10 The Trade Facilitation Agreement and its impacts on the Brazilian transformation industry

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Abstract

The WTO Agreement on Trade Facilitation (TFA) will have a great impact on and could unlock important potential for the Brazilian transformation industry. As a developing country, Brazil would have to make significant changes in its legislation in order to adopt a single window ("Portal Único") for exporters and importers. This chapter concludes that the TFA will have a positive impact on the Brazilian economy in the years to come. Indeed, as Brazil is one of the world's 10 largest economies, its Portal Único Programme has the potential, once fully implemented, to produce significant impacts on the Brazilian economy, increasing GDP by nearly US$ 70 billion per year in the long term. Empirical analyses in this chapter also suggest that the reduction of transaction costs may have positive effects not only for Brazil but also for many other WTO members.

* The contents of this chapter are the sole responsibility of the authors and are not meant to represent the position or opinions of the WTO or its members.

10.1 Introduction

Trade facilitation has been on the WTO agenda since 1996. It was only in 2013 that WTO members were able to conclude an agreement to deal with this important issue to guarantee freer international trade.

From being a marginal topic in the Doha Round negotiations, trade facilitation has become one of the main issues that has helped the WTO gain momentum.[1] On 7 December 2013, WTO members adopted the Bali Ministerial Declaration (WTO, 2013), which includes the WTO Agreement on Trade Facilitation (TFA) under the mandate of the Doha Development Agenda. The TFA reaffirmed the non-discrimination principle enshrined in the General Agreement on Tariffs and Trade (GATT) 1994 Article III and established new provisions to facilitate trade among WTO members.

Despite being the most relevant achievement made by WTO members at the 2013 Bali Ministerial Conference, the topic is not new. WTO members have discussed facilitation of trade since 1996.[2] In 2001, members established the mandate to negotiate provisions on trade facilitation for the purpose of "further expediting the movement, release and clearance of goods, including goods in transit, and the need for enhanced technical assistance and capacity building". The Doha Ministerial Declaration also suggested that "the Council for Trade in Goods should review, clarify and improve relevant aspects" of GATT 1994 Articles V, VIII and X (WTO, 2001, para. 27).

Trade facilitation was a part of Annex D of the Doha Work Programme adopted by the General Council in 2004, and of paragraph 33 and Annex E of the 2005 Hong Kong Ministerial Declaration.

After the approval of the main text of the TFA, WTO members had until 31 July 2014 to notify commitments under one of the three Categories of the Agreement (A, B and C – for developing countries and least-developed countries (LDCs)) and to adopt the Protocol drafted by the Preparatory Committee (WTO, 2014a). However, India tied its consent to the TFA to negotiations on public stockholding for food security,[3] which delayed the process due to the lack of consensus among WTO members (Allen and Monaghan, 2014; Babu, 2014; Bagri, 2014). WTO members found a solution in December 2014 (WTO, 2014c).

The TFA's Protocol allowed the Agreement to come into force and to become a part of Annex 1A of the Multilateral Agreement Establishing the WTO, once two-thirds of WTO members complete the ratification process.[4] Reducing customs delay costs is as relevant as negotiating tariffs, as this chapter suggests. Hummels

and Schaur (2013) have demonstrated that each day merchandise remains at customs represents from 0.6 to 2.1 per cent as equivalent tariff.

For developing countries and LDCs, reducing customs delay costs is an opportunity to enhance their export competitiveness. Furthermore, an intelligent and efficient process at customs can attract more business, more investments and more trade.

This chapter is divided into three sections. The first aims to explain the main topics advanced by the TFA, especially those of concern to the Brazilian Government as it acts to implement Brazil's commitments, whether of Category A, B or C. Therefore, it is necessary to ascertain the extent of the obligations enshrined in the TFA and which topics remain sensitive to the Brazilian economy.

The second section will examine the actions the Brazilian Government is taking in order to fully implement the TFA, and the state of play. Although Brazil has only left a few commitments out of Category A, it does not mean that it will not be a real challenge to get all relevant government agencies to work on a single project to facilitate the analysis of requests for imports and exports in Brazilian customs. It is suggested that Brazil still has some work to do. On the other hand, the *Portal Único* Programme is ambitious and aims to encourage other government agencies to consider harmonizing their practices and optimizing the time of exporters and importers to the benefit of improving Brazil's position in international trade.

The third section will deal with the economic model developed to ascertain the effects of Brazil's *Portal Único* Programme on the efficiency of the Brazilian economy by determining tariff equivalents to applied import tariffs in order to verify the indirect costs of customs delays. The simulations suggest that Brazilian exports, imports, trade balance and GDP growth would all perform more strongly if the programme is carried out by 2017 as planned by the Brazilian Government.

10.2 The Agreement on Trade Facilitation: Brazil's[5] commitments[6]

The TFA has two main sections. Section I has 12 articles dealing with transparency issues (correlation with GATT 1994 Article X) and taxes, documentation and other formalities for import, export and transit of goods operations (correlation with GATT 1994 Articles V and VIII) (ITC, 2013).

The creation of a permanent Committee on Trade Facilitation (TFA Article 13) shows that WTO members are willing to transform this issue into a permanent

topic on the WTO agenda. This Committee could also become a relevant place for discussions on the implementation of the Agreement, and as a forum for WTO developing members to introduce their concerns and constraints, especially given the obligation to review the implementation of TFA every four years (TFA Article 13.1.6).

Section II established three categories[7] of provisions to meet demands for special and differential treatment for LDC and developing country members.[8] Category A includes provisions that a developing country designates for implementation upon entry into force of the TFA. Category B refers to provisions that a developing country designates for implementation on a date after a transitional period of time following the entry into force of the TFA. Category C is similar to Category B but a developing country requires the acquisition of implementation capacity through support for capacity building.

The purpose of this chapter is to address Brazil's initiatives to implement the TFA and its impact on Brazilian industry. Therefore, the analysis will focus on the topics that Brazil did not classify as Category A commitments and the provision enabling country members to adopt a single window for foreign trade activities, as Brazil has been implementing since 2014.[9]

Brazil notified the WTO that all provisions in Section I of the TFA are Category A commitments, except for specific points included in Table 10.1 (WTO, 2014d).

