

**Paperless Trade in
Regional Trade
Agreements**



**Yann Duval
Kong Mengjing**

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Paperless Trade in Regional Trade Agreements

Yann Duval and Kong Mengjing¹

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Abstract

We develop a comprehensive list of paperless trade measures and provisions in regional trade agreements (RTAs) and examine the extent to which they are featured in various RTAs, including in the TPP and ASEAN agreements. The number of paperless trade measures in RTAs is found to have doubled between 2005-8 and 2013-16 at the global level. Most recent RTAs contain more and deeper provisions than those featured in the WTO Trade Facilitation Agreement. A more detailed analysis of paperless trade measures included in selected Asia-Pacific RTAs confirms that the coverage of RTAs of paperless trade issues has become extensive, covering increasingly specific areas such as electronic certificates of origins and sanitary and phytosanitary certificates. In that context, the new UN treaty and Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific can be expected to provide a useful tool for harmonized implementation of many of these provisions.

Key words: regional trade agreements, paperless trade, trade facilitation, digital trade, electronic certificates, trade integration, regional cooperation, free trade agreements, cross-border paperless trade, electronic commerce, treaty, RTAs, WTO, ESCAP, Asia-Pacific.

JEL: F10, F13, F15, O14

Abbreviations

ASEAN	Association of Southeast Asian Nations
ASW	ASEAN Single Window
B2G	between business and government
COO	Certificates of Origin
EPA	Economic Partnership Agreement
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
EU	European Union
FA-PT	Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific
FTA	Free Trade Agreement
G2G	between governments
IMO	International Maritime Organization
NSW	National Single Window
PTA	Preferential Trade Agreement
RTAs	Regional Trade Agreements
RTA-IS	Regional Trade Agreements Information System
SMEs	small-medium enterprises
SPS	Sanitary and Phytosanitary measures
TBT	Technical Barriers to Trade
TFA	WTO Trade Facilitation Agreement
TFPI	Trade Facilitation and Paperless Trade Implementation
TPP	Trans-Pacific Partnership Agreement
UNCITRAL	United Nations Commission on International Trade Law
UNRC	United Nations Regional Commissions
WCO	World Customs Organization
WTO	World Trade Organization

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1. Introduction

As part of their continuous efforts to harness international trade for sustainable development, Asia-Pacific economies have long strived to make trade procedures as efficient as possible, in particular through implementation of automated customs systems, electronic single windows and other paperless trade measures. Paperless trade generally refers to the conduct of international trade transactions using electronic rather than paper-based data and documents.¹ It is more formally defined as trade “taking place on the basis of electronic communications, including exchange of trade-related data and documents in electronic form” in the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (FA-PT) adopted by Member States of United Nations ESCAP in May 2016.² While the ultimate goal of paperless trade is to dematerialize all information flows associated with a given transaction for all stakeholders, paperless trade initiatives generally focus on facilitating data and documents flows between businesses and government (B2G) and/or between governments (G2G).³

Paperless trade generates significant economy-wide savings, including direct savings to traders in the form of lower compliance costs, as well as indirect savings from faster movement of goods and lower inventory costs.⁴ It also enhances opportunities for SMEs to participate in cross-border trade, affords timely availability of shipping documents and reduces errors associated with re-keying of data.⁵ In addition, through reduction in clearance times, it can increase port efficiency and reduce port congestion and related problems.⁶ Finally, the use of electronic rather than paper documents can help enhance regulatory control and compliance, especially when relevant data and documents can be exchanged among agencies and across borders.

The significant benefits for both Governments and traders have led an increasing number of countries to promote paperless trade, including as part of multilateral and

¹ Ha and Lim (2014).

² This new United Nations treaty opened for signature and ratification or accession in New York on 1 October 2016. See: <http://www.unescap.org/resources/framework-agreement-facilitation-cross-border-paperless-trade-asia-and-pacific>

³ This is in contrast to e-commerce, where the focus is generally on facilitating exchange of information between business and consumers (BtoC) and/or between businesses (BtoB). In the international trade context, paperless trade is seen as an enabler of cross-border e-commerce, with general provisions on “paperless trade” or “paperless trading” increasingly included in e-commerce chapters of regional trade or economic partnership agreements (e.g., in the TPP).

⁴ See for example, UNNEXt Briefs on single window implementation in Republic of Korea, as well as Senegal, Singapore and Thailand. <http://unnexnext.unescap.org>

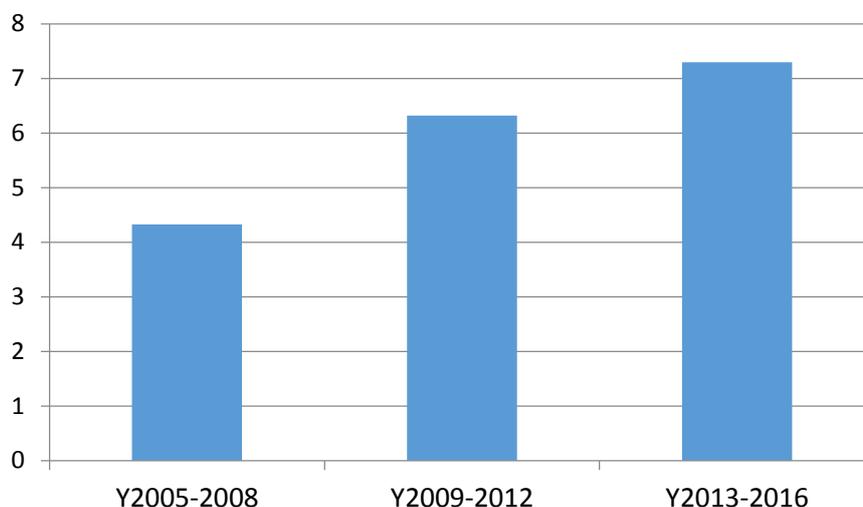
⁵ See for example, Laryea (2005).

⁶ See Laryea (2002).

preferential trade agreements. Accordingly, this paper analyzes the extent to which recent preferential trade agreements have included provisions related to paperless trade globally, also using the WTO Trade Facilitation Agreement (TFA) as a reference. Results provide insights and models for future negotiations in this area, as well as for implementation of the FA-PT.

Our analysis reveals that more than half of the trade agreements which have entered into force since 2005 globally (90 of 138) include paperless trade measures or provisions. Thirty (30) of the 138 RTAs reviewed in this study contain a dedicated provision titled “Paperless Trading” or “Paperless Trade Administration”, typically found either in the Chapter on e-commerce, or the one dealing with Customs procedures and trade facilitation (See Annex 1 for the list of RTAs examined). As shown in Figure 1, the detailed analysis presented in this paper reveals that the number of paperless trade measures included in RTAs almost doubled between 2005-2008 and 2013-16. While the impact of including such measures and provisions in trade agreements is difficult to measure, the willingness of Governments to systematically include commitments in this area is a welcome development.

Figure 1. Number of Paperless Trade Measures in RTAs (2005-2016)



Source: Duval and Menjing (2016), based on RTAs included in the WTO RTA-IS Database entered into force on or after 2005.

The paper is organized as follows: the next section presents a typology of paperless trade measures and provisions in RTAs, providing a basis for the evaluation of the paperless trade coverage of such agreements. The results of the evaluation are then presented, highlighting differences in coverage by geographic regions and identifying the least and most common measures included in RTAs. This is followed by a more detailed analysis of

selected RTAs in the Asia-Pacific region, including a comparative analysis of “Paperless Trading”/“Paperless Trade Administration” Articles and an assessment of relevant paperless trade measures in terms of substance and nature (binding vs. best endeavour). Linkages to provisions featured in the new UN treaty dedicated to paperless trade facilitation in Asia and the Pacific, FA-PT, are then discussed, followed by conclusions.

2. Typology of Paperless trade related provisions

An initial starting point for the development of a list of paperless trade measures and provisions is the United Nations Regional Commissions (UNRCs) Global Survey on Trade Facilitation and Paperless Trade Implementation (TFPI).⁷ The paperless trade and cross-border paperless trade measures included in the 2015 UNRCs TFPI Survey are shown in Table 1.

Paperless trade measures featured in the TFPI Survey include the establishment of electronic automated customs system and electronic single window system, electronic submission of trade-related documents including trade licenses, sea / air cargo manifests and customs declarations, and electronic application and issuance of trade licenses and preferential certificate of origin. Furthermore, there are six measures related to cross-border paperless trade in the survey. Apart from the general measure “Engagement of the country in trade-related cross-border electronic data exchange with other countries”, the measures aiming at exchanging specific documents such as Sanitary and Phytosanitary (SPS) Certificates and Certificates of Origin (COO) electronically are included. In addition, two of the measures, Laws and regulations for electronic transactions and Recognized certification authority issuing digital certificates to traders to conduct electronic transactions, are basic building blocks towards enabling the exchange and mutual recognition of trade-related data and documents among stakeholders within a country and also along the entire international supply chain.⁸

⁷ Available at: <https://unnex.unescap.org/content/global-survey-trade-facilitation-and-paperless-trade-implementation-2015>

⁸ Id

Table 1. Paperless Trade Measures included in the UNRC Global Survey on Trade Facilitation and Paperless Trade Implementation 2015

Paperless trade	<ul style="list-style-type: none"> 15. Electronic/Automated Customs System established (e.g., ASYCUDA) 16. Internet connection available to Customs and other trade control agencies at border-crossings 17. Electronic Single Window System 18. Electronic submission of Customs declarations 19. Electronic Application and Issuance of Trade Licenses 20. Electronic Submission of Sea Cargo Manifests 21. Electronic Submission of Air Cargo Manifests 22. Electronic Application and Issuance of Preferential Certificate of Origin 23. E-Payment of Customs Duties and Fees 24. Electronic Application for Customs Refunds
Cross-border paperless trade	<ul style="list-style-type: none"> 25. Laws and regulations for electronic transactions are in place (e.g. e-commerce law, e-transaction law) 26. Recognized certification authority issuing digital certificates to traders to conduct electronic transactions 27. Engagement of the country in trade-related cross-border electronic data exchange with other countries 28. Certificate of Origin electronically exchanged between your country and other countries 29. Sanitary and Phytosanitary Certificate electronically exchanged between your country and other countries 30. Banks and insurers in your country retrieving letters of credit electronically without lodging paper-based documents

Source: Joint United Nations Regional Commissions Trade Facilitation and Paperless Trade Implementation Survey 2015 Global Report.

Note: Numbers shown refer to the actual number of the question in the TFPI Survey instrument.

Following an initial review of preferential trade agreements, however, most of the measures listed in the TFPI Survey were not frequently found in RTA provisions, probably because such measures were too “applied” and specific to be included in such –generally quite broad - legal instruments. We therefore further developed the list of paperless trade measures and provisions based on an iterative review of the text of agreements included in the WTO Regional Trade Agreements Information System (RTA-IS).

Our analysis covered the 138 RTAs included in the WTO RTA-IS database (as of September 2016), which had entered into force since the year of 2005 and were available in

the English language.⁹ The WTO Trade Facilitation Agreement (TFA), the Trans-Pacific Partnership Agreement (TPP), as well as three inter-related ASEAN Agreements (ASEAN Trade in Goods Agreement (2010), Agreement to Establish and Implement the ASEAN Single Window (2005), and ASEAN Agreement on Customs (1997)) were also considered and included in the analysis.

In line with the TFPI Survey, we adopted a broad definition of paperless trade in identifying relevant measures and provisions. To be as comprehensive as possible, RTA texts were first search for general keywords usually associated with paperless trade measures and provisions, such as “information and communication technologies”, “internet” “electronic”, “automation”, and “paperless”. The text surrounding these keywords, when found, was then examined to determine the type of paperless trade measure or provision they may have been related to. The search covered RTA chapters on trade facilitation and customs procedures as well as those covering rules of origin, technical barriers to trade, sanitary and phytosanitary measures, financial services, and electronic commerce. However, the analysis was not extended to chapters or sections related to transport and logistics services liberalization, mobility of business people, government procurement and intellectual property.

A typology of 27 paperless trade measures and provisions was ultimately developed, as shown in table 2. While some of the measures and provisions included are relatively general (e.g. “E-submission/processing of trade-related data/documents”), we also included much more specific and sometimes overlapping measures and provisions in order to get a better understanding of the content and depth of the various Agreements. Specific measures and provisions related to a more general measure included in table 2 are specified in italic immediately under such measure. We also try to distinguish between paperless trade measures and provisions focusing on exchange of information in electronic form between stakeholders domestically (measures and provisions No.1-14) from those more directly related to cross-border electronic data and document exchanges (measures No. 15-27). Finally, in line with the content of some of the most recent agreements and their e-commerce chapters, the typology emphasizes provisions related to e-certificates and e-signatures (16-21), focusing on their mutual recognition and interoperability in particular.¹⁰

⁹ The WTO RTA-IS included 156 RTAs which had entered into force on or after 2005, but RTAs whose texts are only available in Spanish and Russian were not reviewed.

