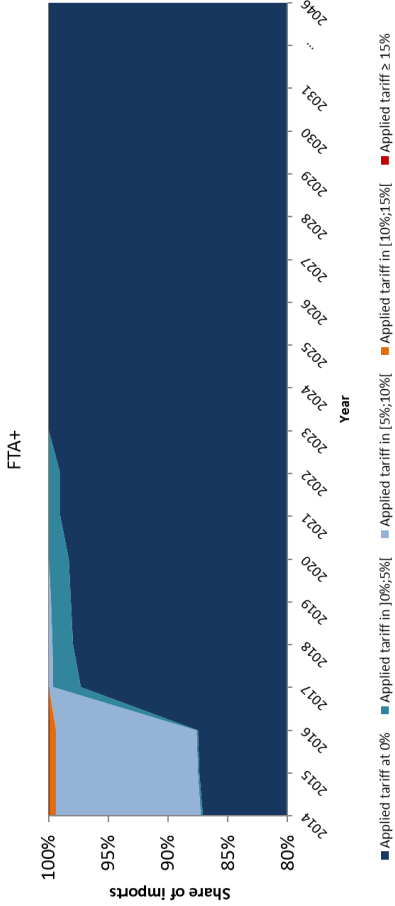
NEW ZEALAND

Share of Imports by Duty Range over time, from TPP region



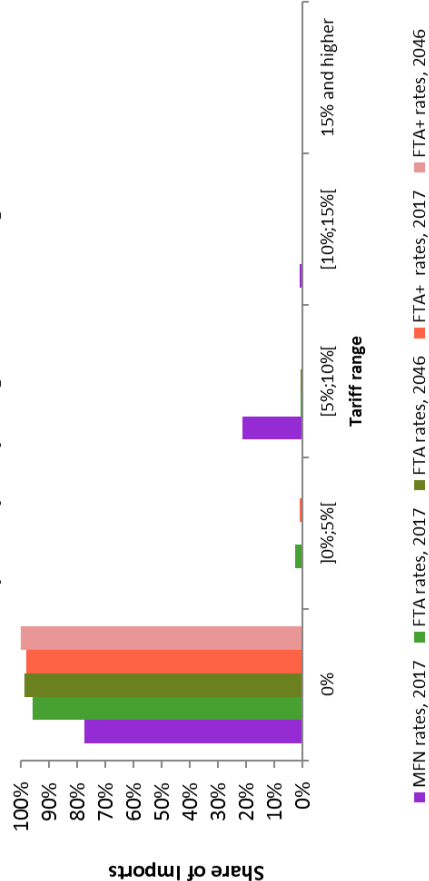
NEW ZEALAND

Share of Imports by Duty Range over time, from TPP region



PERU

Share of Imports by Duty Range, from TPP region



Peru (2014)

Gross domestic product, current prices	208.188 (billion U.S. dollars)
Population	31.424 (million people)
Imports from the TPP area	14,112,756 (thousand U.S. dollars)
Top 3 TPP exporters	United States (57%) Mexico (11.4%) Japan (11.3%)
Products mainly imported from the TPP area	Machinery and equipment nec (23%) Chemical, rubber, plastic products (18%) Petroleum, coal products (14.2%)

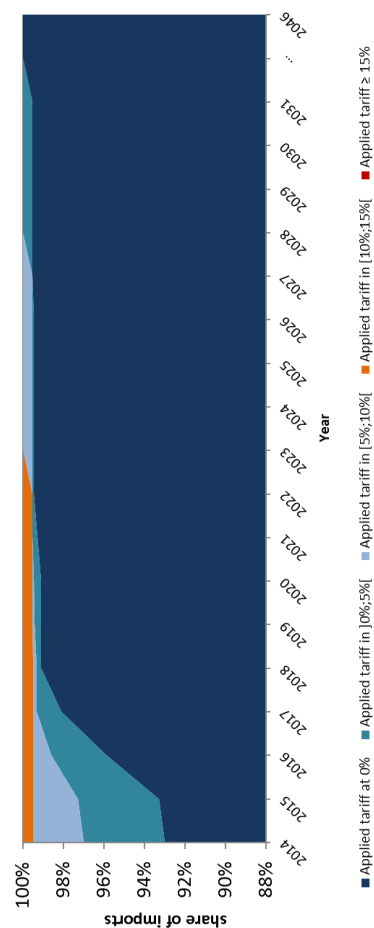
Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

PERU

Share of Imports by Duty Range over time, from TPP region

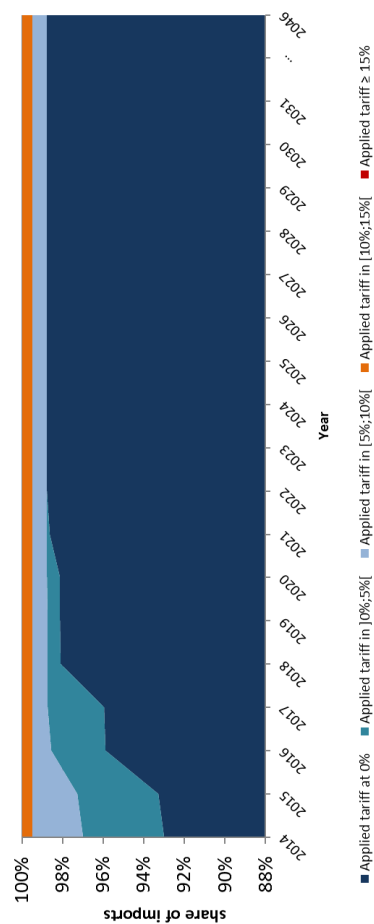
FTA+



PERU

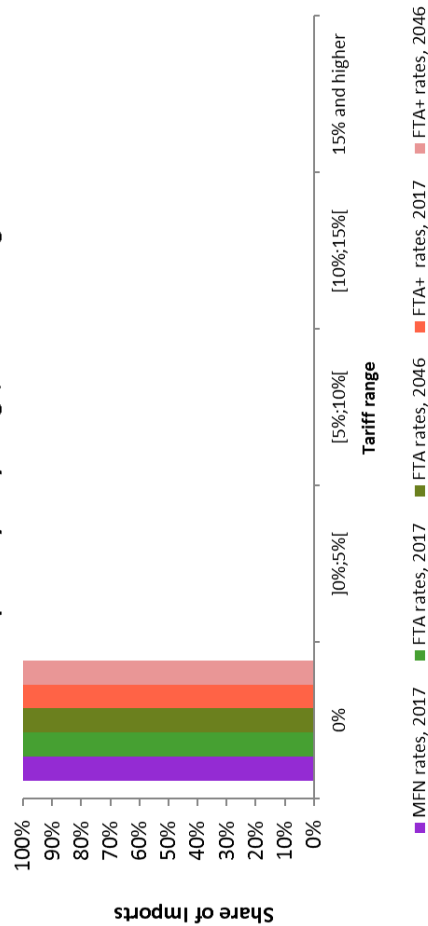
Share of Imports by Duty Range over time, from TPP region

FTA



SINGAPORE

Share of Imports by Duty Range, from TPP region



Singapore (2014)

