CUSTOMS MATTERS
Strengthening Customs Administration in a Changing World

AUGUSTO AZAEL PÉREZ AZCÁRRAGA
TADATSUGU MATSUDAIRA
GILLES MONTAGNAT-RENTIER
JÁNOS NAGY
R. JAMES CLARK
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Editor’s Note (1/22/2024)

The following changes were made after publication:

- On page 9, “Figure 1.1” was corrected to “Figure 1.4” in paragraph 2 and in the
title of the figure.
- On page 26, in footnote 18 and in the corresponding reference entry on page 30,
“Geourjon, Anne-Marie, Bertrand Laporte, and Gilles Montagnat-Rentier. 2022”
was corrected to “Geourjon, Anne-Marie, Bertrand Laporte, and Gilles Montagnat-
Rentier. 2023.”
- On page 34, “Panamax class” was corrected to “over Panamax class,” and “Panama
Canal” was corrected to “original Panama Canal.”
- On page 47, in footnote 25, “Box 1.1” was corrected to “Figure 1.4.”
- On page 49, in footnote 28, “…whereas current customs duties collection is EUR
26.7 billion, among which EUR 21.3 billion…” was corrected to “…whereas
current customs duties collected by Member States is EUR 26.7 billion, of which
20 percent belongs to the collecting Member States to finance administrative cost,
and EUR 21.3 billion…”
- On page 102, “Article 2” was corrected to “Article 1, subsection 2.”
- On page 106, in the pull quote, “Integrating the AR appeal process…” was corrected
to “Integrating the advanced ruling appeal process…”
- On page 131, in footnote 1, “WCO 2013” was corrected to “WTO 2017,” and
“WCO 2002” was corrected to “WCO 2006.”
- On page 142, in Box 5.4, “commercial customs fraud” was corrected to “commercial
or customs fraud.”
- On page 169, in Table 5.2, “% of Total Value of Transaction” was corrected to “% of
Total Value of Transactions.”
Agreement.’ Article 7 (entered into force in 2017). WTO Legal Texts—Agreement
on Trade Facilitation. WCO, Brussels, Belgium” was corrected to “World Trade
Organization (WTO). 2017. ‘Trade Facilitation Agreement’ (entered into force in
2017).”
- On page 180, in Figure 6.1, the bars for “PCA annual audit plan exist” were removed.
- On page 221, footnote 26 was corrected to “For example, in 2017 China Customs
handled 1.89 billion parcels, inward and outward, and only on November 11, which
is a popular shopping day in China (known as ‘Bachelors’ Day’), the country’s cus-
toms offices processed more than 16 million cross-border e-commerce shipments
(WCO 2018b).”
- On page 240, “Managers and staff are trained on how to effectively encourage…” was
corrected to “Managers and staff are trained on how to effectively discourage…”
- On page 243, in Appendix C, “Customs regimes exceptions…” was corrected to
“Customs regimes, exceptions…”
- On page 251, in Appendix Table F.2, “Profitability ratio” was corrected to “Net prof-
it margin,” “Gross income / Net income” was corrected to “(Net profit / Total reve-
ue) × 100,” “Business performance” was corrected to “Ratio on equity,” “Net income
/ ROE” was corrected to “(Net income / Average total equity) × 100,” and “Import
VAT / Domestic VAT” was corrected to “Import VAT (customs) / Import VAT
(declared in tax return).”
Foreword

Customs administrations have played an instrumental role in economic management and development since ancient times. For many nations, collecting duties at borders was the main source of income for hundreds of years until the early 20th century. Customs administrations have also helped collect data to define trade policies and generate the balance of payments statistics. Today, collecting duties and taxes on imports is only one of the responsibilities carried out by customs administrations. Their role has expanded to take on economic and social dimensions, including helping address global challenges such as combatting pandemics and natural disasters and facilitating global supply chains.

The accelerating pace of global transformation in recent decades has seen an ever-increasing volume and interdependence of international trade. With that, new challenges have emerged for customs administrations: the digitalization of trade and customs processes, the adoption of new technologies and business models, renewed national security and safety of society concerns, and revamped protectionism. Moreover, while the complexity of trade relations has increased, customs administrations must respond to the trade community’s growing demands for trade facilitation through the simplification, transparency, and predictability of customs procedures, as well as time and cost reductions.

The COVID-19 pandemic has been another turning point. The pandemic proved that free and efficient international trade is essential for achieving an inclusive, sustainable recovery everywhere. And it highlighted once again the critical role that customs can play in streamlining the supply chains that support economic activity and the importation of goods vital to combatting the pandemic. The pandemic also tested customs capabilities around the world—including the challenge of mobility restrictions and limits on in-person contacts—and emphasized the need to accelerate automation. These challenges highlight the need for customs administrations to assess and strengthen their institutional practices and processes, not just to improve their current operations but also to constantly evolve, be more dynamic, and face the ever-changing environment in which they operate.

Against this background, this book offers a cross-sectional view of the crucial issues for policymakers and customs officials to consider when evaluating the current state of their customs system. Its goal is to help them face emerging challenges strategically and build on broad practical experiences to develop, reinforce, or advance their roadmaps for customs modernization and reform.
The book also reaffirms the IMF’s commitment to supporting its member countries in these efforts by strengthening key institutions and their ability to promote inclusive and sustainable growth and economic development. Likewise, it expresses the IMF’s willingness to continue collaborating closely with our partners, seeking to optimize everyone’s resources and generate synergies for our membership.

Kristalina Georgieva
Managing Director
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>3D</td>
<td>three-dimensional</td>
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<tr>
<td>AE</td>
<td>advanced economy</td>
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<td>AEO</td>
<td>authorized economic operator</td>
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<tr>
<td>AI</td>
<td>artificial intelligence</td>
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<tr>
<td>ACV</td>
<td>automated contents verification</td>
</tr>
<tr>
<td>AO</td>
<td>authorized operator</td>
</tr>
<tr>
<td>AR</td>
<td>augmented reality</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>ASYCUDA</td>
<td>Automated System for Customs Data</td>
</tr>
<tr>
<td>ATD</td>
<td>automated threat detection</td>
</tr>
<tr>
<td>AWB</td>
<td>airway bill</td>
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<tr>
<td>B/L</td>
<td>bill of lading</td>
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<td>BNI</td>
<td>banking Negotiable instrument</td>
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<tr>
<td>BC</td>
<td>blockchain</td>
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<tr>
<td>BCP</td>
<td>business continuity plan</td>
</tr>
<tr>
<td>BI</td>
<td>business intelligence</td>
</tr>
<tr>
<td>BIC</td>
<td>Bureau International des Conteneurs et du Transport Intermodal (English version: International Container Bureau)</td>
</tr>
<tr>
<td>BNI</td>
<td>banking Negotiable instrument</td>
</tr>
<tr>
<td>BPR</td>
<td>business process reengineering</td>
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<tr>
<td>BRS Conventions</td>
<td>Basel, Rotterdam and Stockholm Conventions</td>
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<tr>
<td>CACM</td>
<td>Central American Common Market</td>
</tr>
<tr>
<td>CAN</td>
<td>Andean Community</td>
</tr>
<tr>
<td>CARICOM</td>
<td>Caribbean Community and Common Market</td>
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<tr>
<td>CBM</td>
<td>coordinated border management</td>
</tr>
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<td>CBP</td>
<td>Customs and Border Protection</td>
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<tr>
<td>CEMAC</td>
<td>Economic and Monetary Community of Central Africa</td>
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<tr>
<td>CET</td>
<td>common external tariff</td>
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<tr>
<td>CITES</td>
<td>Convention on International Trade in Endangered Species of Wild Fauna and Flora</td>
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<td>CCP</td>
<td>Container Control Programme</td>
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<tr>
<td>CCTV</td>
<td>closed-circuit television</td>
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<td>CDP</td>
<td>Committee for Development</td>
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<td>CDT</td>
<td>Contraband Detection Technology</td>
</tr>
<tr>
<td>CIF</td>
<td>cost, insurance, and freight (Incoterm)</td>
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<tr>
<td>CIT</td>
<td>corporate income tax</td>
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<td>CFC</td>
<td>chlorofluorocarbons</td>
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<td>C/O</td>
<td>certificate of origin</td>
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<td>COMESA</td>
<td>Common Market for Eastern and Southern Africa</td>
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<td>CMAA</td>
<td>Customs Mutual Assistance Agreement</td>
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<td>customs management systems</td>
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<td>COVID-19</td>
<td>coronavirus disease 2019</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<td>CPCH</td>
<td>Customs/Police Cooperation Handbook</td>
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<td>CPTPP</td>
<td>Comprehensive and Progressive Agreement for Trans-Pacific Partnership</td>
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<td>CRPA</td>
<td>Cognitive Robotic Process Automation</td>
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<td>CSI</td>
<td>Container Security Initiative</td>
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<td>CT</td>
<td>computed tomography</td>
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<td>DLT</td>
<td>distributed ledger technologies</td>
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<td>DCMM</td>
<td>Digital Customs Maturity Model</td>
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<td>DPV</td>
<td>duty paid value</td>
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<td>DRP</td>
<td>disaster recovery plan</td>
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<td>EA</td>
<td>enterprise architecture</td>
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<tr>
<td>EAC</td>
<td>East African Community</td>
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<td>EAEU</td>
<td>Eurasian Economic Union</td>
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<td>ECOWAS</td>
<td>Economic Community of West African States</td>
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<td>EITI</td>
<td>Extractive Industries Transparency Initiative</td>
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<td>EM</td>
<td>emerging market</td>
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<td>ERP</td>
<td>enterprise resource planning</td>
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<td>EU</td>
<td>European Union</td>
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<td>EUIPO</td>
<td>European Union Intellectual Property Office</td>
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<td>FA</td>
<td>federated architecture</td>
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<td>FAD</td>
<td>Fiscal Affairs Department</td>
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<tr>
<td>FCS</td>
<td>fragile and conflict-affected state</td>
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<td>FOB</td>
<td>free on board (Incoterm)</td>
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<td>FTA</td>
<td>free trade agreement</td>
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<tr>
<td>GAGR</td>
<td>geometric average growth rate</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
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<td>GATS</td>
<td>General Agreement on Trade in Services</td>
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<td>GCC</td>
<td>Gulf Cooperation Council</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GDPR</td>
<td>(EU’s) General Data Protection Regulation</td>
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<td>GRI</td>
<td>Global Risk Index</td>
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<td>GPS</td>
<td>Global Positioning System</td>
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<td>GRP</td>
<td>government resource planning</td>
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<td>GSP</td>
<td>generalized system of preferences</td>
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<td>GVC</td>
<td>global value chain</td>
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<td>HQ</td>
<td>headquarters</td>
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<td>HR</td>
<td>human resources</td>
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<td>HS</td>
<td>Harmonized Commodity Description and Coding System (Harmonized System)</td>
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<td>HUD</td>
<td>head-up display</td>
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<td>HMD</td>
<td>head-mounted display</td>
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<td>IaaS</td>
<td>infrastructure as a service</td>
</tr>
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<td>ICS</td>
<td>import control system</td>
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<td>ICT</td>
<td>information and communication technologies</td>
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<td>ID</td>
<td>identification number</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IMO</td>
<td>International Maritime Organization</td>
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<td>Abbreviation</td>
<td>Description</td>
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<td>Incoterms</td>
<td>International Commercial Terms of the International Chamber of Commerce</td>
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<td>IoT</td>
<td>Internet of Things</td>
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<td>IOTA</td>
<td>Intra-European Organization of Tax Administrations</td>
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<td>IPR</td>
<td>intellectual property rights</td>
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<td>IRM</td>
<td>integrated risk management</td>
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<td>ISOCA</td>
<td>International Survey on Customs Administrations</td>
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<td>ISORA</td>
<td>International Survey on Revenue Administrations</td>
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<td>ITC</td>
<td>International Trade Centre</td>
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<td>JFO</td>
<td>Joint Forces Operations</td>
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<td>K9</td>
<td>canine</td>
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<td>KPI</td>
<td>key performance indicator</td>
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<td>LC</td>
<td>letter of credit</td>
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<td>LDC</td>
<td>least developed country</td>
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<td>LIC</td>
<td>low-income country</td>
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<td>LLDC</td>
<td>landlocked developing country</td>
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<td>MERCOSUR</td>
<td>Southern Common Market</td>
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<td>MI</td>
<td>management information</td>
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<td>ML</td>
<td>machine learning</td>
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<td>MOF</td>
<td>Ministry of Finance</td>
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<td>MOU</td>
<td>memorandum of understanding</td>
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<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
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<td>NTFC</td>
<td>national trade facilitation committee</td>
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<td>NII</td>
<td>nonintrusive inspection</td>
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<td>NLP</td>
<td>natural language processing</td>
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<td>ozone-depleting substances</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OGA</td>
<td>other government agencies</td>
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<td>OJT</td>
<td>on-the-job-training</td>
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<td>OPMS</td>
<td>operational performance management system</td>
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<td>one-stop border post</td>
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<td>PaaS</td>
<td>platform as a service</td>
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<td>PCA</td>
<td>post-clearance audit</td>
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<td>PCS</td>
<td>Port Community System</td>
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<td>PDPA</td>
<td>(EU’s) Personal Data Protection Act</td>
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<td>PSCG</td>
<td>WCO Private Sector Consultative Group</td>
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<td>PPE</td>
<td>personal protective equipment</td>
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<td>RA</td>
<td>revenue administration</td>
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<td>RCEP</td>
<td>Regional Comprehensive Economic Partnership</td>
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<td>RFID</td>
<td>radio-frequency identification</td>
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<td>RKC</td>
<td>Revised Kyoto Convention</td>
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<td>Risk Management Committee</td>
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<td>rules of origin</td>
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<td>RTA</td>
<td>regional trade agreement</td>
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<tr>
<td>Term</td>
<td>Definition</td>
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<td>SaaS</td>
<td>software as a service</td>
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<td>SACU</td>
<td>Southern African Customs Union</td>
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<td>SAFE</td>
<td>SAFE Framework of Standards to Secure and Facilitate Global Trade</td>
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<td>SALW</td>
<td>Small Arms and Light Weapons</td>
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<td>SEZ</td>
<td>special economic zone</td>
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<td>SPV</td>
<td>special purpose vehicle</td>
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<td>STCP</td>
<td>Strategic Trade Control Plan</td>
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<tr>
<td>SW</td>
<td>single window</td>
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<tr>
<td>SWOT</td>
<td>strengths, weaknesses, opportunities, and threats</td>
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<tr>
<td>TBT</td>
<td>technical barriers to trade</td>
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<td>TIN</td>
<td>tax identification number</td>
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<td>TiVA</td>
<td>trade-in value added</td>
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<td>TFA</td>
<td>Trade Facilitation Agreement</td>
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<td>TOR</td>
<td>terms of reference</td>
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<td>TRIPS</td>
<td>Agreement on Trade-Related Aspects of Intellectual Property Rights</td>
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<td>TTP</td>
<td>trusted trader program</td>
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<td>UFF</td>
<td>unified file format (of scanned images)</td>
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<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<td>UNECE</td>
<td>United Nations Economic Commission for Europe</td>
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<td>UNODC</td>
<td>United Nations Office on Drugs and Crime</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>USD</td>
<td>US dollar</td>
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<td>VAT</td>
<td>value-added tax</td>
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<td>VAL</td>
<td>valuation agreement</td>
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<td>virtual reality</td>
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<td>WAEMU</td>
<td>West African Economic and Monetary Union</td>
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<td>WMD</td>
<td>weapons of mass destruction</td>
</tr>
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<td>WCO</td>
<td>World Customs Organization</td>
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<td>WEO</td>
<td>World Economic Outlook</td>
</tr>
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<td>WTO</td>
<td>World Trade Organization</td>
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Acknowledgments

We started this project thanks to the encouragement of Michael Keen, who has always recognized the relevance of customs administration for fiscal performance and sustainable development. He set this vision in the book *Changing Customs: Challenges and Strategies for the Reform of Customs Administrations*, which he edited in 2003. As we publish this new IMF customs book two decades later, we offer our sincere thanks to Katherine Baer, who has been an enthusiast of this project since the beginning and has provided invaluable guidance, and to the senior managers of FAD’s Revenue Divisions that oversee our capacity development programs for tax and customs administrations: Debra Adams, Andrea Lemgruber, Margaret Cotton, Andrew Masters, Andrew Okello, and Rebecca Sparkman, who have given enormous support during this journey.

