Does harmonization reduce the impact of SPS measures on agricultural exports? An assessment from the Chilean fruit sector

¿La armonización reduce el impacto de las MSF en las exportaciones agrícolas? Una evaluación desde el sector frutícola chileno

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Abstract

Non-tariff measures (NTMs) are relevant to agricultural trade policies, especially since trade negotiations have significantly decreased tariffs. Countries impose Sanitary and Phytosanitary Measures (SPS), a technical NTM, to protect human, animal, and plant health by regulating specific food quality and safety aspects. This article aims to assess the impact of SPS measures imposed by Chile's main trading partners on agricultural trade, specifically on the value of fruit exports. It also seeks to determine the effects of harmonizing technical regulations between Chile and its partners. We estimated a gravity equation as a negative binomial regression model with Chilean fruit exports to main destination markets from 2010 to 2019 as the dependent variable. Our results confirm a negative impact of foreign SPS measures on Chilean fruit exports. However, that impact is mitigated if Chile has a harmonized SPS measure. Thus, we can conclude that harmonization reduces the negative effects of foreign SPS measures on exports. Our results suggest that trade agreements, which often contain a chapter on SPS, positively contribute to SPS harmonization and mitigate SPS's negative impacts on trade flows.

Keywords

Non-tariff measures • sanitary and phytosanitary measures • harmonization • food safety • agricultural trade • fruit exports

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Resumen

Las medidas no arancelarias (MNA) son relevantes para las políticas comerciales agrícolas, especialmente porque las negociaciones comerciales han reducido significativamente los aranceles. Los países imponen Medidas Sanitarias y Fitosanitarias (MSF), una MNA técnica, para proteger la salud humana, animal y vegetal mediante la regulación de aspectos específicos de calidad e inocuidad de los alimentos. Este artículo tiene como objetivo evaluar el impacto de las MSF impuestas por los principales socios comerciales de Chile en el comercio agrícola, específicamente en el valor de las exportaciones de frutas. También busca determinar los efectos de la armonización de normas técnicas entre Chile y sus socios. Estimamos una ecuación gravitacional como un modelo de regresión binomial negativo con las exportaciones de frutas chilenas a los principales mercados de destino de 2010 a 2019 como variable dependiente. Nuestros resultados confirman un impacto negativo de las medidas sanitarias y fitosanitarias extranjeras en las exportaciones de frutas chilenas. Sin embargo, ese impacto se mitiga si Chile cuenta con una MSF armonizada. Por lo tanto, podemos concluir que la armonización reduce los efectos negativos de las medidas sanitarias y fitosanitarias extranjeras sobre las exportaciones. Nuestros resultados sugieren que los acuerdos comerciales, que a menudo contienen un capítulo sobre MSF, contribuyen positivamente a la armonización de MSF y mitigan los impactos negativos de MSF en los flujos comerciales.

Palabras clave

medidas no arancelarias • medidas sanitarias y fitosanitarias • armonización • inocuidad • comercio agrícola • exportaciones frutícolas

Introduction

Non-tariff measures (NTMs) are increasingly present in international trade regulation (20). Following the United Nations Conference on Trade and Development, NTMs were defined as policy measures separate from standard customs tariffs that may economically impact international trade in goods, specifically in quantities, prices, or both (52). The literature cites that, in some cases, NTMs are replaced by Non-tariff barriers (NTBs). Both concepts are very close, almost synonyms; however, the term "barrier" implies a higher probability of negative impact on trade than "measure." Deardorff and Stern (1997) state formal and informal NTBs. Formal NTBs appear in official legislation and governmental mandates. On the other hand, informal NTBs arise from administrative procedures and unpublished regulations and policies, market structure, and institutional framework. Moreover, informal NTBs are often disguised to protect the national industry from foreign competition (18).

NTMs are classified into three general groups: import technical measures, import non-technical measures, and export measures. Within the technical NTMs are sanitary and phytosanitary (SPS) measures, technical barriers to trade, pre-shipment inspections, and other formalities (53). SPS measures protect human, animal, and plant health by regulating specific quality and safety aspects for domestic and imported products. They are subject to multilateral regulation through the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (WTO SPS Agreement). The objective of the SPS Agreement is to ensure that countries can adopt and enforce legitimate SPS measures and to prevent those measures that are real trade barriers disguised as SPS measures (34). The SPS Agreement requires that countries justify their measures through a risk assessment based on scientific evidence (59). It also encourages countries to use international SPS regulations when possible and accept the regulations of other countries as equivalent if they reach an appropriate level of protection. Countries must notify the WTO of initiating or modifying SPS measures to promote transparency. However, there are often informal NTBs related to SPS, especially administrative procedures such as unannounced inspections or excessive bureaucracy at customs, also known as "red tape." The literature shows that red tape affects variable trade costs for exporting companies and consequently impacts the extensive trade margin (37).