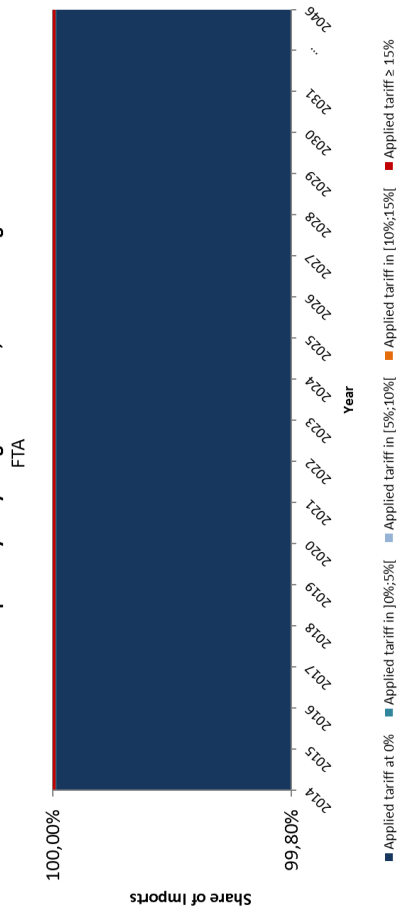
Gross domestic product, current prices	307.085 (billion U.S. dollars)
Population	5.473 (million people)
Imports from the TPP area	120,115,154 (thousand U.S. dollars)
Top 3 TPP exporters	Malaysia (34%) United States (33.6%) Japan (11.3%)
Products mainly imported from the TPP area	Electronic equipment (24.9%) Machinery and equipment nec (21.2%) Petroleum, coal products (15.8%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

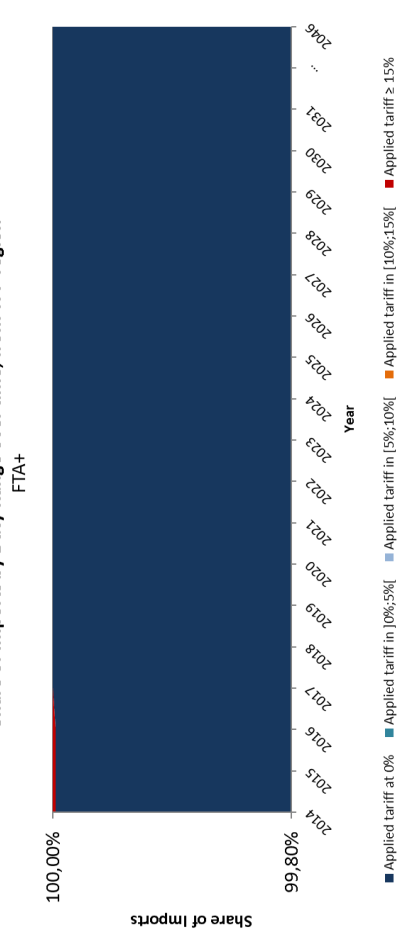
SINGAPORE

Share of Imports by Duty Range over time, from TPP region



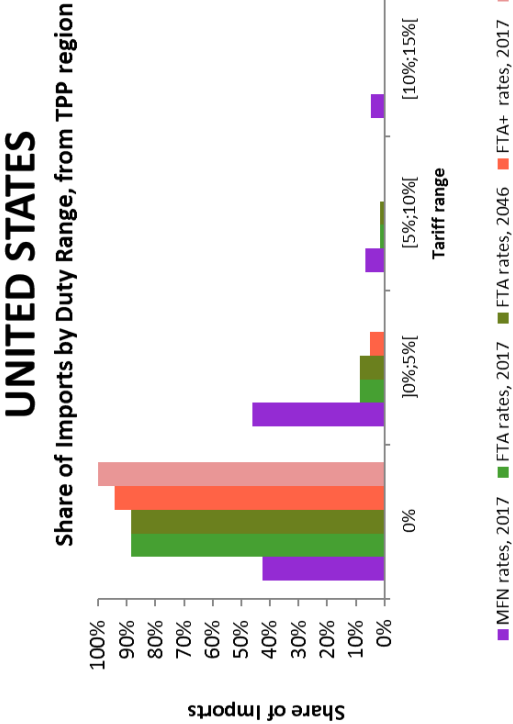
SINGAPORE

Share of Imports by Duty Range over time, from TPP region



United States (2014)	
Gross domestic product, current prices	17,416.25 (billion U.S. dollars)
Population	318.523 (million people)
Imports from the TPP area	799,923,124 (thousand U.S. dollars)
Top 3 TPP exporters	
Canada (38.2%)	
Mexico (32.6%)	
Japan (17.1%)	
Products mainly imported from the TPP area	
Motor vehicles and parts (19.4%)	
Machinery and equipment nec (16%)	
Oil (13%)	

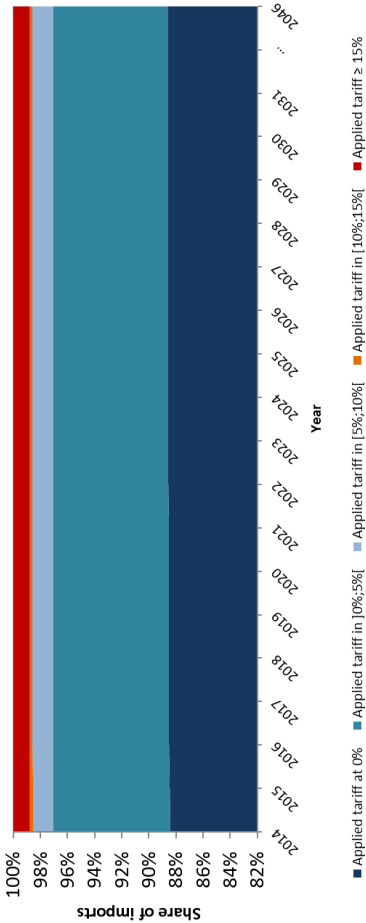
Sources
GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation



UNITED STATES

Share of Imports by Duty Range over time, from TPP region

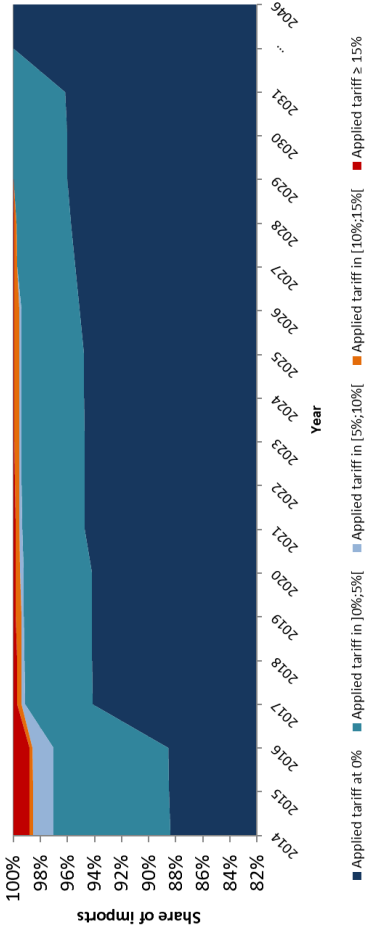
FTA



UNITED STATES

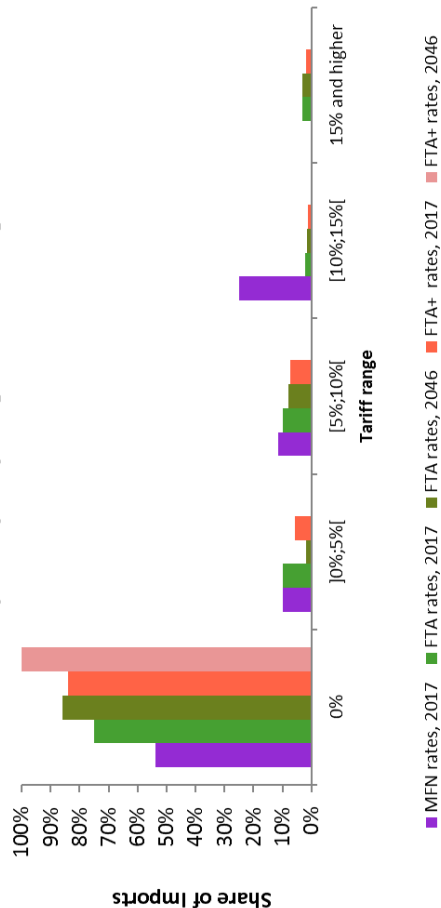
Share of Imports by Duty Range over time, from TPP region