¹⁰ To make the list of paperless trade measures as comprehensive as possible, two specific measures included in the UNRCs Survey, namely E-submission of sea cargo manifest (no.4) and E-application of customs refund (no.10), are kept in the list although none of the trade agreements reviewed included them.

Table 2. Typology of Paperless Trade Measures and Provisions in RTAs

	Measure/Provision	Note
1	Acceptance of e-copies	This refers to accepting trade administration documents submitted electronically as the legal equivalent of the paper version of these documents. (e.g., Australia-Japan EPA Art. 13.9)
2	E-submission/processing of trade-related data/documents	This includes the provision of advance lodging of electronic documents for pre-arrival processing, the electronic submission and processing of information necessary for the release of an express consignment before the express consignment arrives; and submission of a single document covering all goods imported in express consignment through electronic means. (e.g., Rep. of Korea-New Zealand FTA Art.4.4, 4.7,4.8)
3	<i>E-submission of Sea Cargo Manifests</i>	Measure included in the TFPI survey – and also covered by the WCO Revised Kyoto Convention and relevant International Maritime Organization (IMO) agreements
4	<i>E-submission of Air Cargo Manifests</i>	Refers to the submission of a manifest covering all goods contained in an express shipment through electronic means. (e.g., Rep. of Korea-Viet Nam FTA Art. 4.7 (c))
5	E-system of Export/Import Licenses or Permits	See, e.g., Treaty on the Eurasian Economic Union, Annex to the Protocol on Non-Tariff Regulatory Measures in Relation to Third Countries, Rules for Issuing Licenses and Permits for the Export and/or Import of Goods II.
6	E-system of SPS certificates	See, e.g., Trans-Pacific Partnership (TPP) Art. 7.12
7	E-system of COO	This includes COO e-certification system, the e-system for pre-export verification of the origin of the goods. In addition, making a claim for preferential tariff treatment by electronic means. (e.g., Australia-China FTA Art.3.16) and the issuance of CO in electronic format also implies the need for e-system of COO (e.g., India-Malaysia ECA Annex 3-3 7(a)). E-Systems for verification of COOs (e.g., China-Chile FTA Annex 6) come under e-exchange of COOs.
8	E-record keeping	The documents to be maintained are related to exportation, importation, and may include copies of COO and other documentary evidence of origin. (e.g., China-Singapore FTA Art.31).
9	E-payment system	See, e.g., TPP Chapter 11 Section D.
10	E-application for customs refunds	Measure included in the TFPI Survey
11	E-Customs System/ Customs Automation	This measure includes electronic focal point, provided by customs administration, through which its traders may submit all required regulatory information in order to obtain clearance of goods (e.g., China-Peru FTA Art.54.4). In the agreement which mentions E-submission of customs declaration (e.g., EFTA-Colombia FTA Annex vii Art. 3.2(b)) /forms (e.g., Canada-Colombia FTA Art. 413) implies customs automation. In addition, this measure includes the introduction of a single administrative document, or an

		electronic equivalent, for the purpose of establishing/filing customs declarations at the import and export stages (e.g., EU-Cameroon EPA Art.35 1(b)) and the establishment of electronic means for all its customs reporting requirements (e.g., Australia-Chile Art. 5.11).
12	<i>Automated System for Risk Management and targeting</i>	This measure includes the provision of a single point for the documentary or electronic processing of those goods where a customs administration of a Party deems that the inspection of goods is not necessary to authorise clearance of the goods from customs control, which is mentioned in Article titled as “Risk management”. (e.g., ASEAN-Australia-New Zealand FTA Chapter 4 Art. 9)
13	Single Window System	See, e.g., Agreement to Establish and Implement the ASEAN Single Window.
14	E-system for inter-organization communication	This measure includes electronic systems for information exchange between competent authorities and trading communities and electronic means for inter-agency communication. (Australia-China FTA Art. 4.6). However, unlike Single Window System, single (one-time) submission of information by traders is not implied.
15	Laws for electronic transactions	The laws mentioned in this measure not only cover binding laws, regulations and measures made by competent authorities, but also includes self-regulations of private sectors. (e.g., Australia-Chile FTA Art. 16.5)
16	Use of electronic certificates and electronic signatures	This measure also covers e-signature or official seal of certificates of origin. (e.g., ASEAN-Australia-New Zealand FTA Chapter 10 Art. 5)
17	<i>(Mutual) determination of authentication technologies</i>	This measure includes Promoting the interoperability of infrastructure such as electronic authentication. (e.g., New Zealand-Taiwan PoC ECA Art.9.2 (c) (ii))
18	<i>Proving in court legal compliance of E-authentication</i>	See, e.g., ASEAN-Australia-New Zealand FTA Chapter 10 Art. 5.
19	<i>Meeting standards for E-signature and E-authentication</i>	See, e.g., Australia-Japan EPC Art. 13.6.
20	<i>Mutual recognition of digital certificates and E-signature</i>	See, e.g., ASEAN-Australia-New Zealand FTA Chapter 10 Art. 5.
21	<i>Interoperability of digital certificates used by business</i>	See, e.g., ASEAN-Australia-New Zealand FTA Chapter 10 Art. 5.
22	Trade-related electronic data exchange	This measure covers the development of electronic systems to facilitate government-to-government exchange of international trade data (e.g., CAFTA-DR Art. 5.3), the establishment and use of ICT for electronic data exchange. (e.g., Rep. of Korea-Viet Nam FTA Art.4.3(c))
23	<i>E-exchange of COO related information</i>	This includes the direct communications between the competent governmental authority of the exporting Party and the customs authority of the importing Party through e-mail of such information (e.g., Japan-Thailand EPC, Operational Procedures referred to in Chapter 2 (Trade in Goods) and Chapter 3 (Rules of Origin) Rule 11). It also includes the development of electronic systems for checking the authenticity of a COO (e.g., China-Chile FTA Annex6).

24	<i>E-exchange of SPS related information</i>	Includes use of technological means of communication, such as electronic communication, video or telephone conference to discuss SPS related matters (e.g., Iceland-China FTA Art.19)
25	<i>E-exchange of TBT related information</i>	Includes exchange of TBT related information through electronic mail, teleconferencing, videoconferencing (e.g., Australia-Rep. of Korea FTA Art. 5.10)
26	<i>E-transmission of financial information</i>	The information covers letters of credit, insurance certificates and etc. which are exchanged between financial institutions of parties for data-processing. (e.g., Canada-Rep. of Korea FTA, Annex 10-B Section C)
27	Use of international standards for paperless trade	Refers to the use of international standards when implementing any of the above-mentioned measures

Source: Authors

3. Paperless trade coverage of regional trade agreements

In order to provide an overall picture of the paperless trade coverage of RTAs, we review how many of the 27 measures identified above are included in each of the 138 RTAs included in this study.¹¹ For each measure in table 2, an agreement gets a “1” if the measure is mentioned in any form or language, i.e., regardless of whether it is simply authorized or encouraged, or whether it is formulated as a binding or exclusive commitment – and a “0” otherwise. Among the 138 reviewed RTAs, 90 (66%) are found to contain at least one paperless trade measure. Figures 2 to 4 show the number of paperless trade measures included in RTAs of various World regions.

Among all agreements considered, the Trans-Pacific Partnership (TPP) Agreement has the highest number of paperless trade measures, with its text referring to 21 of the 27 measures and provisions considered in our analysis. This agreement is not only the largest but also the newest of the regional agreements considered in this study - and the only one that has not yet entered into force -, providing further evidence of the growing interest in cross-border paperless trade. The second most comprehensive agreement on paperless trade is the United States of America(US)-Republic of Korea (RoK) agreement (“KOR-US”), with 15 measures included, followed by the bilateral agreements between Republic of Korea

¹¹ The same weight is given to all 27 measures, although arguments could be made that some measures are more important or far reaching than others. It is worth noting, however, that the same RTAs emerge as paperless trade “leaders” when only general measures are counted (i.e., the 12 sub measures shown in italic in table 2 are excluded from the analysis).

and Vietnam (“KOR-VN”) featuring 14).¹² As a reference, the WTO Trade Facilitation Agreement (TFA) only features 5 measures and provisions on paperless trade.

Figure 2 shows how many paperless trade measures are mentioned in each of the RTAs which are signed by East Asian economies – Similar figures for other Asian subregions and other world regions are available in Annex 2. The average number of paperless trade measures in the RTAs signed by East Asian economies (7.1) is highest in Asia-Pacific. Australia and New-Zealand, in contrast to the small Pacific Islands economies, have also put strong emphasis on paperless trade related measures in their recent RTAs.

The average number of paperless trade shown in the agreements signed by South-East Asian economies is 6.8. Singapore, as the economy which has signed the highest number of RTAs containing paperless trade measures, leads South-East Asia in this area (see Figure A2.1 in Annex 2). In general, ASEAN plays an active role in including paperless trade measures in RTA rule-making. For instance, Intra-ASEAN agreements contain 10 paperless trade measures. But the content of its ASEAN+ agreements vary widely, from 12 measures featured in the ASEAN-Australia-New Zealand FTA to only 1 in the case, for example, of the ASEAN-India FTA.

The average number of paperless trade measures mentioned in RTAs signed by Central and South Asian as well as Middle-East economies is merely 4 (see Figure A2.2). India leads that region with the highest number of RTAs involving paperless trade measures (5), three of which have the same or higher number of paperless trade measures than that in the WTO TFA.

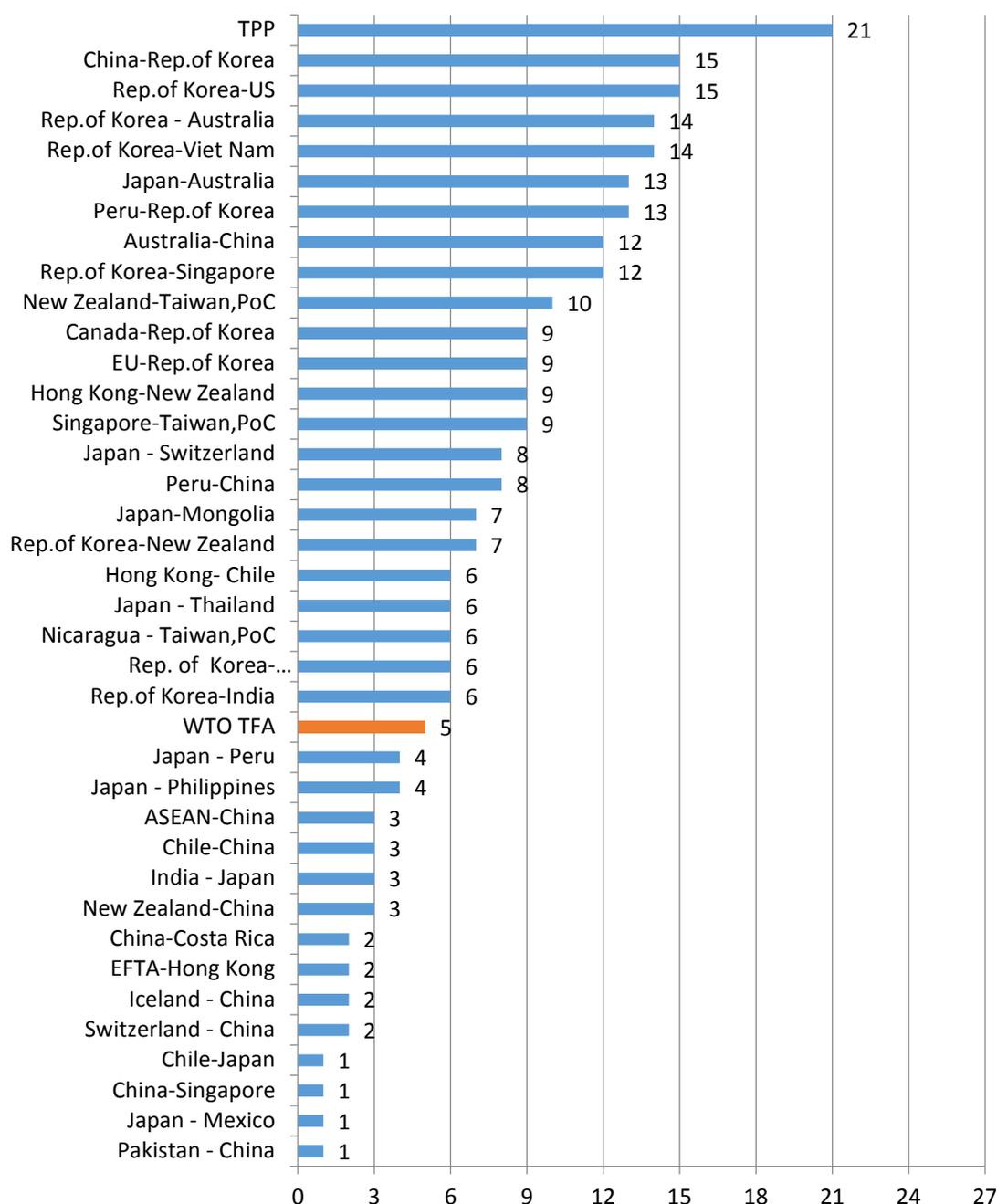
Interestingly, while the European Union (EU) has strived to develop paperless trade systems among its members,¹³ our analysis suggests that it has put limited emphasis on paperless trade in its RTAs, with an average number of paperless trade measures (4) barely on par with that of the WTO TFA (Figure A2.3). In contrast, many RTAs signed by North American economies, in particular USA and Canada, feature 8 or more paperless trade measures (Figure A2.4). RTAs signed by Caribbean, Central American and South American Economies also feature a significant number of paperless trade measures, in part because

¹² Many of the most comprehensive RTAs in terms of paperless trade are between Asia-Pacific Economic Cooperation (APEC) member economies. APEC, through its Electronic Commerce Steering Group and Paperless Trade Subgroup (ECSG), has actively promoted paperless trading among its members, in particular between 2002 and 2012. See, e.g., ECSG (2004).