The analysis of the impact of SPS and technical NTMs has generally focused on their effects on trade. The standard approach in literature has been to model commercial flows through gravity equations. SPS measures are often introduced in gravity models by a dummy variable (presence/absence) and less frequently by "coverage" and "frequency" ratios or by SPS *ad valorem* equivalence (8, 21).

The heterogeneous conclusions on the impact of SPS measures on trade reached by this research have depended on: the type of measure (2, 16, 17, 38, 55, 56); producer characteristics (24, 25, 32, 49, 57); the trading partners' economic levels (31, 43, 45, 54); and particularly, the level of harmonization of technical regulations between trading partners (4, 22, 33, 42, 43). In this, harmonization can be understood as the imposition of equivalent technical measures directed at the same product (same tariff line) by two countries, for instance, an alike regulation on the labeling of a product.

The literature has shown, first, that low-income and developing countries' exports, specifically those from China and African countries, are negatively affected by SPS measures. This especially occurs when countries have a lot of small, national, or inexperienced companies, and their regulation is not harmonized with that of the importing countries. In contrast, high-income countries are the ones that impose the most SPS measures (10, 11). As far as we know, there is no specific research on the trade effects of the "red tape," or unofficial NTBs, related to SPS measures. However, assessing the effective impact of SPS measures on trade should also absorb that of the procedures associated with their compliance. There, exporters from countries with a history of SPS non-compliance may be subject to more recurrent and severe border inspections (48). It is worth mentioning that the impact of SPS measures not reported to the WTO is impossible to measure with the usual method. However, it is expected that given the adherence of the WTO members to the SPS Agreement, this percentage will be negligible.

As is generally the case in Latin American countries, in Chile, the case study for this article, agriculture and food are critical to the national economic strategy. Agricultural, food and forestry exports represented over half the Chilean non-copper trade revenue in 2020, totaling USD 15.9 billion FOB. Despite this, aspects of the implications of technical NTMs and SPS measures on its trade have not been thoroughly explored. The first investigations on technical NTMs in Chile took a descriptive approach, with exporters as their source of information. They concluded that food and agricultural trade was especially subject to NTMs, with Latin American partners being the most stringent markets (41, 52, 58). Later, Engler *et al.* (2012) compiled the managers' opinions of fruit exporting companies to evaluate the stringency and harmonization levels of the SPS measures imposed by Chile's main markets. Melo *et al.* (2014) used this information to estimate a gravity model where the relative weight of Chilean fruits compared to the importing countries' consumption and production was the dependent variable. They showed that more stringent regulations have a significant negative impact. More recently, De María *et al.* (2018) identified the SPS measures faced by Chilean and French apple exporters and scored their complexity. The authors concluded that the Chilean exporters were more prepared for stringent markets than the French. They suggested that the reason might be that Chilean technical regulations are also demanding. Chile stands out in terms of food control capacity compared with other countries in Latin America, especially in regulatory quality (12). However, throughout Latin America we can see how farmers are concerned in producing in a more responsible way, as well as research is focusing on ilustrate more sustainable value chains (7, 40).

This article aims to assess the impact of the SPS measures imposed by Chile's main trading partners on the value of Chilean agricultural exports and determine the effect of harmonizing these technical regulations. In this regard, we hypothesize that harmonization contributes to mitigating SPS's negative effects on agricultural exports. We will specifically focus on fruit exports to increase the homogeneity of our analysis; also, they represent 65% of the value of Chilean agricultural exports. Chile is the fifth fruit exporter in the world and the leader in the South Hemisphere. In addition, Chile is a developing country, which has been - except for China and some African countries - scarcely considered a case study on the existing SPS research.

Materials and methods

Collection of SPS measures data and descriptive analysis

The data on SPS measures were collected from the WTO SPS Information Management System database. This is the most comprehensive global database on SPS measures available today. It contains an updated inventory with open access to all SPS notifications reported to the WTO by its members, disaggregated by members imposing the measure and partners and products (identified by Harmonized System (HS) codes) affected by the action. A link to the relevant official documents is also provided for each notification.