Brazil classified the majority of TFA provisions in Section I as Category A commitments, which might suggest that the country faces fewer challenges than other members in fully implementing the Agreement.[10] It is also important to highlight that TFA provisions have flexible wording, which is not unforeseen considering that the very terms of the mandate to negotiate trade facilitation issues was also marked by ambiguous wording (Neufeld, 2014).

The International Trade Centre (ITC) and World Economic Forum (WEF) have also concluded that developing countries and LDCs have different rates of implementation of TFA – differentiated by topic, priority and implementation of Articles 7 and 10 (including the single window, which means, under TFA Article 10.4, a single entry point for traders to submit documentation and data required for imports, exports or transit of goods). On transparency of rules, the implementation rate is only 40 per cent, on border administration, 49 per cent, and on supporting measures, 45 per cent (ITC and WEF, 2015). When it comes to priorities, developing countries and LDCs more often consider Articles 7, 8 and 10 to be most important (ITC and WEF, 2015).[11] Single window implementation was the third highest priority for the developing countries and LDCs surveyed, and it would

Table 10.1 Commitments of Brazil not falling into Category A

Provision	Content	Why?
Article 3.6.b	Publication of requirements for the application for an advance ruling and respective time period of issuance.	Brazil does not yet have legislation determining rules for advance rulings with the purpose of ascertaining the origin of goods and customs valuation. Moreover, Brazilian law is silent on the time period allowed to respond to written requests.
Article 3.9.a.ii	Definition and scope of advance rulings to include an assessment on the treatment of the good by its origin.	
Article 7.1	Pre-arrival processing of goods.	Brazil has pre-arrival processing only for goods arriving by maritime transportation.
Article 7.7.3	The obligation to include at least three out of seven measures to authorized operators, e.g. low documentation and data requirements, rapid release time, a single customs declaration for all imports and exports, etc.	Brazil's major programmes have preferential procedures for large companies. There is legislation in this area (IN 1073/2010) but Brazil still needs to come up with technological solutions to implement all measures described therein.
Article 10.4	Single window.	Brazil is still implementing its single window programme, which will be concluded in 2017.
Article 11.9	On freedom of transit, providing for advance filing and processing before the arrival of the good.	Brazil does not have an adequate system to receive advance filing to process the transit of goods.

Source: Rios and Panzini 2014; TFA; WTO (2014d).

represent a reduction of about 2.8 per cent in trade costs, according to an OECD study (Moïsé and Sorescu, 2012). That study suggested that only 4 per cent of LDCs and 29 per cent of developing countries have implemented TFA Article 10.4 (single window), while 26 per cent of LDCs and 39 per cent of developing countries have implemented TFA Article 10.1 (simplification of documents) and 25 per cent of LDCs and 57 per cent of developing countries have implemented TFA Article 10.3 (use of international standards) (ITC and WEF, 2015).

Thus, it is interesting that only a few developing countries and LDCs have already started their single window programmes. The top priority for Brazil is to implement TFA Article 10.4. In April 2014, Presidential Decree No. 8,229/2014 was issued to include the initiative under the Foreign Trade System (Sistema integrado de comércio exterior, Siscomex) and 20 public bodies were appointed to be part of it.

It is therefore necessary to examine further Brazil's actions to implement the TFA. The next section will analyse legislative changes in Brazil that are intended to adapt Brazil's legal system to the provisions of the TFA. It will also elaborate on Brazil's single window programme (*Portal Único*), one of the hot topics on the TFA agenda.

10.3 Brazil's actions to implement the TFA

Overview

In January 2015, the Brazilian Governmental Chamber for Foreign Trade (Câmara de Comércio Exterior, Camex) – a ministerial-level body – established the National Committee for Trade Facilitation (Comitê Nacional de Facilitação de Comércio, CNFC), fulfilling the obligations enshrined in Article 23.2 of the TFA.

The CNFC will be assigned to coordinate the implementation work of all other governmental bodies involved in the operation and regulation of Brazilian foreign trade policies. The main objective is to pursue full implementation of the TFA provisions.

The Brazilian Government is working on the possibility of the CNFC being incorporated into Camex. The Brazilian authorities consider that the Brazilian Federal Revenue Authority (RFB) of the Ministry of Finance, and the Secretary of Foreign Trade (SECEX) of the Ministry of Development, Industry and Foreign Trade (MDIC) should co-chair the CNFC, which would comprise 11 agencies in all.[12] Camex has discussed the issue of the competences that should be granted to the CNFC.

Notwithstanding the list of Category A commitments submitted by Brazil to the WTO, there is debate on the inclusion of some Category A commitments for improvement and consolidation, namely: (i) publication and availability of information (Article 1); (ii) opportunity to comment, advance filing and advance information (Article 2); (iii) standardization of tax collection (Article 6.1); (iv) expedited shipment (Article 7.8); and single window (Article 10.4).

The Brazilian Government sees the CNFC as an opportunity to reassess public policies on facilitation, simplification and harmonization in foreign trade. It also provides an opportunity to include more stakeholders. Therefore, Camex seems to be inclined to include the private sector in the CNFC and to act as the highest national committee on all TFA provisions.

As mentioned above, TFA Article 23.2 is being implemented by creation of the CNFC. Moreover, the Brazilian Government is acting to implement other provisions:

- TFA Article 6 on fees and charges imposed on or in connection with imports and exports: Despite this being considered a Category A commitment, some governmental agencies are not in conformity with the provisions of Article 6.

The National Nuclear Energy Commission (CNEN),[13] the National Health Surveillance Agency (ANVISA)[14] and Manaus Free Trade Zone Superintendence (SUFRAMA)[15] charge for imports on the basis of a percentage of the invoice presented or complementary criteria, which is not in conformity with Article 6, which prohibits tax collection without connection to the services provided. Therefore, those agencies will have to review their policies in order to establish a fee or charge a specified amount that is closer to the cost of the service provided.

- TFA Article 7.7 on authorized operations: Brazil did not have legislation on this issue prior to the TFA. Recently, the RFB issued Executive Order RFB No. 1,521/2014 establishing the Brazilian Authorized Economic Operator Programme (OEA). The objective is to certify stakeholders in the logistics chain whose operations represent a low risk (along with objectives related to physical security and customs duties). The programme is voluntary and its goal is to reach 50 per cent of export and import declarations registered by certified OEA companies by 2019. Until July 2015, five companies were certified: Embraer, DHL Global Forwarding, 3M do Brasil, Aeroporto Brasil Viracopos S/A and CNH Industrial.