¹³ See, e.g., Decision on a Paperless Environment for Customs and Trade by the European Parliament and the Council of the Council of the European Union (2008).

many of these agreements involve the USA or other Asia-Pacific Economic Cooperation (APEC) member countries (Figure A2.5). Peru leads other developing American economies in this area, being both the country with the highest number of RTAs containing paperless trade measures and member of one of the most comprehensive RTA in this area (US-Peru FTA).

Figure 2. Paperless trade coverage in RTAs of East Asian Economies since 2005



Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).

3.1 Frequency of paperless trade measures in RTAs

The paperless trade content of RTAs appear to be relatively diverse, with no single measure included in our typology mentioned in more than half of the 90 RTAs featuring at least one paperless trade related measure or provision. As shown in Figure 3, the use of International standards for electronic exchange of data and documents is most frequently mentioned in RTAs (47%), along with provisions on Promoting e-certification and e-signatures (47%) and the need for laws to enable electronic transactions (44%). Other more frequently mentioned general measures in the RTAs include general provisions encouraging Electronic submission of trade-related data and documents, Electronic record keeping, and Acceptance of electronic copies.

Interestingly, several specific measures are also frequently mentioned. Measures related to Electronic exchange of information on Technical Barriers to Trade (TBT) across borders are mentioned in more than 44% of the RTAs with at least one paperless trade measures,¹⁴ while 38% of these RTAs mention electronic or automated customs systems (37%). Measures related to the Electronic transmission of financial information across border between banks or private parties are also found in more than 27% of the RTAs.

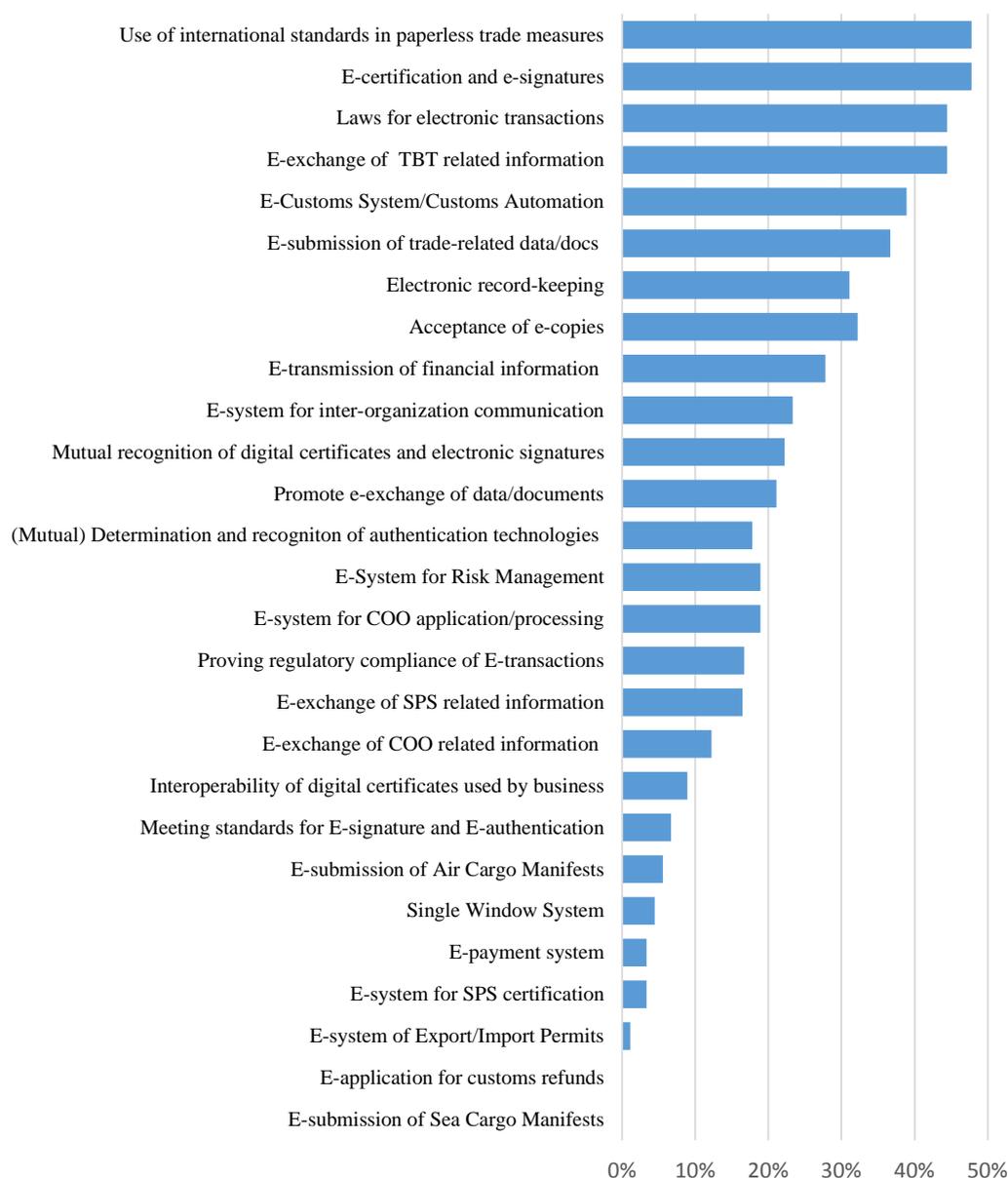
The notion of electronic systems to facilitate inter-agency communications and collaboration is featured in some form in nearly 25% of the RTAs with at least one paperless trade measure. However, “Single Window” facilities, which are the subject of a dedicated provision in the WTO TFA, are specifically mentioned in only 5% of the RTAs. Various other specific measures which can, in principle, be integrated to either the national single window or the e-customs systems are mentioned in less than 5% of the RTAs, including e-payment systems or electronic systems for SPS certification or to obtain relevant import/export permit or licenses.

Aside from electronic exchange of TBT and financial information, our analysis shows that indeed “cross-border” paperless trade measures and provisions tend to be less readily featured in RTAs than “domestic” paperless trade measures. Provisions calling for Mutual recognition of digital certificates and electronic signature, as well as Promoting the cross-border electronic exchange of trade-related data and documents are featured in roughly 20% of the RTAs with at least one paperless trade measure. Specific provisions related to

¹⁴ As mentioned in table 2, e-exchange of TBT related information includes such methods as electronic mail, teleconferencing, videoconferencing (e.g., Australia-Rep. of Korea FTA Art. 5.10).

electronic exchange of sanitary and phytosanitary (SPS) information and to certificates of origins (COOs) are featured in 16% and 12% of these RTAs, respectively.

Figure 3. Frequency of paperless trade measures and provision in regional trade agreements since 2005



Source: Authors

Note: the figure shows the percentage of RTAs (among the 90 containing at least one paperless trade measures) which feature provisions related to each of the paperless trade measures considered.

4. A closer look: Paperless trade in selected RTAs in Asia-Pacific

The analysis presented above provided an overview of the type of paperless trade measures that are covered in RTAs and the extent to which RTAs signed by various countries emphasize paperless trade. In an effort to get deeper insights, we take a closer look at a small sample of recent bilateral and regional trade agreements, selected for their particular emphasis of paperless trade issues and involving leading economies in South, South-East and East Asia and the Pacific (see Table 3). The WTO TFA and the TPP are also included in the comparative analysis for reference.

Table 3. Status and Membership of Selected Asia-Pacific RTAs

Agreement name / Abbreviation	Year of entry into force	Membership
Singapore-India Comprehensive Economic Cooperation Agreement / SING-IND	2005	Singapore, India
Australia-Chile Free Trade Agreement / AUS-CHI	2009	Australia, Chile
Japan-Switzerland Economic Partnership Agreement / JAP-SWI	2009	Japan, Switzerland
Intra-ASEAN Agreements (including The ASEAN Trade in Goods Agreement, The ASEAN Agreement on Customs, Single Window Agreement) / ASEAN (ATIGA, AAC and SWA)	2010 (ASW since 2005; ATIGA since 2010)	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand, Viet Nam, Singapore
ASEAN-Australia-New Zealand Free Trade Agreement / AANZFTA	2010	ASEAN members, Australia, New Zealand
The United States- Rep. of Korea Free Trade Agreement / US-KOR	2012	The United States, Rep. of Korea
Rep. of Korea-Viet Nam Free Trade Agreement / KOR-VN	2015	Rep. of Korea, Viet Nam
Trans-pacific Partnership / TPP	Not yet in force (signed by all TPP members in 2015)	The United States, Australia, Brunei Darussalam, Chile, Malaysia, New Zealand, Peru, Singapore, and Viet Nam

Source: Authors

4.1 “Paperless Trading” Articles

As noted earlier, paperless trade measures are found in different chapters of an RTA, often as part of other substantive Articles or provisions. However, most recent RTAs also include one specific Article titled “Paperless Trading” or “Paperless Trade Administration”. Before looking in more detail at the paperless trade coverage of our selected sample of Asia-Pacific RTAs, it is useful to review such Articles.

Table 4 shows the actual text of these Articles in the RTAs under review. All RTAs in our sample, with the exception of the intra-ASEAN agreements, include at least one article titled as such. These articles are generally found in e-commerce chapters, but not always. For example, the SING-IND places its “Paperless Trading” Article in the Customs Administration chapter, while the AUS-CHI Agreement features such Article in both the chapters of Customs Administration and Electronic Commerce. Regardless of the RTA considered, these Articles consistently promote the development and implementation of paperless trade systems among member states. However, details of commitments differ somewhat in substance and level of binding.