FTA+



VIETNAM

Share of Imports by Duty Range, from TPP region



Vietnam (2014)

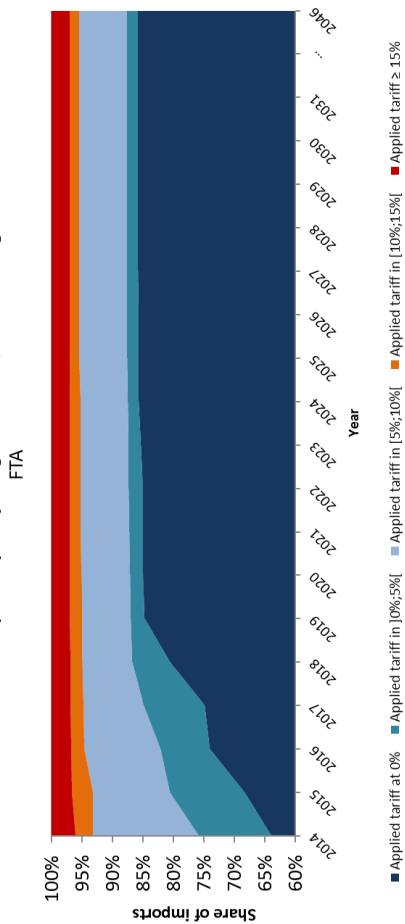
Gross domestic product, current prices	187.848 (billion U.S. dollars)
Population	90.63 (million people)
Imports from the TPP area	39,023,097.71 (thousand U.S. dollars)
Top 3 TPP exporters	Singapore (53%) Malaysia (25%) United States (9%)
Products mainly imported from the TPP area	Machinery and equipment nec (19%) Chemical, rubber, plastic products (13.7%) Electronic equipment (11.7%)

Sources

GDP & Population: International Monetary Fund, World Economic Outlook Database, October 2014;
Trade data: International Trade Center (ITC), Market Analysis and Research section calculation

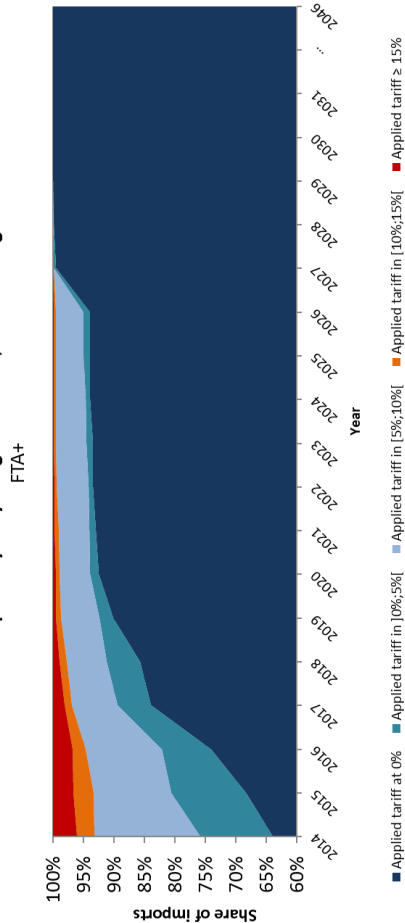
VIETNAM

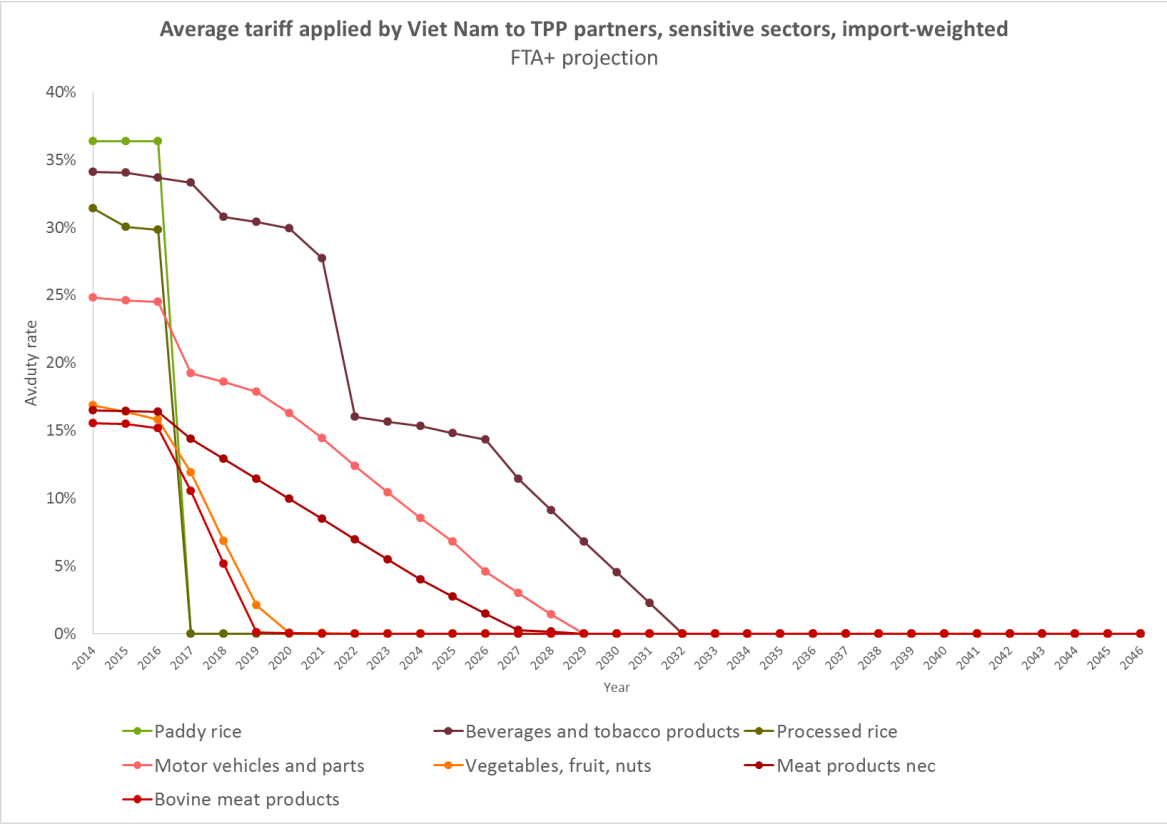
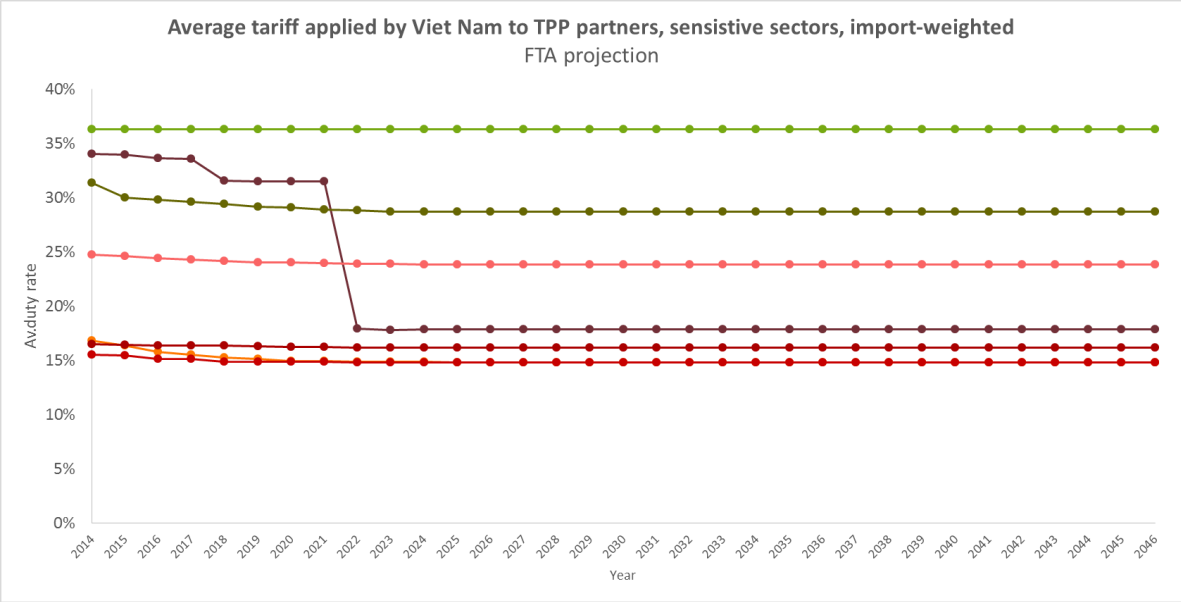
Share of Imports by Duty Range over time, from TPP region