- TFA Article 10.8 on rejected goods: Brazil did not have appropriate legislation on this topic prior to the TFA. The Brazilian Government recently issued Law No. 13,097/2015 establishing rules for goods that will not be authorized by customs to enter the country, and proceedings for either returning the goods or destroying them. Any importer whose operations are not authorized by the respective governmental agency (e.g. ANVISA) according to the provisions of domestic law on health protection, metrology, public safety, environmental protection, or sanitary, phytosanitary and zoosanitary controls, is compelled to return the goods to the exporter in no more than 30 days after being informed of the rejection. Other governmental agencies shall issue their own regulations explaining the proceedings in each case, even where the Ministry of Agriculture, Livestock and Food Supply (MAPA), Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), RFB and ANVISA are yet to issue their specific proceedings.

Brazil has also issued Presidential Decree No. 8,229/2014 establishing the *Portal Único* Programme in compliance with TFA Article 10.4, which will be examined in the next subsection.

Brazil's single window (Portal Único) programme

The TFA determined that WTO members shall endeavour to implement a single window. Governmental authorities and agencies participating in the programme shall not request traders to submit documentation and data requirements if they have already done so through the single window.

Brazil adopted the definition of a single window provided by the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) in its Recommendation No. 33, namely, "a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once" (UNECE, 2005).

Brazil's *Portal Único* Programme is not limited by the TFA definition in Article 10.4. It also includes competences regarding availability of information, automation and other aspects that make it a very interesting initiative within the pattern of Brazilian legislation. The ITC and WEF (2015)[16] suggest three levels of complexity for single windows: (i) customs single window, which consists of automating the customs agency and creating automated interfaces with traders, but does not include other government agencies; (ii) national single window, which connects customs agency automation with other government agencies, forming a single platform for exchange of information between government and traders; and (iii) regional or global single window, connecting with systems in other countries. Brazil is on the way to building a national single window connecting the CNFC and other governmental agencies, which will give it more internal coherence in the issuance of new directives and rules on the TFA provisions.

The Brazilian *Portal Único* Programme should be fully implemented by 2017. It has three main pillars: stakeholder integration, redesign of proceedings and information technology:

- Stakeholder integration: This has three levels. The first level is about integrating public and private agents.[17] The second level consists in harmonizing foreign trade proceedings and demands for information and documents within the government. This is supposed to avoid different governmental agencies demanding the same kind of information or document already filed in another governmental agency. The Government believes that this harmonization process will involve five steps: (i) information sharing; (ii) identification of which information can be shared with which governmental agency; (iii) sharing of methodologies of work, which should provide more predictability to operators;

(iv) after adopting compatible methodologies, governmental agencies should adopt the same tools and have similar IT systems; and (v) intelligence integration to avoid tax fraud and to verify compliance with technical and environmental regulations. The third level is the integration of automated systems, concentrating them in the Siscomex mechanism as defined by Presidential Decree No. 660/92.

- Redesign of proceedings: The procedural system is based on the Siscomex mechanism developed in the 1990s. Since then, new governmental controls have emerged, e.g. public policies on environment, human health, food security and consumer protection, among others. The first point is to ascertain all processes and requirements for information and documents in force. The Government then suggests the development of performance indicators to identify where the constraints are, and consequently to remove overlapping and unnecessary stages and requirements.

- Information technology: It is planned to create a modern integrated system to facilitate the sharing of information among governmental agencies and to unify the entrance of external users as defined in the single window clause (Article 10.4).

For exports, the Government aims to reduce the current 13 days it takes for a good to be released and cleared through Brazilian customs to eight days (a reduction of 38 per cent) in 2016. For imports, the Government would like to reduce the current 17 days that it takes for a good to be released and cleared to enter the Brazilian market to 10 days (a reduction of 40 per cent) in 2016. Therefore, the Government has established a target: to have Brazil included in the list of the 70 best countries with which to trade, an improvement of some 50 positions in the World Bank's Doing Business index (World Bank, 2014). Other objectives of the *Portal Único* Programme are to enhance transparent and predictable practices and to simplify the processes and requirements for exports and imports.

The next section will analyse the economic impacts of all Brazilian government measures regarding the *Portal Único* Programme.

10.4 Brazilian transformation industry and the TFA provisions: an economic assessment

The first stage of this economic assessment calculates the tariff equivalent of the costs of delays at Brazilian customs, due to inefficient customs procedures, logistics, transportation and other relevant topics discussed under the TFA.

Automation of customs procedures, rationalization of inspection, security requirements procedures, transparency and facilitated access to information are some of the relevant initiatives envisaged by the TFA to reduce indirect costs in WTO members' customs procedures. The work by Hummels and Schaur (2013) is a reference to the economic assessment hereby proposed. It shows that each day in transit represents an equivalent *ad valorem* tariff of between 0.6 and 2.1 per cent, and that the transformation industry (parts and components trade) would be the most vulnerable.

Comparative analysis of customs barriers in exports and imports

The objective of this comparative analysis is to estimate *ad valorem* tariff equivalents to exports and imports of selected WTO members in relation to the costs of total customs delays (or days in transit). For that, the *ad valorem* tariff[18] equivalent was used for each day in transit (Hummels and Schaur, 2013), estimated for average time periods of exports and imports (World Bank, 2014) and weighted by bilateral trade flows sourced from the World Bank's World Integrated Trade Solution (WITS) database.

Table 10.2 Tariff equivalent to customs delays: Sectoral exports, 2013

WTO member	Agriculture (%)	Extractive industry (%)	Agribusiness (%)	Manufactures (%)	All sectors (%)
Argentina	2.87	0.72	11.57	11.97	11.63
Brazil	4.46	4.42	7.55	13.62	13.04
Chile	5.05	0.53	3.55	16.37	14.78
China	8.21	1.40	13.10	18.60	15.64
Germany	3.47	1.65	7.96	8.27	7.45
India	0.92	2.41	15.61	11.90	10.97
Japan	7.72	0.56	7.19	10.43	9.14
Korea, Republic of	14.59	0.92	7.19	7.49	7.17
Mexico	2.53	2.36	6.29	12.10	11.30
Russian Federation	11.03	0.27	5.89	18.64	17.70
South Africa	8.32	0.61	10.61	14.56	14.29
United States	1.89	0.04	4.66	5.31	5.05

Source: Authors' calculations based on data from Hummels and Schaur (2013), WITS (2013) and World Bank (2014).