Table 4. List of Paperless Trading provisions containing a binding framework

RTAs	Text of provisions entitled “Paperless Trading” or “Paperless Trade Administration”	Commitment level
AANZ	Art. 8 (1) “Each Party <i>shall, where possible</i> , work towards the implementation of initiatives which provide for the use of paperless trading.	Non-binding
	Art. 8(2) “The Parties <i>shall</i> co-operate in international fora to enhance acceptance of electronic versions of trade administration documents.”	Binding
	Art. 8(3) “The Parties <i>shall</i> exchange views and information on realizing, promoting and developments in paperless trading.”	Binding
	Art. 8(4) “Each Party <i>shall endeavour</i> to make electronic versions of its trade administration documents publicly available.”	Non-binding
JAP-SWI	Art. 79 “1. Each Party <i>shall endeavour</i> to make all trade administration documents available to the public in an electronic form.	Non-binding
	2. Each Party <i>shall endeavour</i> to accept trade administration documents submitted electronically as the legal equivalent of the paper versions of such documents.	Non-binding
	3. The Parties <i>shall</i> cooperate bilaterally and in international fora to enhance the acceptance of electronic versions of trade administration documents.”	Binding

AUS-CHI	<p>Art. 16.9(1) “1. Each Party <i>shall endeavour</i> to accept electronic versions of trade administration documents used by the other Party as the legal equivalent of paper documents, except where: (a) there is a domestic or international legal requirement to the contrary; or (b) doing so would reduce the effectiveness of the trade administration process.”</p> <p>Art. 16.9(3) “Each Party <i>shall work towards</i> developing a single window to government incorporating relevant international standards for the conduct of trade administration, recognizing that each Party will have its own unique requirements and conditions.”</p> <p>Art. 5.11(1) “The Customs Administration of each Party, in implementing initiatives which provide for the use of paperless trading, <i>shall take into account</i> the methods agreed by the World Customs Organization, including adoption of the World Customs Organization data model for the simplification and harmonisation of data.</p> <p>Art. 5.11(2) “The Customs Administration of each Party <i>shall work towards</i> having electronic means for all its customs reporting requirements, <i>as soon as practicable</i>.”</p> <p>Art. 5.11(3) “The introduction and enhancement of information technology <i>shall, to the greatest extent possible</i>, be carried out in consultation with all relevant parties including businesses directly affected.”</p>	Non-Binding
SING-IND	<p>Art. 4.4(1) “<u>Recognising</u> that trading using electronic filing and transfer of trade-related information and electronic versions of documents, as an alternative to paper-based methods will significantly enhance the efficiency of trade through reduction of cost and time, the Parties <i>shall co-operate</i> with a view to realising and promoting paperless trading between their respective customs administrations and its respective trading community.</p> <p>Art. 4.4(2) “The Parties <i>shall</i> exchange views and information on realizing, promoting and developments in paperless trading.”</p>	Binding
KOR-US	<p>Art. 15.6 “1. Each Party <i>shall endeavour</i> to make trade administration documents available to the public in electronic form.</p> <p>2. Each Party <i>shall endeavour</i> to accept trade administration documents submitted electronically as the legal equivalent of the paper version of those documents.”</p>	Non-binding
KOR-VN	<p>Art. 10.7 “1. Each Party <i>shall endeavour</i> to make electronic versions of its trade administration documents publicly available.</p> <p>2. Each Party <i>shall endeavour</i> to accept trade administration documents submitted electronically as the legal equivalent of the paper version of those documents.</p> <p>3. Each Party <i>shall, where possible</i>, work towards the implementation of initiatives which provide for the use of paperless trading.”</p>	Non-binding
TPP	<p>Art. 14.9 “Each Party <i>shall endeavour</i> to:</p> <p>(a) make trade administration documents available to the public in electronic form; and</p> <p>(b) accept trade administration documents submitted electronically as the legal equivalent of the paper version of those documents.”</p>	Non-binding

Most of the provisions in the “Paperless Trading” Articles are specified in non-binding terms. The two most commonly found provisions in the Articles are that parties will endeavor to (1) make electronic versions of their trade administration documents available publicly, and (2) accept trade documents submitted electronically as the legal equivalent of their paper version. Another provision often found is that they will (3) exchange views and/or cooperate with each other as well as internationally to enhance the acceptance of electronic documents. Interestingly, such cooperation provisions are often formulated as binding commitments. KOR-VN and AANZ also specifically commit “to work towards the implementation of initiatives which provide for the use of paperless trading”, which may be interpreted as commitment to implement joint pilot projects in paperless trade.

AUS-CHI is the only agreement where the development of a single window for trade documents is specifically included under a “Paperless Trading” Article. One of the two such Articles featured in AUS-CHI also specifically refer to engaging in paperless trading taking into account the *“methods agreed by the World Customs Organization, including adoption of the World Customs Organization data model for the simplification and harmonisation of data”*.

4.2 Paperless trade measures and commitments

On the basis of the typology of paperless trade measures developed earlier, Table 5 provides an overview of the paperless trade coverage of each of the 8 selected RTAs, including in terms of the level of commitment and details attached to each of the paperless trade measures featured. The table shows that paperless trade measures vary significantly across RTAs, both in substance and nature. However, with the exception of the India-Singapore agreement, which entered into force over a decade ago (2005), all other RTAs included in the table have deeper coverage of paperless trade than the WTO TFA. The Australia-Chile (2009) agreement appears to have been particularly pioneering for its time and still features some of the most binding and detailed paperless trade measures found in any RTAs, including the TPP.

Table 5. Paperless trade coverage in selected Asia-Pacific agreements

Agreement:	SING-IND	AUS-CHI	JAP-SWI	Intra ASEAN	AANZ FTA	KOR-US	KOR-VN	TPP	WTO TFA
Paperless trade measures									
Year of entry into force:	2005	2009	2009	2010	2010	2012	2015	-	-
Acceptance of electronic copies	*	**	**	**	***	**	**	**	*
E-submission of trade-related documents						*	*	*	*
<i>E-Submission of Air Cargo Manifests</i>						*	*	*	
E-system of Export or Import Permits									
E-system for SPS certification								*	
E-system of COO						*		*	
Electronic record-keeping	*	***			*	*		*	
E-payment system								***	*
Electronic/Automated Customs System/Customs Automation		*		*	**	***	**	***	
<i>Automated System for Risk Management and targeting</i>					**	***	***	***	
Electronic Single Window System		***		***				**	*
E-system for inter-organization communication	*			*					
Laws for electronic transactions	*	***	**		**		**	***	
Promoting e-certification and e-signatures		*	*	*	*	*	*	*	
<i>Mutual determination of authentication technologies</i>		***			*	*	*	*	
<i>Proving in court legal compliance of E-authentication</i>		*	*		*	*	*	*	
<i>Meeting standards for E-signature and E-authentication</i>			**			**		*	
<i>Mutual recognition of digital certificates and E-signature</i>		***	**		**		**	*	
<i>Interoperability of digital certificates used by business</i>		*			*		*		
Trade-related electronic data exchange	*			*** ¹		**	**	***	
<i>E-exchange of COO related information</i>				* ¹					
<i>E-exchange of SPS related information</i>				* ¹				*	
<i>E-exchange of TBT related information</i>		**		* ¹		**	*	**	
<i>E-transmission of financial information</i>			*		*	**		*	
International standards for paperless trade		*	*	*	*	*	*	*	*
Total number of paperless trade measures:	5	12	8	10	12	15	14	21	5

Source: Authors

Notes: 1 star (*) indicates the measure is only mentioned, generally as an option, without further clarification; 2 stars (**) indicate the measure is encouraged (e.g., Shall endeavour to; or Shall, to the extent possible, to) with clarification on how it is to be provided/implemented (e.g. complying with relevant international standards); 3 stars (***) indicate that implementation of the measures is required and binding (e.g., shall) with details included on how to do so. ¹ indicates that commitment to these measures is implied by the existence of the regional ASEAN Single Window Agreement itself.

a. Measures related to acceptance of electronic copies

Referring to table 5, all eight RTAs examined have one or more dedicated provisions encouraging development and acceptance of electronic versions of trade administration documents. As noted earlier, this measure is commonly found in RTA articles titled “Paperless Trading” (see table 4). In contrast, the WTO TFA includes a specific provision on Acceptance of Copies (Art. 10.2), with all parties expected to “, *where appropriate, endeavor to accept paper or electronic copies of supporting documents required for import, export or transit formalities.*”

Going beyond simple encouragements, the ASEAN Single Window Agreement and its Protocol on the Legal Framework to Implement the ASEAN Single Window do provide for a framework for acceptance and legal recognition of electronic documents among Member States. Such framework is indeed more elaborate and binding than those found in provisions of the other RTAs. In particular, Article 15 (Legal Effect of Electronic Documents, Data, and Information) of the Protocol indicate *that “Each Member State shall adopt procedures for authentication of NSW electronic documents, data, and information that shall be used or processed within the NSW and transmitted in an electronic form in the ASW environment.” and that “Subject to national laws, rules and regulations of each Member State, authenticated **electronic documents** produced in connection with transactions under this Protocol may be admissible as evidence of any fact stated therein.”*

b. Measures related to E-submission of trade-related documents

General measures on electronic submission of trade-related documents are often found in the articles on “Release of Goods” and “Express Shipment” under chapters titled “Customs Administration and Trade Facilitation” or “Customs Procedures”. Electronic submission is urged in KOR-US and TPP, and is encouraged in WTO TFA. For example, KOR-US Article 7.2 requires members to “*provide for customs information to be submitted and processed electronically before the goods arrive in order for them to be released on their arrival*”. In WTO TFA, the country’s situation and capacity is considered through the words “*as appropriate*” when encouraging states to “*provide for advance lodging of documents in electronic formats*”.

Electronic submission of (air cargo) manifest is specifically promoted in several of the agreements. For instance, in the article on “Express Shipment” in TPP, parties shall “*allow a single submission of information covering all goods contained in an express shipment, such as a manifest, through, if possible, electronic means*”.

c. Measures related to E-system for SPS certification

Such measures are usually found in RTA chapters dedicated to “Sanitary and Phytosanitary Measures”, when they exist. However, among the Agreements reviewed in details, only the TPP specifically refers to potential goal of developing electronic system for SPS certification. The TPP chapter on “Sanitary and Phytosanitary Measures” Article 7.12 on Certification indicates that *“the Parties shall promote the implementation of electronic certification and other technologies to facilitate trade”*.

d. Measures related to E-system for Certificates of Origin (COO)

Paperless trade measures related to COO are mainly found in chapters on “Rules of Origin and Origin Procedures”. Development of electronic systems for COO is implied in KOR-US and TPP. For example, KOR-US provides for electronic certification as one option. Specifically, an importer under KOR-US can claim preferential tariff treatment based on *“either a written or electronic certification by the importer, exporter, or producer”*. In TPP, a Committee on Rules of Origin and Origin Procedures will be established and *“consult on the technical aspects of submission and the format of the electronic certification of origin”*.

e. Measures related to electronic record-keeping

The documents subject to electronic record-keeping requirements in RTAs are related to COO issues in most cases. Accordingly, this measure is typically found in the Article on “Records” or “Record Keeping Requirements” under the chapter of “Rules of Origin and Origin Procedures”. KOR-US, AUS-CHI and TPP all have a specific provision related to this measures in their Rules of Origin chapters. In AUS-CHI, the members are obliged to keep electronic records (Article 4.20). However, in KOR-US (Article 6.17 on “Record Keeping Requirements”) and TPP (Article 3.26), e-record keeping is only one of several options: *“any medium that allows for prompt retrieval, including electronic, optical, magnetic or written form in accordance with that Party’s law”* could be chosen by members. WTO TFA does not include any mention of electronic record-keeping.

f. Measures related to E-payment system

While the WTO TFA Article 7.2 has a separate provision on electronic payment indicating that, *“to the extent practicable”*, members shall *“adopt or maintain procedures allowing the option of electronic payment for duties, taxes, fees, and charges collected by*

customs incurred upon importation and exportation”, such specific measure related to payment to customs was generally not found in RTAs.

However, electronic payment is provided for in a very detailed way in TPP in the Chapter on “Financial Services” – with no particular focus on BtoG transactions. TPP member states are committed to providing the supply of electronic payment services for payment card transactions among members. It not only conditions the cross-border supply of this electronic payment service, but also sets clear limits to the supply scope, with the exclusion of the transfer of funds to and from transactors’ accounts, the exclusive use of proprietary networks to process, and on business to business basis. In addition, the section also provides for public policy exception to the supply of such electronic payment.

g. Measures related to electronic/automated customs system

As a measure aiming at customs automation, the measures “electronic/automated customs system” and “automated system for risk management and targeting” are often found in the article of “Automation” under the chapter of “Customs Procedures”. In some agreements, the later measure is stated in a separate article of “Risk Management” of the same chapter. It is worth noting that the measure “electronic/automated customs system” is specified under the article titled “Paperless Trading” in Australia-Chile FTA Article 5.11.

The majority of the agreements reviewed encourage establishing or developing electronic/automated customs systems. Making electronic systems accessible to customs users is a binding commitment in both KOR-VN (Article 4.3) and KOR-US (Article 7.3), as well as in TPP (Article 5.6) – see Box 1. In contrast, the related provision in AUS-CHI (Article 5.11 on “Paperless Trading”) has greater scope but is of a “best endeavour” nature. It also has the particularity to stress the importance of consulting with stakeholders in developing the electronic systems, including businesses.

With regard to Automated System for Risk Management and targeting, it is made a requirement in the two KOR agreements as well as the TPP. However, the TPP language is more concise and the measure is included as part of the Article on “Automation” (Article 5.6), which also covers the setting up of a single window.

Box 1. Selected Articles relating to E-Customs System/ Customs Automation

KOR-US

Article 7.3: Automation

Each Party shall use information technology that expedites procedures for the release of goods and shall:

- (a) make **electronic systems** accessible to customs users;
- (b) endeavour to use international standards;
- (c) endeavour to develop **electronic systems** that are compatible with the other Party's systems, in order to facilitate bilateral exchange of international trade data; and
- (d) endeavour to develop a set of common data elements and processes in accordance with World Customs Organization (WCO) Customs Data Model and related WCO recommendations and guidelines.

