



An Overview of Customs Reforms to Facilitate Trade

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Abstract

This article examines the factors motivating customs reform in various countries. In particular, it describes how certain customs practices have recently evolved in response to the globalization of manufacturing, just-in-time production processes, and the growth in e-commerce. Countries have undertaken several types of customs reform, including the use of online single window systems to streamline customs paperwork and improve transparency; the adoption of “trusted trader” programs and risk assessment tools to speed customs clearance at border checkpoints; and efforts at harmonizing customs processing among regional trading partners. Guiding principles to improve customs efficiency were also agreed upon under the World Customs Organization’s Kyoto Convention and the World Trade Organization’s Trade Facilitation Agreement (TFA). This article outlines these developments and reviews work by the Organisation for Economic Co-operation and Development, the World Bank, and the World Economic Forum to benchmark countries’ progress in achieving customs reform, including implementing policy recommendations under the TFA.

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Introduction: The Changing Role of Customs

Customs administrations perform broad, important functions that facilitate the flow of goods and services across international borders. Traditionally, customs has played a somewhat narrow role, focused primarily on the collection of duties and taxes on imported goods. In the United States, for example, revenue collected by the U.S. Customs Service (USCS)—now the Bureau of Customs and Border Protection (CBP)—was a significant source of income for the U.S. economy before the establishment of the federal income tax system.¹ Over time, the role of USCS expanded so that, in addition to revenue collection, it became responsible for ensuring the legitimacy, safety, and security of goods admitted into the United States. Currently, CBP carries out this responsibility, in conjunction with other U.S. government agencies, through its enforcement of a range of trade laws, including those concerning tariff collection, compliance with sanitary and phytosanitary standards, and the protection of intellectual property rights.²

More recently, CBP, like other customs administrations worldwide, has been asked to take on the role of trade facilitator.³ This role requires the CBP to adopt specific practices that allow imports into the United States to clear customs checkpoints more efficiently. These improved practices are also being adopted by other countries and advanced under both the World Customs Organization (WCO) and the World Trade Organization (WTO), as discussed later in this article.

In many developing countries, however, customs agencies are still seen principally as tax-collecting entities, even as trade promotion is acknowledged as increasingly vital to these countries' economic growth.⁴ The cost of trade activity in developing countries is estimated to be 1.8 times higher, on average, than in developed countries.⁵ These costs arise not from higher

¹ Jones and Seghetti, *U.S. Customs and Border Protection*, May 18, 2015, 8–9. USCS was established by Congress on July 31, 1789 and was placed under the purview of the Secretary of the Treasury on September 2, 1789. In 2003, USCS became the Bureau of Customs and Border Protection (CBP) under the newly-established Department of Homeland Security, created by the Homeland Security Act of 2002 (P.L. 107-296).

² Jones and Seghetti, “U.S. Customs and Border Protection: Trade, Enforcement, and Security: Summary,” Congressional Research Service (CRS), May 18, 2015, 26. In the United States, customs clearance involves not only CBP, but other U.S. government agencies responsible for verifying the legitimacy, safety (e.g. through product, sanitary, and phytosanitary standards), and security (i.e., ensuring that dangerous goods do not enter the United States) of U.S. imports. These agencies include, for example, the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, the U.S. Drug Enforcement Agency, and the U.S. Patent and Trademark Office. An exporter into the United States may therefore have to complete paperwork from multiple agencies to clear goods at the border—the streamlining of such paperwork into a unified online platform is part of the concept behind the single customs window.

³ Jones and Seghetti, “U.S. Customs and Border Protection: Trade, Enforcement, and Security: Summary,” Congressional Research Service (CRS), May 18, 2015, 3. This report describes the current role of CBP as comprising trade enforcement, import security, and trade facilitation. Whereas trade enforcement concerns the enforcement of IPR and tariff laws, for example, import security concerns the identification of dangerous or illicit goods (including “chemical, biological, radiological and nuclear (CBRN) weapons and related material; illegal drugs; and contraband”). Trade facilitation, on the other hand, pertains to the efficiency with which goods are cleared through customs checkpoints.

⁴ Njinkeau and Hartmann, “Unlocking Trade for Low-Income Countries,” October 2015, 70. In sub-Saharan Africa (SSA), dependence on customs revenue and import duties varied greatly. In Lesotho, these duties accounted for an average of nearly 40 percent of GDP between 2006 and 2008; in Nigeria and Tanzania during the same period, they accounted for only about 1 percent. Zake, “Customs Administration Reform and Modernization in Anglophone Africa,” August 2011.

⁵ WCO, “Statement by Mr. Joakim Reiter, Deputy Secretary-General,” June 1, 2016.

tariffs but from nontariff barriers (NTBs) such as inefficient customs procedures and inadequate transport and communications infrastructure.⁶

In an increasingly globalized world, where goods (and people) cross borders with more frequency, and where speed to market is of utmost importance for both supply chain participants and end consumers, customs administrations are now asked to both facilitate legitimate trade and protect borders.⁷ However, it is often difficult for customs administrations to strike a balance between these two functions, which can often undercut one another. This is especially true when changes in political or economic circumstances require customs administrations to give immediate priority to either import security or trade facilitation.⁸

Trends Influencing Customs Reform

The globalization of supply chains, the expansion of just-in-time (JIT) manufacturing, and the growth of e-commerce have stimulated efforts toward customs reform. At present, more than half of all goods that cross international borders are intermediate goods, reflecting the geographic fragmentation of production networks and an increase in vertical specialization.⁹ Intermediate inputs account for a large share (more than 50 percent) of participation in global value chains by the United States, as well as by many other countries, whether members of the Organisation for Economic Co-operation and Development (OECD) or not.¹⁰ JIT manufacturing means that these intermediate parts must arrive at the next point in the global value chain within a tight deadline.¹¹ In addition, business-to-business, business-to-consumer, and consumer-to-consumer e-commerce have boosted demand for faster, more efficient customs clearance procedures. According to estimates by UNCTAD, business-to-business e-commerce accounted for \$15 trillion in revenues in 2013, and business-to-consumer e-commerce for \$1 trillion.¹² At the same time, the number of small packages processed by customs administrations rose by 48 percent between 2011 and

⁶ Ibid.

⁷ Jones and Seghetti, "U.S. Customs and Border Protection: Trade, Enforcement, and Security," Congressional Research Service, May 18, 2015, 3; Ruda, "Using Automation to Balance Border Security and Trade Liberalization," July 26, 2016. The confluence of goods and people crossing international borders, and the need for countries to develop a concerted approach to managing both activities, has caused them to move towards more holistic "border management" reform efforts, which encompass more than just customs.

⁸ Jones and Seghetti, "U.S. Customs and Border Protection: Trade, Enforcement, and Security," Congressional Research Service, May 18, 2015, 2–3.

⁹ OECD, *Mapping Global Value Chains*, December 3, 2012, 2–3, 5–6. OECD research suggests that value-creation is concentrated heavily in countries that perform upstream activities or the production of components and inputs to final products rather than in countries that perform downstream activities, or final product assembly. Interruption in upstream activities of global value chains (GVCs) may cause additional costs and delays for downstream producers in such industries as electronics and automobile manufacturing. Vertical specialization refers to a country specializing in a particular stage of manufacturing (e.g., producing components or assembling final products) in which it may have a comparative advantage.

¹⁰ OECD, *Mapping Global Value Chains*, TAD/TC/WP/RD (2012)9, December 3, 2012, 24–25. Calculations of OECD and non-OECD country participation in GVCs using 2008 data are presented in figures 1 and 2 of the paper on pages 12–13.

¹¹ De Wulf and Sokol, *Customs Modernization Handbook*, 2005, 6. JIT manufacturing refers to the assembly of goods on demand from the customer, often through the sourcing of primary and intermediate inputs from disparate locations. Among other things, JIT manufacturing helps firms to lower inventory holding costs, but it requires nimble supply chains to succeed.

¹² These amounts pertain to both domestic and international e-commerce transactions. WTO, "International Trade Statistics 2015," 2015, 31.