Table 10.2 shows the *ad valorem* tariff equivalent of customs delays to macrosectoral exports of a selected group of developed and developing economies using the most recent data available at the date of writing. The last column shows the ad valorem tariff equivalent for all sectors; the cost of customs delays for Brazil's total exports is lower than for the other BRICS (i.e. Brazil, Russia, India, China and South Africa) countries, except for India. Nevertheless, the tariff equivalent for Brazil is almost three times that of exporting companies in the United States.

The results demonstrate that the factor of time is relevant and it can be a tool to enhance Brazil's share in international trade. The methodology applied here shows that the costs of the delays to Brazil are still very high in comparison with other developed economies. On the other hand, the distance between Brazil and other developing economies is relatively short. Although China[19] and Brazil have similar tariff equivalents, it is important to highlight that the Brazilian economy is not as integrated as the Chinese economy in the large trade flows.

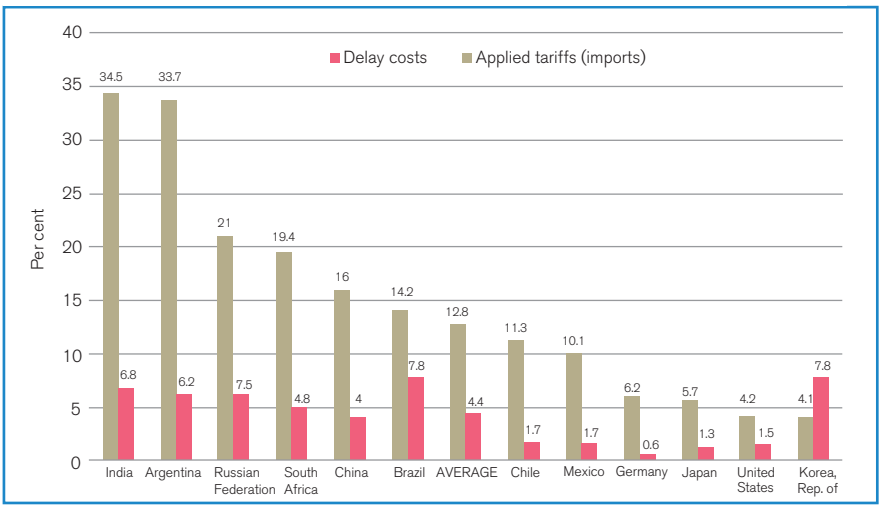
Therefore, Brazilian maritime transportation costs, for instance, are higher also because of geographical disadvantages, which make investments in trade facilitation even more important.

Table 10.2 reveals that the manufacturing sector bears the highest costs for customs delays in almost every country analysed. It indicates that time to process and to release goods affects value-added products more. The extractive industry sector seems to be less affected by customs delays.

For imports, the methodology was able to ascertain the tariff equivalents for imports caused by delays at customs, added to the weighted averages of applied tariffs (2013) in order to gauge the tariff equivalents of total costs (effective protection) involved in import procedures of goods in each one of the markets analysed (Figure 10.1).

Figure 10.1 shows how important import tariffs (2013 weighted average) are compared with the tariff equivalents of customs delays for the same group of countries. As can be seen, the costs of customs delays are more significant barriers to trade than actual applied tariffs for the countries analysed and the tariffs currently listed in their respective schedules to the GATT 1994.

Figure 10.1 Delay-cost tariff equivalent and applied tariffs (imports), 2013



Source: Authors' calculations based on data from Hummels and Schaur (2013), WITS (2013) and World Bank (2014).

Based on calculations of the tariff equivalents of customs delays on imports, Table 10.3 shows what would be the "effective protection" for the economies analysed, which corresponds to adding the applied tariff to the equivalent tariff for customs delays. In this case, the effective protection of Brazil is about 22 per cent, or almost four times higher than that of the United States (5.7 per cent) and almost half that of Argentina (39.9 per cent). This shows that trade facilitation issues are of relevance for improving the competitiveness of WTO members.

Portal Único for foreign trade: Impact analysis

As established by the Brazilian Government, the *Portal Único* Programme is aimed at reducing from 13 to eight days the time needed for export operations to be released and cleared at Brazilian customs (a reduction of 38 per cent). For imports, the expected reduction is from 17 to 10 days (40 per cent). The Programme should be fully implemented by 2017.

As considered above, it is possible to infer that implementation of the *Portal Único* should result in significant stimulus to improve Brazil's trade flows, especially in its manufacturing sector.

It is also worth bearing in mind that the *Portal Único* Programme is not just a single window programme, but encompasses other tasks, including improving the

Table 10.3 Customs-delay tariff equivalent: effective sectoral protection, 2013

WTO member	Agriculture (%)	Extractive industry (%)	Agribusiness (%)	Manufactures (%)	All sectors (%)
Average	7.8	0.6	18.2	20.0	16.6
Argentina	42.9	0.6	33.3	42.9	39.9
Brazil	4.9	0.3	19.7	25.1	22.0
Chile	6.7	2.0	10.2	14.9	13.0
China	23.8	1.3	21.5	26.4	20.1
Germany	3.8	0.1	5.6	7.6	6.7
India	32.6	2.0	58.9	68.8	41.2
Japan	7.2	0.2	13.7	10.1	6.9
Korea, Republic of	17.14	2.2	32.7	10.2	11.9
Mexico	4.2	0.7	9.4	12.4	11.9
Russian Federation	17.6	7.8	26.5	29.7	28.5
South Africa	8.4	0.2	16.7	29.8	24.2
United States	6.2	0.1	4.9	6.6	5.7