Article 7.4: Risk Management

Each Party shall adopt or maintain **electronic or automated risk management systems** for assessment and targeting that enable its customs authority to focus its inspection activities on high-risk goods and that simplify the clearance and movement of low-risk goods.

TPP

Article 5.6: Automation

1. Each Party shall:

- (a) endeavour to use international standards with respect to procedures for the release of goods;
- (b) make electronic systems accessible to customs users;
- (c) employ electronic or automated systems for risk analysis and targeting;
- (d) endeavour to implement common standards and elements for import and export data in accordance with the World Customs Organization (WCO) Data Model;
- (e) take into account, as appropriate, WCO standards, recommendations, models and methods developed through the WCO or APEC; and
- (f) work toward developing a set of common data elements that are drawn from the WCO Data Model and related WCO recommendations as well as guidelines to facilitate government to government electronic sharing of data for purposes of analyzing trade flows.

2. Each Party shall endeavour to provide a facility that allows importers and exporters to electronically complete standardised import and export requirements at a single entry point.

h. Measures related to electronic single window

Measures on single window are most commonly found in chapters dedicated to customs procedures and trade facilitation. However, AUS-CHI mentions the establishment of single window in Article 16.9 (“Paperless Trading”) under the chapter of Electronic Commerce. While the term “single window” is not used in the TPP, the need to develop such facility is specified in the last provision of the Article on “Automation” (Art. 5.6) of the Customs and trade facilitation chapter: *“Each Party shall endeavour to provide a facility that allows importers and exporters to electronically complete standardised import and export requirements at a single entry point.”* In contrast, the WTO TFA features a dedicated “Single Window” Article, with Members expected to endeavour to maintain such facility and use information technology to support it *“to the extent possible and practicable”*.

Among all RTAs, intra-ASEAN agreements have a special emphasis on electronic single window. Article 49 of the ATIGA indeed binds ASEAN members to take measures to establish not only a national but a regional single window, with specific implementation agreements and protocols providing details of what is to be done (see Box 2).

Box 2. Selected Articles relating to Single Window

ASEAN Trade in Goods Agreement

Article 49: Establishment of the ASEAN Single Window

Member States shall undertake necessary measures to establish and operate their respective *National Single Windows* and *the ASEAN Single Window* in accordance with the provisions of the *Agreement to Establish and Implement the ASEAN Single Window* and the *Protocol to Establish and Implement the ASEAN Single Window*.

WTO TFA

Article 10.4: Single Window

4.1 Members shall endeavour to establish or maintain a *single window*, enabling traders to submit documentation and/or data requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies. After the examination by the participating authorities or agencies of the documentation and/or data, the results shall be notified to the applicants through the single window in a timely manner.

[..]

4.4 Members shall, to the extent possible and practicable, use information technology to support the *single window*.

i. Measures related to laws for electronic transactions

Provisions related to establishment of laws for electronic transactions are relatively diverse in substance across RTAs, but are consistently found in the chapter of Electronic Commerce, typically under a specific Article focusing on domestic regulations. As can be seen in Box 3, the JAP-SWI agreement (Article 77 on Domestic Regulation) provides for the most general provision, only calling for transparent administration of e-commerce and the need for regulations not be burdensome, on a best endeavour basis.

Other RTAs are more specific. Both KOR-VN and TPP provisions refer specifically to UNCITRAL instruments. While the KOR-VN only encourages parties to take such instruments into account, the TPP requires that member states' domestic regulations regarding electronic transaction "*shall be consistent with*" the principles of the UNCITRAL Model Law on Electronic Commerce 1996 or the United Nations Electronic Communications Convention, 2005. A similar reference to the e-CC is contained in the ASEAN Legal Protocol to the Single Window. The provisions regarding laws on electronic transactions in AUS-CHI are also stated in a more detailed way, setting various principles to be followed by parties in developing legislation in this area. The special emphasis on supporting "*industry-led development of electronic commerce*" is worth noting in this regard.

j. Measures related to promoting e-certification and e-signature

In all the agreements reviewed in this analysis, this measure when found is clarified in the articles titled "Electronic Authentication" and/or "Electronic Signature"¹⁵ under the chapter of Electronic Commerce. Electronic authentication and electronic signature are provided for in detail in most of the agreements, but not in SING-IND or the intra ASEAN agreement reviewed (nor in the WTO TFA).

The RTA provisions analyzed generally seek to promote acceptance and mutual recognition of electronic authentication and signatures, including by encouraging the parties to maintain flexible and technology neutral laws and regulations in this area. In KOR-US and TPP, this is done by specifying what type of legislation parties should not adopt, e.g., laws that would "*prohibit parties to an electronic transaction from mutually determining the appropriate authentication methods for that transaction*" (TPP Article 14.6) or "*deny a signature legal validity solely on the basis that the signature is in electronic form*" (KOR-US Article 15.4).

¹⁵ Articles on e-transaction laws which reference UNCITRAL instruments also indirectly cover these issues. In many cases, the RTA Articles on "e-signature" simply restate key underlying principles of UNCITRAL texts.

Box 3. Selected Articles relating to Laws for Electronic Transactions

JAP-SWI

Article 77: Domestic Regulation

Each Party shall endeavour to ensure that all its measures affecting electronic commerce are administered in a transparent, objective, reasonable and impartial manner, and are not more burdensome than necessary.

KOR-VN

Article 10.4: Domestic Regulatory Framework

Each Party shall endeavour to adopt or maintain its domestic laws and regulations governing electronic transactions taking into account the UNCITRAL Model Law on Electronic Commerce 1996.

AUS-CHI

Article 16.5: Domestic Electronic Transaction Frameworks

1. Each Party shall adopt or maintain measures regulating electronic transactions based on the following principles:

(a) a transaction including a contract shall not be denied legal effect, validity or enforceability solely on the grounds that it is in the form of an electronic communication; and

(b) laws should not discriminate arbitrarily between different forms of technology.

2. Nothing in paragraph 1 prevents the Parties from making exceptions in their domestic laws to the general principles outlined in that paragraph.

3. Each Party shall:

(a) minimize the regulatory burden on electronic commerce; and

(b) ensure that its measures regulating electronic commerce support industry-led development of electronic commerce.

TPP

Article 14.5: Domestic Electronic Transactions Framework

1. Each Party shall maintain a legal framework governing electronic transactions consistent with the principles of the UNCITRAL Model Law on Electronic Commerce 1996 or the United Nations Convention on the Use of Electronic Communications in International Contracts, done at New York, November 23, 2005.

2. Each Party shall endeavour to:

(a) avoid any unnecessary regulatory burden on electronic transactions; and

(b) facilitate input by interested persons in the development of its legal framework for electronic transactions.

KOR-VN and AUS-CHI agreements take a more “positive” approach with the relevant Articles instead indicating that “*shall adopt or maintain measures regulating electronic authentication*” (AUS-CHI Article 16.6) that would, for example, permit parties to mutually determine the appropriate authentication methods and “*not limit the recognition of authentication technologies or implementation models*” (KOR-VN Article 10.3).¹⁶ Both agreements also commit parties to work towards the mutual recognition of digital certificates and electronic signature at the governmental level, and based on international standards, suggesting a higher level of overall commitment that in many other RTAs. Interoperability of electronic authentication and/or digital certificates is also encouraged in both the agreements, as well as in the TPP.

k. Measures related to trade-related electronic data exchange

“Trade-related electronic data exchange” among parties, or cross-border paperless trade, is often promoted or committed to under the Articles of “Paperless Trading” in E-commerce chapters or “Automation” in Customs chapters. Commitments in this area are always on a best endeavour basis. A notable exception is ASEAN, with its binding and detailed commitments on exchanging data electronically through an ASEAN Single Window.

Among the other RTAs reviewed, KOR-US, KOR-VN and TPP stand out in terms of making reference to specific international standards “*to facilitate bilateral exchange of international trade data*” (KOR-US Article 7.3). For example, in Article 5.6 on Automation, TPP Parties are committed to “*work toward developing a set of common data elements that are drawn from the WCO Data Model and related WCO recommendations as well as guidelines to facilitate government to government electronic sharing of data for purposes of analysing trade flows*”. While JAP-SWI, AUS-CHI and AANZ may not feature direct provisions on exchanging trade-related data electronically, an implicit commitment to it is made in “*Paperless Trading*” Articles, which all include a provision that “*Parties shall cooperate bilaterally [...] to enhance the acceptance of electronic versions of trade administration documents.*”

With regard to the four sub-measures, they are often specified under the specific chapters of “Rules of Origin and Origin Procedures”, “Sanitary and Phytosanitary Measures”, “Barriers to Trade” and “Financial Service” respectively. TPP is the only Agreement which has a specific commitment to exchange of information on SPS issues by electronic means,

¹⁶ This provision reflects the principle of “technology neutrality” featured in UNCITRAL text as well as the new FA-PT text.

although it is limited to “*possible*” cases. In contrast, electronic exchange of TBT-related information is discussed in several agreements, although again on a “*best endeavour*” basis.

Among the RTAs reviewed in details, four agreements (US-KOR, JAP-SWI, AANZ and TPP) cover the electronic exchange of financial information. JAP-SWI uses “negative” language and states that: “*Neither party shall take measures that prevent transfers of information into or out of its Area or the processing of financial information, including transfers of data by electronic means*” where such transfers [...] are necessary for the conduct of the ordinary business of a financial supplier of the other party”. In the chapter of financial services, the TPP urges members to allow electronic exchange of financial information, with an exception for protecting personal information and a requirement of obtaining prior authorization.

I. Measures related to international standards for paperless trade

All of the agreements reviewed refer to and/or take into account international standards when implementing various paperless trade measures. A common provision in Articles on “Automation” is that parties shall “*endeavour to use international standards*” (e.g. see TPP or KOR-VN). The “Paperless Trading” Article in AUS-CHI also refers to the need to establish single window by “*incorporating relevant international standards*”.

The ASEAN ATIGA Article 58 on “Application of Information Technology” states that “*Member States, where applicable, shall apply information technology in customs operations based on internationally accepted standards for expeditious customs clearance and release of goods.*” As noted earlier, some paperless trade provisions go a step further and mention specific standards or conventions and recommendations to guide implementation - in particular in the TPP. In contrast, while the WTO TFA has a dedicated Article on ‘Use of International Standards’ (Article 10.3) in regulating formalities of importation, exportation, and transit, it is not specifically related to application of information technology and does not specify a set of standards or recommendations. It does, however, encourage parties to use and prepare and review periodically relevant international standards and establish a committee which works towards the implementation of international standards.

4.3 Linkages with the new regional UN treaty on cross-border paperless trade facilitation

A United Nations treaty entitled “Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific” (FA-PT) opened for signature and ratification or accession in New York on 1 October 2016.¹⁷ Any of 53 Member States of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) may become a party.¹⁸ The FA-PT is not a regional trade agreement in the common sense of the term, as it does not include any trade liberalization commitments and focuses solely on enabling cross-border trade-related electronic data exchange among parties. It has been described as a regional “digital complement” to the WTO Trade Facilitation Agreement.¹⁹ Developed and negotiated by ESCAP Member States following adoption of a resolution on *Enabling Paperless Trade [...] for inclusive and sustainable intraregional trade facilitation* in 2012, it can be expected to provide a supportive and dedicated framework to accelerate the harmonized implementation of paperless trade commitments made by ESCAP Members with each other through RTAs.

Box 4. Objective of the Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific

Article 1 Objective

The objective of the present Framework Agreement is to promote cross-border paperless trade by enabling the exchange and mutual recognition of trade-related data and documents in electronic form and facilitating interoperability among national and subregional single windows and/or other paperless trade systems, for the purpose of making international trade transactions more efficient and transparent while improving regulatory compliance.

A review of the provisions of the FA-PT against the paperless trade measures and provisions in the selected RTAs confirms indeed that the FA-PT guiding principles are not only consistent with those found in RTA, but that participation in the FA-PT could indeed

¹⁷ https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=X-20&chapter=10&clang=en

¹⁸ List of ESCAP Members is available at: <http://www.unescap.org/about/member-states>

¹⁹ <http://www.tfafacility.org/new-un-treaty-facilitate-paperless-trade-asia-and-pacific-support-trade-facilitation-agreement>

help countries fulfil or better implement several of their RTA commitments. For example, as noted earlier, a common provision in “Paperless Trading” Articles in RTAs is that parties will exchange views and/or cooperate with each other as well as internationally to enhance the acceptance of electronic documents; Participation in the FA-PT would readily meet RTA partners’ commitment to cooperate internationally on paperless trade. In particular, one of the most far reaching components of the FA-PT is Article 8 on “Cross-border mutual recognition of trade-related data and documents in electronic form.” Implementation of this provision is expected to potentially enable the electronic exchange and legal recognition of various trade-related data and documents such as electronic COO, SPS certificates and TBT certificates, as envisaged in various RTAs.