The importing markets in this study were China, the United States, the European Union, Japan, Mexico, South Korea, Brazil, Venezuela, Peru, and Taiwan, representing the top 10 destination markets for Chilean agricultural products. The SPS measures considered are their submissions to the WTO secretariat from the beginning of 2010 to the end of 2019.

A descriptive analysis of all the SPS notifications compiled will be carried out once the final version of the database is completed. That analysis will focus on characterizing the SPS measures by country imposing, year of submission, measure type determined by the objective and instrument used, and products involved. The country states the explicit SPS goals in submitting the measure to the WTO. Countries can declare one or more explicit objectives for an SPS. The possible objectives are food safety, which refers to "handling, preparing and storing food in a way to reduce best the risk of individuals becoming sick from foodborne illnesses" (5); plant protection, which is "the ability to anticipate the emergence and spread of noxious organisms and to prevent their introduction and spread before they become agricultural pests in specific crops and regions" (6); protecting humans from animal/plant pests or diseases, which could also be interpreted as biosecurity or "trying to prevent new pests and diseases from arriving, and helping to control outbreaks when they do occur" (30); and protecting the territory from pest damage. The researchers assigned each measure an instrument following the Crivelli and Gröschl (2012) methodology. Those instruments relate to the type of requirements that the SPS asks. They are associated with product characteristics such as pesticides, labeling, additives, phytosanitary requirements, geographically protected zones, and quarantine requirements, or with conformity assessment such as certificate requirements, testing, inspection, approval procedures, pest risk analysis, systems approach, and regulations. The objectives and instruments are shown in table 1.

Table 1. Objectives and instruments commonly found in SPS measures.
Tabla 1. Objetivos e instrumentos encontrados comúnmente en las MSF.

<table>
<tr><th>Objective</th><th>Instrument</th><th>Reason</th></tr>
<tr><td rowspan="13">Food safety
Plant protection
Protect humans from animal/plant pests or diseases
Protect territory from pest damage</td><td rowspan="6">Product characteristics</td><td>Pesticides</td></tr>
<tr><td>Labeling</td></tr>
<tr><td>Additives</td></tr>
<tr><td>Phytosanitary requirements</td></tr>
<tr><td>Geographical protected zones</td></tr>
<tr><td>Quarantine requirements</td></tr>
<tr><td rowspan="7">Conformity assessment</td><td>Certificate requirements</td></tr>
<tr><td>Testing</td></tr>
<tr><td>Inspection</td></tr>
<tr><td>Approval procedures</td></tr>
<tr><td>Pest risk analysis</td></tr>
<tr><td>Systems approach</td></tr>
<tr><td>Regulations</td></tr>
</table>

Source: Compiled by authors.
Fuente: Elaborado por los autores.

The products subject to each SPS measure and the exported value data were collected considering the tariff lines in chapter 08 from the harmonized system (HS 08): "Edible fruit and nuts, peel of citrus fruits or melons." It considered six digits codes, *i.e.*, the most detailed international disaggregation level.

Methodological approach and empirical model for impact assessment

The use of gravity equations to explain international trade flows was first developed by Tinbergen (1962), who enunciated that the exports from country *i* to country *j* depend on the gross national product (GNP) of country *i*; the GNP of country *j* and the geographic distance between country *i* and country *j*. The author stated that additional variables could be added to the model, such as common borders or trade agreements between countries.

There have been significant adjustments in the theoretical foundations and application of the gravity equation model. It was shown that log-linear models by ordinary least squares (OLS) have some associated problems when estimating, such as selection bias. Heckman (1979) proposed using the estimation of a sample selection equation (Probit) before the gravity model by OLS. He also suggested using joint maximum likelihood estimation to avoid efficiency problems, which was later supported by Amemiya (1981) and Maddala (1983). However, Santos Silva and Tenreyro (2006, 2011) criticized the fact that Heckman's model assumes normality and homoscedasticity of error terms and ignores the effects of Jensen's inequality ($E(In_y) \neq InE(y)$ being any random variable). The authors proposed using a Poisson model by pseudo maximum likelihood (PML). Later, Burger *et al.* (2009) adapted Santos Silva and Tenreyro's model when problems of overdispersion appear - as Poisson assumes equi-dispersion - using a negative binomial regression.