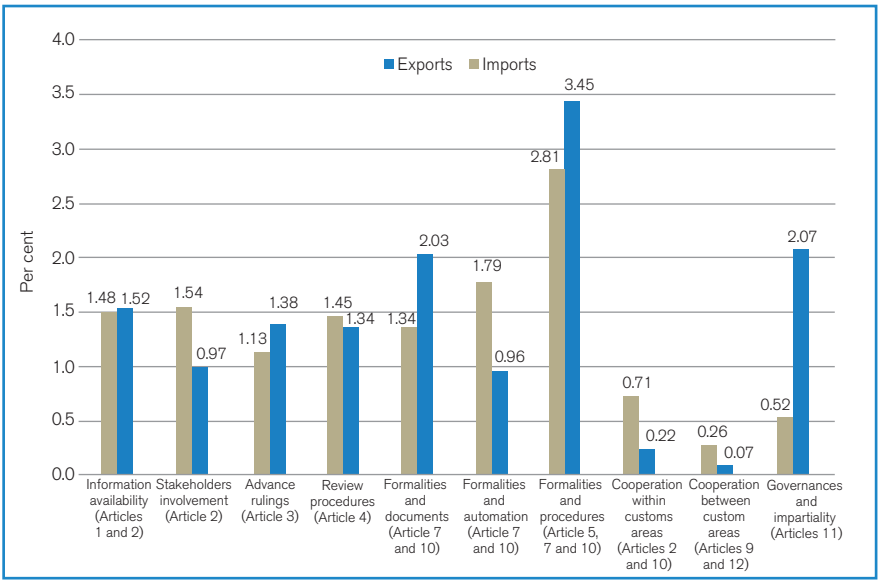
Source: Authors' calculations based on data from Hummels and Schaur (2013), WITS (2013) and World Bank (2014).

availability of information, addressing formalities and automation, and increasing border agency cooperation.

Therefore, it can potentially create positive externalities over several articles included in the Bali Agreement, anticipating reforms in Brazil. Most importantly, it will address the most sensitive TFA provisions for both imports and exports in Brazil.

Figure 10.2 shows the implicit *ad valorem* equivalents of the costs of delays for both exports and imports, broken down by each TFA provision that feeds into the objectives of the *Portal Único*. As shown, most TFA provisions represent significant trade barriers in Brazil, especially those connected with Articles 7 and 10 of the TFA.

Figure 10.2 *Ad valorem* tariff equivalent of each TFA provision related to Brazil's *Portal Único*



Note: Authors' calculations based on data from Hummels and Schaur (2013), WITS (2013) and World Bank (2014).

The *Portal Único* Programme will address some of the tasks represented in Figure 10.2, which have impacts in terms of equivalent *ad valorem* tariff on Brazil's exports and imports. For exports, the *Portal Único* has provisions to review and streamline information availability (with an equivalent *ad valorem* tariff of 1.48 per cent), review procedures (1.45 per cent), and address formalities and documents (1.34 per cent), formalities and automation (1.79 per cent) and formalities and procedures (2.81 per cent).

For imports, the *Portal Único* has provisions to address formalities and documents (with an equivalent *ad valorem* tariff of 2.03 per cent), formalities and automation (0.96 per cent), formalities and procedures (3.45 per cent) and cooperation within each customs jurisdiction (0.22 per cent). Eventually, the economy of Brazil could benefit from the *Portal Único* Programme in more ways than are described in TFA. Article 10.4. It is for the benefit of exporters and importers that the actions taken by the Brazilian Government encompass more elements than the TFA requires.

Methodology[20]

Most of the existing studies on the effects of trade facilitation are based on either gravity equations or computable general equilibrium (CGE) models, or a combination of the two approaches.

Based on a gravity model, Hufbauer and Schott (2013) estimate that gains from trade facilitation may reach as much as US$ 1 trillion in additional global exports per year. Assuming that each country in the sample is able to reduce by half the existing gap in a set of trade facilitation indicators in relation to the most efficient country in the region it belongs to, the authors estimate that developing countries may raise their exports by 9.9 per cent and developed countries by 4.5 per cent. In another study using a gravity model, Dennis and Shepherd (2011) call attention to the potential positive effects of trade facilitation on the extensive margin of trade. According to their estimations, a 10 per cent reduction in the costs to export may increase by 3 per cent the number of products exported by any given country. Other examples of recent empirical works on trade facilitation using gravity models are Djankov, Freund and Pham (2010), Hoekman and Nicita (2011) and Iwanow and Kirkpatrick (2007).

When it comes to estimating the impacts of trade facilitation using CGE models, Decreux and Fontagné (2011) suggest that a 50 per cent reduction in delays at customs may increase global exports by 2 per cent. They use the Mirage (Modelling International Relationships in Applied General Equilibrium) CGE model and the costs of delays are represented by estimated *ad valorem* equivalents based on information sourced from both Doing Business and Minor and Tsigas (2008). In a more recent work, Zaki (2014) estimates the *ad valorem* equivalents of the costs of delays at customs for a set of countries using a gravity model. In a second stage, Zaki uses the Mirage model and simulates a 50 per cent reduction in the costs of delays at customs for the same set of countries. Results from simulations suggest that gains from trade tend to be higher for LDCs and developing countries in comparison with developed ones. Accordingly, exports from Latin American as well as Middle Eastern countries may increase by up to 16.2 per cent and 13.8 per cent respectively, as a consequence of trade facilitation reforms. Other results on the impacts of trade facilitation reforms based on CGE modelling – usually employing "ad hoc" estimations of the costs of delays at customs – can be found in APEC (1999), Francois, Van Meil and Van Tongeren (2003), Hertel, Walmsley and Itakuna (2001) and OECD (2009).