This book reflects the teamwork, dedication, and knowledge sharing among FAD senior customs specialists who drew on significant experience gained over many years providing capacity development to customs administrations in emerging markets and developing countries. We acknowledge the outstanding contributions of several FAD’s external customs experts who helped us draft the various chapters: Danielle Bernard, Christian Bremerseck, Michael Daly, Hubert Duchesneau, Jonathan Koh, William Ledrew, and Rossana San Juan. Our thanks go also to FAD’s customs long-term advisors, Rachel Auclair, Stephen Cox, Selvin Lemus, Stephen Mendes, David Smith, and Philip Wood, for their valuable comments.

This project would not have been possible without the expertise, patience, wisdom, and personal warmth of Barbara Hebert, the book’s main technical editor. Her thorough review and inputs have been extremely useful. Special thanks to Robert Kokoli, FAD senior customs specialist, who supported the technical review and provided helpful insights.

We greatly appreciate the kind support of the international organizations that generously shared their experience, provided inputs, and took the time to peer review the book: The World Customs Organization, through Tadashi Yasui, who summarized the comments of the World Customs Organization reviewers; Alina Antoci, William Gain, Ernani Checcucci, José Gutiérrez Ossio, from the World Bank; and Sandra Corcuera and José M. García Sanjinés from the Inter-American Development Bank.

We thank our colleagues from the IMF’s Communications Department: Rumit Pancholi, Wala’a El Barasse, and Patricia Loo, for their excellent contributions during the editing and publication process.
We reserve our greatest appreciation to the IMF member countries’ customs administrations and their management teams and staff, from whom we have learned so much over the years. This book acknowledges these officials who, despite the daily challenges faced in carrying out their functions, are committed to introducing substantive reforms to improve the performance of their organizations, thus contributing to their country’s economy, society, and security. Thank you for believing that customs matters.
Danielle Bernard has 20 years of customs experiences with the Canadian customs administration and is an accredited Technical and Operational Advisor in Post-Clearance Audit for the World Customs Organization. She has experience in customs administration capacity building in the areas of risk management and Post-Clearance Audit, conducting diagnostic missions and assisting in the development of an advanced Post-Clearance Audit case study workshop with the World Customs Organization.

Christian Bremeersch spent his career in the French customs administration, with the exception of periods of secondment as customs resident advisor to Burundi (five years) and Mali (one year) on behalf of the French Ministry of Cooperation, and to the Democratic Republic of Congo (two years) on behalf of the IMF. He has extensive experience in customs administration capacity building in Francophone Africa as a short-term expert in the IMF’s Fiscal Affairs Department.

R. James Clark has more than 20 years of experience as a senior leader and director with Canada customs administration and has worked in internationally in capacity development on customs modernization, trade facilitation, public service management and leadership. He is accredited by the World Customs Organization as a Custom’s Modernization Expert and led the development of their Post-Clearance Audit Advanced Workshop. He has conducted missions in Africa, Asia, Central Asia, the Caribbean, South America, and Central America. He has been a headquarters-based expert for the IMF and is a short-term expert for the IMF as well as the World Bank.

Michael Daly has been an external tax and trade policy expert with the IMF’s Fiscal Affairs Department since 2006. Having worked in the Tax Policy Branch of Canada’s Ministry of Finance, the European Commission, the Economics Department of the Organisation for Economic Co-operation and Development, and the World Trade Organization’s Trade Policies Review Division, he has 40 years of experience encompassing a wide range of tax and trade-related policies.

Hubert Duchesneau, a customs modernization and capacity building consultant, has had a policy, operational, and organizational development career with the Canada Border Services Agency and the World Customs Organization. His research and practice interests include institutional and professional development, notably frontline training and leadership, integrated border management, customs-private sector partnerships, and the promotion of integrity.
Jonathan Koh, managing director of Trade Facilitation Pte Ltd, is a trade and customs consultant with more than 25 years of experience. He had worked in more than 70 countries, covering an eclectic range of projects including paperless trade/digital transformation, customs automation and national single windows, port community systems, trade facilitation strategy roadmap and performance measures, special economic/free trade zones, and regional connectivity platforms.

William LeDrew spent 28 years with the Canadian customs service rising to the level of Director General in charge of enforcement. In 1996, he accepted an assignment with the Fiscal Affairs Department of the IMF as a senior customs advisor to the government of Malawi (1996–98). After this, he was appointed as Collector of Bermuda Customs, a position he held for three years (1998–2001). He then spent three years as the Fiscal Affairs Department’s resident customs advisor in Cambodia (2001–03). In addition, he has provided technical assistance to about 30 developing countries with the World Bank, the International Finance Corporation, regional development banks such as the Asian Development Bank and the Inter-American Development Bank, the Association of South East Asia Nations, and private sector consultancy organizations.

Tadatsugu Matsudaira, Senior Economist, has been working with the IMF Fiscal Affairs Department since 2017. He covers wide spectrum of customs reform and modernization as well as project design and management based on more than 30 years of experience through Japan customs and the Ministry of Finance, the Organisation for Economic Co-operation and Development, the World Customs Organization, and the World Bank.

Gilles Montagnat-Rentier, a senior economist and former manager with the French customs administration, has been working with the IMF Fiscal Affairs Department since 2003 to advise on customs reform and modernization. His current main focus areas are revenue mobilization in Africa, trade facilitation, regional integration, customs procedures for the extractive industries, and challenges faced by fragile and conflict-affected states.

János Nagy has 43 years of experience in customs having spent 25 years in the Hungarian customs and excise administration, and financial criminal investigation service, including five years as Deputy Director General and seven years as Director General, and one year in the Ministry of Finance as Head of the European Anti-Fraud Office National Bureau. He served five years at the World Customs Organization Secretariat as Head of Service for technical assistance, reforms and modernization, as well as customs integrity. He managed and delivered IMF customs-related technical assistance programs as a senior economist from 2012 to 2021.

A. Azael Pérez Azcárraga has more than 27 years of experience in customs. He is a senior economist in the IMF’s Fiscal Affairs Department, responsible for the

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coordination of capacity development for customs administrations for Latin America and the Caribbean. Mr. Perez has led major modernization reforms helping countries improve trade facilitation and customs collection efficiency, while protecting their borders. He previously served for 17 years at the tax and customs administration of Mexico in several positions: Director of Customs Offices, Deputy Director General of Foreign Trade Intelligence, and Deputy Director General of Post-Clearance Audit. He was accredited by the World Customs Organization as a Customs Modernization Expert.

Rossana San Juan is an economist with a master’s degree in economics. She currently works for Uruguayan customs and is an expert in risk management accredited by the World Customs Organization. Since 2015, she has worked as a customs expert for the IMF’s Fiscal Affairs Department primarily in the Americas region as well as other regions for the World Bank. Her main focus as a consultant is risk management and data analysis methods.

Barbara Hébert is retired from the Canadian public service after a 27-year career with the customs and tax revenue administrations and the Canada Border Services Agency, where she was a senior vice president responsible for operations. Throughout her career she held a variety of positions, including executive ones in both regional and headquarters settings. She has worked as a short-term expert with the IMF Fiscal Affairs Department since 2010 and has been involved in missions focused on reform and modernization of tax and customs administrations in the Caribbean, Africa, Europe, Asia, and South America.
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Trade in goods could not properly flourish without rules. It is not surprising, therefore, that customs continues to play an important role in the modern economy and society. The raison d’être of this state administration is to ensure that international trade in goods is conducted in accordance with the laws and rules currently in force. It is this administration that ultimately authorizes (or does not authorize), the entry and exit of goods from the customs territory. The benefits of a well-performing customs administration are clear, including revenue mobilization (in many countries, customs plays a key role in collecting tax revenue), reduction in wait times and transaction costs, enhanced safety and security, and the promotion and resilience of international value chains. Particular attention must therefore be paid to the efficiency, effectiveness, fairness, and modernization of customs administrations.

The IMF devotes a significant part of its activity to capacity building in developing countries, including in customs. In 2015, the Addis Ababa Program of Action and Agenda 2030 for Sustainable Development (SDG 17.1) targeted the strengthening of national revenue collection capacities as the main source of long-term and stable financing for sustainable development. IMF research released in March 2021 shows that low-income developing countries have to deploy some $200 billion over five years just to fight the COVID-19 pandemic and then another $250 billion to return to the path of catching up to countries with higher income levels (IMF 2021). Mobilizing domestic revenue will be critical to help countries address increasing and/or high debt levels in addition to external concessional financing that has been made available to many low-income countries as a result of the pandemic. While tax administration is at the forefront of this agenda, customs is clearly involved: customs duties and taxes levied on international trade will remain an important source of revenue for many developing countries for a long time to come. Optimizing collection of these duties and taxes remains a necessity, and it should be done with the least harmful consequences for trade flows.

This book follows a previous work, *Changing Customs*—published in 2003 by the IMF—which made the case for modernization and reform in customs administrations and laid a path to strengthened and improved customs administrations at the beginning of the 21st century. Since that volume was completed, the need for modernization has become more urgent because of increased globalization, integrated supply chains, and rapid technological advances. In addition, the convergence of the COVID-19 pandemic, conflicts, and climate change have eroded many gains made in the past 25 years in reducing world poverty—according to the World Bank’s World Poverty Overview. Now more than ever, governments need to promote economic growth and mobilize resources to address widening cracks in social systems. Customs administrations must push harder to modernize...
and implement their critical programs and processes so that they can play their part in facilitating trade and business, mobilizing revenue, and protecting society.

Even though this book places more emphasis on the fiscal role of customs, the modernization of customs administration must also consider core challenges relating to trade facilitation and border (and societal) protection. This requires reconciling the rapid, unhindered, and low-cost movement of legitimate trade through trade facilitation, layered with effective risk-based control and the fight against fraud and trade in prohibited goods. Failure to achieve this balance (which also involves other administrations that may be present at the border and that play other key roles in facilitating trade) will affect economic activity, public finance, and society.

In this book, we describe and analyze current challenges to customs administration and propose some ways to address them. In particular, this work highlights the lessons that the IMF, and more specifically its Fiscal Affairs Department (FAD), has garnered from the many successful capacity development efforts that have been undertaken to date. At the heart of this book, as of all FAD’s work in this area, is the potential for extremely positive effects, for both the public and private sectors, to be gained from customs modernization given the constant and rapid changes in the form, scale, and nature of international trade and, more generally, in economies and societies.

This book focuses primarily on international cargo. It should be noted, however, that customs also has to deal with people crossing a border. While the authorization of a person to cross a border is an immigration matter, the status of goods accompanying that person, including vehicles and personal items, is a customs matter. Customs rules apply to all goods, even though significant simplifications of procedures have been adopted to facilitate international travel (such as the requirement, in most situations, of merely a verbal or tacit customs declaration by the international traveler). The task of customs is also complicated by the movement of persons for illicit reasons and transportation by travelers of prohibited or restricted goods. Given the considerable and increasing number of international travelers and border crossing points, this is an important responsibility of customs administrations.

The previous IMF book on customs modernization laid a foundation for key reforms, and many of the lessons from that book remain relevant. This volume does not supersede the ideas presented there; rather, it builds upon them, touches on crucial challenges facing current administrations, and suggests approaches to working through them.

Chapter 1 is an overview of the multifaceted role of customs, its importance for the economy and society, and how it has evolved into its current role. Chapter 2 examines the impact of trade and tax policies on customs, highlighting how these policies have shaped customs’ response to modern integrated supply chains. Chapter 3 is a deeper dive into the institutional and professional foundations of customs. It discusses the need for robust management practices relating to customs reform and modernization, legislative and regulatory frameworks,
learning and development, and good governance and accountability. It includes practical examples to assist the customs administration with developing their own key performance indicators (KPI).

From the foundations of modern customs administration, we move to Chapter 4, where the challenges of enhanced trade facilitation and customs’ role in supporting a pro-trade national economy are examined. A roadmap is included for customs administrations to become more transparent, with processes that are simplified, harmonized, and standardized to be more trade-friendly.

Chapter 5 examines strengthening core customs processes through integrated risk management and explains how this critical practice has many benefits from both the enforcement and trade facilitation perspectives. It includes a practical guide to assist customs administrations to identify control gaps by comparing their current performance against good practices, aiding them to develop their own roadmap for improvement.

A key role for customs is enforcement, and Chapter 6 examines strategies for strengthening this critical function. The challenges and risks associated with fraud and anti-smuggling enforcement are discussed and guidance provided on developing a robust enforcement program with an emphasis on the value of information sharing.

Finally, Chapter 7 looks forward to new and emerging technology and how it may be used to improve customs performance. The chapter also examines why previously implemented technologies sometimes do not produce the expected or desired results. The book offers some country examples, whose main objective is to inspire and connect customs administrations to share experiences and lessons learned beyond assessing their success.

While providers and beneficiaries of capacity development agree on the importance of customs and its modernization and the practical steps needed to achieve it, the challenges of customs modernization vary from country to country depending on the starting point in each case. This book reflects that many challenges to be overcome are common to all countries and that there is a wealth of experience on how to move forward.
The Multifaceted Role of Customs and Its Importance for the Economy and Society

Gilles Montagnat-Rentier and Christian Bremeersch

CHAPTER 1

However essential it remains in all countries with a value-added tax (VAT) system, and especially in developing countries, the collection of taxes on imports is today only one of the facets of the role of customs. This role has also taken on economic and societal dimensions and confronts many major global challenges. Thus, the customs administration’s mission is composed of three elements, all related to international trade in goods: the fiscal element (revenue collection, directly and in support of the tax administration), the economic element (implementation and oversight of certain government economic policies), and the protection and security element (safeguard of citizens’ health and protection of society from transborder criminal activity). The relative importance and priority of the roles and functions of customs may vary depending on geographical, economic, and other features of the country, yet the three core elements are systematically present. This chapter first gives an overview of these many and diverse customs responsibilities. It then briefly presents the typical processes implemented by the customs administration and highlights a few major trends in its environment.

THE FISCAL ELEMENT OF THE CUSTOMS’ MISSION

International Trade Growth Has Been Slowing Down

The imports of goods—and exports for some countries, though to a lesser extent—constitute the basis for customs revenue. After several decades of continuous growth, slower trade growth resulted from structural change coinciding with the global financial crisis in 2008–10 (see Figure 1.1). Between 2001 and 2008, the volume of world trade in goods grew annually by 5 percent, which was persistently faster than the annual GDP growth of 3.9 percent. Consequently, international trade was considered to be an important “engine of growth.” After the 2008 financial crisis, however, the average annual growth of world trade slowed to 3.8 percent. In terms of value, the slowdown was more marked, with the
average annual growth of world trade value being merely 0.2 percent from 2011 to 2018. As a result, international trade in goods decreased from 50.2 percent of GDP in 2011 to 46.1 percent in 2018, while international trade in services continued to grow, rising from 11.8 percent to 13.4 percent of GDP (World Bank,
2020). Figure 1.2 shows comparable trends by type of economy, although developing economies’ international trade is growing faster and transition economies are experiencing more variation.

Although the beginning of 2020 gave hope that trade tensions would ease, the health and economic crisis caused by the coronavirus disease 2019 (COVID-19) pandemic greatly affected global trade. Overall, world trade recorded a drop in value of about 9 percent in 2020, with trade in goods declining by about 6 percent and trade in services decreasing by about 16.5 percent (Global Trade Update 2021). As the pandemic was still ongoing during the development of this book, trade volumes were expected to grow 10.8 percent in 2021 and 4.7 percent in 2022 (World Trade Organization 2021), however, remaining below the precrisis trend.

**Tariffs Will Remain an Important Source of Revenue**

The data in Table 1.1 on average tariffs by country income group and region show that the rates remain significant. Yet these figures should not obscure the significant trade liberalization that has taken place, including in countries that continue to apply high tariff rates. As Keen pointed out (2003), trade liberalization is not limited to the reduction of tariff schedules and export taxes, the latter mostly found today on natural resources, but also includes the reduction of a range of restrictions on trade flows. In this respect, a fundamental aspect has been the conversion of quantitative restrictions on imports into explicit customs duties, a measure that tends—provided that duties on goods’ quotas are not collected in the form of sales of import licenses—to increase both rates and revenues. Moreover, where tariff rates are set at levels that aim to be protectionist and revenue maximizing—with the understanding that prohibitive rates do not increase revenue—small reductions in these rates have been shown to increase tariff revenue. All this considered, and even though trade liberalization must ultimately reduce revenue from customs duties, for many years to come, particularly in developing economies, customs duties will remain an essential component of public revenues and finances.