Negative binomial regression specifies the variance as a function not just of the mean but also of a particular scattering parameter (14). According to Greene (2018), for mathematical convenience, the parameter u_i assumes a gamma distribution $\left(g\,(u_i) = \frac{\theta^{\theta}}{\Gamma(\theta)} e^{-\theta\, u_i}\, u_i^{\,\theta-1}\right)$ so the expression for the density of y_i is:

$$f(y_i \mid \mathbf{x}_i) = \frac{\Gamma(\theta + y_i)}{\Gamma(y_i + 1)\Gamma(\theta)}\, r_i^{\,y_i}\,(1 - r_i)^{\theta}, \text{where } r_i = \frac{\lambda_i}{\lambda_i + \theta'}$$

Considering this framework, the empirical model in this research is a negative binomial gravity equation regression, generally specified as:

$$Y_{ijt}^{k} = \exp\big(\beta_0 + \beta_1\, GDP_{it} + \beta_2\, GDP_{jt} + \beta_3\, Dist_{ij} + \beta_4\, Border_{ij} + \beta_5\, Lang_{ij} + \beta_6\, Tariff f_{ijt}^{k} + \beta_7\, SPS_{jt}^{k} + \beta_8\, ER_{ijt} + \beta_9\, HI_{ijt}^{k} + \delta_t + \varepsilon_{it}\big)$$

where:

$\beta_1 \ldots \beta_9$ = the parameters to be estimated

δ_t = vector for year dummies

ε_{it} = the error term of the model

To alleviate the assumption of independence of the observations, we will estimate the model clustering by HS codes, as we can suppose similarities between comparable products. The independent variables in the model are defined in table 2 (page 80).

Data for the export value (US$ FOB) of each tariff line (HS 08) were obtained from the World Bank WITS facility, except for Taiwan, whose data were collected from the database of the Chilean Office of Agricultural Studies and Policies (ODEPA). Most macroeconomic information on countries' gross domestic product was obtained from the World Bank World Development Indicators database. In the case of Taiwan, the data was obtained from the National Statistics of the Republic of China database, and Venezuela's information between 2015 and 2019 was collected from the Economic Commission for Latin America and the Caribbean (CEPALSTAT). The geographic distances between countries (as the sum of distances between major cities weighted by their population), the existence of a common border, and a language linkage were obtained, besides national sources, from the databases of the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). Tariff data was obtained from the WTO's Tariff Analysis Online (TAO) database when available and from the texts of the FTAs between Chile and each partner.

Table 2. Definition of the independent variables in the model.
Tabla 2. Definición de las variables independientes en el modelo.

Variable	Definition
Y_{ijt}^{k}	Exports from country *i* to country *j* (US$ FOB) for product *k* in the year *t*
GDP_{it}	Gross domestic product of country *i* in the year *t*
GDP_{jt}	Gross domestic product of country *j* in the year *t*
$Dist_{ij}$	Geographic distance between country *i* and country *j*
$Border_{ij}$	Dummy variable with a value of 1 if country *i* and country *j* share a border (0 otherwise)
$Lang_{ij}$	Dummy variable with a value of 1 if country *i* and country *j* have the same official language (0 otherwise)
$Tariff_{ijt}^{k}$	*Ad valorem* tariff imposed by country *j* on a country *i* for product *k* in the year *t*
SPS_{jt}^{k}	Dummy variable with a value of 1 if there is at least one SPS measure imposed by country *j* on the imports of product *k* in the year *t* (0 otherwise)
ER_{ijt}	The average exchange rate between country *i* and country *j* in the year *t*
HI_{ijt}^{k}	Dummy variable with a value of 1 if there is at least one SPS measure imposed by country *i* on the imports of product k in effect in the year *t* with the same objective and instrument (0 otherwise)

Source: Compiled by authors.
Fuente: Elaborado por los autores.

In some cases, the equivalent *ad-valorem* tariff was considered when there was no *ad-valorem* tariff information in TAO. The information was obtained from the Market Access Map from the International Trade Centre. Exchange rates were collected from the Central Bank of Chile database. Details on importing countries' SPS measures came from the database on notifications previously created and detailed in the preceding subsection. However, for inclusion in the gravity equation, we aggregated the observations of all the measures that affect a tariff line *k*. First, information on Chilean SPS measures was collected from the WTO SPS Information Management System for the harmonization dummy. Then it was compared with our SPS database.