The CGE model employed in the present study is based on the Global Trade Analysis Project's GTAP 8 database for 2007 (Hertel and Tsigas, 1997).[21] The authors updated the original database to 2013, using real data from all economies

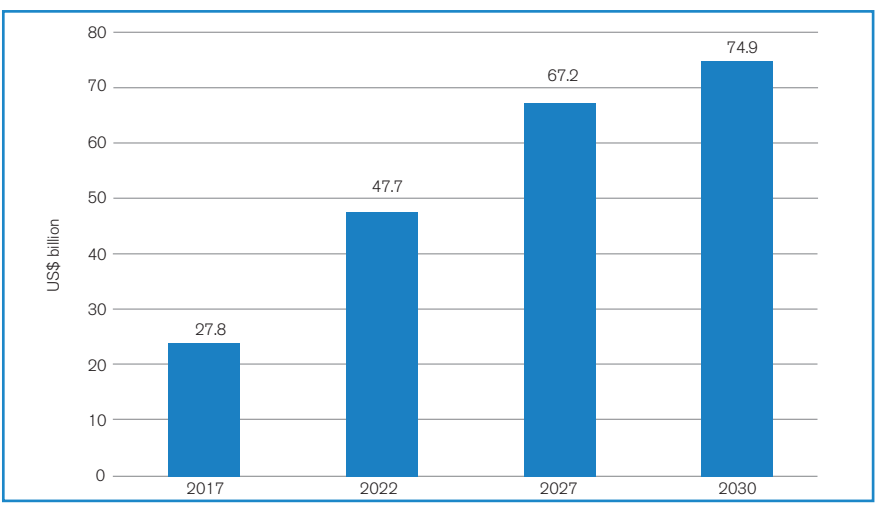
involved in the simulations. The approach adopted in this study follows closely that described in OECD (2009). However, in order to trace the dynamic impacts of the TFA on the economy of Brazil, the authors decided to run the simulations using the more sophisticated dynamic version of the GTAP model (GDyn) instead of its static version as employed by OECD (2009).

With the dynamic GTAP model, it is possible to ascertain the convergence path between the initial equilibrium (before the policy is taken into force) and the final equilibrium (with the impacts of the policy fully absorbed by the economy). The impacts of the policy are measured in comparison with a counterfactual scenario (i.e. how the world economy – and the subject economy - would have evolved in the event that the policy analysed had not been implemented).

Data projections for the counterfactual scenario were sourced from the Centre d'Études Prospectives et d'Informations Internationales (CEPII). The counterfactual scenario was projected from 2014 to 2030 based on the following variables: (i) real GDP growth; (ii) labour force growth; and (iii) population growth, for Argentina, Brazil, China, the European Union, the United States and the rest of the world.

The impacts on the economy of Brazil of a reduction in total delays at customs for both exports (38 per cent reduction) and imports (40 per cent reduction) are shown below.

Figure 10.3 ***Portal Único*** **Programme impact: gains in Brazil's GDP compared with the base scenario**[22]



Note: Simulation with GDyn model, GTAP 8 database and long-run projections from CEPII.

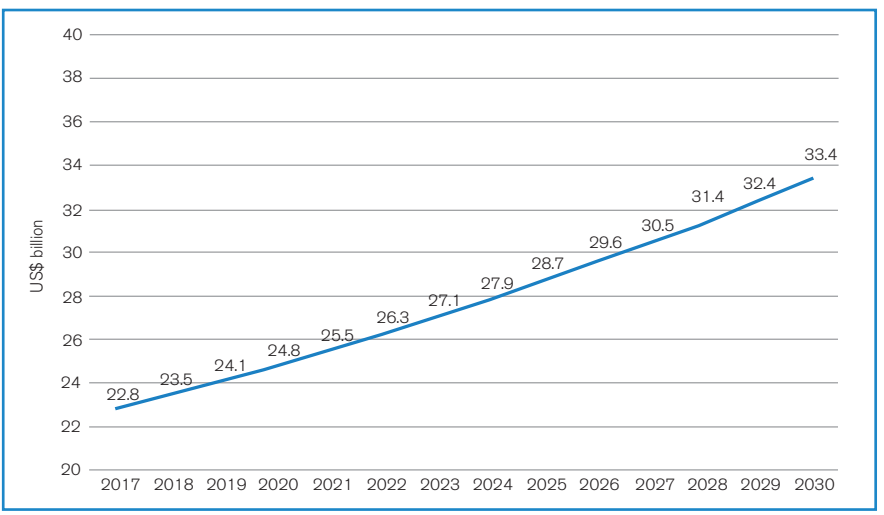
Macroeconomic impacts

The *Portal Único* Programme could have a positive impact on the Brazilian GDP growth rate (Figure 10.3). Growth is projected to be 1.19 per cent higher in comparison with the counterfactual scenario (i.e. if the measure had never come into force) by 2017, and 2.53 per cent higher by 2030. Moreover, if Brazil's performance is stronger than projected, Argentina will benefit, as it will stimulate investments and a higher GDP growth rate for Argentina.

Figure 10.4 shows that the reduction of customs delay costs means that Brazilian international traders should benefit from a reduction of their costs, compared with the counterfactual scenario. The simulation suggests that there should be savings of US$ 22.8 billion (at 2013 value) by 2017 and US$ 33.4 billion in 2030.

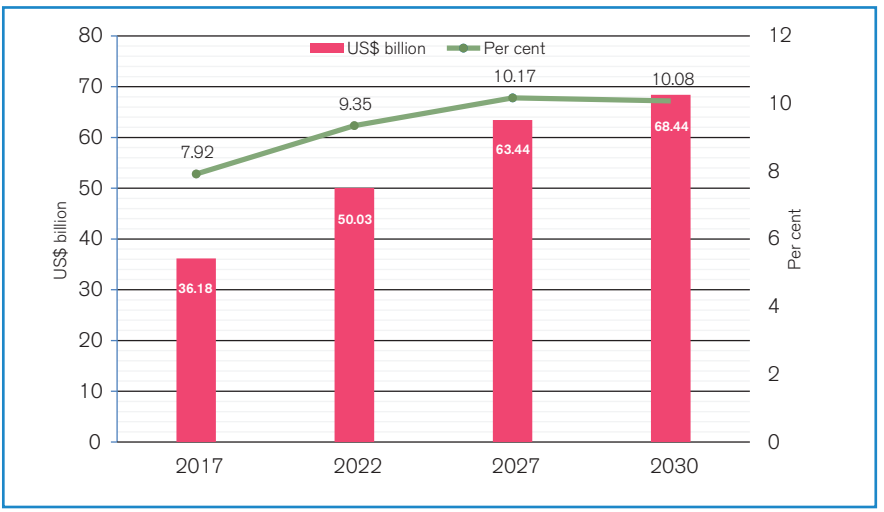
Figure 10.5 demonstrates that Brazilian trade flow would be US$ 36.18 billion higher (an increase of 7.92 per cent) by 2017, if the *Portal Único* Programme is implemented, and it could reach US$ 68.42 billion (an increase of 10.08 per cent) by 2030. One explanation for this would be that the reduction in customs delay costs affects perceptions of the quality of goods exported and imported by the country, which means a positive shock in the foreign demand for Brazilian products as much as a positive shock in the domestic demand for imported goods.