Some RTAs (e.g., KOR-VN and AANZ) also commit parties to “*work towards the implementation of initiatives which provide for the use of paperless trading*”. FA-PT Article 13 on “Pilot projects and sharing of lessons learned”, where “*The Parties shall endeavour to initiate and launch pilot projects on cross-border exchange of trade-related data and documents in electronic form*” would certainly support implementation of such RTA commitments.

Importantly, our analysis of RTAs revealed that implementation of paperless trade on the basis of international standards was one of the most common features and provisions among agreements that did address paperless trade issues. Such an approach is also consistent with that of the FA-PT Article 9 on “International Standards for exchange of trade-related data and documents in electronic form”, stating that Parties “*shall endeavour to apply international standards and guidelines in order to ensure interoperability in paperless trade and to develop safe, secure and reliable means of communication for the exchange of data*”, as well as “*endeavour to become involved in the development of international standards and best practices related to cross-border paperless trade.*” The first four “General Principles” (Article 5) of the FA-PT - (a) *Functional equivalence*; (b) *Non-discrimination of the use of electronic communications*; (c) *Technological neutrality*; (d) *Promotion of interoperability* - are in particular directly related to those established and promoted in UNCITRAL instruments referred to in several RTA provisions related to legislation on electronic transaction and/or e-signatures.

Building on these intentional standards and principles, the FA-PT provides more details on how some of the paperless trade provisions in RTAs may be implemented. For example, on single window, the FA-PT does not only encourage Parties to establish single windows, as the WTO TFA and several RTAs already do, but encourage them to “*use them for cross-border paperless trade*”. It also provides an intergovernmental and institutional

framework to do so, with establishment of a Paperless Trade Council and working groups, and the development of individual and regional action plans. Looking forward, Parties may reflect relevant commitments made through RTAs in these action plans.

5. Conclusion

The analysis presented in this paper reveals that the number of paperless trade measures in RTAs entered into force globally since 2005 essentially doubled, with a large majority of RTAs now featuring one more measures aiming to exchange trade-related data and information electronically. In many cases, RTAs are found to be more ambitious than the WTO TFA in the area of paperless trade, with the possible exception of e-payment of duties and fees, which is not specifically mentioned in any of the RTAs reviewed. While 30 of the 138 RTAs reviewed feature one or more Articles dedicated to “Paperless Trading” or “Paperless Trade Administration”, provisions related to more specific paperless trade measures are found in different chapters, including but not limited to chapters on Customs and trade facilitation as well as on e-commerce.

Many of the recent RTAs in Asia and the Pacific implicitly or explicitly call upon the parties to develop electronic exchange of trade-related data and documents and work towards interoperability of paperless trade systems. However, they provide little detail on how to do so beyond recommending cooperation among the Parties taking into account existing international standards and tools. In this context, the new UN treaty on facilitation of cross-border paperless trade in Asia and the Pacific (FA-PT) provides a useful multilateral framework through which paperless trade-related RTA commitments may be concretized.

Looking forward, more research may be undertaken on the extent to which countries have implemented the various paperless trade measures they have committed to through RTAs. Preliminary evidence points to countries having achieved partial implementation at best. Even in the case of ASEAN, which has shown strong (binding) commitments to cross-border paperless trade through ATIGA and its related ASEAN Single Window Agreement, implementation has been much slower than expected. In this context, the new FA-PT stands as a potentially useful tool for RTA members to share experience and cooperate with a wider set of trade partners committed to paperless trade, providing new knowledge and renewed impetus to accelerate implementation of RTA commitments.

Further efforts may also be useful in refining the typology of paperless trade measures and provisions proposed in this paper. Similarly, more work may be needed to

improve the accuracy of the RTA ratings in terms of depth of coverage and commitments to paperless trade, in particular by more fully taking into account the nature and level of bindings of each provision across a larger set of agreements.

6. References

ECSG Chair (2004). *“APEC’s Strategies and Actions Toward A Cross-Border Paperless Trading Environment”*. Asia-Pacific Economic Cooperation. 2004/AMM/004, Chili, Vol 4, pp.1-6. Available at:

http://www.apec.org/~media/Files/Press/Features/2007/04_amm_004.pdf

European Parliament and the Council of the European Union (2008). *“Decisions adopted jointly by the European parliament and the union on a paperless environment for customs and trade”*. Decision No 70/2008/EC. Official Journal of the European Union. Available at:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:023:0021:0026:EN:PDF>

Ha, S. H. and S. W. Lim (2014). *“The Progress of Paperless Trade in Asia and the Pacific: Enabling International Supply Chain Integration”*. ADB working paper series on regional economic integration No.137. Available at:

<http://www.adb.org/zh/node/152775>

Laryea, E. (2002). *“Paperless Trade: Opportunity, Challenges and Solutions”*. Kluwer Law International, Deventer, pp.1-2.

Laryea, E. (2005). *“Facilitating Paperless International Trade: A Survey of Law and Policy in Asia”*, International Review of Law Computers & Technology, Vol 19, No. 2, pp. 121-142.

United Nations ESCAP (2016). *“Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific”*, in ESCAP, Resolution adopted by the Economic and Social Commission for Asia and the Pacific, (E/ESCAP/RES/72/4). United Nations. Available at:

http://www.un.org/ga/search/view_doc.asp?symbol=E/ESCAP/RES/72/4&Lang=E

United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT), UNNExT Policy Briefs, Various issues. Available at:

<https://unnex.t.unescap.org>

ANNEX 1. List of the RTAs reviewed

	Agreement (Name)	List of members	Entry into force	Notes (- indicates no paperless trade measures; + indicates at least one paperless trade measure)
1	Agadir Agreement	Egypt, Jordan, Morocco, Tunisia	2007	-
2	*ASEAN-AUS-NZ (AANZ)	ASEAN, Australia, New Zealand	2010	Article 8 "Paperless Trading" (E-Commerce Chapter)
3	*ASEAN-China	ASEAN, China	2005	+
4	*ASEAN-India	ASEAN, India	2010	+
5	ASEAN-Japan	ASEAN, Japan	2008	-
6	ASEAN-Korea, Republic of	ASEAN, Korea	2010	-
7	*AUS-Chile	Australia, Chile	2009	Article 16.9 "Paperless Trading" (E-Commerce Chapter), Article 5.11 "Paperless Trading" (Customs Administration Chapter)
8	*AUS-China	Australia, China	2015	Article 12.90
9	*ASEAN Intra Agreement	ASEAN members		+
10	Brunei-Japan	Brunei, Japan	2008	-
11	*Canada-Colombia	Canada, Colombia	2011	Article 1505
12	*Canada-Honduras	Canada, Honduras	2014	+
13	*Canada-Jordan	Canada, Jordan	2012	+
14	*Canada-Korea, Republic of	Canada, Korea	2015	Article 13.5
15	*Canada-Panama	Canada, Panama	2013	+
16	*Canada-Peru	Canada, Peru	2009	Article 1506
17	Central European FTA (CEFTA)	Albania, Bosnia and Herzegovina, Moldova, Montenegro, Serbia, Macedonia, Kosovo	2007	-
18	*Chile-China	Chile, China	2006	+
19	Chile-India	Chile, India	2007	-
20	*Chile-Japan	Chile, Japan	2007	+
21	Chile-Malaysia	Chile, Malaysia	2012	-
22	*Chile-Viet Nam	Chile, Viet Nam	2014	Article 5.12 (Customs Administration Chapter)
23	*China-Costa Rica	China, Costa Rica	2011	+
24	*China-Korea, Republic of	China, Korea	2015	Article 13.6 (e-commerce chapter)
25	*China-New Zealand	China, New Zealand	2008	+
26	*China-Singapore	China, Singapore	2009	+
27	*Costa Rica-Singapore	Costa Rica, Singapore	2013	+
28	*CAFTA-DR	Costa Rica, Dominican, El Salvador,	2006	+

		Guatemala,Hondurus,USA		
29	EC (27) Enlargement			n/a
30	*EFTA-Albania	Albania, Liechtenstein, Switzerland,Iceland,Norway	2010	+
31	*EFTA-Bosnia and Herzegovina	Bosnia and Herzegovina, Iceland,Liechtenstein,Norway,Switzerland	2015	+
32	*EFTA-Canada	Canada,Iceland,Liechtenstein,Norway, Switzerland	2009	+
33	*EFTA-Central America	Costa Rica, Iceland,Liechtenstein, Norway,Switzerland,Panama	2014	+
34	*EFTA-Colombia	Colombia, Iceland, Liechtenstein, Norway,Switzerland	2011	+
35	EFTA-Egypt	Egypt, Iceland,Liechtenstein, Norway,Switzerland	2007	-
36	*EFTA-Hong Kong,China	Hong Kong, China; Iceland;Liechtenstein;Norway,Switzerland	2012	+
37	EFTA-Korea, Republic of	Iceland, Liechtenstein,Norway,Switzerland,Korea	2006	-
38	EFTA-Lebanon	Iceland, Liechtenstein,Norway,Switzerland,Lrbanese Republic	2007	-
39	*EFTA-Montenegro	Iceland, Liechtenstein,Norway,Switzerland, Montenegro	2012	+
40	*EFTA-Peru	Iceland, Liechtenstein,Norway,Switzerland,Peru	2011	+
41	EFTA-SACU	Iceland, Liechtenstein,Norway,Switzerland,Botswana,Lesotho, Namibia,South Africa	2008	-
42	*EFTA-Serbia	Iceland, Liechtenstein,Norway,Switzerland,Serbia	2010	+
43	EFTA-Tunisia	Iceland, Liechtenstein,Norway,Switzerland,Tunisia	2005	-
44	*EFTA-Ukraine	Iceland, Liechtenstein,Norway,Switzerland,Ukraine	2012	+
45	Egypt-Turkey	Egypt,Turkey	2007	-

46	El Salvador-Honduras, Taiwan	Chinese Taiwan, El Salvador, Honduras	2008	-
47	EU-Albania	EU members, Albania	2006	-
48	EU-Algeria	EU members, Algeria	2005	-
49	*EU-Bosnia and Herzegovina	EU members, Bosnia	2008	+
50	*EU-Cameroon	EU members, Cameroon	2014	+
51	*EU-CARIFORUM States EPA	EU members; Antigua and Barbuda; Bahamas; Barbados; Belize; Dominica; Dominican Republic; Grenada; Guyana; Jamaica; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago	2008	+
52	*EU-Central America	EU members; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama	2013	+
53	*EU-Colombia and Peru	EU Members, Colombia, Peru	2013	Article 165 "Management of Paperless Trading" (E-Commerce Chapter)
54	EU - Côte d'Ivoire	EU Members, Côte d'Ivoire	2008	-
55	*EU-Eastern and Southern Africa States Interim EPA	EU Members; Madagascar; Mauritius; Seychelles; Zimbabwe	2012	+
56	*EU-Georgia	EU members, Georgia	2014	+
57	*EU-Korea, Republic of	EU members, Korea	2011	+
58	EU-Montenegro	EU members, Montenegro	2008	-
59	*EU-Papua New Guinea/Fiji	EU members, Papua New Guinea, Fiji	2009	+
60	*EU-Rep. of Moldova	EU members, Rep. of Moldova	2014	+
61	EU-Serbia	EU members, Serbia	2010	-
62	*EU-Ukraine	EU members, Ukraine	2014	+
63	*Eurasian Economic Union (EAEU)	Armenia, Belarus, Kazakhstan, Kyrgyz Republic, Russian	2015	+