Results

Descriptive analysis of the SPS measures

In total, 424 SPS notifications were reported for fresh fruits by Chile's main export destinations between 2010 to 2019. The number of measures reported each year increased throughout the period. From 2010 to 2013, the annual measure notification average was 17.5; from 2014 to 2016, it was 35.6; from 2017 to 2019, it was 82.3. Japan imposed the most measures, followed by Brazil and the United States. The other countries imposed much fewer and in this descending order: Taiwan, European Union, China, Korea, Peru, and Mexico.

The most common objective of the measures was "food safety" and, to a lesser extent, "plant protection." The main instrument used by the SPS measures was "product characteristics," with 375 notifications, while "conformity assessment" was in only 49 notifications. There were 325 that gave Maximum Residues Levels (MRLs) on Pesticides as a reason, and all other reasons were sporadic. A great diversity of products were involved since a notification can cover several tariff lines. When disaggregating the 424 notifications by tariff lines in each case, they covered 75 different HS-08 codes. The most affected products by the SPS measures under study were tropical fruits, berries, citrus, melons, and apples.

SPS impact assessment

The estimation results of the specified model are detailed in table 3. The second column contains the estimated coefficients, four statistically significant. The third column contains the related standard deviation.

Table 3. Negative binomial gravity model: estimation results.

Tabla 3. Modelo gravitacional binomial negativo: resultados de la estimación.

Variables	Parameter	SD
Constant	13.35	0.65
GDP_{it}	$6.32(10^{12})$***	$2.05(10^{12})$
GDP_{jt}	$1.51(10^{12})$***	$4.36(10^{12})$
$Dist_{ij}$	$0.02(10^{-3})$	$0.18(10^{-4})$
$Border_{ij}$	-0.31	0.46
$Lang_{ij}$	0.15	0.34
$Tariff^{k}_{ijt}$	$0.95(10^{-2})$	0.02
SPS^{k}_{jt}	-0.23***	0.08
ER_{ijt}	$-0.59(10^{-3})$	$0.10(10^{-2})$
HI_{ijt}	0.37*	0.20
Log-likelihood	-37,620.07	
Observations	2315	

Dependent variable: Value of exports from country *i* (Chile) to country *j* (US$ FOB) for product *k* in the year *t*. The dummy variable for the years 2018 and 2019 was omitted for collinearity. *Significant at 10%; ** Significant at 5%; *** Significant at 1%.

Source: Compiled by authors.

Variable dependiente: Valor de las exportaciones del país *i* (Chile) al país *j* (Dólares americanos FOB) para el product *k* en el año *t*. La variable dummy para los años 2018 y 2019 fue omitida por colinealidad. * Significativo al 10%; ** Significativo al 5%; *** Significativo al 1%.

Fuente: Elaboración propia.

On the specific results, the variables GDP_{it} ($p<0.01$), GDP_{jt} ($p<0.01$) and HI_{ijt} ($p<0.1$) have a positive association with the value of fruit exports from Chile to its main destination markets, while SPS^{k}_{jt} ($p<0.01$) has a negative impact. Finally, the variables $Dist_{ij}$, $Border_{ij}$, $Lang_{ij}$, $Tariff^{k}_{ijt}$ and ER_{ijt} are non-significant for the value of fruit exports.

Discussion

The number of SPS measures notified to the WTO grew during the period under study. This is consistent with Correa and Moreira's (2021) results from reviewing the evolution in SPS measure notifications since 2000, showing an increasing trend. The authors highlight the role of large commodity exporters like Brazil and developed countries in generating SPS notifications. Our findings for characterizing SPS measures on fruits by notifying countries are also coherent with those results. Boza and Muñoz (2017) evidenced that high-income countries' legal and technical capabilities are key factors that justify their outsized participation in SPS notifications.

Most of the identified SPS measures address food safety by regulating MRLs for pesticides. This is consistent with Grübler and Reiter (2021), who compiled and analyzed a dataset on NTM notifications from 1995 to 2019. They showed that the most common keyword for SPS notifications was "food safety," and the fourth was "maximum residue level." Tiu (2021) describes MRLs as a "never-ending challenge" since pesticide technology advances so fast that there are always new issues.

Our gravity model showed a negative impact of SPS measures on the value of Chilean fruit exports. As Orefice (2017) points out, even though SPS measures are imposed to protect consumers' health, they *de facto* increase trade costs, which would also help explain our results. The high presence of MRLs in the SPS measures imposed by Chile's main markets might also be related to our findings. Hejazi *et al*. (2018) used U.S. exports to show that MRLs constrain international fruit and vegetable trade, decreasing the export probability and intensity. Xiong and Beghin (2017) presented some results that qualify those of Hejazi *et al.* (2018). After applying a gravity model for MRLs imposed by high-income countries, the authors showed that they negatively affect export supply but positively impact import demand, which they suggest is related to risk mitigation.