VIETNAM

Share of Imports by Duty Range over time, from TPP region





B. ANNEX-2: Preference Erosion - Tables

Table 1

Importer: Australia

Exporters: Non-TPP countries

1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Motor vehicles and parts	Germany, Republic of Korea, United Kingdom	8.6	21.2	-5.2	-0.9	-5.2	-0.9
Wearing apparel	Italy, Germany, France	0.3	7.4	-1.2	-0.1	-1.3	-0.1
Beverages and tobacco products	France, United Kingdom, Italy	1.1	3.7	-1.8	-0.1	-1.8	-0.1
Rest of sectors		49	2.4	-0.9	0	-0.9	0

2. Developing countries

Motor vehicles and parts	Thailand, China, South Africa	6	3.5	6.2	-0.3	6.2	-0.3
Wearing apparel	China, India, Indonesia	4.2	8.6	-3.8	-0.2	-4	-0.1
Manufactures nec	China, India, Thailand	3.2	3.1	-0.8	-0.1	-0.8	-0.1
Rest of sectors		69	1.9	-0.5	0	-0.6	0

3. LDCs

Machinery and equipment nec	Samoa, Niger, United Republic of Tanzania	0.02	0	2.3	-0.1	2.2	-0.2
Textiles	Bangladesh, Cambodia, Nepal	0.3	0	8.7	-0.1	8.7	-0.1
Motor vehicles and parts	Timor-Leste, Solomon Islands, United Republic of Tanzania	0	0	0.9	-0.1	0.9	-0.1
Rest of sectors		0.6	0	4.8	0	4.7	0

Table 1

Importer: Brunei Darussalam

Exporters: Non-TPP countries

1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Dairy products	Ireland, Netherlands, United Kingdom	0	54.8	-41.6	0	-41.6	-8.9
Food products nec	United Kingdom, Ireland, Italy	0.01	17.8	-13.5	0	-13.5	-2.9
Chemical, rubber, plastic products	United Kingdom, Chinese Taipei, Republic of Korea	0.04	6.4	-4.9	0	-4.9	-1
Rest of sectors		0.6	0.8	-0.5	-0.1	-0.5	-0.2

2. Developing countries

Dairy products	Indonesia, Thailand, Philippines	0	5.8	8.7	0	8.7	-6
Food products nec	Indonesia, Thailand, China	0.04	0.5	0.8	0	0.8	-0.5
Machinery and equipment nec	China, Thailand, Indonesia	0.1	1.2	0.2	-0.2	0.2	-0.5
Rest of sectors		0.6	0.3	0.1	-0.1	0.1	-0.1

3. LDCs

Processed rice	Cambodia, Bangladesh	0	0	0	0	0	0
Rest of sectors		0	0.2	0	0	0	0

Table 2

Importer: Canada
Exporters: Non-TPP countries
1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Vegetable oils and fats	Italy, Spain, Greece	0.2	3.2	-0.6	-0.5	-0.6	-2.3
Wearing apparel	Italy, Romania, France	0.4	15	-3.4	-0.6	-3.4	-0.8
Leather products	Italy, France, Spain	0.6	9.3	-1.6	-0.4	-1.6	-0.7
Rest of sectors		68	2.9	-1	0	-1	-0.1

2. Developing countries

Bovine meat products	Uruguay, China, Brazil	0.08	26.1	-4.1	-22	-4.1	-22
Leather products	China, Indonesia, India	2.7	10.1	-1.8	-2.5	-1.8	-3.5
Wearing apparel	China, India, Indonesia	4.6	15.2	-5.6	-1.4	-5.6	-2.2
Rest of sectors		78	1.5	-0.6	-0.1	-0.6	-0.1

3. LDCs

Leather products	Cambodia, Bangladesh, Ethiopia	0.09	0	13.9	-0.9	13.9	-2
Wearing apparel	Bangladesh, Cambodia, Lao People's Dem	1.2	0	12.9	-0.7	12.9	-1.5
Textiles	Bangladesh, Cambodia, Haiti	0.6	0	13.1	-0.3	13.1	-1.1
Rest of sectors		1.6	0	0.1	0	0.1	0

Table 3

Importer: Chile
Exporters: Non-TPP countries
1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Animal products nec	Belgium, Germany, Italy	0.02	0.1	0	0	0	0
Chemical, rubber, plastic products	Germany, Spain, France	2.7	0.5	-0.1	0	-0.1	0
Dairy products	Spain, Netherlands, Germany	0.07	5.7	-3.8	0	-3.8	0
Rest of sectors		10	0.3	0.2	0	0.2	0

2. Developing countries

Animal products nec	Brazil, China, Uruguay	0	0	0.9	0	0.9	-0.2
Vegetables, fruit, nuts	Ecuador, Argentina, China	0.1	0.3	1.6	0	1.6	0
Metals nec	China, Argentina, Brazil	0.3	0.2	0.1	0	0.1	0
Rest of sectors		30	0.8	-0.2	0	-0.2	0

3. LDCs

Wearing apparel	Bangladesh, Cambodia, Myanmar	0.03	0	0.8	0	0.7	0
Textiles	Bangladesh, Cambodia, Afghanistan	0.03	0	0.4	0	0.4	0
Gas	Equatorial Guinea	0.05	0	5.9	0	5.9	0
Rest of sectors		0.4	0	0	0	0	0