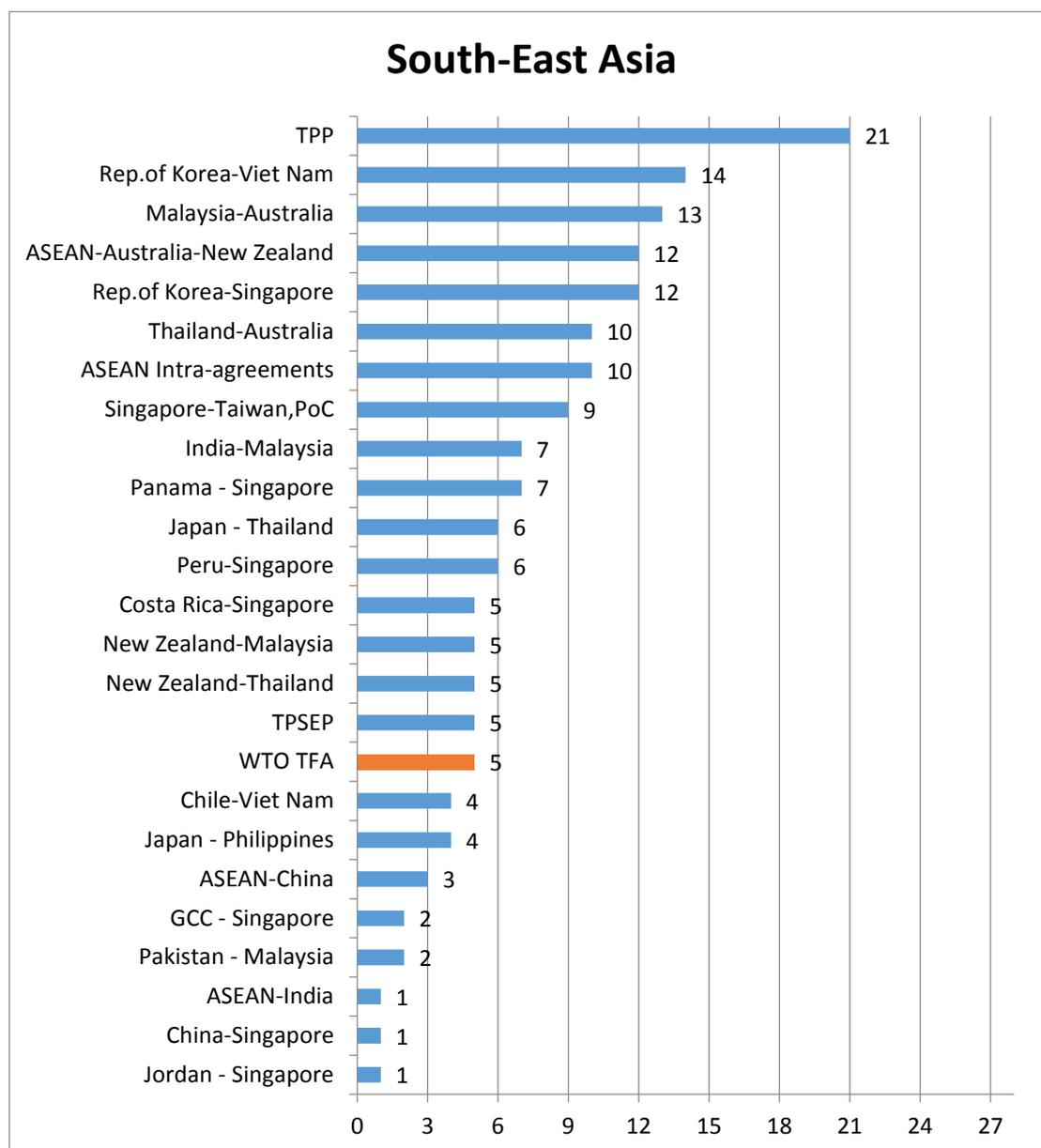
		Federation		
64	Eurasian Economic Union (EAEU)- Accession of the Kyrgyz Republic	Armenia, Belarus, Kazakhstan, Kyrgyz Republic, Russian Federation	2015	n/a
65	*Gulf Cooperation Council (GCC) - Singapore	Bahrain, Kingdom of; Kuwait, the State of; Oman; Qatar; Saudi Arabia, Kingdom of; United Arab Emirates; Singapore	2013	+
66	*Hong Kong, China- Chile	Hong Kong, Chile	2014	+
67	*Hong Kong, China-New Zealand	Hong Kong, New Zealand	2011	+
68	*Iceland-China	Iceland, China	2014	+
69	Iceland-Faroe Islands	Faroe Islands, Iceland	2006	-
70	India-Bhutan	India, Bhutan	2006	-
71	*India-Japan	India, Japan	2011	+
72	*India-Malaysia	India, Malaysia	2011	+
73	India-Nepal	India, Nepal	2009	-
74	*India-Singapore	India, Singapore	2005	Article 4.4 "Paperless Trading" (Customs chapter)
75	*Japan-Australia	Japan, Australia	2015	Article 13.3 "Paperless Trade Administration" (E-Commerce Chapter)
76	Japan-Indonesia	Japan, Indonesia	2008	-
77	Japan-Malaysia	Japan, Malaysia	2006	-
78	*Japan-Mexico	Japan, Mexico	2005	+
79	*Japan-Mongolia	Japan, Mongolia	2016	Article 9.8 "Paperless Trade Administration" (E-Commerce)
80	*Japan-Peru	Japan, Peru	2012	+
81	*Japan-Philippines	Japan, Philippines	2008	Chapter 5 "Paperless Trading"
82	*Japan-Switzerland	Japan, Switzerland	2009	Article 79 "Paperless Trade Administration" (E-Commerce chapter)
83	*Japan-Thailand	Japan, Thailand	2007	Chapter 5 "Paperless Trading"
84	Japan-Vietnam	Japan, Viet Nam	2009	-
85	*Jordan-Singapore	Jordan, Singapore	2005	+
86	*Korea, Republic of- Australia	Korea, Australia	2014	Art. 15.7 "Paperless Trading" (E-Commerce chapter)
87	*Korea, Republic of-India	Korea, India	2010	+
88	*Korea, Republic of-New Zealand	Korea, New Zealand	2015	+
89	*Korea, Republic of- Singapore	Korea, Singapore	2006	Art. 18.7 "Paperless Trading" (Cooperation chapter)

90	*Korea, Republic of-Turkey	Korea, Turkey	2013	+
91	*Korea, Republic of- US	Korea, US	2012	Art. 15.6 "Paperless Trading" (E-Commerce chapter)
92	*Korea, Republic of- Viet Nam	Korea, Viet Nam	2015	Art.10.7 "Paperless Trading" (E-Commerce chapter)
93	*Malaysia-Australia	Malaysia, Australia	2013	Art. 15.9 "Paperless Trading" (E-Commerce Chapter)
94	Mauritius-Pakistan	Mauritius, Pakistan	2007	-
95	MERCOSUR-India	Argentina, Brazil, Paraguay,Uruguay, India	2009	-
96	*New Zealand-Taiwan	New Zealand, Taiwan	2013	Article 3 "Paperless Trading" (E-Commerce Chapter)
97	*New Zealand-Malaysia	New Zealand, Malaysia	2010	+
98	*Nicaragua-Chinese Taiwan	Nicaragua, Taiwan	2008	+
99	*Pakistan-China	Pakistan, China	2007	+
100	*Pakistan-Malaysia	Pakistan, Malaysia	2008	+
101	Pakistan- Sri Lanka	Pakistan, Sri Lanka	2005	-
102	*Panama-Singapore	Panama, Singapore	2006	Art. 4.5 "Paperless Trading" (Customs Procedures Chapter)
103	*Peru-China	Peru, China	2010	+
104	*Peru-Korea, republic of	Peru, Korea	2011	Art. 14.6 "Paperless Trading" (E-Commerce Chapter)
105	*Peru-Singapore	Peru, Singapore	2009	+
106	*Singapore-Taiwan	Singapore, Taiwan	2014	Art.11.6"Paperless Trade Administration" (E-Commerce Chapter), Art. 5.4 "Paperless Trading" (Customs Chapter)
107	South Asian Free Trade Agreement (SAFTA)	Afghanistan, Bangladesh,Bhutan,India, Maldives,Nepal,Pakistan,Sri Lanka	2006	n/a
108	South Asian Free Trade Agreement (SAFTA)- Accession of Afghanistan	Afghanistan; Bangladesh; Bhutan; India; Maldives; Nepal; Pakistan; Sri Lanka	2011	n/a
109	Southern African Development Community (SADC) - Accession of Seychelles	Angola; Botswana; Lesotho; Madagascar; Malawi; Mauritius; Mozambique; Namibia; Seychelles; South Africa; Swaziland; Tanzania; Zambia; Zimbabwe	2015	n/a
110	*Switzerland-China	Switzerland,China	2014	+
111	*Thailand-Australia	Thailand, Australia	2005	Art. 1107 "Paperless Trading" (E-Commerce Chapter)

112	*Thailand-New Zealand	Thailand, New Zealand	2005	Art. 10.6 "Paperless Trading" (E-Commerce Chapter), Art.3.12 "Paperless Trading and Use of Automated Systems" (Customs Procedures and Cooperation)
113	*Trans-Pacific Strategic Economic Partnership (TPSEP)	Brunei, Chile, New Zealand, Singapore	2006	Art. 5.10 "Paperless Trading" (Customs Procedures Chapter)
114	Treaty on a Free Trade Area between members of the Commonwealth of Independent States (CIS)	Armenia; Belarus; Kazakhstan; Kyrgyz Republic; Moldova, Republic of; Russian Federation; Tajikistan; Ukraine	2012	n/a
115	Turkey-Albania	Turkey, Albania	2008	-
116	Turkey-Chile	Turkey,Chile	2011	-
117	Turkey-Georgia	Turkey, Georgia	2009	-
118	Turkey-Jordan	Turkey, Jordan	2011	-
119	Turkey-Mauritius	Turkey,Mauritius	2013	-
120	Turkey-Montenegro	Turkey, Montenegro	2010	-
121	Turkey-Morocco	Turkey, Morocco	2006	-
122	Turkey-Palestinian Authority	Turkey, Palestine	2005	-
123	Turkey-Serbia	Turkey, Serbia	2010	-
124	Turkey-Syria	Turkey,Syria	2007	-
125	Turkey-Tunisia	Turkey, Tunisia	2005	-
126	Ukraine-Azerbaijan	Ukraine,Azerbaijan	2008	-
127	Ukraine-Belarus	Ukraine, Belarus	2006	-
128	Ukraine-Moldova	Ukraine, Moldova	2005	-
129	*Ukraine-Montenegro	Ukraine, Montenegro	2013	+
130	*US-Australia	US,Australia	2005	Art. 16.7 "Paperless Trade Administration" (E-Commerce Chapter)
131	*US-Bahrain	US,Bahrain	2006	+
132	*US-Colombia	US,Colombia	2012	Art.15.7 "Paperless Trade Administration" (E-Commerce Chapter)
133	*US-Morocco	US,Morocco	2006	+
134	*US-Oman	US,Oman	2009	+
135	*US-Panama	US,Panama	2012	+
136	*US-Peru	US,Peru	2009	+
137	*TPP	Australia, Canada, Japan, Malaysia, Mexico, Peru, US, Viet Nam,Chile, Brunei, Singapore, New Zealand	Not in f.	Art. 14.9 "Paperless Trading" (E-Commerce Chapter)

ANNEX 2. Paperless trade coverage in RTAs of selected Asian subregions and World regions

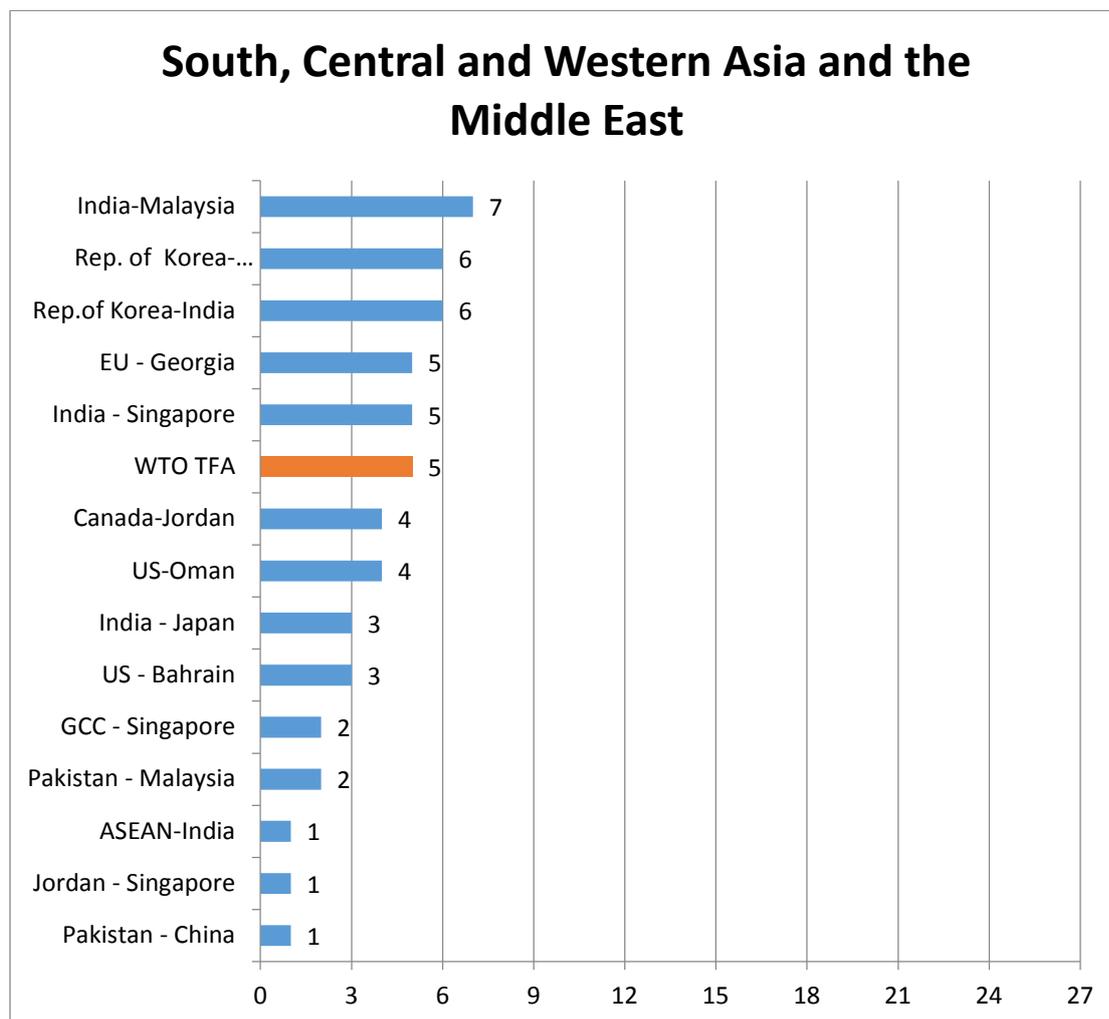
Figure A2. 1. Paperless trade coverage in RTAs of South-East Asian Economies since 2005



Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).