2014. The latter development is largely but not entirely accounted for by e-commerce transactions.¹³

A fourth trend is growing regional economic integration, especially in the form of free trade agreements (FTAs), customs unions, and trade (or transit) corridors.¹⁴ In general, FTAs and customs unions are designed to liberalize market access for participating countries by removing trade barriers, including customs barriers, while trade corridors are developed to facilitate trade between landlocked countries and their coastal neighbors.¹⁵ According to the World Trade Organization (WTO), at the start of 2017 there were 238 FTAs and 19 customs unions in force that had been notified under the General Agreement on Trade and Tariffs (GATT).¹⁶ Countries that are a party to these agreements aim to harmonize customs procedures and regulations. Customs unions, in particular, are formed between countries that share borders, and these agreements require member countries to coordinate border management policies. In addition, members of customs unions develop a common external tariff that applies to trade with third-party countries, whereas trade among customs union members is duty free.¹⁷ By contrast, trade corridors focus on upgrading transport infrastructure; however, they are most effective when accompanied by improvements in customs efficiency.¹⁸

Finally, and most importantly, there is strong evidence that customs reform is motivated by a desire to lower significant costs to trade. Some of these costs, often referred to as NTBs or nontariff measures (NTMs) affecting trade,¹⁹ are financial in nature, as they involve direct payment. Others, such as time delays, ultimately lower corporate profitability but may not necessarily take the form of direct payments.²⁰ It has been shown that NTMs can add 70 percent

¹³ WTO, “International Trade Statistics 2015,” 2015, 31.

¹⁴ WTO, “Regional Trade Agreements and Preferential Trade Agreements” (accessed October 11, 2016).

Under the WTO, FTAs and customs unions are considered two forms of regional trade agreements (RTAs). The WTO defines RTAs as “reciprocal trade agreements between two or more partners.”

¹⁵ WTO, “Regional Trade Agreements and Preferential Trade Agreements,” n.d.

https://www.wto.org/english/tratop_e/region_e/rta_pta_e.htm (accessed October 11, 2016). Article XXIV of the General Agreement on Tariffs and Trade (GATT) exempts countries that have formed customs unions or FTAs from most-favored nation (MFN) principles that require the nondiscriminatory treatment of GATT signatories by parties to the agreement. McLinden et al., *Border Management Modernization*, 2011, 233.

¹⁶ WTO, “Some Figures on Regional Trade Agreements,” updated December 22, 2016.

McLinden, Fanta, Widdowson, and Doyle, eds., *Border Management Modernization*, 2011 (Washington, DC: The World Bank), 232. Overall, customs unions exist midway along a spectrum of regional integration agreements. The least restrictive of these are partial-scope agreements and FTAs, and the most restrictive are common markets and economic and monetary unions. For more information see box 14.1, “The Five Stages of Regional Integration,” in *Border Management Modernization*, page 232. Countries may exempt certain sectors or products from the CET. Andriamananjara, “Customs Unions,” June 2011, 115.

¹⁸ Kunaka and Carruthers, *Trade and Transport Management Toolkit*, 2014, 3–11.

¹⁹ McLinden, Fanta, Widdowson, and Doyle, eds., *Border Management Modernization*, 2011 (Washington, DC: The World Bank), 215. In place of NTBs, the broader term “nontariff measures (NTMs),” is often used. NTMs include regulatory measures such as sanitary and product standards that, although necessary, may also serve to impede the flow of trade. The term NTM will be used in the remainder of this article.

²⁰ Li and Wilson, “Time as a Determinant of Comparative Advantage,” November 1, 2009, 4. Overall, time delays add two dimensions to costs: inventory-holding costs and depreciation costs. Time delays may also adversely affect trade in time-sensitive goods, including JIT inventory (e.g., electronics) and perishable products.

to the restrictiveness of tariffs alone²¹ and that countries that have lessened customs barriers tend to enjoy both more diverse exports and more export intensity.²²

Djankov estimates that for a single country, a one-day delay in goods reaching their destination is equivalent to reducing the country's overall trade by 1 percent or to adding 70 kilometers of transport distance. Delays in time-sensitive goods result in a more striking outcome: a reduction in trade by as much as 6 percent. Large firms that are able to absorb the costs of time delays are more likely to trade nonetheless, while these costs may keep small firms from engaging in cross-border transactions altogether.²³ The desire to avoid these costs can stimulate firms to reconfigure their supply chains, to lessen the amount that they trade, or to alter the composition of traded goods.²⁴ Therefore, to the extent that they understand that trade is often an important driver of economic growth, countries have worked toward eliminating inefficient customs procedures that serve as NTMs to trade.²⁵

The WCO's Kyoto Convention Provides a Framework for Customs Reform

The International Convention on the Simplification and Harmonization of Customs Procedures, also known as the Kyoto Convention, was established in 1974 under the World Customs Organization (WCO). It was revised in 1999 to reflect changes in the speed of commerce and the advancement of information technology.²⁶ The principles outlined in the Kyoto Convention provide both the impetus and a roadmap for customs reform efforts by signatory countries.²⁷ Currently, 105 countries are signatories to the revised Kyoto Convention.²⁸

Among its core principles, the revised Kyoto Convention promotes the transparency, simplification, standardization, and harmonization of customs procedures. This is achieved by, for example, the online publication of customs rules and regulations; the streamlining of customs paperwork; the use of electronic platforms for customs filing and clearance; the adoption of risk management tools for customs inspections that separate high-risk (e.g., potentially dangerous or illegal) cargo from low-risk cargo; and coordination between the border management agencies of signatory countries.²⁹ In 2005, the WCO reinforced the principles set out under the revised

²¹ Kee, Nicita, and Olarreaga, "Estimating Trade Restrictiveness Indices," December 2005, 20. The 70 percent represents an average amount for the 91 countries covered in the study.

²² Kee, Nicita, and Olarreaga, "Estimating Trade Restrictiveness Indices," World Bank, December 2005, 20; Li, Yue and John S. Wilson, "Time as a Determinant of Comparative Advantage," World Bank Research Working Paper No. 5128, November 1, 2009, 9. Export intensity denotes the ratio of exports to a firm's total sales.

²³ Djankov, Freund, and Pham, "Trading on Time," World Bank, 2010, 20–21.

²⁴ Djankov, Freund, and Pham, "Trading on Time," World Bank, 2010, 21.

²⁵ McLinden, Fanta, Widdowson, and Doyle, eds., *Border Management Modernization*, 2011 (Washington, DC: The World Bank), 215.

²⁶ WCO, "The Revised Kyoto Convention," 2015. The revised Kyoto Convention became effective on February 3, 2006.

²⁷ WCO, "The Revised Kyoto Convention," 2015.

²⁸ WCO, "Position as Regards Notifications and Accessions," October 27, 2016.

²⁹ WCO, "The Revised Kyoto Convention," 2015. Using risk management techniques at border crossings reduces bottlenecks at customs checkpoints by limiting physical inspections, allowing customs officials to focus on finding and checking high-risk cargo. OECD, "The Costs and Benefits of Trade Facilitation," October 2005, 6.

Kyoto Convention with the introduction of the Framework of Standards to Secure and Facilitate Trade (SAFE) (box 1).³⁰

Box 1: The WCO SAFE Framework Promotes Supply Chain Security and Trade Facilitation

THE WCO's Framework of Standards to Secure and Facilitate Trade (SAFE Framework) was developed in 2005. Revisions between 2007 and 2015 reflected changes in global supply chains, the role of information technology in border security, and the incorporation of authorized economic operators (AEO).³¹ Some of the primary objectives of the SAFE Framework are to:

- Establish standards on supply chain security and trade facilitation that foster “certainty and predictability” in the global trading system;
- Enhance “the role, functions, and capability” of customs administrations to promote and secure global trade;
- Expand cooperation between customs administrations of separate countries (i.e., through customs-to-customs cooperation), between customs administrations and other government agencies within the same country, and between customs administrations and private-sector entities (i.e., through customs-business partnerships); and
- Enable global supply chains to operate in a secure and seamless manner.³²

The SAFE Framework is designed to ensure the security of goods as they move through global value chains. However, SAFE's emphasis on cooperation among customs administrations, and between customs and the other public and private entities, underscores its commitment to trade facilitation. Following the WCO's Integrated Supply Chain Management guidelines, customs administrations work together to detect dangerous or illegal goods by sharing customs data, intelligence on potential threats, and risk profiles.³³ The SAFE Framework recommends that customs administrations use information technology to gather, store, and analyze data on high-risk cargo, and that they require shippers to provide information on imports in electronic format before the items arrive at customs checkpoints to help customs officials assess risk.³⁴

The AEO program complements the objectives of the SAFE Framework by enabling private-sector entities, including importers, exporters, customs brokers, freight forwarders, and transportation service providers, to be registered by their country's customs authority as a “trusted trader.” AEO participants are required to share company information with customs administrations and to show they are complying with WCO guidelines to ensure the security of supply chain operations. In return, AEO members benefit from simplified customs procedures and the expedited clearance of their goods. The WCO also recommends that customs administrations provide mutual recognition of AEO members in other countries both to enhance import security and to facilitate trade.

³⁰ Yasui, “Benefits of the Revised Kyoto Convention,” 2010, 6.