Figure 10.4 ***Portal Único*** **Programme impacts: costs reduction with reduced customs delays**



Source: Simulation with GDyn model, GTAP 8 database and long-run projections from CEPII.

Figure 10.5 *Portal Único* Programme impacts: gains in Brazil's trade flow



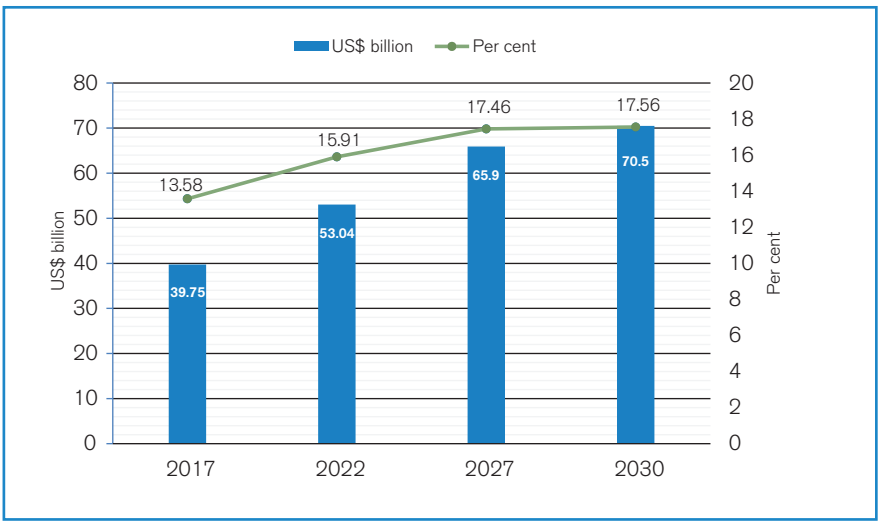
Source: Simulation with GDyn model, GTAP 8 database and long-run projections from CEPII.

In its general aspects, the *Portal Único* Programme is an initiative with potential to create positive economic effects for Brazilian exports and imports. However, the analysis suggests that when sectors are examined separately the transformation industry seems to be more sensitive to changes in customs procedures. The analysis shows that the *Portal Único* Programme stimulates a structural change in the Brazilian economy, with the reallocation of production factors to more capital-intensive industries instead of other sectors of the economy, which have their exports reduced compared with the counterfactual scenario. The reallocation of production factors to more capital-intensive sectors tends to be stronger in the first years of the implementation of the programme. In the long run, a positive reaction is also observed in the exports of the agriculture, extractive and services sectors due to the growth of capital and labour stocks in the economy and the natural trend to constant returns among sectors.

Impacts on the Brazilian transformation industry

As discussed above, trade facilitation could encourage different sectors of the economy in an uneven pattern. The manufacturing industry is the export sector that should benefit most from the reduction of customs delays. The simulation suggests an increase of 10.3 per cent in Brazilian exports by 2017 and, in the long term, continued growth that should reach 26.5 per cent in 2030, both rates compared with the counterfactual scenario.

Figure 10.6 *Portal Único* Programme impacts: gains in Brazil's transformation industry trade flow compared with the counterfactual scenario



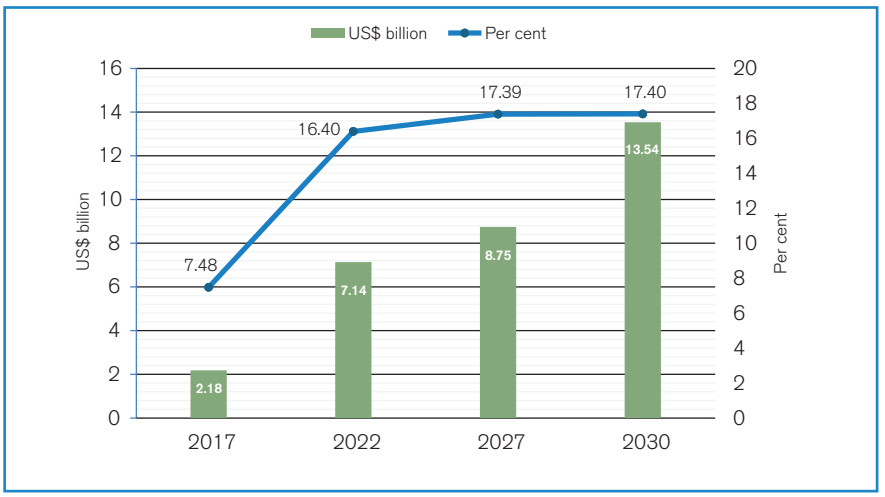
Source: Simulation with GDyn model, GTAP 8 database and long-run projections from CEPII.

Simulation results for the Brazilian transformation industry are also impressive (Figures 10.6 and 10.7).

Figure 10.6 shows simulated gains in the Brazilian transformation industry's trade flow in US dollars (at 2013 value). In 2017, the year of full implementation of the *Portal Único*, Brazil's exports and imports of industrial goods should benefit from gains of US$ 39.75 billion (or 13.58 per cent) compared with the counterfactual scenario. In 2030, the simulation suggests that industrial gains would be of US$ 70.5 billion (17.56 per cent). It is also worth noting that the trajectory expressed in percentage terms slows with each cycle, from 2.33 per cent (2022 compared with 2017) to only 0.10 per cent (2030 compared with 2027).

Figure 10.7 shows the simulated impacts of the gains in the Brazilian transformation industry's trade balance relative to the counterfactual scenario. Considering that results from the simulation suggest that, for the first years, the impact would be more relevant on investments in industrial goods, it is no surprise that the trade balance gains become more significant and reach US$ 7.14 billion (an increase of 16.40 per cent) by 2020, which is only three years after full implementation of the *Portal Único* Programme. By 2030, the trade balance for Brazilian industrial goods should benefit from a rise of US$ 13.54 billion (or 17.40 per cent).