<table>
<thead>
<tr>
<th>Simple Average Tariff Applied, 2018–19 (Most-Favored Nation, Percentage)</th>
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<tbody>
<tr>
<td><strong>Table 1.1.</strong></td>
</tr>
<tr>
<td><strong>(Most-Favored Nation, Percentage)</strong></td>
</tr>
<tr>
<td>****</td>
</tr>
<tr>
<td>All commodities</td>
</tr>
<tr>
<td>Agricultural</td>
</tr>
<tr>
<td>Nonagricultural</td>
</tr>
</tbody>
</table>

| | **East Asia & Pacific** | **Europe & Central Asia** | **Latin America & Caribbean** | **Middle East & North Africa** | **South Asia** | **Sub-Saharan Africa** |
| All commodities | 6.1 | 5.8 | 9.6 | 9.1 | 13.3 | 11.4 |
| Agricultural | 12.2 | 15.5 | 14.2 | 17.9 | 21.7 | 15.1 |
| Nonagricultural | 5.1 | 4.3 | 8.8 | 7.7 | 12.0 | 10.8 |

Because today customs duties are designated generally in ad valorem terms, that is, based on the value of the goods, verification of the value declared by traders is an essential task of customs administrations. Regarding imports, the World Trade Organization (WTO) has established standard rules for the determination of the value, the basic principle of which is the use of the transaction value. Customs valuation is discussed in Chapter 2.

The Role of Customs in Domestic Tax Collection

Customs plays a crucial role in the enforcement of indirect tax regimes at the border. Indirect taxes—mostly the VATs (or sales taxes in countries where a VAT has not been adopted) and excise duties—are generally levied according to the destination of the products, which means that any product intended for domestic consumption is taxed at the same rate whether it is produced locally or imported, while exported products are exempt or relieved from duties and taxes. Hence, customs administrations are responsible for ensuring that products entering the territory of a given country pay all applicable duties and taxes upon clearance and that goods declared for export actually leave the territory free of indirect taxation and are not returned to the domestic market. The number of countries adopting VAT reached 165 in 2020, compared with 45 countries in 1990. Most of those countries that recently adopted VAT were developing countries, including 25 low-income countries (see Figure 1.3).

Figure 1.3. Number of Countries Adopting a VAT

“VAT collected by customs on imports represents more than 50 percent of total VAT collected in many countries.”

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Borne by the final consumer, the VAT consists of a tax levied at each stage of production: the VAT collected on the imported good is deducted from that payable when the good is sold or is refunded when the imported good is later exported or used as an input and the amount of tax collected on importation exceeds that applicable to the finished product. The VAT therefore applies to all taxable imports, whether the imports are intended for consumption or production. Thus, a significant part of the VAT revenue is collected on imports. Most of this revenue may be deducted or offset at later stages of the production or distribution cycle or, in some cases, at export, but, more important, for many developing countries, a significant share of VAT and excise revenue is collected at the border.

Figure 1.4 provides highlights of the importance of revenue collections by customs administrations. While customs revenue as a percentage of GDP is higher in emerging market countries, it represents a larger share (about one-third) of total tax revenue in low-income countries. VAT on imports accounts for the largest source of revenue collections by customs, especially in emerging market economies. The amount of VAT collected on imports compared with total VAT is very large in emerging market economies and low-income countries yet remains significant even in advanced economies.

**Figure 1.4. Highlights of Revenue Collections by Customs Administrations, 2017**

1. **Customs revenue** (percent of GDP)
   - Emerging markets: 5.7
   - Low-income countries: 4.7
   - Advanced economies: 3.1

2. **Customs revenue** (percent of total tax revenue)
   - Emerging markets: 27.7
   - Low-income countries: 37.2
   - Advanced economies: 12.9

3. **VAT collected on imports** (percent of total customs revenue)
   - Emerging markets: 55.0
   - Low-income countries: 47.1
   - Advanced economies: 47.8

4. **VAT collected on imports** (percent of total VAT collections)
   - Emerging markets: 53.3
   - Low-income countries: 42.9
   - Advanced economies: 20.6

Source: staff calculations.
CUSTOMS’ RESPONSIBILITIES CONNECTED TO OTHER ECONOMIC OBJECTIVES

The subsequent elements are general. Further discussion of customs procedures with economic impact, special economic zones, and incentives follows in Chapter 2. Chapter 4 discusses trade facilitation in more detail.

Implementing Trade Policy

The number of regional trade agreements (RTAs) has increased significantly in the past two decades. RTAs are reciprocal preferential trade agreements between two or more partners, which are authorized under the WTO subject to a set of rules. According to the WTO, 321 such agreements were in force as of February 2021, 242 of them since 2000.1 Only 17 of these agreements are customs unions (see Table 1.2), and the remainder are free trade areas;2 however, existing customs unions involve a large number of countries.3 Intrazone trade varies considerably among these agreements. According to WTO and United Nations Conference on Trade and Development (UNCTAD) estimates, the European Union (EU) and the North American Free Trade Agreement (NAFTA) recorded 64 percent and 50 percent of intra-RTA trade respectively in 2017. The same year, the share of intracommunity trade was 24 percent in the Association of Southeast Asian Nations (ASEAN) and 13 percent in the Southern Common Market (MERCOSUR), while for the Common Market for Eastern and Southern Africa (COMESA) and the Economic and Monetary Community of Central Africa (CEMAC) this trade represented only 8 percent and 2 percent of their exports respectively.

Although implementation of many provisions of RTAs is under the responsibility of customs authorities, a specific challenge is the implementation of the preferential origin rules, which condition removal or reduction of tariff—within free trade areas and within the customs unions that have not implemented a free circulation principle yet. Difficulties stem from the complexity of origin rules, their differences from one agreement to another, and the cooperation with other customs administrations, which, in many instances, is not only necessary but mandatory to enforce these rules. On imports, customs must ensure that goods imported under

1 Some of the new agreements are amendments to earlier RTAs, 119 of which have ceased to be applied since 2000.
2 Examples of major multilateral free trade areas include the 2018 Comprehensive and Progressive Agreement for Trans-Pacific Partnership, a new version of the initial Trans-Pacific Partnership, and the 2020 Regional Comprehensive Economic Partnership.
3 The member countries of a customs union agree to allow free trade on products between them and to implement a common external tariff with respect to imports from the rest of the world. Free trade area members do not have a common trade policy toward nonmembers.
TABLE 1.2.

<table>
<thead>
<tr>
<th>Customs Union Name</th>
<th>Entry into Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central American Common Market (CACM)</td>
<td>1961</td>
</tr>
<tr>
<td>Andean Community (CAN)</td>
<td>1988</td>
</tr>
<tr>
<td>Caribbean Community and Common Market (CARICOM)</td>
<td>1973</td>
</tr>
<tr>
<td>Economic and Monetary Community of Central Africa (CEMAC)</td>
<td>1999</td>
</tr>
<tr>
<td>Common Market for Eastern and Southern Africa (COMESA)</td>
<td>1994</td>
</tr>
<tr>
<td>East African Community (EAC)</td>
<td>2000</td>
</tr>
<tr>
<td>Eurasian Economic Union (EAEU)</td>
<td>2015</td>
</tr>
<tr>
<td>Economic Community of West African States (ECOWAS)</td>
<td>1995</td>
</tr>
<tr>
<td>European Union (EU)</td>
<td>1958</td>
</tr>
<tr>
<td>EU-Andorra</td>
<td>1991</td>
</tr>
<tr>
<td>EU-San Marino</td>
<td>2002</td>
</tr>
<tr>
<td>EU-Turkey</td>
<td>1996</td>
</tr>
<tr>
<td>Gulf Cooperation Council (GCC)</td>
<td>2003</td>
</tr>
<tr>
<td>Southern Common Market (MERCOSUR)</td>
<td>1991</td>
</tr>
<tr>
<td>Russian Federation-Belarus-Kazakhstan</td>
<td>1997</td>
</tr>
<tr>
<td>Southern African Customs Union (SACU)</td>
<td>2004</td>
</tr>
<tr>
<td>West African Economic and Monetary Union (WAEMU)</td>
<td>2000</td>
</tr>
</tbody>
</table>


the agreement comply with the rules of origin to protect revenue and prevent unfair competition. On exports, it may need to confirm eligibility to preferential treatment at destination, which extends to advising domestic producers while ensuring that the country’s international commitments are respected. It may be noted that unilateral tariff reductions granted by developed countries to developing countries under the Generalized System of Preferences raise similar administrative issues.

Supporting Competitiveness

To meet the different needs of businesses and to promote their competitiveness, customs regulations offer special procedures. Often known as customs procedures with economic impact, they are intended for both trade and industry and allow goods to be stored (customs warehousing procedures), assigned to a specific use (temporary admission procedures), or processed (inward processing procedures). These arrangements all suspend the obligations normally relating to imports, both for the payment of customs duties and taxes and for compliance with the rules of commercial policy. Their use has become widespread and requires customs to set up specific organizational roles, systems, and methods for monitoring the undertakings. Customs, on the one hand, is mandated to simplify formalities, while, on the other hand, it should ensure that goods are not misused and are eventually re-exported or correctly declared if they remain in the country. In the case of inward processing, customs also assesses manufacturing processes to ensure that all imported inputs under suspension have been incorporated into the production declared at the end of the scheme.

“Customs special procedures can be effective tools to promote economic activities including manufacturing.”

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The free zones, also known as special economic zones, offer companies the same customs advantages as customs procedures with economic impact and, practically, the goods located in free zones are regarded as being outside the customs territory with respect to import duties and taxes.\(^4\) However, they generally combine with various other investment incentives: exemption or reduction of direct and indirect domestic taxation,\(^5\) reduction of obligations imposed on employers by labor law regulations, and simplified administrative formalities for the movement of goods. The proliferation of these zones is such that, whereas in 1997 there were 845 of them in 93 countries, there were 5,400 special economic zones in 147 countries in 2018—and at least 500 more special economic zones were in the pipeline (UNCTAD 2019). The Organisation for Economic Co-operation and Development (OECD) and the European Union Intellectual Property Office together consider that this increase has encouraged the production and trade of counterfeit products and other criminal activities, such as money laundering. To address risks related to revenue, intellectual property, and security, in particular, free zones should remain under customs control and should be well delimited and physically protected. Movements of goods between them and the rest of the territory should be electronically managed and connected to customs systems and the data used for traceability, surveillance, and control (Omi 2019).

Many countries, developing countries in particular, make extensive use of direct duty and tax exemption of imports to promote investment and support social objectives. It is not unusual, for example, for the foregone revenue from customs exemptions to equate to one-third of customs-collected revenue in sub-Saharan African, Caribbean, and Latin American countries. Administration of multiple and large-scale exemption schemes is problematic for customs. First, these measures represent a heavy administrative load that mobilizes significant resources, which are no longer available for more productive tasks. Second, exemptions are prone to abuse, resulting in revenue leakage and unfair competition between economic actors. The exempted commodities, authorized uses, and beneficiaries must be precisely defined by the law, which is not always the case, and customs should implement specific procedures and programs to prevent and detect noncompliance, not only at the point of entry but also after release of exempted goods to the domestic market. There has been little change in the necessary rationalization of customs exemptions in developing countries, and the monitoring and control challenges for customs administrations remain.

**Trade Facilitation**

The general principles of trade facilitation—that is, measures to simplify customs clearance and reduce its cost and time—are laid down in Article V (Freedom of Transit), Article VIII (Fees and Formalities Connected with Importation and

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\(^4\) With respect to customs control legal powers, the IMF Fiscal Affairs Department (FAD) has consistently advised that special economic zones be considered parts of the customs territory.

\(^5\) Except for least developed countries, reduction of direct domestic taxation may be WTO-inconsistent.
Exportation), and Article X (Publication and Administration of Trade Regulation) of the General Agreement on Tariffs and Trade 1994. To expedite the movement, release, and clearance of goods, the WTO Ministerial Conference held in Doha, Qatar, in 2001 decided to have these principles reviewed and, if necessary, clarified and improved and the needs and priorities of countries identified. This work concluded with the coming into force in February 2017 of the WTO Trade Facilitation Agreement (TFA), which includes and clarifies all relevant measures in this area.

Modalities of implementation of the TFA are adapted to the capacities of developing countries, especially least developed countries. The latter, unlike developed countries that committed themselves to implement the TFA as soon as it is adopted, benefit from special and differential treatment that allows them to determine individually the pace at which they will implement the provisions of the agreement and to benefit from support, including financial support, when necessary.

More than 90 percent of developing countries and least developed countries have to date identified the provisions that they will be able to implement after a transition period and those for which they will need support in order to implement the agreement fully. The TFA is expected to give a decisive impetus to the implementation of key measures for the strengthening of trade facilitation, and customs is one of the main actors in this implementation.

The Application of Trade Defensive Measures

Three WTO agreements authorize (1) the application by a Member State of duties, tariff measures, and/or quotas to protect a domestic industry against an increase in imports that is causing it or threatens to cause it a serious injury (Agreement on Safeguards); (2) to restore the fair taxation of an imported product whose export price is lower than its normal value (Agreement on Anti-Dumping Duties); and (3) to respond to certain subsidies obtained in the country of production by suppliers of imported products (Agreement on Subsidies and Countervailing Measures). While the number of antidumping measures has remained relatively stable over the past few years, the trade tensions that have prevailed since 2018 have, on the other hand, generated a significant increase in countervailing measures of subsidies and safeguard agreements.

According to the WTO, the full implementation of the TFA could reduce the costs of trade by an average of 14.3 percent with an even greater reduction for African countries and least developed countries.”

6 Least developed countries are low-income countries confronting severe structural impediments to sustainable development. They are highly vulnerable to economic and environmental shocks and have low levels of human assets. There are currently 46 countries on the list of least developed countries, which is reviewed every three years by the Committee for Development. Least developed countries have exclusive access to certain international support measures in particular in the areas of development assistance and trade. Source: United Nations, Department of Economic and Social Affairs.
measures. The number of countervailing measures in force thus increased from 154 on June 30, 2017, to 228 on June 30, 2020 (WTO 2017, 2020), whereas the number of safeguard investigations initiated increased from 11 for 2016 to 25 for the period from October 2019 to October 2020 (WTO 2020). Within this framework, the responsibility of customs is to collect the duties, prevent and detect their possible circumvention, and make available to the authorities trade data that may be useful to initiate permitted actions under the agreements.

The Production of Foreign Trade Statistics

As administrative organizations vary from country to country, customs is not always responsible for compiling and publishing foreign trade statistics. However, achieving reliable foreign trade statistics is reliant on customs collecting declaration data that has a good level of accuracy. Customs’ investment in improving compliance, especially in relation to classification, valuation, and origin of goods, therefore also benefits the statistical information. Moreover, the WCO Data Model has helped with global standardization. Because all commercial imports and exports must be declared to customs, it is a rich source of data to enable statistics to be compiled for both general and special trade. These statistics are important for businesses and essential for the national authorities, for governance, definition of policies, and monitoring and control of key sectors.

In many developing economies, revenues from the extractives industries are a critical component of public finance, whereas information on these sectors’ activities and revenue due and collected is often insufficient. 7 Customs data from verified export declarations are one of the most reliable references to both cross-check the country’s natural resource revenue receipts with actual flows and disclose to the public and decision makers accurate data on extractive companies’ outputs. Unfortunately, customs in developing countries too often do not devote enough attention to control of exported natural resources.

The Harmonized Commodity Description and Coding System (“Harmonized System”) developed and administered by the World Customs Organization (WCO) is the international product nomenclature used for the collection of international trade statistics. 8 It is composed of more than 5,000 commodity subheadings, each identified by a six-digit code, arranged in a logical and hierarchical structure. The legal text of the Harmonized System is composed of these codes, Notes, and General Interpretative Rules that direct how classification is undertaken. These legally binding provisions help achieve uniform classification

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7 This was a factor for the creation of the Extractive Industries Transparency Initiative. Founded in 2003 and organized as a nonprofit association, the Extractive Industries Transparency Initiative is a global standard that seeks to address key governance issues in oil, gas, and mineral resources sectors. As of January 2021, 55 countries were participating.