³¹ WCO, “WCO SAFE Package,” n.d. (accessed October 24, 2016). An AEO is an entity involved in international trade which has demonstrated to its customs administration that it complies with WCO supply chain security standards. For more information, see WCO, *Compendium of Authorized Economic Operator Programmes*, 2016. The compendium states that 69 AEO programs are in place globally, with another 16 to be introduced. Thomson Reuters, “China New Authorized Economic Operator System,” July 3, 2015.

³² WCO, “SAFE Framework of Standards,” June 2015, 2.

³³ WCO, “SAFE Framework of Standards,” June 2015, 2.

³⁴ WCO, “SAFE Framework of Standards,” June 2015, 1, 6, 15. While Electronic Data Interchange (EDI) systems are commonly used to exchange relevant information between customs administrations and exporters, importers, and shippers, the SAFE Framework states that customs should “offer more than one solution for the electronic exchange of information,” according to Kyoto Convention guidelines.

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In the United States, trusted traders are registered under the CBP's Customs-Trade Partnership Against Terrorism (C-TPAT).³⁵ As of July 2016, the CBP signed 11 mutual recognition arrangements with the customs administrations of other countries, including, for example, Canada, the European Union (EU), Japan, South Korea, Mexico, and Singapore. Although the mutual recognition arrangements are nonbinding, they promote transparency, a shared responsibility for managing high-risk cargo, and common standards for supply chain security and trade facilitation.³⁶

Provisions in the revised Kyoto Convention are designed to facilitate trade by reducing NTMs at border checkpoints.³⁷ For firms, these benefits translate into reduced data requirements, faster customs clearance times, "green lanes" for low-risk cargo, and more predictable release times for goods.³⁸ In addition, acceding to the Kyoto Convention is a useful way for countries to signal to their trade partners that they plan to follow international customs standards. This, in turn, may lead to higher imports and customs revenue, more foreign direct investment, lower trade costs, and higher GDP.³⁹

Following the principles outlined in the revised Kyoto Convention, many countries have pursued customs reforms. Developed countries, in particular, have led in implementing institutional reforms (often referred to as the "soft" infrastructure of customs) that reduce customs inefficiency, increase transparency, and decrease opportunities for corruption by customs officials.⁴⁰ A central element of institutional reform is the automation of customs documentation.⁴¹ For instance:

- In 2008, the European Parliament passed legislation on an "electronic customs initiative" intended to facilitate the online exchange of customs declarations among EU members.⁴² Among other things, the legislation aimed to enhance customs data flow among EU countries; facilitate import and export procedures; reduce the administrative costs

³⁵ For more information on the origin of C-TPAT, see Peterson and Treat, "The Post 9/11 Global Framework for Cargo Security," September 2009, 9–11.

³⁶ USCBP, "C-TPAT: FAQ," January 2015; USCBP, "Customs-Trade Partnership against Terrorism Mutual Recognition," updated August 23, 2016. Language aimed at strengthening cooperation among members of C-TPAT is part of the United States' Trade Facilitation and Trade Enforcement Act of 2015 (H.R. 644), which was signed into law on February 24, 2016. The law also requires USCBP to develop performance criteria to assess the progress of its trade facilitation and trade enforcement activities. Kulisch, "House Passes Customs Reauthorization Bill," December 14, 2015.

³⁷ Yasui, "Benefits of the Revised Kyoto Convention." World Customs Organization, 2010, 4.

³⁸ Thomson Reuters and KPMG International, "2016 Global Trade Management Survey," 2016, 4–8. Firms have highlighted several issues related to customs compliance as adding uncertainty to their international operations, including the difficulty of interpreting customs rules across countries and the use of manual rather than automated systems for filing customs documentation.

³⁹ Yasui, "Benefits of the Revised Kyoto Convention." World Customs Organization, 2010, 5.

⁴⁰ Cantens et al., "Reforming African Customs," January 2011, 2; Barka, "Border Posts, Checkpoints, and Intra-African Trade," January 2012, 4. Some forms of customs fraud and corruption are smuggling or pilferage of imports and exports; undervaluation of imports; incomplete customs documentation; and the requirement for "facilitative payments" by customs officials for clearance.

⁴¹ World Bank, "Good Practices," 2016. The use of information technology to automate customs processes must be supported by regulatory reform. Such reform eliminates redundancies in customs procedures and ensures that customs administrations do not require paperwork in addition to the electronic submission of customs documentation.

⁴² Official Journal of the European Union, Decisions Adopted Jointly by the European Parliament and the Council, "Decision No. 70/2008/EC of the European Parliament and of the Council of 15 January 2008 on a Paperless Environment for Customs and Trade," January 26, 2008.

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associated with customs processing; decrease clearance times; and enable the accurate collection of customs duties.⁴³

- Japan has developed an online platform to process both air and maritime imports and exports, called the Nippon Automated Cargo and Port Consolidated system (NACCS). NACCS streamlines customs paperwork into a single electronic interface, thereby allowing importers, exporters, customs brokers, shippers, and logistics service providers to enter, retrieve, and share customs-related data with their business partners.⁴⁴
- The United States is in the process of implementing the Automated Commercial Environment (ACE), a single window platform which is to become fully operational in 2017 (box 2). Like the automated customs environments in the EU and Japan, the primary objectives of ACE are to increase the efficiency and transparency of customs procedures by streamlining documentation, eliminating paperwork, and facilitating the exchange of information between traders and border agencies.⁴⁵

Box 2: Digital Customs Is Advanced through Online Single Windows

Among the recommendations of the WCO to advance trade facilitation, setting up an online portal for the submission of all customs-related documentation, known as a “single window,” is perhaps the most important. In addition to improving the efficiency, speed, and transparency of customs processing, single windows streamline time-consuming and often redundant paperwork for customs approvals, as well as reduce the opportunity for corrupt practices among customs officials. They also facilitate the electronic exchange of information between customs authorities and other government agencies, as well as between the customs administrations of trade partners.⁴⁶

Many countries have implemented, or are in the process of implementing, single window systems. These countries represent a broad spectrum of economic development, from Australia, Singapore, Sweden, and the United States to Benin, Colombia, Indonesia, and Vietnam, among others. The degree to which single windows replace traditional paper-based systems varies. In some countries, for example, single window systems are used to process all customs documentation, including documents pertaining to other government certifications, such as sanitary and phytosanitary standards. In other countries, single windows coexist alongside paper-based systems, diminishing the time and cost savings that the former provides. The latter may occur where countries lack adequate information technology to fully implement an electronic single window or in countries that must first establish a supportive regulatory environment to bypass traditional paper-based systems, as is the case in certain sub-Saharan African (SSA) countries.⁴⁷

Colombia’s single window system, Ventanilla Única de Comercio Exterior (VUCE), exemplifies the optimal use of a digital customs window. VUCE enables users to obtain online approvals, authorizations, and certifications required for customs clearance from more than 20 government agencies, connecting these entities with exporters, importers, and customs brokers. VUCE also processes online payments and e-signatures from private companies and provides information on tax identification and business

⁴³ EC, “Taxation and Customs Union: Legislation,” updated January 6, 2017.

⁴⁴ NACCS website, “About NACCS,” n.d. (accessed October 24, 2016). The initial development of NACCS began in 1977, with improvements and upgrades made to the system through 2010.

⁴⁵ USCBP, “ACE and Automated Systems,” updated June 27, 2017. USCBP stated that the “core” functions of ACE were to become operational by January 14, 2017. However, as of July 5, 2017, USCBP’s website indicated that the deployment of certain core capabilities of ACE were postponed from a previously-scheduled date of July 8, 2017.

⁴⁶ WCO, “The Revised Kyoto Convention,” 2015.

⁴⁷ McLinden, Fanta, Widdowson, and Doyle, eds., *Border Management Modernization*, 2011 (Washington, DC: The World Bank), 128.