Table 4

Importer: Japan
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Bovine cattle, sheep and goats, horse	United Kingdom, France, Germany	0.04	24.8	0	-21	0	-21
Dairy products	Republic of Korea, Netherlands, France	0.8	42.1	0	-15	-0.1	-18
Cereal grains nec	Romania, Germany, France	0.04	28.9	-7.1	-7.5	-7.1	-7.5
Rest of sectors		145	2.6	-0.5	-0.2	-0.5	-0.3

2. Developing countries

Dairy products	China, Thailand, Turkey	0.3	38.3	2.2	-12	2	-14
Cereal grains nec	Brazil, Ukraine, Argentina	0.8	13.7	0	-12	0	-12
Oil seeds	Brazil, Nigeria, China	0.7	12.1	0	-6	0	-6.2
Rest of sectors		452	1.5	-0.4	-0.1	-0.4	-0.2

3. LDCs

Vegetables, fruit, nuts	Myanmar, Malawi, Mozambique	0.03	0	66.1	-35	66.1	-35
Bovine meat products	Vanuatu	0	0	32.5	-5.4	29.3	-20
Leather products	Cambodia, Bangladesh, Myanmar	0.5	16.7	39.1	-1.5	38.8	-3
Rest of sectors		5.7	0.2	2.6	0	2.5	0

Table 5

Importer: Malaysia
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Beverages and tobacco products	France, United Kingdom, Netherlands	0.4	114.1	-4.7	-1.7	-4.7	-28
Crops nec	Germany, Italy, Chinese Taipei	0.05	154	-57.6	-0.5	-57.6	-8.2
Mineral products nec	Chinese Taipei, Germany, Republic of Korea	0.3	12.6	-8.7	-0.3	-8.7	-1.7
Rest of sectors		44	2.9	-1.7	-0.1	-1.7	-0.2

2. Developing countries

Beverages and tobacco products	Indonesia, Thailand, China	0.3	25.6	12.2	-0.5	12.2	-10
Processed rice	Thailand, Pakistan, India	0.3	26.4	-2.3	0	-2.3	-8.9
Crops nec	Indonesia, Ghana, Côte d'Ivoire	1.6	23.7	4.9	-0.2	4.9	-2.7
Rest of sectors		87	0.8	0.7	-0.1	0.7	-0.3

3. LDCs

Beverages and tobacco products	Nepal, Cambodia, Bangladesh	0	125.1	-37.4	-0.9	-37.4	-14
Processed rice	Cambodia, Myanmar, Bangladesh	0.04	20	4.2	0	4.2	-6.8
Crops nec	Madagascar, Uganda, United Republic of Tanzania	0.09	26.2	-9.1	-0.1	-9.1	-1.4
Rest of sectors		11	0.2	0	0	0	0

Table 6

Importer: Mexico
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Leather products	Italy, Spain, France	0.4	0.4	7.5	-0.1	7.5	-1.4
Wearing apparel	Italy, Spain, Portugal	0.3	2.8	11.4	-0.2	11.4	-1.3
Bovine meat products	Germany, Denmark, United Kingdom	0	1.2	2.3	-0.8	2.3	-1.1
Rest of sectors		65	0.9	0.1	0	0.1	0

2. Developing countries

Leather products	China, Brazil, Argentina	1.7	12.8	-5.1	-0.5	-5.1	-4.2
Wearing apparel	China, India, Turkey	1.6	20.1	-5.4	-0.4	-5.4	-2.9
Food products nec	China, Guatemala, Honduras	0.9	11.3	-2.6	-0.9	-2.6	-2.8
Rest of sectors		88	2.7	-1.9	0	-1.9	-0.1

3. LDCs

Leather products	Cambodia, Bangladesh, Nepal	0.02	20.2	-2.9	-0.7	-2.9	-5.3
Wearing apparel	Bangladesh, Cambodia, Myanmar	0.2	22.9	-4.9	-0.3	-4.9	-2
Textiles	Bangladesh, Cambodia, Haiti	0.1	22.4	-9.1	0	-9.1	-1
Rest of sectors		0.08	6.1	-4	0	-4	0

Table 7

Importer: New Zealand
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Motor vehicles and parts	Germany, Republic of Korea, United Kingdom	1.7	5.5	-0.9	-2.5	-0.9	-2.5
Dairy products	Germany, Netherlands, Ireland	0.2	3.2	-0.9	-1.6	-0.9	-1.6
Meat products nec	Denmark, Finland, Sweden	0.08	4.5	-1.4	-0.5	-1.4	-1
Rest of sectors		8.7	1.9	-0.9	-0.3	-0.9	-0.4

2. Developing countries

Motor vehicles and parts	Thailand, China, India	0.8	0.7	2.4	-1.7	2.4	-1.7
Machinery and equipment nec	China, Thailand, Indonesia	1.6	0.3	1.8	-0.7	1.8	-0.7
Meat products nec	Thailand, China, Fiji	0.01	0.1	0.7	-0.6	0.7	-0.6
Rest of sectors		11	0.5	0.7	-0.2	0.6	-0.2

3. LDCs

Machinery and equipment nec	Vanuatu, Samoa, Sierra Leone	0	0	0.7	-0.3	0.7	-0.3
Textiles	Bangladesh, Cambodia, Haiti	0.03	0	4.4	-0.1	4.3	-0.3
Wood products	Solomon Islands, Myanmar, Cambodia	0	0	0.8	-0.2	0.8	-0.2
Rest of sectors		0.06	0	1.7	-0.1	1.6	-0.1

Table 8

Importer: Peru
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Leather products	Italy, Spain, Republic of Korea	0.01	8.4	-1.4	-0.3	-1.4	-0.8
Wearing apparel	Italy, Spain, Portugal	0.01	10.3	-1.1	0	-1.1	-0.4
Vegetable oils and fats	Spain, Italy, Denmark	0.01	2.2	-1.4	-0.3	-1.4	-0.4
Rest of sectors		7.1	1.9	-0.8	-0.1	-0.9	0

2. Developing countries

Leather products	China, Brazil, Indonesia	0.4	8.6	-0.9	-0.6	-0.9	-3.5
Wearing apparel	China, Colombia, India	0.5	8.9	-1.4	0	-1.4	-1.1
Wood products	China, Brazil, Ecuador	0.2	3.1	-0.1	-0.4	-0.3	-0.5
Rest of sectors		20	1.3	-0.3	0	-0.3	0

3. LDCs

Leather products	Bangladesh, Cambodia, Myanmar	0	11	-1	-0.4	-1	-1.4
Wearing apparel	Bangladesh, Cambodia, Myanmar	0.02	10.9	-0.6	0	-0.6	-0.4
Textiles	Bangladesh, Cambodia, Nepal	0.01	10.9	-0.5	0	-0.5	-0.2
Rest of sectors		0	2.8	-2.4	0	-2.4	0

Table 9

Importer: Singapore
 Exporters: Non-TPP countries
 1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Beverages and tobacco products	France, United Kingdom, Republic of Korea	2.2	2.8	-2	-0.1	-2	-0.1
Chemical, rubber, plastic products	France, Germany, Chinese Taipei	9.7	0	0	0	0	0
Bovine meat products	Denmark, Netherlands, Germany	0.01	0	0	0	0	0
Rest of sectors		89	0	0	0	0	0

2. Developing countries

Beverages and tobacco products	China, Indonesia, Hong Kong, China	0.7	0.2	2.2	-0.5	2.2	-0.5
Coal	Indonesia, Ukraine, China	0.04	0	0	0	0	0
Bovine meat products	Brazil, China, Argentina	0.07	0	0	0	0	0
Rest of sectors		151	0	0	0	0	0