Figure 10.7 *Portal Único* Programme impacts: gains in Brazil's transformation industry trade balance compared with the counterfactual scenario



Source: Simulation with GDyn model, GTAP 8 database and long-run projections from CEPII.

10.5 Conclusions

The Peterson Institute of International Economics (PIIE) has estimated that the TFA could result in gains for world GDP of up to US$ 1 trillion (Hufbauer and Schott, 2013). As Brazil is one of the world's 10 largest economies, its *Portal Único* Programme has the potential, once fully implemented, to produce significant impacts on the Brazilian economy, with nearly US$ 70 billion per year to be added to Brazilian GDP in the long term.

Results of the simulations have also shown that time is a relevant trade barrier. It is of greater importance than other factors in efforts to reduce transaction costs to improve Brazil's trade performance, especially in its transformation industry. Time costs are particularly damaging to trade in higher-value-added goods. Empirical analyses in this study have also suggested that reduction of transaction costs may have positive effects, not only for Brazil but also for many other WTO members.

The reduction of delays at customs in Brazil through the *Portal Único* Programme is likely to unlock Brazil's economic potential because it would primarily benefit capital-intensive industries. To achieve this potential, this study also suggests that Brazil could reverse the ongoing deindustrialization process, through the reduction

in the share of primary products in its total exports. Furthermore, the *Portal Único* could increase Brazil's trade flows, pointing to a more positive trade balance result, especially in the long term.

Brazil would benefit from increased competitiveness in its exporting sector in the future. The results also suggest that this movement should be tied to the rise of imports of intermediates as a consequence of rising investment levels. More imports of parts and components may also lead to an increase in the foreign content embedded in Brazil's exports, contributing to connecting its manufacturing sector to relevant global value chains.

Endnotes

1. The Doha Development Agenda has been under negotiation in the WTO since 2001. The dispute over India's demands on food safety had some impact on the TFA negotiation. With the exception of the TFA, the Doha negotiations have not led to other new agreements. They have led to the updating and extension of the Government Procurement Agreement (GPA), which is a plurilateral agreement. Therefore, the TFA was a significant element in the negotiations of the Doha Development Agenda, as it is the first multilateral Agreement negotiated since the creation of the WTO. See Donnan (2014) and Schwab (2011).

2. The Singapore Ministerial Declaration of 1996 added four topics to the WTO agenda: competition, government procurement, investment and trade facilitation. Trade facilitation provisions are in paragraph 22, and focus on "minimizing the burdens of delegations, especially those with more limited resources, and to coordinating meetings with those relevant UNCTAD bodies" (WTO, 1996).

3. See WTO (2014b).

4. At the time of writing, 70 members had ratified the TFA.

5. Brazil ratified the TFA in March 2016.

6. The International Trade Centre provides a detailed description of the obligations enshrined in the TFA (ITC, 2013). The provisions of most relevance are those that Brazil has considered as not falling into its Category A commitments and the single window (Article 10.4); the focus of this chapter remains on these points.

7. Those categories apply for provisions contained in Articles 1 to 12 or to Section I of the TFA.

8. Although there are fundamental differences between LDC and developing country members, for the purposes of this chapter, "developing countries", "developing members", and "developing economies" refer to both groups.

9. See Presidential Decree No. 8.229/2014 on the creation of the Brazilian Portal Único.

10. When LDCs are compared with developing countries (such as Brazil), in general terms, on average, LDCs have implemented 26 per cent of the Agreement and developing countries, 44 per cent (ITC and WEF, 2015).

11. Surveyed countries considered uniform forms and documentation (Article 10) as the first priority (ranking 4.7 on a scale of 1–5), risk management (Article 7) as second (ranking 4.6), the single window (Article 10) as third (ranking 4.5), pest clearance audit (Article 7) as fourth (ranking 4.3) and border agency cooperation (Article 8) as fifth (ranking 4.3).

12. The Secretary of Foreign Trade (SECEX) of the MDIC (Chair); RFB of the Ministry of Finance (Chair); Executive Director of Camex (Executive Director of CNFC); Civil Office of the Presidency of the Republic; Ministry of Foreign Affairs (MRE); Ministry of Finance; Ministry of Agriculture, Livestock and Food Supply (MAPA); Ministry of Agrarian Development (MDA); Ministry of Planning, Budget and Management; Brazilian Health Surveillance Agency (ANVISA); and National Confederation of Industry (CNI) (private sector).

13. For the taxes charged by CNEN, see: www.cnen.gov.br/seguranca/lfc/listas/lst-valtlc.asp.

14. ANVISA Resolution No. 222/2006 sets different tax rates depending on the size of the company. See: www.emprediarqs.provisorio.ws/arqs_st/1302890986632213/pdf/20150216124309_1424097785964.

15. See Instruction SUFRAMA No. 192/2000, Annexes II, III, IV and V: www.suframa.gov.br/download/legislacao/outros_inst_legais/legi_p_192_e_anexos_2000.pdf.

16. This is not considered to be a single window for the purposes of TFA Article 10.4.

17. Presidential Decree No. 8,229/2014 includes 20 participants in the Portal Único Programme, with the possibility of involving more stakeholders if necessary.

18. The WTO Glossary defines an *ad valorem* tariff as "a tariff rate charged as percentage of the price". An *ad valorem* equivalent (AVE) is a "tariff that is not a percentage (e.g., dollars per ton) [that] can be estimated as a percentage of the price".

19. According to the World Bank (2014), Chinese delays are distorted more by the time spent in obtaining export documents than because of shipment activities (movement of cargo, inspections, shipment etc). Those activities bear fewer costs in China than in Brazil. Moreover, it is important to consider that larger manufacture exporters – e.g. China – are more likely to have higher indirect costs for the same time delay than others due to the very nature of the aggregated value in their exports.

20. A detailed explanation on the economy model used in this research is available at <http://ccgi.fgv.br/sites/ccgi.fgv.br/files/file/Publicacoes/Trade_Facilitation_MPE_fv.pdf>.

21. This is the most recent dataset available to the public at the time of writing this chapter.

22. The base scenario is the counterfactual scenario. It shows how the Brazilian economy would look like in the absence of the trade facilitation reforms, for any given year.

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