Hejazi *et al.* (2018) also demonstrated that the negative impact of SPS measures on trade increases when there is a more significant difference between the MRLs mandated by each trading partner for a given pesticide and commodity. Our results aligned as our proxy variable to harmonization (HI_{ijt}), has a significant and positive relation to Chilean fruit exports. This specific outcome is coherent with our hypothesis that harmonization mitigates the adverse effects of SPS on agricultural exports and with existing literature that supports the idea (*e.g.*, 4, 22, 33, 42, 43). The 26 Free Trade Agreements (FTAs) that Chile has in effect, with a chapter on SPS measures that enhances communication and coordination between the parties, might have contributed to improving harmonization. Also, Chile has produced many SPS notifications (11, 15). This may help Chilean exporters meet foreign SPS measures, especially when those measures are comparable to national requirements.

Tariffs were not significant to Chilean fruit export values. This might also be related to the large number of FTAs that Chile has in effect. The chapters on market access in those agreements present a list of tariff reduction commitments. As a result, the tariffs faced by Chilean companies when exporting fruit to its main destination markets should not represent a significant barrier. By 2010, Chile had signed FTAs with all destinations but Brazil, Taiwan, and Venezuela; however, these three countries represented only 7.3% of Chilean fruit exports to the selected destinations in the timeframe studied. Thus, most destinations had reduced or eliminated tariffs on Chilean fruits in the analyzed period.

Additionally, the main three markets for Chilean fruit from 2010 to 2019 were China, the European Union, and the United States, representing 84% of the fruit exports. Their main imported fruits were cherries, fresh grapes, blueberries, avocados, and apples. Most products entered those markets with zero tariffs or, in the case of China, significantly reduced tariffs compared to suppliers with no trade agreements, which may also explain our model's result.

The exchange rate was also non-significant to Chilean fruit export values. Chile has been distinguished by its stability even in the face of external shocks (1). Distance from the importing country and sharing a common language or border were also non-significant. The advantage of the counter-season with the Northern Hemisphere is one factor that justifies the expansion of Chilean fruit exports (35), as opposed to targeting countries by geographical or cultural proximity. China, Chilean's current main market for agricultural products, is in its antipodes. This strategy might also explain the significant and positive coefficient for the importer GDP, *i.e.*, Chile has privileged the market size.

Conclusion

This article aimed to assess the impact of SPS measures imposed by Chile's main trading partners on the value of Chilean agricultural exports and determine the effect of harmonization of these technical regulations. We hypothesized that harmonization mitigates SPS's negative impact on agricultural exports. The gravity equation estimates confirm our hypothesis, as the presence of an SPS measure imposed by the importing country has a significant and negative relationship with the export value for a given fruit product. Meanwhile, the existence of an SPS measure imposed by Chile for the same product and objective (our proxy of a harmonized SPS) has a significant and positive effect.

Then, how to ease the consequences of SPS measures on trade? Harmonization reduces the effects of SPS measures on exports. The extensive list of trade agreements Chile has signed might positively contribute to SPS harmonization, as most have an SPS chapter that encourages coordination. In this regard, Chile recently initiated the ratification process for the Agreement for Transpacific Partnership (TPP). This agreement is a paradigmatic example of a mega-trade deal. It contains a chapter on SPS that looks for higher integration between partners, eventually limited by their technical differences. The effects of the TPP on SPS harmonization are to be seen; however, in Chile, they might be marginal, as the country already has previous FTAs with every signatory member.

On the other hand, trade facilitation simplifies procedural and administrative impediments to trade - *i.e.*, "red tape," and today, is an essential part of international negotiations. According to OECD Trade Facilitation Indicators, Chile is among the highest-ranked countries, especially in governance, procedures, and information availability. Since 2019, Chile has had a National Trade Facilitation Committee as part of its Ministry of Foreign Affairs.

Thus, Chile - and other similar economies - should continue relating in a fluid and transparent way with its trading partners, with the aim of cooperation. Given the off-season, it is crucial to consider that Chilean fruit exports do not compete directly in its main markets (US, China, EU) with the national fruit industry, which might encourage maintaining and increasing cooperation.

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