3. LDCs

Beverages and tobacco products	Lao People's Democratic Republic, Cambodia	0.02	0	0.3	0	0.3	0
Electronic equipment	Ethiopia, Bangladesh, Myanmar	0.01	0	0	0	0	0
Chemical, rubber, plastic products	Madagascar, Cambodia, Bangladesh	0	0	0	0	0	0
Rest of sectors		2.1	0	0	0	0	0

Table 10

Importer: United States of America

Exporters: Non-TPP countries

1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Wearing apparel	Italy, France, Chinese Taipei	3.2	9.9	-1.1	-0.8	-1.1	-1
Leather products	Italy, France, Spain	4.6	6.9	-0.3	-0.5	-0.3	-0.6
Textiles	Republic of Korea, Italy, Chinese Taipei	6.1	5.2	0	-0.3	0	-0.5
Rest of sectors		564	1.1	-0.3	0	-0.3	-0.1

2. Developing countries

Leather products	China, Indonesia, India	30	12.4	-0.9	-5.2	-0.9	-5.8
Bovine meat products	Nicaragua, Uruguay, Costa Rica	0.5	5.5	-2.2	-1.4	-2.2	-2.8
Wearing apparel	China, Indonesia, India	44	10.6	-0.7	-1.7	-0.7	-2.3
Rest of sectors		804	1.2	-0.3	-0.1	-0.3	-0.1

3. LDCs

Wearing apparel	Bangladesh, Cambodia, Haiti	7	11	-1.4	-1.1	-1.4	-1.7
Leather products	Cambodia, Bangladesh, Ethiopia	0.3	11.3	0.5	-1.4	0.5	-1.6
Textiles	Bangladesh, Cambodia, Haiti	2.1	7.9	-0.4	-0.9	-0.4	-1.3
Rest of sectors		10	0.4	0.1	0	0.1	0

Table 11

Importer: Viet Nam

Exporters: Non-TPP countries

1. Developed countries

GTAP sector	Top 3 Non-TPP exporters	Exports to TPP market, \$bn, 2014	Average tariff curr. faced, %, 2017	2017		2046	
				Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.	Margin of preference (without TPP), p.p.	Erosion from TPP, p.p.
Fishing	Norway, Republic of Korea, France	0.02	9.4	-1.5	-7.3	-2.8	-6
Motor vehicles and parts	Republic of Korea, Germany, Netherlands	0.9	19.1	-6.1	-0.6	-6.2	-5.1
Beverages and tobacco products	France, United Kingdom, Germany	0.2	21	-4.8	-0.3	-6.3	-5
Rest of sectors		42	4.3	-1.4	-0.1	-1.5	-0.3

2. Developing countries

Meat products nec	Brazil, Paraguay, India	0.06	9.5	0	-1.4	-0.1	-8
Bovine meat products	India, Saudi Arabia, Argentina	0.06	13.3	-4	-1.9	-6.6	-6.6
Transport equipment nec	China, Thailand, Indonesia	0.2	9.5	10.8	-0.4	9	-5.9
Rest of sectors		68	3.1	0.7	-0.2	0.6	-0.4

3. LDCs

Petroleum, coal products	Angola, Myanmar	0.02	7.3	0.1	0	0.1	-2.4
Cereal grains nec	Cambodia, Lao People's Democratic Repu	0.01	0	15.9	-0.4	15.9	-2.2
Beverages and tobacco products	Cambodia, Lao People's Democratic Repu	0	5	6.7	-0.1	6.7	-1.9
Rest of sectors		2.4	1.2	0.2	0	0.2	-0.1

C. ANNEX-3: Trade Diversion Identification

1. Methodology

The objective of this analysis is to spot on each TPP market all combinations of countries i and products k under threat of trade diversion. Here country i is any non-TPP exporter and product k is any product at HS6 level exported by country i . Please note that the purpose of this exercise is to identify a list of exporters and their respective export products in which trade diversion is most likely to occur. We do not carry out an actual estimation of the value of the impact, thus this approach is a risk scanning exercise rather than a modelling exercise.

Exports of product k by country i to TPP importer j in a given year y is considered to be under threat of trade diversion if the following 4 conditions hold:

1. *There exist TPP member-exporters that benefit from a significant tariff reduction in the TPP market as a result of TPP.* We define ‘significant tariff reduction’ as a difference of more than 5 p.p. between FTA rate and FTA+ rate faced in the TPP market. Formally, set I' of such TPP exporters:

$$I' = \{i \mid i \in TPP, i \neq j, t_{ijk}^{FTA} - t_{ijk}^{FTA+} \geq 5\}$$

2. *These TPP countries are significant exporters on the world market of product k .* The total exports of TPP countries in set I' should be at least 10% of world exports. Formally,

$$\frac{\sum_{i \in I'} x_{ik}}{x_k} \geq 10\%$$

where x_{ik} are total exports of product k by country i , x_k are total world exports of product k .

3. *Non-TPP country i is a competitive exporter of product k on the world market⁵².* Country i is defined to be competitive in exports of k if it has a revealed comparative advantage (RCA) in this product. We rely on Balassa’s index (1965) to estimate the RCA. Formally, country i has RCA in product k if:

$$\frac{x_{ik}/x_i}{x_k/x} > 1$$

where x_i are total exports of all products by country i , x are total global export value. In words, if the share of product k in country’s export basket is higher than the overall share of this product in world exports, i.e. than ‘world average’, then this country is said to *specialize* in exports of product k .

4. *TPP importer j is an important market for country i in product k .* We consider country-exporter i to rely on TPP market j in its exports of product k if the share of this market for this product is at least 10%. Formally,

$$\frac{x_{ijk}}{x_{ik}} \geq 10\%$$

The resulting country-product list of ‘threat cases’ on each TPP market can be ranked based on the priority. The simplest criterion for such ranking can be the export share exposed, i.e.

⁵² Note that as a robustness check we have rerun the analysis without assumptions 3 and 4 and obtained similar results in terms of export share exposed (the number of threat cases expectedly multiplied as a result of inclusion of insignificant products and products that are almost not exported to the TPP market).

how big is the export flow with the identified risk of trade diversion in comparison to country's total exports, or formally $\frac{x_{ijk}}{x_i}$.

An alternative ranking is made based on a composite index we call "score". This index is a combination of criteria 1-4. Criteria 1 and 2 together determine the degree of a 'threat from TPP competition'. We define it formally as follows:

$$Threat_{ijk} = \sum_{i \in I'} \left[(t_{ijk}^{FTA} - t_{ijk}^{FTA+}) \cdot \frac{x_{ik}}{x_k} \right]$$

Criteria 3 and 4 together determine country's dependence on the TPP market. We define it formally as follows:

$$Dependence_{ijk} = \frac{x_{ik}}{x_i} \cdot \frac{x_{ijk}}{x_{ik}}$$

Intuitively, dependence is country's actual export share on TPP market in the identified product relative to country's total exports.

The final priority score is computed simply as: $Score_{ijk} = Threat_{ijk} \cdot Dependence_{ijk}$.