8 More than 98 percent of the merchandise in international trade is classified in terms of the Harmonized System (WCO).
between countries to the six-digit level. Countries may further subdivide below this level, but such subdivisions are not internationally consistent. It is important to note that the Harmonized System is a multipurpose nomenclature of commodities. In addition to the statistical objective and application of customs duties, it is also extensively used in many other areas, for example, definition of rules of origin\textsuperscript{9} and application of internal taxes and various regulations on imports and exports.

**PROTECTION AND SECURITY**

The Application of Standards and Regulations on Imports and Exports

Whenever domestic legislation is applicable to imported or exported goods, customs plays a role, either by directly enforcing the law or by ensuring that other responsible agencies have concluded their review process before releasing these goods. This may be done through document-based inspection or, as needed, physical inspection and laboratory tests.

For example, in terms of environmental and health protection, customs monitors the application of the provisions of the relevant international conventions, especially the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal, the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, and the Stockholm Convention on persistent organic pollutants (together known as the BRS Conventions). For customs with maritime response capabilities, the action against the spread of waste extends to the fight against marine pollution. An equally important customs mission for the environment is the control of ozone-depleting substances, such as chlorofluorocarbons and other ozone-depleting substances covered by various protocols, the phasing out of which was enshrined in the 1987 Montreal Protocol. Customs contributes directly to compliance by checking that trade in these substances has been duly authorized and reported regularly to the United Nations Environment Program so that it can ensure that countries meet their ozone-depleting substance phase-out commitments under the protocol.

The role of customs in protecting the environment could expand considerably with the implementation of climate change–related initiatives. The administration could play a pivotal role in carbon taxation if border adjustment mechanisms are implemented to prevent carbon leakage and support fair competition. In July 2021, the European Commission made a proposal to establish such a mechanism that would target a selection of products imported into the EU. Chapter 2 discusses this topic.

\textsuperscript{9} Under the provisions of regional trade agreements, the conditions to be met to grant preferential origin status to a product may include a change in tariff classification after local transformation.
Customs is involved in the application of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Counterfeiting of goods has been widely denounced, even more since it has been extended to products that threaten human health, such as car parts that do not comply with manufacturers’ standards, toys that are dangerous for children, and fake medicines that are inoperative or toxic. Evidence of the spread of counterfeit goods to all production sectors and the growth in this illicit industry have increased from $461 billion USD in 2013 to $509 billion USD in 2016 (that is, from 2.5 percent to 3.3 percent of world trade), thus highlighting the importance of combating this issue (OECD/EUIPO 2019).

In addition to detecting counterfeit goods, customs has a role in consumer protection by enforcing compliance with various technical quality standards (some customs administrations have their own laboratories for this purpose) and veterinary (animals and animal products) and plant health regulations. Veterinary and phytosanitary controls are examples of those usually undertaken by technical agencies at the border. Nevertheless, customs plays an essential role since, when releasing goods, it must ensure prior to release that these agencies have carried out their controls and have approved import or export. The so-called “mad cow” crisis (transmission of bovine spongiform encephalopathy to humans), which occurred in Europe at the end of the 1990s and caused fatalities and a serious crisis in the beef sector, bears witness to the importance of the customer protection aspect of the customs mission.

Dangerous goods, also known as “hazardous materials,” may serve as intermediate materials (for example, ethyl alcohol used for sanitizer) or semi-knocked-down products (for example, lithium batteries used for mobile phones) through the globalized production and account for a considerable portion of international trade in goods. Such goods are regularly transported and stored throughout global supply chains and therefore pose high risks to the security of societies. Customs takes responsibility for controlling these goods in both regulatory and operational terms.

The Fight against Illegal Trafficking

Legitimate trade has become a vector for illicit trade that runs in parallel. The pressure from society and the authorities to step up customs action to prevent trafficking in illegal dangerous goods has increased significantly. It is revealing that many customs administrations now focus as much or more of their resources and efforts on seizures of illegal products as on revenue performance. The safety, security, and protection of the society aspect of customs continue to increase in importance for many countries. In Chapter 6, suggestions for strengthening customs enforcement are discussed, and the discussion provides guidance on how administrations can bolster this important function.

“Illegal trafficking of goods takes place on a large scale, and customs plays a major role in detecting and suppressing these activities.”
Drug trafficking is, more than ever, a major threat to society. According to the 2019 report of the United Nations Office on Drugs and Crime (UNODC 2020), the number of drug users has increased by 30 percent since 2009, and the most worrying trends in drug use are related to cocaine, methamphetamine, synthetic opioids, and heroin. Cocaine production has reached record levels and consumption has become globalized (143 countries in all regions reported cocaine seizures between 2013 and 2017, compared with 99 countries between 1983 and 1987). Seizures of these other substances have also increased as shown in Table 1.3, and customs is at the forefront of the fight against international trafficking in drugs. UNODC and WCO together launched a Container Control Programme (CCP) in 2004 that 59 countries have joined so far and that has resulted in establishing 98 port control units and 21 air cargo control units. During 2019, those units made 800 drug seizures involving 77 tons of cocaine, 1.5 tons of heroin, 850 kilograms (kg) of cannabis, 120 kg of psychotropic substances, and 37 tons of precursor chemicals.10

### TABLE 1.3.

<table>
<thead>
<tr>
<th>Categories of Drugs</th>
<th>2007</th>
<th>2012</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine</td>
<td>731</td>
<td>701</td>
<td>1,275</td>
</tr>
<tr>
<td>Heroin and morphine</td>
<td>92</td>
<td>124</td>
<td>190</td>
</tr>
<tr>
<td>Opium</td>
<td>521</td>
<td>557</td>
<td>693</td>
</tr>
<tr>
<td>Amphetamines except ecstasy</td>
<td>50</td>
<td>149</td>
<td>247</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>19</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Cannabis (resin)</td>
<td>1,318</td>
<td>1,269</td>
<td>1,162</td>
</tr>
<tr>
<td>Marijuana</td>
<td>6,118</td>
<td>5,523</td>
<td>5,111</td>
</tr>
</tbody>
</table>


In order to combat drug trafficking effectively, many customs authorities do more than strengthen their traditional intelligence and control capabilities. They may have legal powers to conduct covert investigation operations, and in addition to the actual seizure, they can succeed in dismantling entire networks and seizing the capital generated by trafficking (anti-money laundering). In a more recent development, some of these customs authorities have also been given the legal power to monitor social networks in order to detect purchase orders and deliveries to individuals.

Another type of illicit trade that customs fights is the illegal trade in endangered species. Customs participates in protection of biodiversity through the fight against illegal trafficking of species protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, also known as the Washington Convention). In addition to its ongoing work in this area, customs also

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10 CCP seizures in 2019 also included 104 containers of counterfeit goods and 705 million packs of cigarettes as well as toxic waste, weapons, and specimens of protected animal species.
participates in coordinated interventions with police services organized by Interpol and the WCO or mobilizes itself to run such activities. An operation of this type was carried out in June 2019 in 109 countries and showed the magnitude of the problem. In less than one month, 582 suspects were arrested and more than 1,800 seizures were recorded, including 545 kg of ivory, 1.3 tons of pangolin scales, almost 10,000 live turtles, 30 big cats, 23 primates, more than 1,400 reptiles, more than 4,300 birds, 2,550 cubic meters of wood, and more than 2,500 plants.

Illegal trade flows also notoriously include cultural heritage goods, precious minerals and gemstones, food products, and goods subject to high excise duties such as tobacco, alcohol, and fuels, among others. In response to the growing threat posed by cross-border flows of small arms and light weapons, in 2015 the WCO started the Small Arms and Light Weapons Project, which aims to detect and prevent illicit trafficking of these items.11

**Customs’ Contribution to National Security and Combatting Terrorism**

Following the attacks against the United States on September 11, 2001, a review of border security identified trade flows as a significant potential vector of international terrorism. Mitigation measures were taken, a number of which were the responsibility of customs administrations, to better secure the supply chain and ports. These included the Container Security Initiative implemented by the USA in 2002 and the Import Control System put in place by the EU 2005. Whether by deploying teams of US Customs and Border Protection officers at the main ports of shipment to the United States (58 ports in 2021) or by requiring the sending to customs of a prior declaration before boarding to the EU, these measures respond to the same concern: to detect high-risk consignments as early as possible (at or before the port of departure).

At the June 2005 WCO Council Sessions, WCO members adopted the SAFE Framework of Standards to Secure and Facilitate Global Trade, regularly updated since then, which is based on three pillars. The core element of the first pillar—strengthening of cooperation between customs administrations—is the exchange of advance information transmitted electronically to identify high-risk cargo and conveyances prior of their dispatch. The second pillar—strengthening of the partnership between customs and business—is based on the Authorized Economic Operator (AEO) status granted to traders who can justify their

11 Since 2015, the number of specialized programs run by the WCO has increased considerably, and they target the following customs enforcement areas: drugs, environment, revenue, security (including the Small Arms and Light Weapons Project), cultural heritage, intellectual property rights, health and safety, and anti-money laundering and counter-terrorism financing.
compliance with regulations and security of their supply chain and internal procedures. The third pillar—strengthening customs cooperation with other government departments responsible for security—aims to avoid duplication of requirements and controls in the supply chain and to streamline procedures. Further detail on the AEO program can be found in Chapter 4.

In addition to implementing the SAFE Framework, customs strengthens security through specific measures such as the WCO’s Strategic Anti-Fraud Program. This program aims to combat the trafficking and smuggling of weapons of mass destruction and related materials and to monitor compliance with restrictions on the movement of dual-use goods (that is, goods, including software and technology, that can be used for both civilian and military purposes).

**Participation in the Fight against Cross-Border Crime and Intelligence Gathering**

Customs is involved in the fight against organized crime as an element in its border controls or search activities within the territory. At the border, many customs administrations have the mandate and power to arrest the persons involved in cases of trafficking in human beings, illegal migrant smuggling networks, or any other criminal activity. At the border and within the territory, customs may collect information relating to a criminal organization or criminal acts (such as money laundering) and transmit it to the competent judicial and police services.

**TYPICAL CUSTOMS PROCESSES**

To execute their mission, customs administrations implement processes that are similar worldwide. This can be explained by the fact that they have the same objectives and types of expected results in all countries and by the existence of international conventions and standards, which have brought a global harmonization of steps (see the following section). These processes are succinctly described to facilitate the reading of the following chapters of this book.

Goods arriving in ports or leaving the country are first presented to and recorded by the customs authorities. They are then cleared through customs, which means a customs procedure (import for consumption, temporary import, export, and so on) is requested by the declarant through the filing of a customs declaration.

Customs then verifies that the declaration is correct to ensure that all relevant entry or exit obligations are fulfilled and that the correct duties and taxes have been assessed and paid. This verification may include physical inspection of the

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12 This status has been incorporated into numerous customs laws, and mutual recognition agreements have been concluded between countries strictly applying the eligibility criteria defined by the SAFE Framework so that AEOs can benefit from reduction of controls and access to simplified procedures beyond their country.
goods. The duties and taxes collected depend on the value and/or quantity, the physical characteristics, and, for customs duties, in some cases the country of origin of a specific product. Total or partial exemptions of duties or taxes generally also depend on the status of the importer (beneficiary of the measure) and the final use of the exempted good.

Customs may carry out additional verifications after it clears the goods, either by a desk review of documents furnished or by conducting a more detailed and/or comprehensive audit at an operator's premises. The purpose of these checks is to recover duties and taxes that may have been evaded at the time of declaration and ensure compliance with import and export regulations.

Monitoring of goods within the customs territory—not at one border crossing point only—is required for many customs procedures and very common, either to manage transit cargo circulating between countries or inland customs offices or because a conditional suspension or exemption of duties has been granted. Customs transit procedures are essential for landlocked countries, and exemptions are widespread in developing countries.

A mobile customs preventive service is normally present at borders and around ports to ensure that goods are directed to customs clearance offices, combat smuggling and other criminal activities, and participate in border surveillance. Investigation units are responsible for tackling fraud and trafficking throughout the entire customs territory, including prosecuting serious offenses.

Customs intelligence and risk management functions select and target interventions. From a focus on goods, attention of these functions has progressively extended to the details of the trade transaction, players involved, and supply chain and logistics. Conjointly, the gathering and use of data have become critical.

Customs administrations also increasingly rely on collaboration with other stakeholders to achieve their objectives. This takes the form of a broader and deeper dialogue with the private sector, exchange of information and coordination with tax administrations and other government agencies, and international customs cooperation, particularly for enforcement and trade facilitation purposes.

Customs control is often more present on the import side than on the export side, yet customs is equally in charge of export and import. The customs responsibilities described earlier show numerous reasons for checking export goods and transactions—from witnessing the actual exit of goods from the territory for VAT and excise management purposes to certifying the country of origin of an exported product, enforcing restrictions on export of civilian and military dual-use goods and technologies, collecting data to enhance transparency in natural resource sectors, and seizing prohibited goods, to name a few. Growing cooperation between the authorities of destination and departure countries will increase requests for administrative assistance, with responses from the departure country facilitated if effective checks have been carried out on the export. The processes and functions summarized previously therefore apply to trade flows in both directions, and insufficient export control, as is sometimes found, would need to be remedied.
TRENDS IN THE GLOBAL ENVIRONMENT OF CUSTOMS

The customs environment is constantly evolving, and customs must address the different components of this evolution. Modernization is the only option to remain effective. Here we highlight some global trends that have a direct and significant impact on customs strategy and operations. Many, if not all, of the changes underway tend to reinforce the role of customs and the need to have well-functioning and effective customs administrations.

Changing Patterns of International Trade

International trade is unlikely to grow as fast as it did before 2008, a situation that some academics have dubbed “slowbalization.” The strong growth before 2008 and subsequent slowdown are not a cyclical economic phenomenon but a structural change that can be explained first by the slower growth of global value chains and may be accentuated by several other developments. Trade tensions were started as a political agenda focusing on bilateral trade imbalances and thus a cause of unemployment. They may remain in the form of increased trade barriers, particularly tariff increases. Service sector evolution, such as the sharing economy and leasing rather than purchasing goods, may contribute to a further slowdown in the growth of world merchandise trade.

More recently, policies in response to COVID-19, including “secure supply,” may have added further momentum to slowbalization, if not deglobalization. Overdependence on foreign production of medical and other essential goods has created a perception of strategic vulnerability, prompting countries to implement policies to reduce their reliance on foreign suppliers for these goods. Such policies have included export restraints, which have exacerbated countries’ vulnerability to supply disruptions, and measures aimed at diversifying or shortening supply chains, if not boosting domestic manufacturing. Separate incidents in early 2021—shortage of semiconductors, for which production is highly concentrated, and the temporary blockage of the Suez Canal—have further warned of current supply chain disruption risks, which had previously been highlighted by the Great

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14 During the period from October 16, 2018, to October 15, 2019, these tensions were reflected in the implementation by WTO members of 102 new restrictive import measures with an estimated trade coverage of nearly $750 billion, the highest amount since October 2012 and an increase of 27 percent compared to the previous annual period. At the same time, however, WTO members have also implemented 120 new trade facilitation measures with an estimated trade coverage of nearly $545 billion. Interestingly, only 89 new trade-restrictive and 88 trade-facilitating measures were introduced in the following 12-month period, that is, the lowest figures since 2012 (WTO 2020). This may be explained by the global health emergency that had almost inevitably resulted in governments focusing less on designing and implementing regular trade policies and more on dealing with the immediate economic issues in the context of the pandemic.
East Japan Earthquake in 2011. Companies may attempt to secure their activity by diversifying and introducing more flexibility in their sources of supply and may avoid using value chains that are too complex or geographically dispersed. Although a spontaneous rapid shift in supply chains is not in sight, companies have started reorienting their supply chains from just-in-time to just-in-case inventory management in order to reduce the risk of supply disruption. The potential effect of this restructuring and diversification on customs tasks is not clear. Pressure might be relieved from customs administrations for reaching very short clearance times, but complexity of applicable rules and workload might increase with protectionist initiatives and the number of bilateral trade agreements. Slowbalization will have implications for customs’ revenue collection, regardless of the types of duties and taxes levied. In addition, the increasing frequency of combining both physical and digital elements in a single sale (for example, a physical good with a digital subscription service) will increase the number of complex cases for the calculation of customs value. Insofar as these taxes are based on the import value, customs should be aware that revenue collection may not increase as fast as previously.