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registration to government agencies within the system.⁴⁸ Similarly, Singapore's national single window, TradeNet, developed in 1989, is one of the first electronic platforms allowing users to file the customs, Box 2: Digital Customs Is Advanced Through Online Single Windows (Continued)

transport, and financial documents associated with exports and imports.⁴⁹ TradeNet processes over 30,000 customs declarations daily, including accompanying payments of customs duties. Cost savings to TradeNet users from simplified customs documentation reportedly reach as much as 30 percent.⁵⁰

More recently, the Vietnam General Department of Customs (GDC) introduced a single window system in April 2014. Known as the Vietnam Automated Cargo Clearance System, it permits the electronic submission of customs documentation, processes customs payments online, and incorporates a risk management tool for verifying the security of imports.⁵¹

By contrast, the systems introduced in some countries in SSA are restricted in scope. In Mauritius, for example, the national single window is limited to customs declarations and the collection of duties, and does not permit users to submit customs documentation to other government agencies.⁵² Certain countries in West Africa, such as Benin and Togo, have single window systems that are paper-based, although they plan to digitize these systems as resources permit.⁵³ By contrast, Senegal's Internet-based single window, ORBUS, which was introduced in 2004, connects importers, exporters, and clearing agents with Senegal's customs administration, as well as banks, the treasury, and other public agencies. Eventually, the system will also incorporate the port authority and transportation services firms. ORBUS is credited with increasing Senegal's customs revenues by 60 percent between 2005 and 2008, in addition to decreasing corruption within customs and improving the country's trade and investment environment.⁵⁴

There have also been efforts to develop regional single windows. For example, the single window system of the Association of Southeast Asian Nations aims to facilitate cargo clearance among members of the regional trading bloc,⁵⁵ including via the use of a common customs declaration document and certificates of origin.⁵⁶ In sub-Saharan Africa (SSA), members of the East African Community (EAC) established an electronic single window in 2014, allowing them to coordinate border management procedures and exchange customs data. The participants in the single window so far include Rwanda, Tanzania, and Uganda, but other EAC members—Burundi, Kenya, and South Sudan—also plan to adopt the single

⁴⁸ WTO, "Single Window for Foreign Trade (VUCE): Case Study: Colombia," n.d. (accessed October 31, 2016); World Bank, "Trading Across Borders: Technology Gains," 79, n.d. (accessed October 28, 2016).

⁴⁹ Singapore Customs, "What You Need to Know about TradeNet," n.d. (accessed October 31, 2016).

⁵⁰ World Bank, "Trading Across Borders: Technology Gains" October 25, 2016, 82.

⁵¹ World Bank, "Trading Across Borders: Doing Business Reforms," 2016 (accessed February 24, 2017).

⁵² World Bank, "Trading Across Borders: Technology Gains," October 25, 2016, 80–81.

⁵³ Montagnat-Rentier and Parent, "Customs Reform and Modernization in Francophone Sub-Saharan Africa," October 2012, 23.

⁵⁴ Diagne, "Developing a Single Window to Facilitate Trade in Senegal," "Investment Climate in Practice: Trade Logistics," World Bank, April 1, 2010, 3–4. ORBUS permits users to make an initial request for customs clearance through a single online document, replacing a multitude of documents that had been previously required for pre-clearance. Once an initial request is made through ORBUS, the system generates and sends clearance documents to the various approving agencies, including banks.

⁵⁵ ASEAN, "ASEAN Single Window (ASW): FAQ," May 17, 2017. ASEAN has not yet set a timeline for full implementation of the ASW; it will depend on when each member of ASEAN has established a national single window platform. While Singapore has had a single window for more than 20 years, Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Thailand are just completing theirs, and the remaining ASEAN members (i.e., Cambodia, Laos, and Myanmar) must follow.

⁵⁶ ASEAN, "What Is the ASEAN Single Window?" 2013. A certificate of origin is an electronic document, provided by an exporter to a customs official in the importing country, certifying that a good was manufactured in a particular country.

window interface, which is expected to expedite the clearance of goods, reduce corruption, and increase customs revenue in the region.⁵⁷

Developing countries, by contrast, have pursued broad-based customs reform efforts that, in some cases, include both infrastructure and institutional (soft infrastructure) reform.⁵⁸ In SSA, for example, customs reform is often associated with so-called “hard infrastructure reform,” including the building or improvement of roads, railways, airports, and seaports, information and communications technology (ICT) systems, and reliable sources of power. “Soft infrastructure reform” encompasses the streamlining and harmonization of customs and border procedures, the incorporation of ICT-enabled processes, and the elimination of corruption at border checkpoints.⁵⁹ The use of manual processes for customs documentation in Africa, or the deployment of electronic systems without adequate electricity or capacity for repair, contributes to customs delays in the region. These delays, in turn, increase the likelihood of traders making “facilitative payments” (i.e., bribes) to customs officials to speed the clearance of their goods through border checkpoints.⁶⁰

Customs barriers in Africa are also magnified by the large number of landlocked countries and the need for goods to go through separate procedures at each country’s customs checkpoint.⁶¹ It is estimated that the costs of trading among Africa’s landlocked countries are 50 times higher, and the volume 60 percent lower, than in countries along the coast.⁶² To remedy this, African governments have begun establishing one-stop border posts to facilitate goods transit between landlocked and coastal countries. For example, the Oikanse Border Post, located between Togo and Burkina Faso, is designed to process goods delivered through the Port of Lomé (Togo) and destined for neighboring Burkina Faso, Mali, and Niger. As a single entry point, the Oikanse Border Post streamlines clearance procedures that had been overseen by six separate government agencies on each side of the border, increasing customs efficiency and expediting the flow of goods to inland destinations.⁶³ In addition to customs unions,⁶⁴ African countries have planned

⁵⁷ Trademark East Africa, “EAC Countries Embrace Electronic Single Window System,” March 31, 2016. Research by the World Economic Forum in 2016 indicates that implementing national electronic single windows in Kenya and Rwanda has improved customs efficiency in these countries and lowered their trade costs. However, in Kenya, such gains are partially offset by the persistence of corruption in the form of irregular payments to customs officials. Global Alliance for Trade Facilitation and World Economic Forum, “Trade Facilitation Performance in Sub-Saharan Africa,” 2016, 22.

⁵⁸ Kunaka and Carruthers, *Trade and Transport Management Toolkit* (Washington, DC: World Bank), 2014, 3–11.

⁵⁹ Barka, “Border Posts, Checkpoints, and Intra-African Trade,” January 2012, 4.

⁶⁰ Barka, “Border Posts, Checkpoints, and Intra-African Trade: Challenges and Solutions,” African Development Bank, January 2012, 4–5. Moreover, it is estimated that customs clearance in Africa involves, on average, up to 30 different entities, 40 separate documents, and 200 distinct data elements (60 to 70 percent of which must be re-entered at least once).

⁶¹ Barka, “Border Posts, Checkpoints, and Intra-African Trade: Challenges and Solutions,” African Development Bank, January 2012, 5. In SSA, there are 15 landlocked countries out of a total of 48 in the region. These countries are Botswana, Burkina Faso, Burundi, the Central African Republic, Chad, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, Swaziland, Uganda, Zambia, and Zimbabwe.

⁶² Barka, “Border Posts, Checkpoints, and Intra-African Trade: Challenges and Solutions,” African Development Bank, January 2012, 14.

⁶³ Barka, “Border Posts, Checkpoints, and Intra-African Trade: Challenges and Solutions,” African Development Bank, January 2012, 17.

⁶⁴ Andriamananjara, “Customs Unions,” June 2011, 112. Among the major customs unions in Africa are the African Economic Community (AEC); the Common Market for Eastern and Southern Africa (COMESA); the East African Community (EAC); the Economic Community of Central African States (ECCAS); the Economic and Monetary Community of Central Africa/ Communauté Économique et Monétaire de l’Afrique Centrale (CEMAC); the

other initiatives to dismantle customs barriers and deepen regional integration. These include a Continental Free Trade Area, to be implemented in 2017, and a transcontinental highway that would connect Africa's landlocked countries to each other and to their coastal neighbors.⁶⁵

In Southeast Asia, the ASEAN Framework Agreement on the Facilitation of Goods in Transit recommends that member countries establish adjacent border posts, share responsibility for the physical examination of cargo entering the region, and reduce the time needed to load, unload, and clear goods at customs checkpoints.⁶⁶ The agreement also promotes interagency coordination among the customs administrations of ASEAN members, a precursor to the idea of joint customs control at border crossings introduced under the revised Kyoto Convention.⁶⁷ Further, members of ASEAN have established a "Customs Vision 2020" which, among other things, encourages members to work together to simplify and harmonize customs procedures, combat customs fraud, and engage the private sector in identifying best practices for customs reform.⁶⁸ Several countries in ASEAN have also introduced single window systems. For example, both the Philippines and Vietnam have implemented a single window platform for customs processing, and these countries are also part of an ASEAN-wide effort to adopt a single customs window.⁶⁹

The WTO's Trade Facilitation Agreement (TFA) Extends WCO Provisions on Customs Reforms and Includes Capacity Building

The TFA, also known as the Bali Package, represents the most comprehensive effort at trade facilitation and customs reform under the WTO.⁷⁰ The TFA entered into force on February 22, 2017, when the required two-thirds of WTO members ratified the agreement.⁷¹ The agreement provides clear guidelines for improving trade facilitation, building upon customs principles under

Economic Community of West African States (ECOWAS); the South African Development Community (SADC); the Southern African Customs Union (SACU); and the West African Economic and Monetary Union (WAEMU). For more information on the country makeup of these customs unions, see Zake, "Customs Administration Reform and Modernization in Anglophone Africa," August 2011, 7.