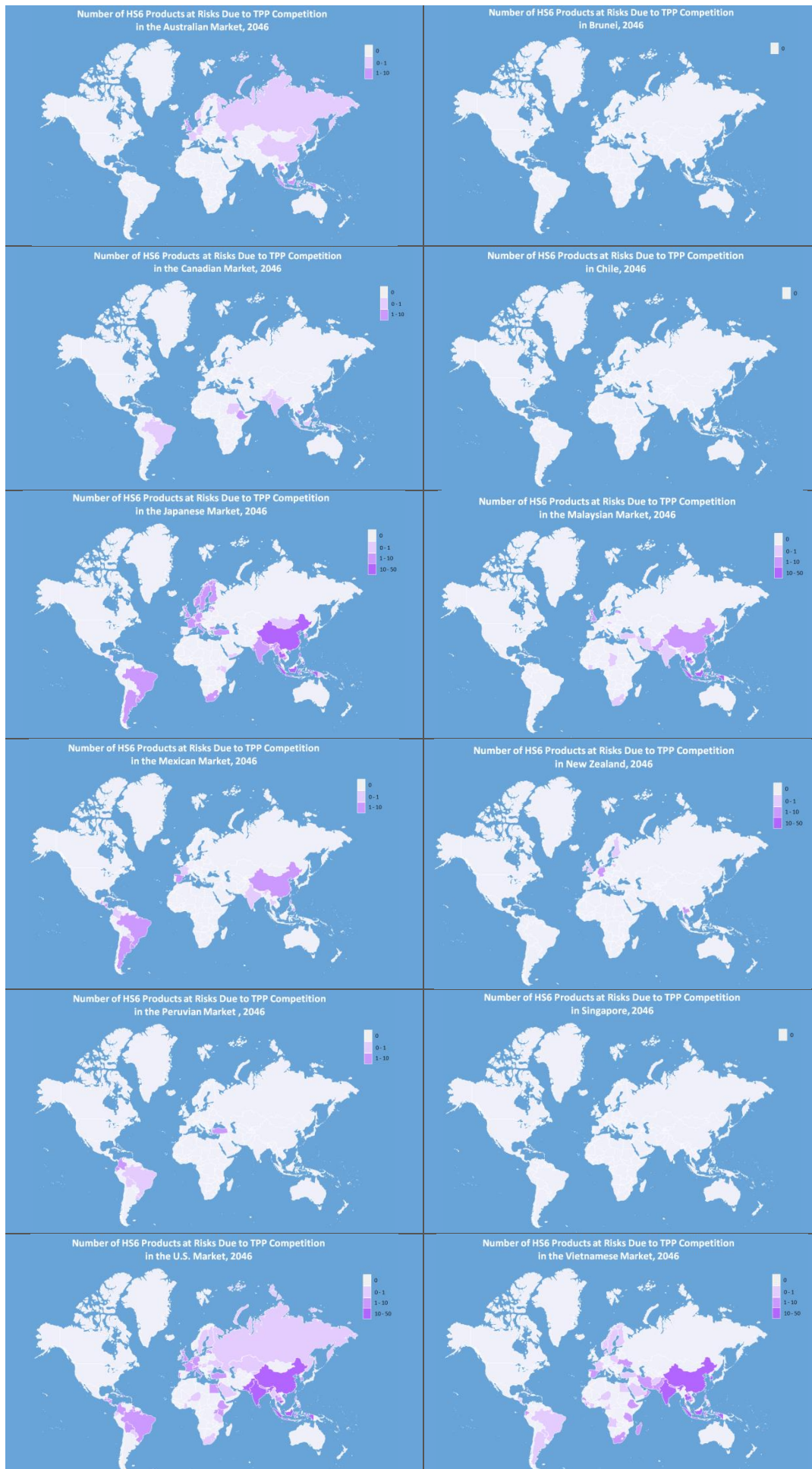
The procedure described above leads to a first identification of non-TPP countries and products which are likely to be adversely impacted by TPP market's accession to this mega-regional deal. The high degree of detail in the analysis can complement CGE modelling outcomes. Indeed, in a CGE model the calculations are done at an aggregate regional and sector level, so country-specific and product-specific impacts can be blurred by the aggregate estimates. It also might not be straightforward for people to trace the exact causes of the final impact estimates in such a model due to its complexity and the numerous relationships at play.

Nevertheless, clearly this risk scanning approach has a number of serious limitations, to some degree stemming from its simplicity. Some of them we list below:

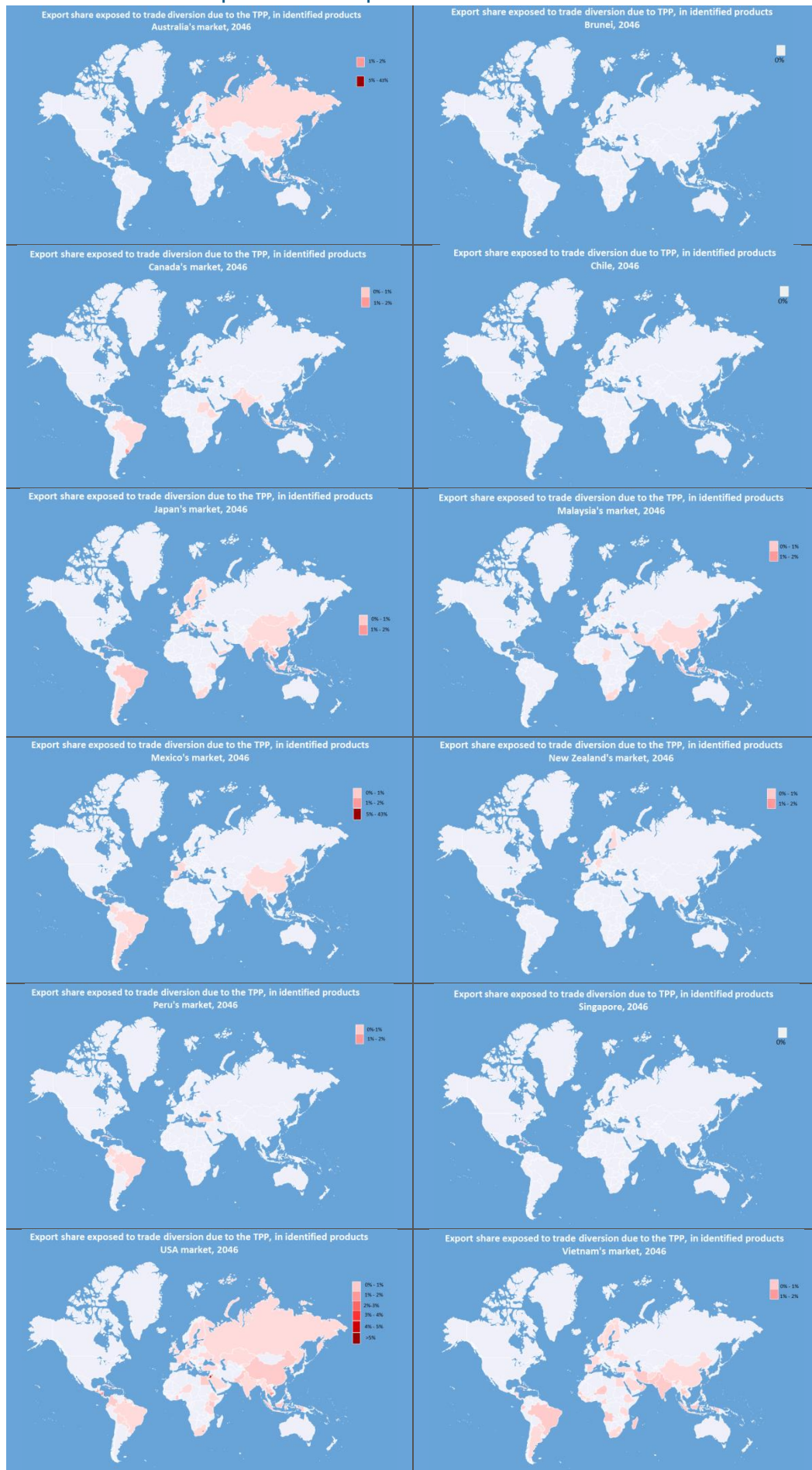
- The analysis is based on the constant trade flows, i.e. we assume that TPP exporter will not set up production of a new product or drastically increase exports of existing small products (i.e. with high unrealized export potential) thanks to incentives created by TPP. Subsequently, world export share of more than 10% means that TPP exporter will redirect some of its existing export flows towards liberalizing TPP market or has a strong capacity to expand its existing exports of this product on the TPP market.
- We don't take into account the demand side, i.e. market size of the TPP importer. The reason is we don't have visibility on the absorption capacity of this market and on the elasticity of substitution with local producers as a result of additional imports of this product.
- We don't know if the potential TPP competitor will compete in the same variety of HS6 product with our outsider exporter. If it is a direct competitor, then 10% threshold of world exports might even be too high. Also for this reason, we don't compare sizes of TPP exporter and of outsider exporter to determine how much exactly of the market share of the outsider exporter can be captured by TPP exporter.
- Blanket thresholds (10% for world export share, 10% of TPP market in product's exports of the country, and 5 p.p. duty reduction under TPP) is a simplistic assumption and ideally should be tailored to each product depending on the market situation and the competition. Also there are instances of 'bordering' cases that don't satisfy one of the criteria by a small amount. This creates a discontinuity issue and such cases normally need to be also investigated.