Nevertheless, there is a convergence of views that international trade will play an important part in the implementation of the major structural economic reforms needed globally following the recovery from the COVID-19 pandemic disruptions. At the March 23, 2021 high-level seminar WTO Aid-for-Trade Stocktaking Event, the IMF managing director emphasized the following issues: “Trade will be at the heart of efforts to build forward toward a greener, more inclusive and digital recovery. We are going to experience structural shifts to the new climate economy. It will depend on the exchange of goods and services.” In this context, maximum efforts should be made to avoid administrative bottlenecks or a blockage anywhere. The agenda for customs will include streamlining, digitalizing, and guaranteeing predictability of their own procedures and, likely, asserting a leading role in an efficiently coordinated border management. Customs and other agencies are already increasingly ensuring coordinated risk management and inspection of goods at borders (for example, Dutch State Inspection terminal at Rotterdam port and similar structures at Schiphol airport), performing specific inspections on behalf of others, or merging administrative structures to improve efficiency (for example, customs and border sanitary inspections in China).

Rapid growth of e-commerce, including business-to-consumer, is an evolution that poses specific problems to customs administrations. According to the WTO, the value of world e-commerce markets increased from $19.3 trillion in 2012 to $27.7 trillion in 2016 (86.3 percent of this amount was transactions between companies), that is, an increase of 43.5 percent in four years.¹⁵

¹⁵ In accordance with the commonly accepted definition, electronic commerce as defined here is that of goods and services ordered by digital means and delivered either physically or digitally.
Physical delivery of a multitude of small parcels of low value mobilizes significant customs resources for two reasons: (1) existing thresholds (de minimis value) for the application of duty and VAT tend to be lowered or removed to mitigate revenue and the competition impact of large volumes of exempt imports and (2) the transborder fraud that has developed through online orders, particularly for cigarettes, drugs, counterfeit goods, weapons, and false documents. To be effective, the fight against such trafficking cannot be limited to traditional methods of control. Customs administrations have set up services to collect, enrich, and exploit information to effectively combat internet fraud (for example, French customs’ Cyberdouane unit).

On digital deliveries, in 1998, as global electronic commerce created new opportunities for trade, members of the WTO decided, in line with the practice of the time, not to impose customs duties on electronic transmissions (WTO 1998). While this moratorium has since been renewed, customs faces a different type of challenge with the possible transfer of the production of physical goods to any part of the world through electronic transmission of appropriate software.16 The WTO (supported by the G20 with the June 2019 launch of the “Osaka Track” initiative on the digital economy) has reinvigorated work on the scope, definition, and impact of the 1998 moratorium. Whatever the conclusions of this work, three-dimensional (3D) printing represents one of the most disruptive digital technologies for customs administrations since it changes the notions of borders and trade flows. To overcome the lack of global standards and guidelines for the growing trade in cross-border electronic commerce in physical goods, the WCO released the Cross-Border E-Commerce Framework of Standards in June 2018. E-commerce is discussed further in Chapter 2.

A Global Normative Framework but National and Regional Priorities

Compared to other institutions, customs has the advantage of having global standards and rules defined collectively within international organizations and, in particular, by the WTO and the WCO, whose functions and main contributions are presented in Box 1.1. Without this international frame, world trade could certainly not have developed in the same way. These rules have formalized the obligations and actions of customs and have simplified and harmonized customs procedures and practices. However, customs may derogate from them when the implementation of either national or regional directives so requires. (In a customs union, a national customs authority must follow the common rules). This is particularly the case when authorities decide to exempt themselves from these rules in the name of protecting their economic or fiscal interests. Recent examples

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16 3D printing refers to a manufacturing process whereby a product is assembled by layering materials in accordance with programmed commands. By contrast, manufacturing traditionally involves taking lots of parts and screwing or welding them together. According to Mordor Intelligence (2021), the 3D printing market was valued at $13.7 billion in 2020 and is expected to reach a value of $63.46 billion by 2026.

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include the unilateral measures taken by the United States and China since 2018 in the context of trade tensions between them; the closure by Nigeria in 2019–20 of its land borders with neighboring countries, including other ECOWAS members; and the United States’ new tariffs (suspended in January 2021) to retaliate against France introducing a digital services tax. In view of recent geopolitical developments, marked by increased competition and a more aggressive stance among powers, and significant challenges posed to unilateralism, a return to a more protectionist world cannot be ruled out. At the same time, international trade will remain a source of growth, although probably to a lesser extent than before 2008, and is essential to prosperity. There is, as a result, a growing consensus that a reform of the WTO would be necessary to reinvigorate its functions, help calm tensions, and tackle major current global issues impacting trade, although the contours of such a reform remain to be defined. Customs administrations once again will have to adapt to the global, regional, and national contexts.

### Box 1.1. The World Trade Organization and the World Customs Organization

The World Trade Organization (WTO) provides the framework for negotiating trade agreements, reviewing trade policies, and settling trade disputes between members. WTO members (164 as of 2021) commit themselves to rules of good conduct in trade policy, including “bound” tariff rates that can only be exceeded in emergencies (although countries have the option of imposing a general increase in their tariff schedules when faced with a balance of payments crisis, with the IMF intervening to certify that the situation does indeed require it). The WTO’s Agreement on Customs Valuation on the basis of the transaction value of imports, which prohibits overvaluation by customs for tariff reasons; the Agreement on Rules of Origin, which aims at harmonization of nonpreferential rules of origin; and the WTO Trade Facilitation Agreement (TFA), which came into force in February 2017, are three examples.

The World Customs Organizations (WCO) is a global organization of customs from 183 countries, as of 2021, involved in the management of more than 98 percent of world trade. Its mission is to improve customs efficiency to which it has contributed by developing standards for harmonized and simplified procedures—in particular with the Harmonized Commodity Description and Coding System and the revised Kyoto Convention on the simplification and harmonization of customs procedures—and by promoting the exchange of experience and the dissemination of good practice in these areas. The WCO is also responsible for the SAFE Framework of Standards and the Framework of Standards on Cross-Border E-Commerce.

It is important to stress that these institutions act in a coordinated manner. For example, the WCO supported the negotiations on and implementation of the WTO TFA and developed a program called Mercator to assist its members in implementing the facilitations provided for in the agreement. The Technical Committees on Rules of Origin and Customs Valuation function under the auspices of the WCO, the latter with a view to ensuring, at the technical level, uniformity in interpretation and application of the WTO Valuation Agreement.

Source: Keen (2003) and authors.

Note: TFA = Trade Facilitation Agreement; WCO = World Customs Organization; WTO = World Trade Organization.
In respect to national legislations applicable to imported and exported goods, increased requirements and checks at borders for market access have been observed over recent years, particularly in advanced economies. To mitigate the need for increased border controls by customs and other agencies, developing international standards and mutual recognition of compliance controls is critical. It will be all the more necessary that requirements are no longer limited to the features of the products. They extend to production and distribution and to meet environmental and social expectations, such as extraction or manufacturing of goods not involving forced or indentured labor, and more similar requirements are likely to emerge from ongoing discussions for promotion of green economies.

**Digitalization**

The information systems that equip almost all customs administrations today make it possible to computerize and automate, and thus secure, the entire customs clearance procedure. Customs in developing economies are not exploiting this advantage fully. To the detriment of the traceability of operations, simplification, and revenue protection, their use of existing information and communication technologies is not optimal, and more important, procedures have not yet been updated, automated, and converted to electronic format. Declarations and commercial documentation in paper are still presented to customs officers. Adopting e-documents and automation is therefore a huge project that is critical for customs’ future success. The need for social distancing caused by the COVID-19 pandemic starting in 2020 significantly improved the awareness among customs managers and traders that electronic systems and processes could be extremely useful and their implementation should be completed everywhere as soon as possible.

To enhance performance, customs should further integrate its information system with its partners, and this will be facilitated by the adoption of electronic documents. Interconnecting customs systems with neighboring countries enables a better monitoring of transit cargo moving under customs controls from one country to another. It also facilitates export and import data cross-checking for verification purposes. A more ambitious and longer-term objective for a national customs administration is to use digital technologies to monitor the supply chain beyond the customs territory from departure from the export country to arrival, and vice versa. This process is already underway within the customs territory, but by extending it abroad, customs will move from transactional management of border-crossing operations to the monitoring of entire trade flows. Blockchain technology, in particular, may find a suitable application here. See Chapter 7 for more details on digitalization.

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17 Customs were among the first public administrations to introduce computerization as far back as the 1970s.
Data

A customs declaration contains several dozen types of data relating to the transaction, the goods, the persons involved, the means and modes of transport, and the customs treatment it has received. All this data is archived in the customs information system, which creates a considerable repository of information at the disposal of customs administrations. Many entities are faced with scarcity of data while having the tools to exploit them. Customs is usually in the opposite situation: it is sitting on a mass of data that it often has not sufficiently analyzed nor matched on a large scale with external data sources to identify patterns and possible anomalies. Systematically using data for strategic and operational purposes (control and enforcement, trade facilitation, staff performance, integrity monitoring, and so on) is definitely one of the critical projects for customs administrations in the coming years. This is further discussed in the following chapters.

Data sharing and matching between customs and other stakeholders is a key element of the data agenda. With regard to revenue collection, customs and tax administrations must share data to assess compliance risks effectively. Particularly in developing countries and even more so in fragile and conflict-affected states (FCS), this exchange of information is not optimal, although a simple cross-checking would be enough to reveal significant anomalies between tax and customs declarations by the same taxpayer and possible noncompliance or fraud on either or both sides. Cooperation of customs with tax is discussed particularly in Chapters 3 and 6. Another powerful tool with significant benefits for customs is mirror data analysis, that is, the reconciliation of export data from the world to the country with import data recorded by the country’s customs administration, particularly when conducted at the finest possible level of detail (as indicated in Chapter 2).18

Customs in Fragile and Conflict-Affected States

The importance and range of responsibilities assigned to customs make it a key institution in any country. However, this position is most pronounced in FCS, where the continuity of the state ultimately rests on a small number of institutions. Customs is also one of the most visible administrations, both inside and outside the country, and so it must be an example of a technical and ethical organization capable of leading the way in improving governance and, in numerous cases, maintaining or restoring the rule of law. Moreover, there is no indication that global illegal trade and associated criminal activity is decreasing or even being contained. On the contrary, entire regions are being destabilized, further facilitating illegal activities and raising the stakes for effective customs control in collaboration with other law enforcement agencies. The FCS issue is becoming increasingly important given the depth of challenges they face and exacerbated by

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18 The IMF’s Fiscal Affairs Department has emphasized and prioritized tax and customs data matching and mirror data analysis under capacity development programs. On the latter, see in particular Geourjon, Anne-Marie, Bertrand Laporte, and Gilles Montagnat-Rentier. 2023.
the impact of COVID-19 on this group of countries. Following the World Bank’s classification criteria with some minor differences, the IMF Staff have maintained a list of FCS, which, as of 2021, includes 42 countries, affected to various degrees by lack of state legitimacy, limited administrative capacity, chronic humanitarian crises, persistent social tensions, and either ongoing violence or a significant legacy from armed conflict and civil war. The IMF is granting a special attention to those countries by adjusting its policies, support, and advice (International Monetary Fund, 2015, 2017). The approach to customs administration consists of setting up basic administrative procedures in the post-conflict or crisis context and a prioritization of tailored reform initiatives during the consolidation phase. See suggested orientations in Box 1.2.

### Box 1.2. Customs Administration in Fragile and Conflict-Affected States

The following initiatives may be considered to guide the strengthening of customs administration in fragile and conflict-affected states.

- Adapt tax, tariff, and customs policies with which customs faces serious implementation challenges.
- Deviate from international administrative standards as necessary.
- Under the trade facilitation agenda, prioritize application of the rule of law.
- Focus on the few major ports and core functions with large revenue potential.
- Recognize that geography and the economy may dictate certain priorities (for example, customs transit for landlocked countries, monitoring of natural resource export).
- Implement a basic compliance improvement strategy.
- Maximize the use of technology to remove human intervention.
- Implement human resource management reforms limited to those essential to improved performance and integrity.
- Create specialist national functions and staff to assist field offices.
- Establish (at least) the minimum required infrastructure to be able to operate.
- Ensure that services from private providers (if any) and border interventions by other state agencies do not impede customs administration operations and reforms.

Source: Authors.

### THE ROLE AND SUPPORT OF INTERNATIONAL INSTITUTIONS

The fundamental role of the institutions responsible for defining the standards that enable the development of international trade under the best possible conditions has already been stressed. Other institutions also support the development of international trade through capacity development programs benefiting requesting countries and their customs administrations. This is the case of the IMF. One of its objectives as set out in its Articles of Agreement is to facilitate the expansion

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19 For an identification of the causes and consequences of fragility as well as an understanding of the consequences of fragility for the formulation and implementation of macroeconomic policy in fragile states, see Ralph Chami, Raphael Espinoza, and Peter J. Montiel (Eds.), *Macroeconomic Policy in Fragile States*. Oxford, UK: Oxford University Press, 2021.
and harmonious growth of international trade, and Article V-2(b) specifically allows the IMF to deliver technical assistance to its members upon their request.

To achieve this goal, the IMF encourages and assists members to embrace trade liberalization. At the same time, it helps country authorities resolve the political and economic problems, revenue risks, and administrative issues involved in this approach. This is reflected in the IMF’s three main areas of work. As part of its general surveillance of member countries’ economic policies, the IMF generally provides for an assessment of trade and customs policies when required. In its lending to member countries, whether in the context of a program prompted by an immediate crisis or by long-term development and crisis prevention considerations, trade and customs policy reform is often a key component, and lending is often conditional on reforms in these areas. As part of its support for capacity development—which may or may not be linked to a program—the IMF has significantly increased its action by establishing, starting in the early 2000s, a global network of regional capacity development centers (RCDCs) and training programs and by increasing the use of external funding to support customs reforms.20

These initiatives have considerably increased the number of capacity development activities in the past 20 years, especially to the benefit of fragile and low-income countries, many of which are in sub-Saharan Africa. Table 1.4 provides an overview of the evolution of the number of capacity development activities undertaken annually by the IMF Fiscal Affairs Department (FAD) to address customs administration reform and modernization (from a total of 30 strategy-setting,

| IMF Fiscal Affairs Department’s Capacity Development Missions in Customs Administration, 2000/2019 |
|----------------------------------|----------------------------------|
| **Missions 2000** | **Missions 2019** |
| **Total** | 30 | 60 |
| **Including:** | **Including:** |
| Sub-Saharan Africa | 10 | Sub-Saharan Africa | 25 |
| Asia and the Pacific | 4 | Asia and the Pacific | 26 |
| Europe, Middle East, and Central Asia | 10 | Europe, Middle East, and Central Asia | 0 |
| Western Hemisphere | 6 | Western Hemisphere | 9 |

Source: IMF staff calculations.

Note: Missions undertaken from IMF headquarters only. Regional capacity development centers’ activities not included here.

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20 The global network of RCDCs and training programs is currently made up of the Africa Training Institute (ATI), the AFRITAC Central (AFC), the AFRITAC East (AFE), the AFRITAC South (AFS), the AFRITAC West (AFW), the AFRITAC West 2 (AFW2), the IMF Capacity Development Office in Thailand (CDOT), the Caribbean regional technical assistance center (RTAC) (CARTAC), the Caucasus, Central Asia, and Mongolia RTAC (CCAMTAC), the Central America, Panama, Dominican Republic RTAC (CAPTAC-DR), the China-IMF Capacity Development Center (CICDC), the Joint Vienna Institute (JVI), the Middle East Center for Economics and Finance (CEF), the Middle East and North Africa RTAC (METAC), the Pacific Financial RTAC (PFTAC), the South Asia RCDC (SARTTAC), and the Singapore Training Institute (STI).
follow-up, or expert missions in 2000 to 60 such missions in 2019). These were complemented by more than 150 technical, often hands-on, interventions by RCDCs in 2019.\textsuperscript{21} The analysis and conclusions presented in this book are based on FAD’s extensive experience in supporting customs capacity building.