⁶⁵ African Union website, "CFTA—Continental Free Trade Area" (accessed December 15, 2016); Peterson, "Transport Corridors Have Improved Trade in Sub-Saharan Africa," October 2015.

⁶⁶ ASEAN, "ASEAN Framework Agreement on Facilitation of Goods in Transit: Article 7, Frontier Facilities," December 16, 1998. Current members of ASEAN are Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

⁶⁷ Jain, "Coordinated Border Management: The Experience of Asia," May 2012, 65.

⁶⁸ ASEAN, "Joint Press Statement of the Sixth Meeting of the ASEAN Directors-General of Customs," October 9, 2012.

⁶⁹ World Bank, "Trading Across Borders: Technology Gains," October 25, 2016, 82. The idea of an ASEAN Single Window (ASW) was endorsed by ASEAN members in 2003. For more information on the single customs window in Vietnam, see box 2 on page 9.

⁷⁰ McLinden, Fanta, Widdowson, and Doyle, eds., *Border Management Modernization*, 2011, 79–80. Early efforts under the General Agreement on Tariffs and Trade (GATT) at border management and customs reform occurred in 1947, preceding the WCO. These efforts were captured under GATT Articles V (concerning transit issues), VIII (fees and formalities), and X (the publication and administration of trade regulations). The subsequent addition of articles concerning items such as licensing, rules of origin, and technical barriers to trade rounded out the three GATTs articles and formed the basis for trade facilitation disciplines under the WTO.

⁷¹ WTO, "Nepal Ratifies the Trade Facilitation Agreement," January 24, 2017; Knowler, "WTO Trade Deal to Make Cross-border Shipping Easier," February 23, 2017.

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the WCO. Significantly, the agreement also provides for capacity-building assistance to help developing countries achieve customs reform. To this end, the WTO established a Trade Facilitation Agreement Facility in July 2014. The facility gives technical assistance and financial grants to developing countries to aid them in implementing provisions under the agreement.⁷² Among other things, developing countries may use the assistance to simplify and automate customs paperwork and to deploy risk-based assessment tools, such as cargo scanning devices, thereby reducing manual inspections.⁷³

The TFA covers 12 separate issues that are central to trade facilitation efforts. Broadly, these include the advance publication of customs rules and regulations, giving signatory countries a chance to comment on rules before their entry into force; the streamlining of customs fees and formalities with respect to imports and exports; the timely release and clearance of goods, especially expedited or perishable cargo; the freedom of transit for goods across the territory of other signatories; and cooperation between signatory countries' border management agencies (box 3).⁷⁴ As noted, the TFA incorporates measures on capacity building and, to this end, divides countries into three categories: those that will implement the provisions of the agreement once it enters into force; those that will do so after a transition period, with an implementation date to be set by the TFA member; and those that will implement TFA provisions after a transition period and after receiving capacity-building aid.⁷⁵

Box 3: The WTO Trade Facilitation Agreement (TFA)

The TFA builds on GATT provisions regarding freedom of transit (Article V), customs fees and formalities (Article VIII) and the publication and administration of trade regulations (Article X). It is intended to facilitate the movement of goods through the border checkpoints of all signatories to the agreement and promote cooperation among these countries' customs administrations. Each of the 12 articles in the agreement is summarized below.⁷⁶

Article 1

Publication and availability of information

Members of the agreement should publish information via the Internet concerning import, export, and transit procedures, and make any forms related to these procedures available electronically.

Article 2

Opportunity for comment, information before entry into force and consultations

⁷² WTO, "Trade Facilitation Agreement Facility," 2015.

⁷³ Industry representative, interview by USITC staff, Washington, DC, March 13, 2017.

⁷⁴ WTO, "Trade Facilitation Agreement Facility," 2015.

⁷⁵ WTO, "Trade Facilitation Agreement," n.d. (accessed December 16, 2016).

⁷⁶ These provisions are part of the Section I of the agreement. Section II of the agreement ("Special and Differential Treatment Provisions for Developing Country Members and Least-Developed Country Members") contains measures on capacity building. For the full text of the agreement, see WTO, "Agreement on Trade Facilitation," Preparatory Committee on Trade Facilitation, W/L/931, July 15, 2015, available at https://www.wto.org/english/thewto_e/20y_e/wto_tradefacilitation_e.pdf.

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Members should make available information about changes in laws and regulations concerning the movement, release, and clearance of goods in transit, and give parties the opportunity to comment on proposed regulatory changes before they enter into force.

Box 3: The WTO Trade Facilitation Agreement (TFA) (continued)

Article 3

Advance rulings

Members should provide advance rulings, within a reasonable time period, on the tariff classification and origin of an imported good to other members who submit written requests for such information.

Article 4

Procedures for appeal or review

Members should give parties the right to seek administrative or judicial review or appeal of a decision about customs matters.

Article 5

Other measures to enhance impartiality, nondiscrimination, and transparency

Members should adopt disciplines, specified in the agreement, regarding enhanced border controls on or inspections of foods, beverages, or feedstuffs, where such disciplines are designed to protect human, animal, or plant life.

Article 6

Disciplines on fees and charges imposed on or in connection with importation and exportation and penalties

Members should publish information via the Internet about fees and charges on imports or exports. Any changes to fees or charges should be published in advance, giving parties an opportunity for comment, and should not take effect until such information has been made publicly available.

Article 7

Release and clearance of goods

This article contains important provisions encouraging members to establish systems for (1) preclearing imports; (2) accepting electronic payments for customs duties, fees, and taxes; (3) separating the physical from the fiscal release of goods; (4) using risk management systems

Box 3: The WTO Trade Facilitation Agreement (TFA) (continued)

for customs processing; (5) deploying post-clearance audits; (6) establishing and publishing average release times for goods; (7) implementing trade facilitation measures for authorized economic operators;

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(8) expediting the release of goods delivered by air transport; and (9) releasing perishable goods in a timely way to prevent deterioration or loss of product.

Article 8

Border agency cooperation

The border agencies of members should cooperate with one another to facilitate the importation, exportation, and transit of goods. Members that share an adjacent border should, to the extent possible, coordinate customs procedures to facilitate cross-border trade.

Article 9

Movement of goods intended for import under customs control

Members are encouraged to permit the movement of imports under the customs control of their territory to a customs office in another country from which the goods will eventually be released.

Article 10

Formalities connected with importation, exportation, and transit

Members should adopt measures to simplify and streamline customs documentation. Such measures include, among other things, the use of international standards for customs formalities and procedures, and the adoption of an electronic single window through which traders may submit all customs-related documentation.

Article 11

Freedom of transit

Members should facilitate the movement of goods in transit through their territories and not impose additional customs controls, fees, or documentation requirements on these goods that would delay their delivery.

Article 12

Customs cooperation

The customs administrations of members are encouraged to share information on best practices for achieving customs compliance and to give one another in technical assistance on administering compliance measures.

Source: WTO, "Agreement on Trade Facilitation," July 15, 2015.

The TFA recognizes developing countries' growing participation in global supply chains. This growth is largely driven by these countries' increased involvement in intermediate goods trade and a rise in consumer demand by their expanding middle class. In addition, developing countries are increasingly part of global trends in JIT manufacturing and ecommerce. Both of

these trends underscore the need to move goods seamlessly across borders and to lower the costs and time delays arising from NTMs at border checkpoints.⁷⁷

Outcomes of Customs Reform Efforts: Measurements by the OECD, the World Bank, and the World Economic Forum

Measuring the outcomes of customs and trade facilitation reform is difficult, given data gaps.⁷⁸ However, several databases are currently available that aim to assess and compare countries' customs environments and track the progress of customs reforms. These include, for example, the OECD's Trade Facilitation Indicators (TFI) database; the World Bank's Doing Business Indicators (Trading Across Borders) and Logistics Performance Index (LPI); and the World Economic Forum's Enabling Trade Index (ETI), developed with the Global Alliance for Trade Facilitation.⁷⁹ In general, each of these databases measures how liberal or restrictive countries' trade regimes are based on their customs and border procedures, the quality of their information technology and transportation infrastructure, and/or their regulatory environments. However, there are distinct differences in their primary objectives. For example, while the World Bank's LPI and Trading on Time datasets include parameters to measure countries' logistics and supply chain performance, the OECD's TFI and the World Economic Forum's ETI measure a broader set of factors that contribute to the success of trade facilitation (table 1).