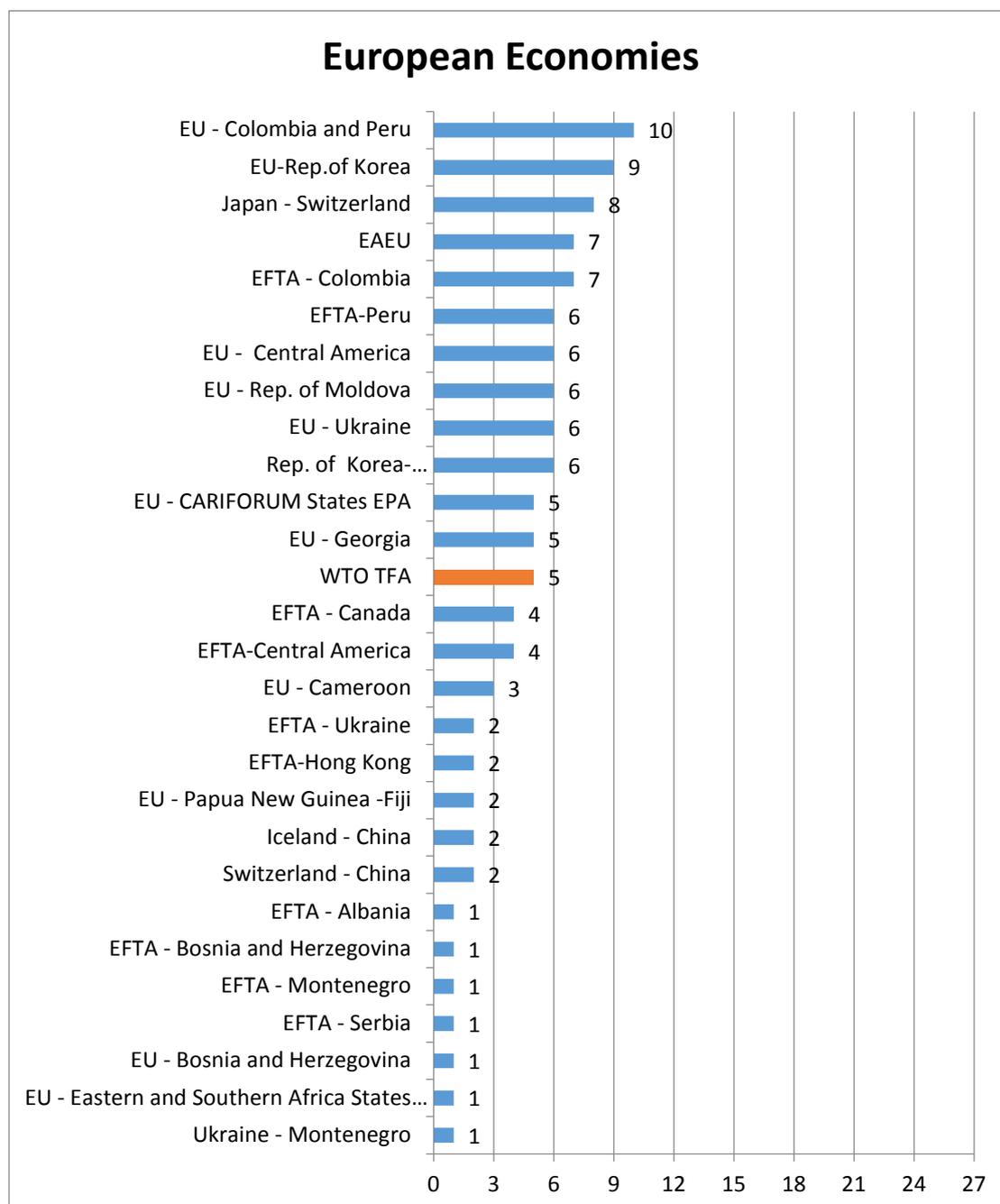
Figure A2. 2. Paperless trade coverage in RTAs of South, Central and Western Asia and Middle East Economies since 2005



Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).

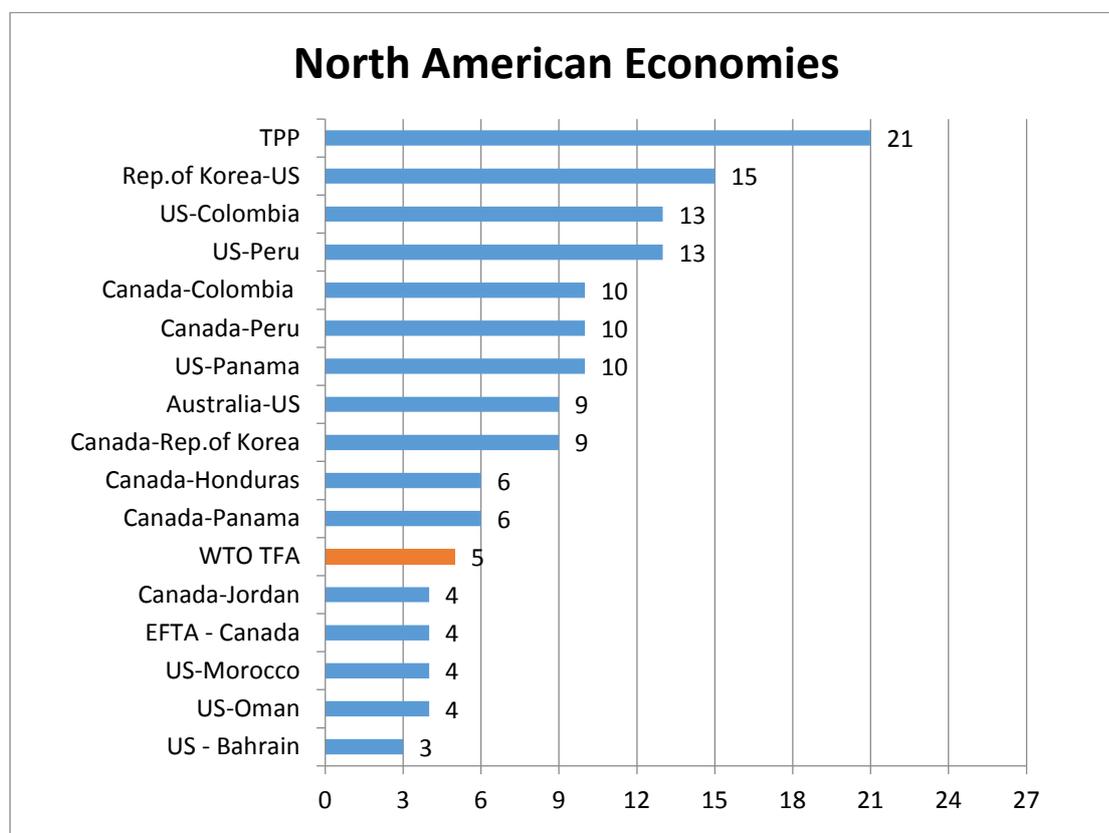
Figure A2. 3. Paperless trade coverage in RTAs of European Economies since 2005



Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).

Figure A2. 4. Paperless trade coverage in RTAs of North American Economies since 2005

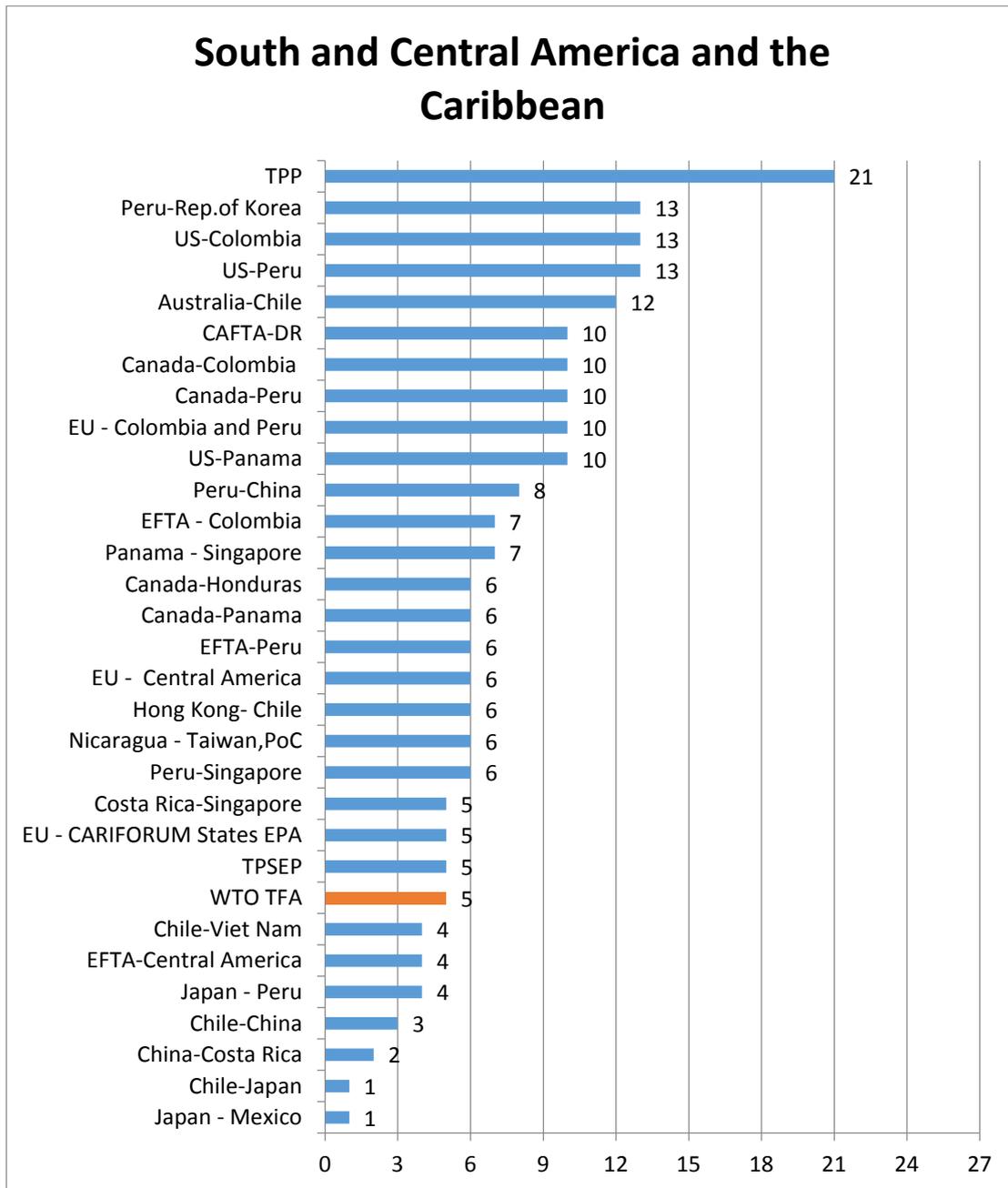


Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).²⁰

²⁰ Peru-Mexico, Mexico-Central America, and Mexico-Panama RTAs whose texts are available only in Spanish are not included in this analysis.

Figure A2. 5. Paperless trade coverage in RTAs signed by South and Central American and the Caribbean Economies since 2005



Source: Authors

Note: number of paperless trade measures mentioned in each agreement (out of 27).