Besides the IMF, many international institutions provide support for customs modernization. The World Bank also attaches great importance to this activity and has been particularly active in supporting large-scale reform programs. The WCO delivers training and technical assistance programs, for example, on the Harmonized System, goods valuation rules, or the implementation of the provisions of its Revised Kyoto Convention and the WTO TFA (Mercator Programme). Substantial technical assistance is also provided by regional organizations and bilaterally. Since the early 2000s, there has been a renewed interest in customs capacity development as part of the broader effort to strengthen the participation of the developing countries with the lowest incomes in world trade. The Ministerial Declaration issued at the end of the WTO meeting held in Doha in November 2001 called, \textit{inter alia}, for a substantial increase in the resources devoted to these activities.\textsuperscript{22} Carrying out and coordinating this task has become more difficult and more urgent than ever and falls under the Integrated Framework for Trade-Related Technical Assistance. It is an interagency effort that brings together the work of the World Bank, the International Trade Centre (ITC), UNCTAD, IMF, WTO, WCO, and the United Nations Development Programme (UNDP), with the support of bilateral donors, to increase the efficiency and effectiveness of capacity development in developing and least developed countries on trade-related issues. IMF staff, at both the headquarters and RCDC level, invest considerable time and effort to coordinate capacity development activities with other development partners, particularly in the recipient country.

\section*{SUMMARY}

The emergence of a globalized economy would not have been possible without the development of customs procedures, sometimes complex to administer, which have enabled companies to take full advantage of trade policies and incentives, and without customs’ standardized commodity nomenclature and its foreign trade statistics, authorities and businesses would have missed critical information for decision-making. Customs is a more multidisciplinary administration than most and is the key actor against all forms of illegal trade flows. It is therefore involved in the response to numerous threats, as diverse as sale of counterfeit and

\textsuperscript{21} As an illustration, in 2019, RCDC support to customs capacity development represented 16742 work hours for sub-Saharan Africa and 7203 CD work hours for Latin America and the Caribbean.

\textsuperscript{22} According to a joint report by the WTO and the OECD, the volume of trade-related technical assistance and capacity building to help developing and least developed countries participate more effectively in international trade had, by the end of 2005, increased by 50 percent since the Doha Ministerial Declaration (WTO 2005).
dangerous goods, damage to the environment and biodiversity, trafficking in narcotics, and, more broadly, organized crime and terrorism.

Customs’ methods have evolved in the same way as its mission. For the processing of legal trade flows, the time has come for maximal trade facilitation and partnership with reliable companies that make it possible to free up the necessary resources for targeted control and enforcement. The technologically most advanced customs administrations have already switched to massive use of data, which feed automated risk management systems and support the strengthening of core customs processes. This is the path that all customs will have to follow.

Latent trade tensions and from 2020 the impact of the COVID-19 pandemic on the global supply chain cloud the vision of the near-term development of international trade. New technologies and the growth of electronic commerce bring uncertainty to future trade modalities. Geopolitical tensions, regional instability, state fragility, and criminal activities are still considerable problems. However, the long-term trend for international trade remains upward—especially as flows of goods and services will be essential to recovering from the COVID-19 pandemic and investing in the future, namely building toward greener, smarter, and more inclusive economies. Customs, which remains highly relevant in this momentum, will undoubtedly have to be even more flexible and responsive than it may have been in the past.

REFERENCES


See, for example, Okazaki (2017) for information on big data initiatives shared by five customs administrations: Canada Border Services Agency; Customs and Excise Department, Hong Kong, China; New Zealand Customs Service; Her Majesty’s Revenue and Customs, the United Kingdom; and US Customs and Border Protection.


CHAPTER 2

How Trade and Tax Policies Are Shaping Customs

Tadatsugu Matsudaira and Michael Daly

Customs is among the oldest professions in the world and often one of the most powerful government agencies with the characteristics of a tax authority, police, trade regulator, and transport regulator. The previous chapter discussed how customs needs to adapt to assume increasing roles in some areas while retaining its core roles, notably revenue collection. This chapter focuses on the changing global environment concerning trade and transport as well as evolving policies and practices regarding taxation, trade, investment, and customs valuation, all affecting customs revenue collection.

GLOBAL ENVIRONMENT CONCERNING TRADE AND TRANSPORT

The previous chapter discussed “slowbalization” of international trade, which has implications for customs’ revenue collection regardless of the types of duties and taxes levied. Insofar as these taxes are based on the import value, customs administrations should be aware that revenue collection may not increase as fast as it did previously (unless a new tax on imports is adopted, such as the carbon border tax discussed later in this chapter). Indeed, the percentage of revenue collected by a customs administration to GDP in the longer term may decline for as long as import growth is slower than GDP growth, and the speed of decline would be accelerated as the capacity of domestic tax administration increases and the compliance of domestic taxpayers improves.

Transport Patterns: More Clearance Away from the Borders

International transport business has evolved significantly in terms of concentration and hub-and-spoke. This sector is typically characterized by economies of scale: larger

1 This subsection focuses on maritime cargo rather than cargoes transported by airplanes, railways, or roads.
companies tend to have greater bargaining power and capacity to mobilize bigger ships and collect larger volumes of cargoes, they can afford to invest in back-office capacity and ICT, and they are able to provide multimodal transportation and pertinent services. In recent years, the international seaborne container carrier business has become increasingly concentrated. The top 10 operators’ share is more than 80 percent of the world’s total capacity (Jensen 2019). These operators can reduce their freight costs significantly by investing, for example, by mobilizing bigger ships, including the “over Panamax class,” whose size is such that they cannot pass through the original Panama Canal. Since few ports in the world can accommodate Panamax-size ships, the transport pattern has changed from point-to-point to hub-and-spoke, whereby larger ships/larger companies connect between regional hubs and smaller ships/smaller companies connect between the regional hub and the final destination. From the global perspective, hub-and-spoke is less costly than point-to-point, not just because of scale economies and room for investment in terms of size of ships and companies but also because the point-to-point may face greater risks of empty one-way traffic, operate less frequently, and face less competition. Containers are rentals from the seaborne transporters that would charge extra for a late return. Therefore, an empty container has to be returned to these companies in one of the regional hubs or their regional logistics center.

Transshipment at the regional hub has become a regular business practice. Many regional hubs provide special economic zones (SEZs) for certain value-adding operations on cargoes (for example, cleaning, packaging, labeling, and processing). Transshipment and processing at regional hubs, particularly if it is a free zone, may impair cargo traceability. As hub-to-hub shipments are handled by large and modern companies, data compilation and data exchange are feasible. However, feeder transporters are smaller, often protected by national regulations, and often lacking investment in ICT and business process reengineering; the customs administration may have difficulty obtaining the manifest, cargo, and consignment data electronically and on time.

Seaborne transport ships are getting larger, and the carriers are becoming more sensitive to the costs, the largest cost element coming from the ship dwell time at the port. The shorter the ship dwell time, the more profit the transporter can earn; the same applies to the port authority, in that the shorter the ship dwell time, the more ships can come and the more profit it gains. Within the ship dwell time, the largest component is the cargo charging/discharging time, in which, among other attributes (for example, logistics professionalism and customs

2 The same situation also applies to the transportation between the regional hub and the final destination.

3 For example, Busan (South Korea), Colombo (Sri Lanka), Djibouti, Dubai (United Arab Emirates), Durban (South Africa), Hong Kong, Lomé (Togo), Long Beach (United States) Panama, Rotterdam (The Netherlands), Shanghai (China), Tanger (Morocco), Tema (Ghana), and Singapore.

“Through inland clearing depots, more imports may be cleared away from the borders, increasing the need of customs transit management.”
performance), congestion in and around the port is significant. Because many ports are located in urban areas, it is extremely difficult to enlarge the port site; therefore, more countries have developed inland clearing depots, moving customs clearance away from the port. Certain countries adopt a mixed approach: full-load-container (FCL: the same shipper-seller’s goods in a container, handled by seaborne transporter) can be cleared in the port, while less-than-full-container (LCL: several different shippers-sellers’ goods are in a container, handled by the cargo forwarder) must be transferred to the inland clearing depot where the goods will be declared and cleared. A similar trend is observed in landlocked countries that are creating dry ports away from the land border and closer to large cities. Transportation between the port/border post and the inland clearing depot is usually treated as bonded transit transportation, which incurs a transit diversion risk. There are several mitigation measures for this risk (for example, transit bond/guarantee, start/destination comparison, itinerary control, cargo tracking devices, customs seal, customs escort, convoy, and so on). In some countries, rail transportation and/or specially authorized road transport operators exclusively handle such transportation, which may reduce the transit diversion risk, thus requiring less customs control.

**Trade Patterns: Increased Challenges for Customs Administration**

**Intra-Firm Trade and Related Parties**

More than half of world trade is thought to involve intra-firm trade. Intra-firm trade occurs through global value chains (GVCs)—long and complicated worldwide networks for the production of goods and services, whereby intermediate goods cross at least one border, and typically many borders, in pursuit of efficiency gains before final assembly. The most recent figures available show that GVCs covered 70 percent of world trade, as services, raw materials, parts, and components cross borders before being incorporated into final goods that are shipped to consumers all over the world. Multilateral enterprises have deliberately diverted sources of materials and parts and allocated several functions and production lines, even for the same product model, in different countries. This decision is the result of lessons learned from the increased incidence of international supply chain disruptions, notably natural disasters, but also other country risks. Assembled products are transferred to distribution centers and final sales points, all of which could be under the same corporate group. Such trade may not be in the form of a usual international sales transaction when there is no seller and buyer—goods may be simply transported

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4 See, for example, WTO (2019a). Also, OECD (2013) indicates that among OECD countries, GVCs are such that more than half of trade involves intermediate inputs.

from one place to the other place coincidentally in a foreign country—thereby making customs valuation difficult. Profit shifting through transfer pricing may occur during this business transaction, and corporate income tax could be severely affected.

Similarly, international supermarket chains transfer thousands of items cross-border from one distribution center in a country to a distribution center in a different country. A truck can carry thousands of different items with different origins without original invoices. For this, customs clearance is so complicated that it may need innovative procedures, such as clearance based on audit or periodic delections granted to an authorized economic operator (AEO) in certain countries.\(^6\)

A traditional customs clearance procedure requests supporting documents, notably packing list, invoice, and manifest (summary of bill of lading [B/L]). The B/L is regarded as important as it is the document of title to the cargo issued by a third party (maritime transporter) and checked by another third party (commercial bank) through the trade financing based on letter of credit (LC) (see Box 2.1).

Trade financing using LC functions only when the country’s banking sector is internationally accepted. Certain countries’ banking sectors—for example, those in fragile and conflict-affected states (FCS)—are very weak and not recognized internationally; thus, the traders of such countries cannot benefit from this trade financing method. The document called B/L may be issued, but it no longer represents the title document of the goods; it is just a transport service contract. Such traders have to take the risk of using the importer’s agent in the exporting country or the exporter’s agent in the importing country. When using the importer’s agent in the exporting country, the buyer’s agent is the exporter and the buyer is the importer; when using the exporter’s agent in the importing country, the seller is the exporter and the seller’s agent is the importer. In these cases, international trade between two such parties may not be a normal sales transaction; the invoice and B/L between the importer and exporter may not contain the actual trade transaction value. The actual trade transaction value would be either the one the buyer’s agent bought in the exporting country from the seller or the one the seller’s agent sells in the importing country to the buyer (after the clearance/release). Customs administrations should be attentive to not only unit value but also the seller–buyer relationship in customs valuation.

**Small/Expedited Shipments: E-commerce**

With e-commerce, small value/expedited shipments have grown very rapidly, and this trend is augmented under the COVID-19 situation. This includes where international road transportation experienced severe conditions (for example, closure of the border posts, trucks and cargo can cross the border while drivers are not allowed). Air transportation may be the best second choice to replace international road transportation. Air transportation has one constraint in that its airway bill is

\(^6\) AEO is preferential treatment for highly compliant economic operators. It is discussed in detail in Chapter 4.
Box 2.1. Trade Financing by LC and B/L

1. The risk of the seller (exporter): it ships the cargo but does not receive the payment.
   The risk of the buyer (importer): it pays the amount but does not receive the goods.

2. A solution has been used since the 19th century, where
   a. The buyer opens an LC in its bank.
   b. The seller and buyer conclude the international trade sales contract.
   c. The buyer’s bank issues the LC to the seller.
   d. The seller ships the cargo to the carrier; in exchange, the carrier issues a B/L.
   e. The seller provides the B/L to its bank; in exchange, the bank pays the amount.
   f. The seller’s bank provides the B/L to the buyer’s bank; in exchange, the buyer’s bank pays the amount.
   g. The buyer’s bank provides the B/L to the buyer; in exchange, the buyer pays the amount.
   h. The buyer presents the B/L to the carrier; in exchange, the carrier releases the cargo.

3. The LC specifies what documents must accompany the B/L; these are usually necessary documents for customs and other clearance in the importing countries, that is, commercial invoice, packing list, insurance policy, and, if needed, certificate of origin, export quarantine certificate, technical standards conformity certificate, laboratory test result, and so on. The banks scrutinize them to determine if they are the ones specified in the LC.

Source: Authors.
Note: B/L = bill of lading; LC = letter of credit.

not a title document of the goods but is a transport document in which the goods’ value information is indicative and not checked by the third party (for example, a bank). Worse, the e-commerce business model often separates the two work streams: sale of the goods (seller–buyer) and transportation of the goods (seller [consignor] and carrier [consignee]), which are salient characteristics of a small/expedited shipment. A few countries limit the number of such e-commerce service
providers, which are obliged to share the sales information with the customs administration. Most customs administrations may receive transport documents but not sales documents. Revenue collection on e-commerce is still in a learning phase. The international customs community, notably the WCO, advises that customs administrations, working with appropriate agencies or ministries, should consider applying various types of models of revenue collection (for example, vendor, intermediary, buyer, or consumer, and so on) for duties and/or taxes. Although the scope is limited to value-added tax (VAT), there are countries that VAT on low-value import is collected by tax administration, directly from the vendor or intermediary in the exporting countries, in collaboration with customs administration (Brondolo and Konza 2021).

For certain countries, clarification and/or review of the “personal use” definition (goods for personal use may be waived from duty⁸) is needed as it is vague and de minimis level (on customs duties and on VAT) may not be provided. Many countries set a certain quantity or value of imports as a threshold by which trade needing a formal import declaration is distinguished from trade subject to a simplified report. There are instances of traders dividing one large shipment into many small lots to evade commercial trade obligations. Customs staff need the capacity to detect such traders’ duty evasion efforts.

The de minimis approach also attracts global debate. One can argue that in order to promote digitalization, the duty on e-commerce related to small value/expedited shipments should be waived and de minimis level be increased; one can also argue that de minimis, particularly that of VAT on imports, undermines the competitiveness of domestic industry (not necessarily the manufacturers but also domestic retailers) and therefore should be abolished.⁹ The original concept of de minimis is that if the cost of collecting tax exceeds the amount of collected tax, it should be waived. Following this concept, if new technology or techniques are invented to collect tax in a less costly manner, the tax should be collected.

Sharing of experiences on the issues above has started and key lessons learned have been compiled by the international customs community (WCO 2018). Standards have been developed on the following eight thematic areas: advance

⁷ For example, WCO (2018a) indicates the intermediary collection model where the intermediary service operator (for example, e-commerce provider, express-shipment company) calculates, collects, and remits all applicable taxes on behalf of the nonresident vendors, assuming these intermediaries have the knowledge to calculate and remit the accurate amount of taxes in the importation country. For projects started in Australia, New Zealand, the United Kingdom, and so on, the WCO also suggests other options, such as the “buyer/consumer collection model,” the “vendor collection model,” or a combination of the two.

⁸ Countries, such as Sri Lanka, tend to grant a generous waiver for the expatriate’s (temporary) return to the country, allowing them to bring substantive amount of imports without duties.

⁹ For example, the European Union removes the exemption for imports of goods in small consignments of negligible value (EU 2017).
electronic data and risk management; facilitation and simplification; fair and efficient revenue collection; safety and security; public–private partnerships; public awareness, outreach, and capacity building; measurement and analysis; and leveraging transformative technologies.

Trade in Secondhand Items

The internet’s ease of sharing information allows parties to resell goods instead of discarding them. The resale of secondhand items has increased even in cross-border trade, from small items to big items, such as manufacturing machinery, trains, aircraft, and ships. The creation of new HS classifications for worn clothing and used pneumatic tires is evidence of the growth in this trade.

It is highly likely that secondhand products’ duty rates or regulations may differ from those applied to new products. Customs needs to distinguish between new and secondhand products. Furthermore, the rules of origin of secondhand products need careful attention in terms of differences in trade statistics and regional trade agreement (RTA)\textsuperscript{10} application. Accordingly, secondhand items offer challenges to the customs officer: to assess whether they are secondhand, to identify the goods’ origin, and to determine if the associated duty rate and necessary certificate are different.