Table 1: Summary of select databases benchmarking countries' trade and customs environments, 2016

Organization	Database	Objective	Methodology	Number of countries included
OECD	Trade Facilitation Indicators (TFI)	To benchmark the progress of countries in achieving customs reform under the WTO's Trade Facilitation Agreement (TFA).	Tracks implementation of TFA provisions concerning (1) information availability; (2) involvement in the trade community; (3) advance rulings; (4) appeal procedures; (5) fees and charges; (6) formalities (documents); (7) formalities (automation); (8) formalities (procedures); (9) internal border agency cooperation; (10) external border agency cooperation; and (11) impartiality and governance (see box 3 for a full list of TFA provisions). ^(a)	164 ^(b)
World Bank	Doing Business Indicators	To measure the costs and time of trading with countries in the database	Ranks countries based on the time and other costs (excluding tariffs) needed	212

⁷⁷ Hoffman, "7 Reasons Why the Bali Trade Facilitation Agreement," October 10, 2016.

⁷⁸ World Economic Forum, *The Global Enabling Trade Report 2016*, 2016, 7–8.

⁷⁹ World Economic Forum, *The Global Enabling Trade Report 2016*, 2016, 6–7; WTO, "Trade Facilitation Agreement," 2017.

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Organization	Database	Objective	Methodology	Number of countries included
	(Trading Across Borders)	based on their customs and border procedures, and their domestic transport regime.	to export and import a shipment of goods associated with the following three elements: documentary compliance; border compliance; and domestic transport. ^(c)	
	Logistics Performance Index (LPI)	To assess countries' trade environments using logistics performance (including customs efficiency and transport infrastructure) as a key indicator.	Ranks countries' trade environment based on six factors: (1) the efficiency of customs and border management clearance ("customs"); (2) the quality of trade and transport infrastructure ("infrastructure"); (3) the ease of arranging competitively priced shipments ("ease of arranging shipments"); (4) the competence and quality of logistics services, including trucking, forwarding, and customs brokerage ("quality of logistics services"); (5) the ability to track and trace consignments ("tracking and tracing"); and (6) the frequency with which shipments reach consignees within scheduled or expected delivery times ("timeliness").	160
World Economic Forum	Enabling Trade Index (ETI)	Using a broader set of indicators than the World Bank's LPI, the ETI also measures countries' ease of trade and includes data on market access restrictions.	Ranks countries' trade environment based on seven parameters, or pillars. These are (1) domestic market access; (2) foreign market access; (3) efficiency and transparency of border administration; (4) availability and quality of transport infrastructure; (5) availability and quality of transport services; (6) availability and use of ICTs; and (7) operating environment.	136

Source: WTO, "Nepal Ratifies the Trade Facilitation Agreement," January 24, 2017; World Economic Forum, *The Global Enabling Trade Report 2016*, 2016; World Bank, "Doing Business Indicators: Trading Across Borders," 2016; World Bank, "LPI Home," 2016.

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Notes:

- (a) See also OECD, “OECD Trade Facilitation Indicators: An Overview,” September 2015; OECD, “Trade Facilitation Indicators,” 2016.
- (b) WTO members.
- (c) Documentary compliance pertains to obtaining, preparing, and submitting documents for customs clearance; border compliance pertains to customs clearance and inspections; and domestic transport pertains to the carriage of goods “from a warehouse in the largest business city of the [exporting] economy to the most widely used seaport, airport or land border of the [importing] economy.” For more information on the World Bank’s Trading Across Borders indicators, see World Bank, “Trading Across Borders Methodology,” 2016.

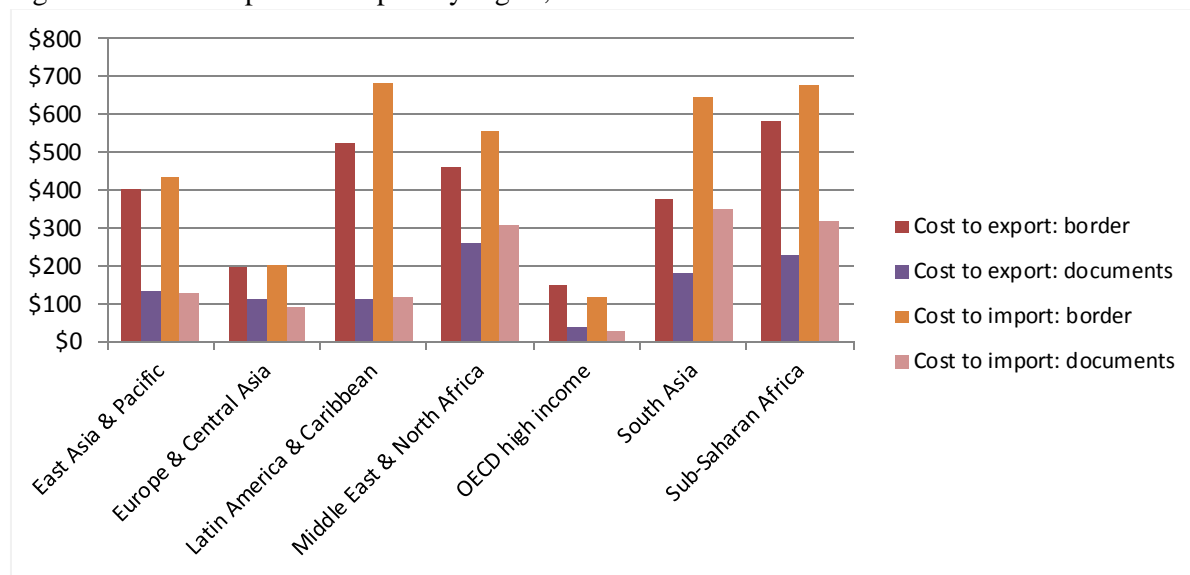
Although the objectives of these databases differ, as do some of the elements they track, together they illustrate the important relationship between a country’s customs environment (including both regulations and infrastructure) and its trade costs. For example, the World Bank’s Trading Across Borders database indicates that for countries across all income levels, border procedures (i.e., those concerning customs clearance and inspection) account for the largest proportion of the costs and time associated with imports.⁸⁰ Such costs and time delays are more acute among developing and low-income countries than they are among high-income countries (figures 1 and 2). Research indicates that two important reasons for this disparity are high-income countries’ automation of customs processing and their investment in transport infrastructure.⁸¹

⁸⁰ World Bank, “Trading Across Borders Methodology,” 2016. By contrast, document procedures concern the preparation and submission of documents for customs clearance.

⁸¹ Time and cost data are gathered from questionnaires sent by the World Bank to individual companies, including customs brokers, freight forwarders, port authorities, and traders. According to the World Bank, the time and cost for documentary compliance include the time and cost for obtaining, preparing, processing, presenting, and submitting documents. Border compliance pertains to the time and cost for complying with customs regulations, including undergoing mandatory inspections at the border. For a full explanation of the methodology behind the World Bank’s Trading Across Borders dataset, see World Bank, “Trading Across Borders Methodology,” 2016.

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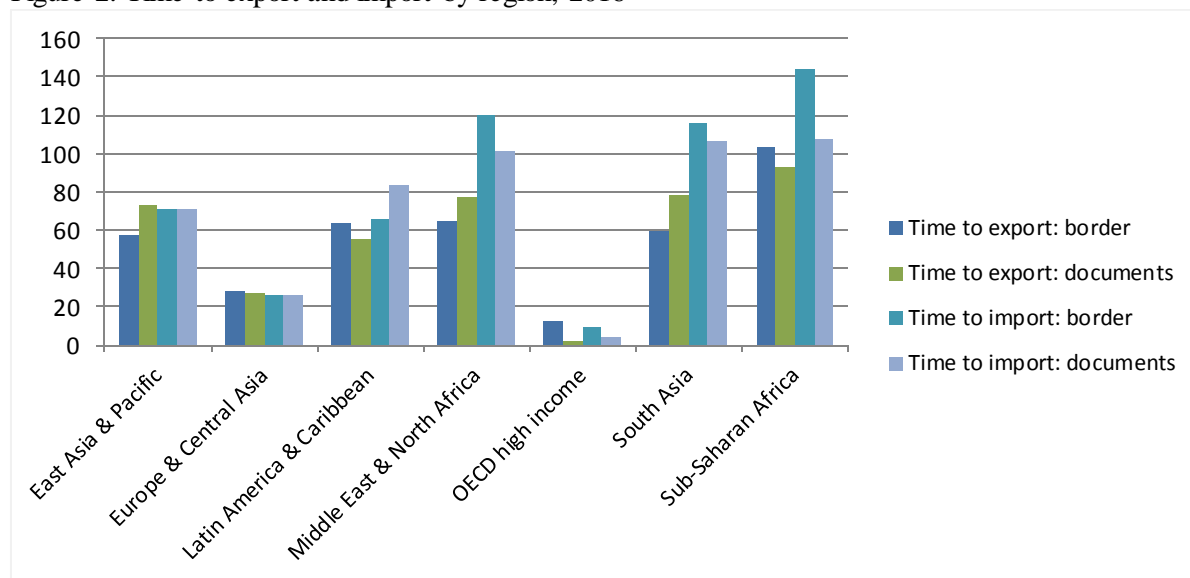
Figure 1: Cost to export and import by region, 2016



Source: World Bank, Doing Business Indicators, 2016 (accessed February 24, 2017).