- We don't take into account possible future phasing down within existing extra-TPP trade agreements. For example, we can identify a risk for a product exported by China on Vietnamese market, but it is possible that the tariff faced by China will also be removed in the future under the current ASEAN-China agreement and thus the tariff disadvantage incurred by China under TPP will be eventually neutralized.
- We don't take into account rules of origin under TPP. For example, due to "yarn-forward" rule, Vietnam will not be able to increase its apparel exports to the US market to its full potential. Recent USITC report finds that Vietnam will increase its exports of apparel to the US market only by \$2 billion (or 1.9% of total US apparel imports from the world).

2. Countries affected in each TPP market



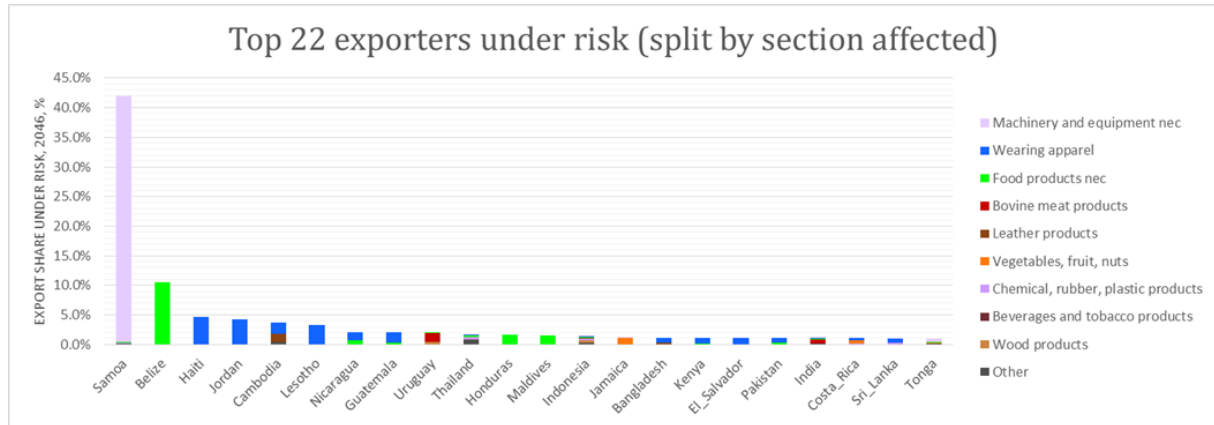
3. Export share exposed to trade diversion due to the TPP



4. Vulnerable sectors in the top 22 exposed countries

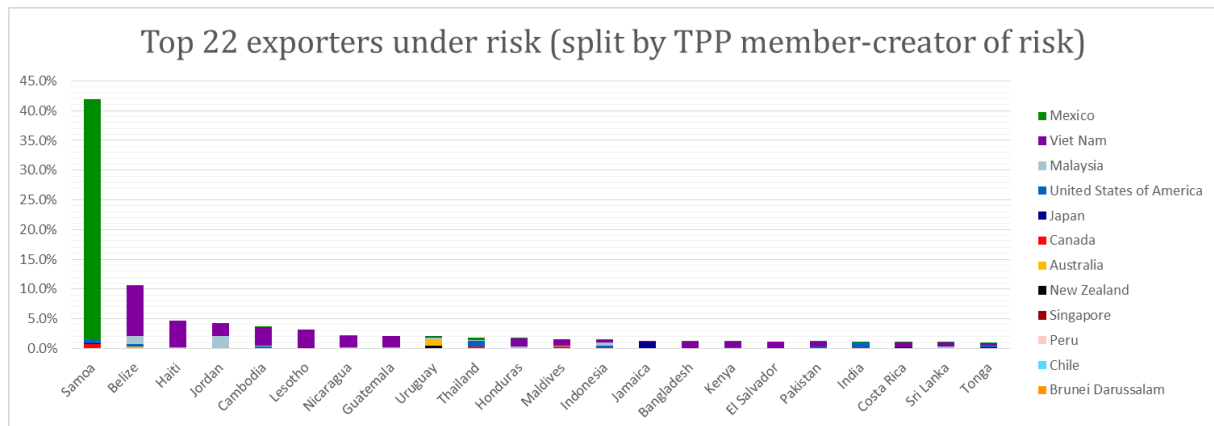
- Most of risk for Samoa is in machinery and equipment sector.

Figure 19



- The threat is coming from Mexican exporters

Figure 20



D. ANNEX-4: List of trade agreements between TPP members

1	FTA, Australia-Malaysia
2	FTA, Australia - United States
3	FTA, Australia-Chile
4	FTA, ASEAN-Australia & New Zealand
5	FTA, Australia-Singapore
6	FTA, Australia-Japan
7	CER, Australia – New Zealand
8	FTA, Trans-Pacific (P4)
9	ATIGA
10	EPA, ASEAN-Japan
11	EPA, Brunei-Japan
12	FTA, Canada-Peru
13	FTA, Canada-Chile
14	Regional group, NAFTA
15	FTA, AAP.CE 41: Chile-Mexico
16	FTA, AAP.CE 38: Chile-Peru
17	FTA, Chile-United States
18	EPA, Chile-Japan
19	FTA, Chile-Malaysia
20	FTA, Chile-Viet Nam
21	EPA, Japan-Singapore
22	EPA, Japan-Mexico
23	EPA, Japan-Malaysia
24	EPA, Japan-Viet Nam
25	EPA, Japan-Peru
26	FTA, Malaysia-New Zealand (MNZFTA)
27	AAP.CE 08: Mexico-Peru
28	FTA, New Zealand-Singapore
29	FTA, Peru-United States
30	FTA, Peru-Singapore
31	FTA, Singapore-United States
32	TECA, Australia-Canada
33	TA, Canada-New Zealand
34	GSP, Australia
35	GSP, Canada
36	GSP, Japan
37	GSP, New Zealand