Trade in Mixed Goods/Intangibles

More companies are seeking income through subscription business models\textsuperscript{11} rather than lump-sum goods sales. Moreover, digitalization may characterize the goods after downloading the software/application. If the goods’ value relies on such services or intangibles, the concept of customs valuation may face challenges. Mixed goods/intangibles are not necessarily new. In the past, a WCO Technical Committee on Customs Valuation advised on the customs valuation for portable media of audio/visual assets. Trade in master film for theater and detailed blueprint paper of large construction projects can be examples. A goods/service mixture can also be found in leased goods; the lease is a service activity and does not charge for the leased goods but on the right to use them. For example, leased goods can qualify for temporary duty suspension, but there are cases where the lease contract was extended several times and years; hence duty suspension is extended too. In the future, the evolution of business models will create more complicated cases. So far, a mobile phone device is charged customs duties. Yet, for example, if someone starts a business with secondhand mobile phones and gives them free of charge to foreigners to make a profit through data usage on these phones, the question is if the goods have a fixed value or if the value is for

\textit{Increasingly goods are value-added by services and intangibles; trade in such mixed goods/intangibles raises challenges for customs valuation.}”

\textsuperscript{10} RTAs are mainly addressed under GATT Article XXIV (free trade agreement and customs union).

\textsuperscript{11} The subscription business model is defined as a business model in which a buyer pays a recurring price at regular intervals for use of or access to a product.
pure service. Another challenge is posed by the emergence of new intangible technologies, such as 3D printing (as indicated in Chapter 1). With the consequent shortening of GVCs, the digital data blueprint will likely take up a greater portion of the value of a product, which in the past would have been fully taxed by customs when crossing borders as a tangible product. As a result, tax and customs administrations may attempt to replace lost tax revenue by taxing the digital or intangible service flow and thus put such companies under greater scrutiny.

Manufacturing processes, if conducted on a fee or contract basis, are considered a service under WTO rules. Such services are included in the General Agreement on Trade in Services (GATS) Sectoral Classification List that has been generally used by WTO members to schedule their specific commitments in services under the GATS. Whenever an economic entity performs such functions, the GATS rules apply. As a result, a different set of trade rules—trade in goods or trade in services—applies to otherwise identical operations and the resulting products, depending on who owns the inputs and outputs. Thus, structural differences between GATT and GATS could be used by economic operators to circumvent trading partners’ use of GATT-based tariffs (and trade defense instruments, especially anti-dumping and countervailing duties). Given increasing size of manufacturing services in the commercial activities, a number of statistical offices now provide relevant data concerning “manufacturing services” despite the conceptual complexities involved.12

These issues need an internationally harmonized approach. Customs administrations should engage in the international study and policy formulation dialogues, which would facilitate familiarization with the topic, the different options, and other countries’ efforts and lessons learned.

Data-driven business models are accelerating, becoming critical to everything from manufacturing to services, some of which involve cross-border exchange. According to an IMF blog (Lagarde 2018), “Recent trends on global trade have tended to focus on protectionist measures and diplomatic tensions… Yet what is often lost in the current discussion is that we are entering a new era of trade.

**TAX POLICY**

**Taxes and Customs Administration’s Collection Role**

**Value-Added Tax**

As indicated in Chapter 1, a key evolution in tax policy in the world has been the introduction of VAT. VAT is promoted by the IMF as it is theoretically more growth friendly because it is neutral to business and arguably less harmful to economic competitiveness than excises and customs duties.13 VAT is assessed at

12 In Hong Kong, for example, imports of “manufacturing services” reportedly amounted to HK$139.5 billion in 2011 or 3.4 percent of the economy’s total imports of goods and services (24.1 percent of total imports of services) (Census and Statistics Department, Hong Kong Special Administrative Region 2013).

13 Gemmell et al. (2014) show that consumption taxation is less harmful for growth than either personal or corporate taxation. It is also confirmed by Acosta-Ormaechea et al. (2018).
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every point along the value chain, including importation. VAT on imports is usually collected by customs administrations at the time of import clearance, which can be regarded as a withholding tax (Keen 2007b),\(^{14}\) whereas VAT on value addition in the domestic market is collected by the tax administration. In many countries, VAT paid during production will be refunded at exportation (export VAT refund), which is usually handled by the domestic tax administration.

Customs’ VAT collection is imperative to countries, particularly those having weak domestic tax administration or low domestic tax compliance. The share of customs’ VAT collection in relation to net VAT revenue is diverse, depending on the respective size of imports and exports vis-à-vis GDP, the capacity of domestic tax administration collection for VAT, and the national industry structure; the average share of customs’ VAT collection in VAT collection in low-income countries is 40.3 percent and that of emerging markets is 53.7 percent (see Chapter 1, Box 1.1). In the longer term, however, when the domestic economy, particularly the service sector, becomes stronger and the value addition by the domestic economic activities increases, the size of imports to the GDP declines, as does the share of customs’ VAT collection in relation to the net VAT collection.\(^{15}\)

VAT and Customs Administration

Many customs administrations consider that VAT collection is no more difficult than customs duties collection, which may underestimate the challenges (Keen 2007a). The reality of VAT in countries, particularly in low-income countries, is different from what the IMF may advise—single flat rate, broad VAT base, no/little exemption, or zero rating.\(^{16}\) Also, it appears different from the theory, for example, VAT is less vulnerable against lower-value import declaration because such margins would be captured at a subsequent point in the value chain and charged accordingly; and all the goods are retained under customs’ supervision until the duty/tax is paid. The reality creates several challenges to customs administration in VAT management. The major ones with possible mitigation options are the following:

- Importation can be the final moment where VAT can be collected, for example, import is the final consumption. A low VAT threshold in the domestic economy and low compliance of taxpayers in the domestic value

\(^{14}\) It also discusses withholding taxes on imports and/or exports, which partially or completely cover income tax obligations for informal traders.

\(^{15}\) This could be a very long-term perspective. One could argue that decline would be less pronounced in lower-income countries, whose economies continue to rely heavily on agriculture and manufacturing.

\(^{16}\) Acosta-Ormaechea and Morozumi (2019), for example, advocate that increasing VAT revenue through base broadening with fewer reduced rates and exemptions is more growth friendly than doing so through standard rate increases.

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Chain can lead to lower-value import declarations and the risk of revenue leakage regardless of whether the goods are subject to customs duty or are duty free. Customs needs to review the selectivity criteria for valuation, which may be based on risks related to customs duty and excises but not to VAT.

- **VAT** has multiple rates and exemptions and zero rating are granted to certain commodities. This creates a risk of tariff classification slippage to exempt or lower/zero rates. Again, customs needs to review the current selectivity criteria for classification determination, which may be based on risks related to customs duty and excises but not to VAT.

- Certain importers are granted VAT exemption at importation (for example, mining sector, public investment project operators). This creates a risk of diversion. Customs needs to assess the diversion risk of VAT exemptions for targeting at post-clearance audit or end-use verification and incorporate that VAT diversion risk in close cooperation with the tax administration.

- An import can be divided into several small shipments (declarations), evading customs control by making each of them lower than the threshold of normal customs procedures and/or VAT de minimis. This is already a problem in customs duty collection, but as VAT covers more commodities, the significance may be larger than customs duties alone. Customs should consider strengthening collaboration with the tax administration, intermediary service providers, and other stakeholders to create a solution (for example, better profiling of shippers and importers, intermediary collection model using vendors, buyers, consumers, and so on). The profiling of exporters and importers needs to be strengthened to trace similar transactions in the past.

- **VAT de minimis** at the importation can be very low or there is no de minimis, regardless of the customs duty de minimis. This means that all the trade and passengers' goods are subject to VAT on import. This includes in certain countries where local residents cross the border for grocery shopping. Customs needs to review the border processes so as not to create queues for processing VAT on low-value goods (and to advise policy makers of necessary mitigation, for example, change in the VAT de minimis at importation and consider negotiating a VAT cross-border adjustment mechanism with the neighboring countries\(^\text{17}\)).

- Export VAT refunds need customs support. The amount of the export VAT refund is the VAT paid during the production of the exports; thus, customs may not need to assess the exports’ value for this purpose but may need to verify that the goods have physically left the country to prevent export VAT

\(^{17}\) For example, Lesotho customs (Revenue Authority) collects grocery stores’ receipts at the border from the passengers who buy groceries in South Africa and bring their goods into Lesotho. Then it claims the amount from South Africa Revenue Authority to transfer to Lesotho.
fraud. Export verification that the goods exit the country has not been a customs’ interest for decades in many countries.\(^{18}\) Customs needs to reconsider its important compliance role in export monitoring.

- Domestic goods’ shipment to a SEZ may be treated as an “export” and eligible for VAT refund under the VAT law, while it may not be an export under the customs law. This may create a pitfall, and neither revenue administration may monitor such movement. Similarly, in some countries, citizens buy items, such as groceries, in the SEZ to avoid VAT. Customs needs to strengthen in/out monitoring from the SEZ regardless of the goods’ status (international or domestic goods) and in cooperation with the tax administration.

An estimate of the compliance gap regarding VAT on imports is difficult as national accounts are based on declared value. Mirror analysis, comparing declared imports with declared exports by exporting countries, is a powerful tool to detect customs fraud when conducted at the finest possible level of detail. However, as there may be many potential explanations for data discrepancy, estimates of missing revenue due to fraud or customs malfunctions cannot be derived directly from the mirror analysis.\(^{19}\) More credible gap analysis uses surveys of direct observation of imports or shadow/informal economy studies, but they can be difficult and time-consuming, present incremental results, and be subject to systematic bias. Box 2.2 illustrates some methods applied to estimate the evasion of VAT and other taxes on imports. A compliance gap found in imports does not necessarily translate directly into the total VAT gap. If evaded, import VAT simply reduces input tax credits (that is, provides cash flow benefits only to evaders); it will not contribute directly to the total VAT gap. Nonetheless, any compliance gap found in imports is an important risk indicator for compliance, indicating likely systemic risks in downstream supply chains.

Despite the challenges listed previously, VAT collection at importation may still be less difficult than VAT collection in the domestic value chain where domestic economic activities are more difficult to capture for tax administrations. Comprehensiveness of VAT collection is often measured by C-efficiency, being defined as follows:

\[
C\text{-efficiency} = \frac{\text{VAT revenue}}{\text{Standard rate} \times \text{Final consumption}}
\]

\(^{18}\) Except those having an export tax. Also, transited countries are always keen that transit cargoes exit the country (but not as export though).

\(^{19}\) Import statistics are compiled by the country of the goods’ origin, while export statistics are compiled by known destination country. The two do not match due to transshipment, re-export, second-hand items in the third country, and so on. For example, a car manufactured in Japan was used in Thailand for a year and is re-exported to Cambodia: Japanese export statistics count zero to Cambodia, Thai export statistics counts one car export to Cambodia, and Cambodia import statistics counts one car import from Japan. Similarly, Singapore exports a massive volume of whisky to Japan, while Japan does not import from Singapore as no whisky is originated in Singapore.
Several methods have been used to estimate the tax evasion of VAT and other taxes on imports. Overall, such models are categorized into two approaches: “bottom-up,” which is based on an analysis of a “microeconomic” nature, that is, disaggregated data from surveys, samplings, and audit, often in a specific trade sector and activity; and “top-down,” which is based on an analysis focused on macroeconomic data and national accounts. More generally, noncompliance in taxes on imports is included in estimates of the total compliance gaps for individual taxes, though it is not usually quantified as a specific component of the tax gap.

### Bottom-Up Approach

- **Market Intelligence.** Interviews with legitimate economic operators, who can be domestic producers or distributors, may provide information of irregular market trends and sometimes more information relevant to the contraband products as a whistleblower or competitor. A price comparison between the identical foreign goods sold in a domestic marketplace and declared value at the importation may provide hints of informal activities. As another market intelligence method, a study comparing the data of imports, final consumption in the domestic market, and exports of certain products may provide information to detect informal activities. In this method, it is important to target certain sensitive product group(s) and regularly examine both import and export statistics as well as consumption patterns in the domestic market.

- **Specialized Market Research and Garbology.** There are companies that carry out special market research to estimate the size of informal markets through, for example, garbology, which is the study of trash and garbage. The result could indicate an actual size of foreign products in the market, which can be compared with customs clearance data or even, for some products, an indication of the amount of smuggled goods directly through checking manufacturers’ labeling of packaging.

- **Surveys of Wholesale or Outlet-Type Stores.** This is especially relevant when the traceability framework is established by tax stamps, chemical markers, and traceability coding. The key requirements for this type of survey are a high level of point-of-sale coverage and a preferably quick and efficient method of determining whether products have been taxed.

- **Control on Passengers’ Belongings.** This is relevant to portable excised items and, in certain countries, luxurious goods, which can be wearable and kept in a hand luggage, particularly when most smuggling is carried out by passengers who disembarked on foot or in small vehicles through a few border-crossing points. For certain contexts—for example, high excise duty on tobacco products—the incidence of this type of smuggling could be very high. Yet the control could be labor-intensive and sometimes physically difficult because of too many passengers, in which case, statistical sampling techniques could be used to make the exercise cost-effective.

- **Cross-Check between Customs Clearance Data and Tax Administration’s Tax Return Data.** Trade transaction data can be compared with the tax return data, that is, in general income and/or VAT returns (sales reports and information on the VAT and the other taxes paid on imports). This can be a very useful method to detect tax evasion but depends on consumers’ reporting of the consumption or purchase of goods, which can take time. To improve cost-effectiveness, it is also important to target certain sensitive product group(s) either because the product group(s) represent a high risk or because the product group(s) are a good indicator of what is happening at the sector level.
Top-Down Approach

- **Mirror Analysis of Trade Statistics.** National import statistics can be compared with trading partners’ export statistics and national export statistics can be compared with trading partners’ import statistics, both in terms of volumes and values by commodity or commodity group and by country. The gap between the two may provide indicative information that needs further examination on several aspects, one of which may be possible fraud.

- **Based on Estimated Black-Market Size.** There can be several approaches to estimate black market size. An example is calculation of discrepancy between the income measures of GDP and the expenditure measures, which discrepancy may represent informal activities as the incomes side is measured through the value added by the formal economy while on the expenditure side includes self-reporting. Based on this estimated consumption including on the black market, import size including fraud may be estimated, which can be compared with the data based on the customs clearance data. This method relies on the quality of income and expenditure measures of GDP, and the discrepancy between the two can also be attributed to other factors, such as differences in sampling, whose impact cannot be separated from that of informal activities.

Sources: Hutton 2017; Thackray and Alexova 2017.

One hundred percent C-efficiency means that there is no missed collection. In reality, this never becomes 100 percent because there are various types of gap, broadly categorized into two groups: (1) a policy gap, namely the additional revenue that would be raised, given perfect enforcement, if all consumption were taxed at the current standard rate (for example, no exemption/zero-rating); and (2) a compliance gap, namely the additional revenue that could be raised if current VAT rules were perfectly enforced. Figure 2.1 indicates C-efficiency and the estimated decomposition of the gap across income groups.

In considering the nature of VAT, if C-efficiency is low and the compliance gap is large, undervaluation at importation may not be compensated subsequently in the value chain. Therefore, customs administrations must focus more on valuation.

Customs administrations understand that a large percentage of VAT on import becomes an input tax credit for domestic businesses. Having customs administrations devote more attention to valuation control is not enough. The customs administration should help the tax administration improve the capture of the subsequent value chain by sharing import transaction data and risk profile

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20 This approach needs input from the statistics agency producing the national accounts figures being used. Published, balanced national accounts should include the nonobserved (informal) economy in all three aggregate measures of GDP often as adjustments made to one measure or another in the balancing process. Such adjustments will need to be taken into account in comparing expenditure and income GDP figures.

21 If import VAT’s share is small in total customs collection and customs duties’ share is large, customs valuation is important. This does not necessarily mean that with high C-efficiency and a small compliance gap, customs administrations may lose control of valuation (because it will be recaptured in subsequent value chain).
information of taxpayers. This can be done through better customs–tax cooperation (details discussed in Chapters 3 and 7). To follow up this agenda, a data item of VAT on imports should be created in the tax revenue statistics and monitored.