Note: Export border costs are all costs associated with port handling in country of departure for a standardized shipment of 15 metric tons. Import border costs are the costs associated with customs clearance and inspection for the same shipment at its destination port. Export and import document costs refer to the costs of obtaining, preparing and submitting documents for the transport, clearance, and inspection of a standardized shipment at either its port of origin or destination.

Figure 2: Time to export and import by region, 2016

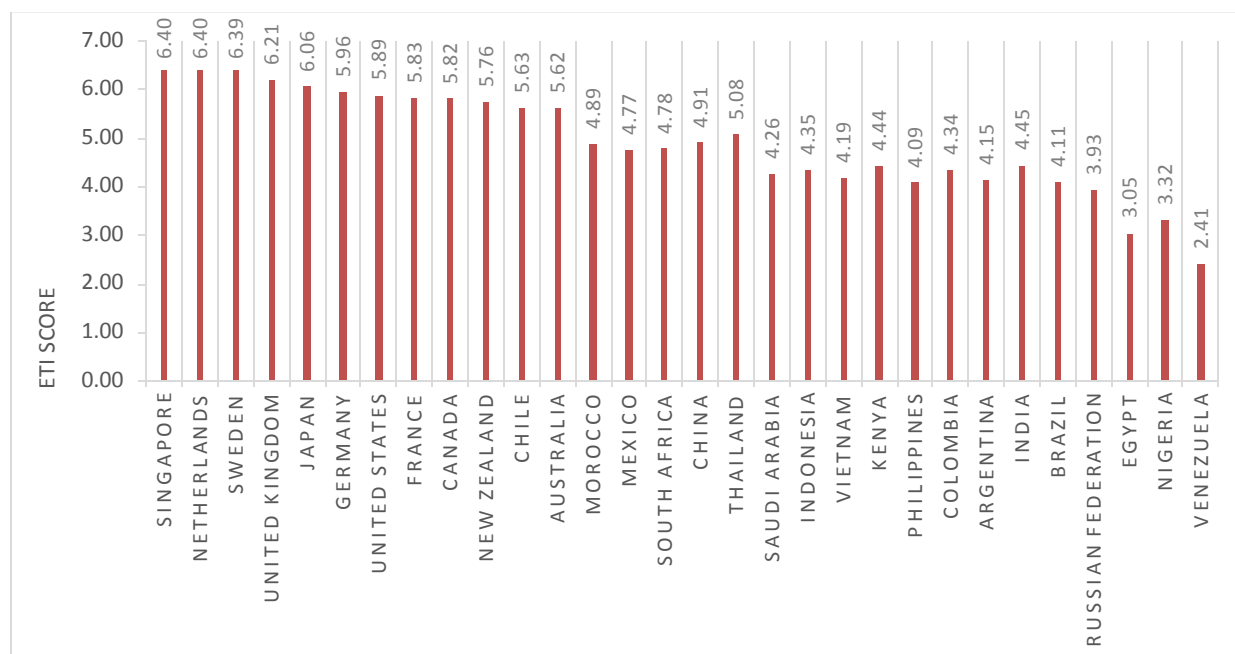


Source: World Bank, Doing Business Indicators, 2016 (accessed February 24, 2017).

The World Economic Forum's ETI further illustrates the close relationship between the efficiency of a country's border administration procedures and its ease of trade (figure 3). For instance, developed countries with well-functioning customs administrations, such as Singapore, the Netherlands, Japan, and the United States, rank among the highest in the ETI index, while countries such as Egypt, Nigeria, and Venezuela rank among the lowest.⁸²

⁸² For a full list of countries in the database and their rankings across all seven pillars of trade measured, see World Economic Forum, "Enabling Trade Index 2016," 2016.

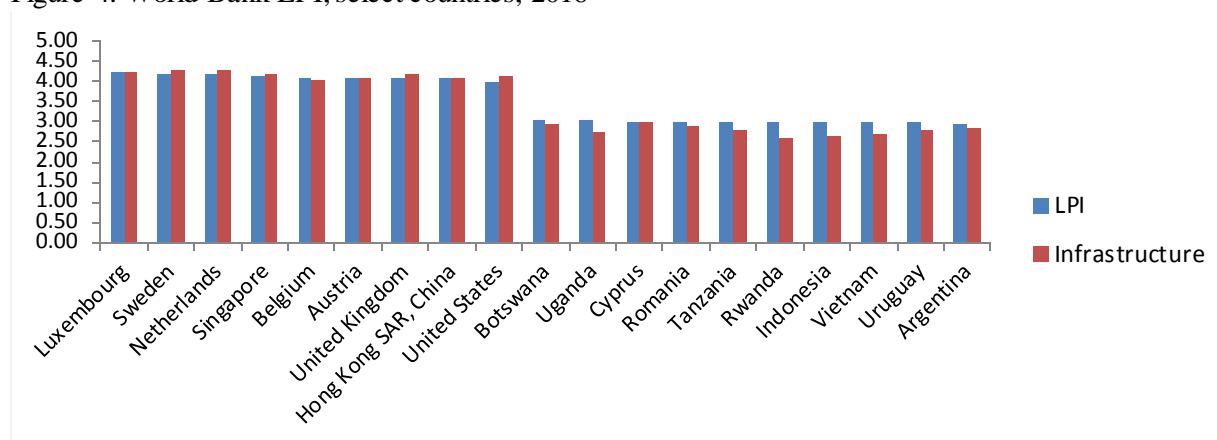
Figure 3: Efficiency and transparency of border administration, select countries, 2016



Source: World Economic Forum, “Enabling Trade Index 2016,” 2016.

At the same time, the World Bank’s LPI recognizes that efficient logistics services facilitate trade and global supply chain activity. Among other measures, it assesses the importance of infrastructure to logistics performance. Looking at a small cross-section of the 164 countries in the database, and disaggregating these countries’ infrastructure scores from their composite LPIs, it appears that there is a close association between a country’s infrastructure and LPI scores (figure 4). Further, among all countries surveyed in the database, those with the highest LPI scores also had the largest percentage of responses rating domestic infrastructure as either “high” or “very high”(figure 5).⁸³

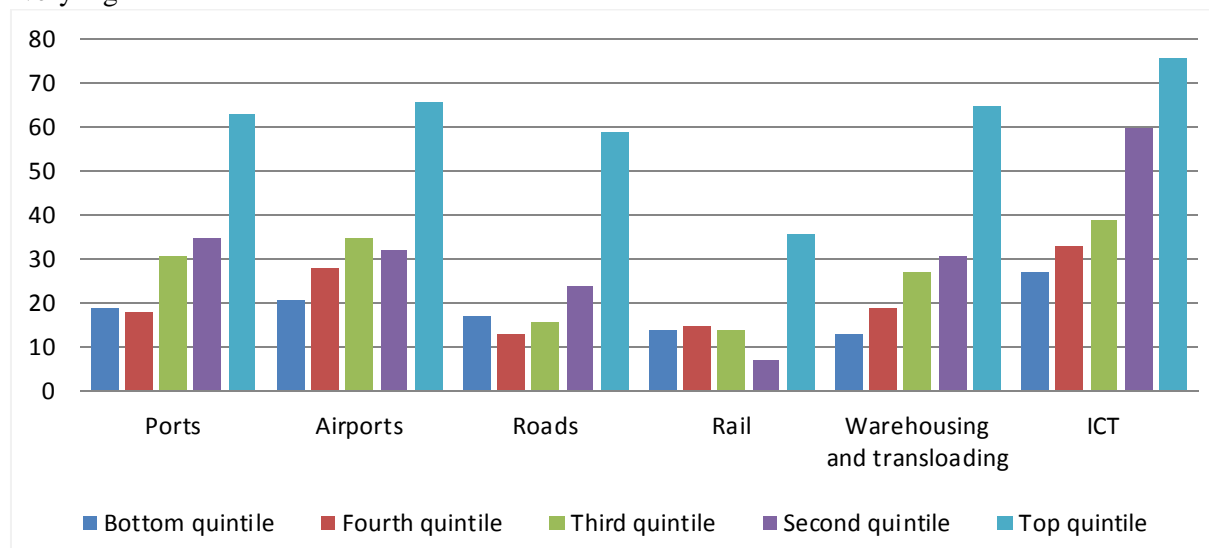
Figure 4: World Bank LPI, select countries, 2016



Source: World Bank, International LPI database, Full LPI Dataset: 2007, 2010, 2012, 2014, 2016 (accessed March 1, 2017)

⁸³ The infrastructure component of the LPI assesses airports, maritime ports, roads, rail, warehousing, and ICT infrastructure. World Bank, *Connecting to Compete 2016*, 17.

Figure 5: Percentage of respondents in World Bank's 2016 LPI database rating infrastructure as "high" or "very high"



Source: Adapted from World Bank, *Connecting to Compete 2016: Trade Logistics in the Global Economy*, "Table 2.1: Respondents rating infrastructure quality high or very high, by infrastructure type and LPI quintile," 17.

Finally, the OECD's TFI provides a set of indicators to measure countries' progress in implementing provisions under the WTO's Trade Facilitation Agreement. It also assesses where certain countries may require further technical and financial assistance to achieve commitments under the TFA.⁸⁴ On average, OECD countries—such as, for example, Australia, Canada, the Netherlands, the UK, and the United States—have the highest TFI scores, whereas low-income countries in Asia and SSA have the lowest.⁸⁵ The TFI also estimates the potential reduction in trade costs for countries that implement the provisions of the agreement. Potential cost reductions are estimated to be highest for low-income countries (17.4 percent) and lowest (though still significant) for high-income countries (14.6 percent).⁸⁶

Some Lessons Learned from the Data

Overall, the data show that customs reform leads to important outcomes, including lower trade costs and the potential for increased economic welfare among countries that have fewer trade restrictions. On average, developed countries tend to do better on measurements of customs and border administration—i.e., trade facilitation—than developing countries.⁸⁷ For example, World Bank data indicate that border compliance costs for imports in high-income OECD countries are more than 80 percent lower than in either Latin American or SSA countries.⁸⁸ However, for all

⁸⁴ OECD TFI Policy Simulator, 2016.

⁸⁵ For instance, Australia has the highest TFI score of 19.29; by contrast, Comoros (SSA), the country with the lowest score, has a TFI of 1.88. The TFI indicates that Comoros has scores of 0 for many of the customs parameters measured in the database, including information availability, advance rulings, appeal procedures, and internal and external border cooperation. OECD, "Trade Facilitation Indicators Simulator," n.d.

<http://sim.oecd.org/Simulator.ashx?lang=En&ds=TFI&d1c=oecd&d2c=aus> and http://sim.oecd.org/Simulator.ashx?lang=En&ds=TFI&d1c=li_ssa&d2c=com (accessed March 6, 2017).

⁸⁶ OECD, "OECD Trade Facilitation Indicators: An Overview," September 2015, 1.

⁸⁷ World Economic Forum, *The Global Enabling Trade Report 2016*, 2016, 20.

⁸⁸ World Bank, "Measuring Business Regulations," 2017.

countries, trade facilitation requires a commitment to good regulatory governance. Even countries that rank high in terms of customs transparency may also rank high on measurements of bribery (e.g., Nigeria). This may be due to the weak enforcement of transparency rules or the absence of anti-graft rules. At the same time, investment in ICT and transport infrastructure is another critical element of trade facilitation reform and is important to its success.⁸⁹

Conclusion

This paper summarizes existing literature on the topic of customs reform, providing insight into the rationale, methods, and outcomes of such reform and highlighting the experience of several developed and developing economies. Overall, it is clear that, although many countries have improved their customs regimes guided by principles under the WCO and, more recently, the WTO's Trade Facilitation Agreement, challenges remain. The paper also summarizes work by the OECD, the World Bank, and the World Economic Forum to measure the progress of customs reform efforts among countries. This work reveals a clear discrepancy between rich and poor countries in their ability to undertake customs reform. In particular, efforts by less-developed countries to improve customs are hampered by inadequate infrastructure and weak regulatory environments. The data also suggest some outliers, however, as countries such as Colombia, Nigeria, the Philippines, and Vietnam have established single electronic customs windows despite infrastructure deficits and lack of regulatory transparency. Further work is needed to determine what factors are most critical for countries to successfully carry out customs reform and the degree to which these reforms result in increased trade and economic growth.

⁸⁹ World Economic Forum, *The Global Enabling Trade Report 2016*, 2016, 21, 23.

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Appendix A

Table A-1: Data for Figure 1: Cost to export and import by region, 2016

Region	Cost to export: Border compliance (\$)	Cost to export: Documentary compliance (\$)	Cost to import: Border compliance (\$)	Cost to import: Documentary compliance (\$)
East Asia & Pacific	401.7	131.8	435.9	127.8
Europe & Central Asia	195	110.7	202.3	90.9
Latin America & Caribbean	526.6	110.5	684.7	119.6
Middle East & North Africa	459.6	261.3	554.5	305.1
OECD high income	149.9	35.7	115.1	26.3
South Asia	376.1	182.6	644.5	348
Sub-Saharan Africa	583.4	229.6	675.9	320.1

Source: World Bank, Doing Business Indicators, 2016 (accessed February 24, 2017).

Note: Export border costs are all costs associated with port handling in country of departure for a standardized shipment of 15 metric tons. Import border costs are the costs associated with customs clearance and inspection for the same shipment at its destination port. Export and import document costs refer to the costs of obtaining, preparing and submitting documents for the transport, clearance, and inspection of a standardized shipment at either its port of origin or destination.

Table A-2: Data for Figure 2: Time to export and import by region, 2016

Region	Time to export: Border compliance (hours)	Time to export: Documentary compliance (hours)	Time to import: Border compliance (hours)	Time to import: Documentary compliance (hours)
East Asia & Pacific	57	73.3	71	70.9
Europe & Central Asia	28	26.9	25.8	26.4
Latin America & Caribbean	63.5	55.7	65.5	83.4
Middle East & North Africa	64.4	77.4	120.6	101.2
OECD high income	12.4	2.6	9	4
South Asia	59.4	78	116.1	106.4
Sub-Saharan Africa	103	92.6	143.9	107.4

Source: World Bank, Doing Business Indicators, 2016 (accessed February 24, 2017).

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Table A-3: Data for Figure 3: Efficiency and transparency of border administration, select countries, 2016

Country	World Economic Forum's Enabling Trade Index (ETI) score
Singapore	6.40
Netherlands	6.40
Sweden	6.39
United Kingdom	6.21
Japan	6.06
Germany	5.96
United States	5.89
France	5.83
Canada	5.82
New Zealand	5.76
Chile	5.63
Australia	5.62
Morocco	4.89
Mexico	4.77
South Africa	4.78
China	4.91
Thailand	5.08
Saudi Arabia	4.26
Indonesia	4.35
Vietnam	4.19
Kenya	4.44
Philippines	4.09
Colombia	4.34
Argentina	4.15
India	4.45
Brazil	4.11
Russian Federation	3.93
Egypt	3.05
Nigeria	3.32
Venezuela	2.41

Source: World Economic Forum, "Enabling Trade Index 2016," 2016.

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Table A-4: Data for Figure 4: World Bank Logistics Performance Index (LPI), select countries, 2016

Country	LPI score	Infrastructure score
Luxembourg	4.22	4.24
Sweden	4.20	4.27
Netherlands	4.19	4.29
Singapore	4.14	4.20
Belgium	4.11	4.05
Austria	4.10	4.08
United Kingdom	4.07	4.21
Hong Kong SAR, China	4.07	4.10
United States	3.99	4.15
Botswana	3.05	2.96
Uganda	3.04	2.74
Cyprus	3.00	3.00
Romania	2.99	2.88
Tanzania	2.99	2.81
Rwanda	2.99	2.62
Indonesia	2.98	2.65
Vietnam	2.98	2.70
Uruguay	2.97	2.79
Argentina	2.96	2.86

Source: World Bank, International LPI database, Full LPI Dataset: 2007, 2010, 2012, 2014, 2016 (accessed March 1, 2017).

Table A-5: Data for Figure 5: Percentage of respondents in World Bank's 2016 LPI database rating infrastructure as "high" or "very high"

Rank	Ports	Airports	Roads	Rail	Warehousing and transloading	ICT
Bottom quintile	19	21	17	14	13	27
Fourth quintile	18	28	13	15	19	33
Third quintile	31	35	16	14	27	39
Second quintile	35	32	24	7	31	60
Top quintile	63	66	59	36	65	76

Source: Adapted from World Bank, *Connecting to Compete 2016: Trade Logistics in the Global Economy*, "Table 2.1: Respondents rating infrastructure quality high or very high, by infrastructure type and LPI quintile," 17.