**Excises**

Insofar as excises are levied on business inputs, they are not economically growth friendly. However, excises may be useful to reduce overall demand for targeted goods that are deemed harmful to society (because of their adverse impact on health and the environment, for example). In the modern world, excises are used as a tax on externalities. Thus, excises can discourage the consumption of harmful goods, including alcoholic beverages, tobacco products, and fuel, especially if they are taxed at specific rates, such as per kilogram or per unit—with the assumption that cheaper goods may be worse (for example, more polluted, more harmful, less energy efficient). Excises are charged at the time of ex-factory or importation. In those countries that do not produce such items, excises are collected solely on imports. As society matures, becoming more socially conscious, more interested in environmental stewardship, and advocating for more control over externalities, the need to apply excises continues (for example, on fuel, tobacco products, alcoholic and carbonated beverages, and petroleum products).

The internationally established practice on excisable items is to secure traceability through which customs post-entry control and the buyer can identify if the

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22 Traditionally, a tax stamp seal. In modern days, unique tracking identifier.
item is legitimate or smuggled. Traceability technologies and services have grown for several purposes, not only for customs administration but also for other public sector and private sector use, that is, supply chain management, logistics management, product recall capacity, and intellectual property rights (IPR) infringement controls. While excises are targeted at specific items, there is always the problem of gray zone products, including issues of goods classification. Since volume is often the tax base of several excises, measurement of volume remains an important issue in customs administration (for example, how to measure the liquid volume inside a metal tank).

**Import Tariffs**

Import tariffs are not advisable from the perspective of growth-friendliness because they distort decisions of both consumers and producers. However, they may be considered necessary to protect temporarily certain domestic “infant” industries and/or maintain certain levels of domestic production of essential goods (such as food or medical products). Although import tariffs remain an important source of tax revenue in many developing countries, particularly those with relatively low incomes or lacking the capacity to implement internal taxes, there is a clear need and, in fact, tendency to reduce tariff rates (whether multilaterally, unilaterally, or otherwise). (See more details in the section “Trade Policy.”) Table 2.1 indicates such a decline in import tariff rates, regardless of the level of development or region. It is noteworthy that VAT rates are higher than the simple averages of the applied most favored nation (MFN) tariff rates; trade-weighted average applied MFN tariff rates and applied preferential tariff rates are even smaller than the simple MFN averages.

Impacts of tariff reduction on revenue may be diverse depending on elasticities of demand for imports—to what extent trade volume will increase by reduction in the prices (duties)—which may differ by commodity and by country. The volume effect also impacts collection of VAT on imports, but it may be positive, as VAT generates revenue even from duty free imports. Trade facilitation reduces the goods’ price through reducing trade transaction costs without reducing the duty rates. With proper trade facilitation and no decrease in compliance, the anticipated effect of trade facilitation is an increase in both customs duties and VAT on imports. At least, when looking at the share of each tax in customs collection, the share of customs duties declines while the share of VAT on imports increases. The decline in the share of revenue from tariffs as a proportion of total tax revenues has been largely offset by increased revenues from VAT on imports. Today’s typical customs collection for a low-income country that has a VAT consists of VAT on imports (50 percent), excises on imports (25 percent), customs duties (15 percent), and miscellaneous (10 percent). The foregoing figures are

23 Certainly, exclude few items of VAT exemption and zero-rated. Customs duty rate reduction will impact to VAT on imports with limited significance.

24 For example, since OECD (2002), trade transaction cost is estimated around between 2 to 15 percent of imports.

25 Similar composition is reported, for example, Kokoli et al. (2021). VAT collection on imports as percentage of total revenue collected by customs administration is found in Chapter 1’s Figure 1.4.
indicative and differ country by country; for example, if a country’s trade is predominantly with RTA partners, the customs duties’ share in customs collection may be nearly zero.

Thanks to the VAT on imports, the customs administration will remain an important agency for domestic revenue mobilization even as trade taxes continue to decline. Also, excises will continue to play an important role in addressing externalities. The share of revenue collected by customs in total tax revenue—defined as duties and taxes collected using customs resources, notably VAT on imports, excises on imports, and customs duties—is approximately 50 percent in lower-income countries and 10 percent in higher-income countries (see Figure 2.2). It is noteworthy that, even in advanced countries, customs continues to be a meaningful revenue collection body. In some countries, the governments underestimate the customs revenue collection role and perceive that customs emphasizes only trade facilitation and border security; they should reconsider the customs role in revenue, particularly with revenue collection continuing to move up the important agenda of governments to finance measures necessary to address emerging needs, such as the COVID-19 crisis, and to achieve the Sustainable Development Goals.

**Carbon Border Tax from the Customs’ Administrative Perspective**

The carbon border tax (CBT), also known as the carbon border adjustment mechanism, has been discussed in the the European Union and the United States. The premise is that the tax would reflect the amount of carbon emissions attributed to goods imported into the country. It may give rise to rebates to exports. The

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26 VAT on imports may be refunded before final consumption, but in a sense, this is a withholding tax collected by using customs’ resources without which much of it may not be collected. VAT on imports should be assessed as customs collection.

27 A minimum tax-to-GDP ratio (or tipping point) of about 12½ percent of GDP is associated with a significant acceleration in the process of growth and development. A country just above this threshold will have GDP per capita 7.5 percent larger after 10 years (Gaspar et al. 2016).
revenue may be used for subsidies, including export subsidies, to domestic industry to compete with foreign producers with relaxed carbon emission regulations and to prevent the move of domestic production outside the country. CBT’s purpose may be to create a level playing field, which appears closer to the purpose of excise duties on imports with possible rate differentiation by goods’ origin.

CBT is a new tax, likely to be collected by customs administrations. It is still under design by some countries, and many details are not yet known, including if this will be akin to customs duty or excise. The European Union’s program was announced in June 2021. This chapter does not discuss CBT’s tax policy aspects—for example, alignment with the WTO rules, the level of tax rate by commodities, how to set the rate, and the impact to the economy and particular industries—but discusses possible issues from the perspective of administration.

CBT may increase customs revenue collection significantly.28 Therefore, during the design stage, thorough preparation by customs is imperative, which includes

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28 According to Pomerleau (2021), the European Commission estimated that the CBT could increase revenue in between EUR 5 and 14 billion (approximately 0.03 and 0.1 percent of GDP) annually to the European Union depending on the actual mechanism’s scope and design of CBT whereas current customs duties collected by Member States is EUR 26.7 billion, of which 20 percent belongs to the collecting Member States to finance administrative cost, and EUR 21.3 billion is of the European Union’s, that is, 13 percent of EU revenue.

“As the carbon border tax is being designed, it is imperative that customs provide input on enablers and challenges from the perspective of implementation.”
input to the policy makers on administrative enablers and challenges from the perspective of customs administration. If CBT becomes a tax that is difficult to administer and enforce by customs, a satisfactory level of compliance will not be achievable, and CBT will likely fail to meet its original objectives. Some of the possible challenges in CBT implementation are described in the following paragraphs.

**Procedures and Selectivity Criteria.** CBT will have multiple rates by commodity and on the same commodity coming from different countries, which apply different carbon prices. The commodities subject to CBT may not be clear—for example, imports of commodities under the steel, cement, paper, and other specified sectors. The tax rates may be determined by carbon pricing or an index calculated by the carbon footprint matrix, which may provide different rates by industrial sector (or commodity) and by country (for example, exporting, manufacturing). In addition, producers in countries (hopefully not particular companies in the country) with carbon-pricing mechanisms that the importing country agrees are compatible with its own may be exempt from this tax. This may look like a rule-based discriminatory tariff. Development of the tariff schedule in the customs clearance ICT system may be labor-intensive but not difficult. Yet, because CBT will discriminate imports by commodity and country, based on the rules of origin (RoO)-related challenges being faced by customs administrations in RTA implementation, the actual procedures and administration may be complicated, and the administrative burden may need to be reassessed. Also, there will be a risk of classification slippage and forged country of origin. Customs administrations should assess the possible risks of fraud and prepare to modify the selectivity criteria accordingly.

**Determination of Goods Origin.** In most cases, for imports applying RTA preferential duty treatment, the certificate of origin must be presented to the customs administration. Since CBT covers all the countries, it may need proof of the goods’ origin for all the imports (or those commodities subject to CBT). A question remains if CBT will: retain third-party certificates of origin, replace them with self-certificates by the manufacturer or exporters, or will not ensure the goods’ origin. It is likely that re-exported products with/without manipulation and secondhand products will face confusion because their linkage with the goods’ origin is weak. Traditional third-party certificates will be so labor intensive and costly that it would disrupt the supply chain (Hillman 2013). The complexity of rules of origin and certificate of origin as well as self-certification of goods’ origin is explained in the following section of this chapter. Customs may lack the capacity to verify the origin of all the imported goods without help from foreign partners and disruptive technologies (Chapter 7).

**Traceability.** A carbon footprint matrix may be produced by commodity and by country. Intermediary material can be shipped to the other country where a
product is produced using this material. For example, Japan can produce a car using Japanese steel, but it can also use a Chinese steel product. If the company is conscious of a risk of supply chain disruption, it is reasonable to divert the material/parts and even manufacturing lines. A manufacturing company may not know the origin of the material and parts it is using, and that probably is ever changing. In addition, since CBT may be discriminatory taxation from the point of view of the manufacturing country, legal or illegal circumvention will be inevitable.

From the customs administration perspective, a question would be how the cross-border supply chain will be accounted for or not accounted for in CBT and whether customs needs to verify it. Some customs administrations may be, to some extent, knowledgeable in traceability and the value chain in production through experience with the value-addition rule of origin in RTA (for example, cumulative criteria of RoO). Traceability of materials/parts will represent an enormous workload, and even when customs finds irregularities in the documents, it is not clear what sort of corrective measures are possible when the document is forged by an exporter (for example, a penalty to the importer?). But importers may be a victim too (unless there is collusion with the exporter/manufacturer). Although it depends on the rules of origin, information on origin of intermediary material may be overwritten by the final product. Statistics of trade in value added (TiVA) is a delayed index, an academic product, and not yet a base for taxation purposes.

**Cooperation with Stakeholders.** CBT may give rise to an export rebate. Such a rebate would be equivalent to a VAT refund or excise refund for export or to inward processing linked to inputs and a preset yield (see “Investment Policy (Duty/Tax Incentives”) or could be more like an export subsidy linked to export value. Interagency cooperation with the tax administration, other line ministries, and economic operators will be needed. In considering the usefulness of international cooperation in verifying the self-declaration of origin issued by exporters and conducting other administrative assistance, international cooperation with foreign customs or other agencies might be also helpful to implement CBT.

**Customs–Tax Cooperation**

Other chapters, particularly Chapter 3, discuss customs–tax cooperation in more detail. Tax administrations all over the world struggle with strengthening their capacity to capture and trace the value chain. Importation is a significant starting point in the value chain in the country, and the customs administration basically captures the entire importation. Customs’ trade transaction data help tax authorities trace the value chains, starting from the imports, and assess the corporate income derived from exports (and expenditure on imports). Tax administration information (for example, sales reports) is useful for customs to conduct post-clearance audits. For both administrations, sharing risk profiles of traders and
taxpayers helps them improve their risk management and targeting for audit and control.

Customs also functions as a tax withholding agency for certain domestic taxes. VAT payments on imports are business input credits for subsequent domestic economic activities after the importation.\(^{29}\) There are countries where customs administrations collect a certain amount of advance corporate income tax at the time of importation to combat tax evasion. (This advance tax can then be credited against eventual corporate tax paid if the enterprise is in a taxpaying position.) For these practices, a good working relationship and cooperation between the two administrations are imperative to success.

Customs’ role is increasingly important in combating the evolving base erosion and profit shifting used by multinational enterprises (MNEs) to shift their profits to lower tax jurisdictions and thereby avoid income taxes.\(^{30}\) Customs data can play a useful role in enabling tax administrations to detect under- and over-invoicing. Customs’ ICT clearance systems apply to all imports and exports, and its selectivity system can easily report unusual unit values of imports and exports. Regardless of the customs duty rate and duty exemption, customs should monitor the value of both imported and exported goods as this can help detect possible abusive transfer pricing practices. The same can apply to trade-based money laundering and the data sharing with the financial intelligence unit. Domestic transfer pricing can also happen if the national laws grant companies operating in a SEZ lower statutory corporate tax rates than outside the zone and do not prohibit an establishment of a subsidiary in the SEZ. Although this is not recommended practice, if it occurs, as the tax administration may not have access to economic activities within the SEZ, customs should share the pertinent data with the tax administration and help it address domestic profit shifting.

**TRADE POLICY**

**Multilateral Trading System**

Trade policy today is regulated by the WTO rules, namely the multilateral trading system. Welfare gain through trade liberalization, particularly for small countries, is apparently widely understood, and to a very large extent countries follow the multilateral trading system. Box 2.3 outlines the principles of tariffs in the multilateral trading system.

\(^{29}\) At the outset of the introduction of VAT in a few countries (for example, in sub-Saharan Africa) where domestic tax administration is not ready to collect VAT and taxpayers are not ready to report VAT, the customs administration collects VAT on imports based on goods’ inflated customs value (for example, 110 percent, assuming domestic value addition as 10 percent).

\(^{30}\) For example, Hollingshead (2010) estimated that the estimated range for tax revenue loss due to trade mispricing in developing countries per year is between $98 billion and $106 billion annually during the years 2002 through 2006.
Box 2.3. Tariffs and Multilateral Trading System

- **Tariffs are the only permissible instrument of trade policies.**\(^{31}\) Domestic tax, user fee, quantitative restrictions, technical requirements, subsidies, exchange rate policy, and other instruments must not be used for trade policy unless such exception is provided in the WTO rules.

- **Maximum tariff rates of each WTO member are committed to the WTO.** Each WTO member submits a schedule of concessions, including a list of bound rates by goods’ classification, beyond which ceilings it cannot increase the duty rates without compensation to the trading partners.

- **Tariffs are subject to most favored nation (MFN) treatment.** MFN stipulates no discrimination between trading partners’ goods: that is, concessions accorded to one country’s goods should be granted to those of all countries except cases of RTAs and Generalized System of Preferences (GSP).\(^{32}\)

- **The applied duty rates are often lower than the bound rates.** This is because bound rates are the maximum rates within which WTO members can set the duty rates (applied rates) freely subject to MFN, preferential duty rates may be applied under RTAs, and developing countries are allowed not to bind substantial scope of tariff lines.\(^{33}\)

- **Domestic tax and user fees are also regulated by the WTO, particularly national treatment (NT).** NT requires that imported goods be treated the same as or no less favorably than “like” or “directly competitive or substitutable” goods produced domestically so as to ensure that discriminatory internal taxes (as well as other regulations) are not used as substitutes for tariffs.

- **WTO members should reduce trade restrictiveness of any measures as much as possible, including nontariff measures (NTMs).** NTM has similar trade restrictiveness to tariffs (or could be worse due to sunk cost). Its trade restrictiveness can be calculated by the cost to the trade, known as tariff equivalent. Trade facilitation is regarded as an instrument to reduce the tariff equivalents of customs and trade procedures.

- **WTO member accession needs compliance with WTO rules and conclusion of bilateral market access negotiations with interested WTO members.** For example, a least developed country seeking a membership to the WTO can expect other WTO members to request it to bind all of their agricultural tariff lines at an average rate of 50 percent and 95 percent of their nonagricultural tariff lines at an average rate of 35 percent (WTO 2012).

Source: Authors.

Note: GSP = Generalized System of Preferences; MFN = most favored nation; NT = national treatment; NTM = nontariff measure; WTO = World Trade Organization.

Following the successful conclusion of the Uruguay Round of trade negotiations and the establishment of the WTO in 1995, the simple average applied...
MFN tariff rate fell from roughly 18 percent to almost 10 percent in 2008, whether in line with WTO members’ multilateral commitments or due to their unilateral action. This reduction in tariffs is in recognition of their distorting nature and the benefits of trade liberalization. As a consequence of the breakdown in the multilateral Doha round of negotiations in July 2008, the simple average applied MFN tariff has declined, but much more slowly since then, to approximately 8 percent in 2018 (WTO 2021). While developing and least developed countries’ average applied MFN tariff rates have also continued to decline gradually since 2008, to 8.4 percent and 11.7 percent, respectively, they remain much higher than the average of developed countries (4.3 percent). Interestingly, more than half of the reduction in applied MFN tariffs since 1995 was unilateral. Considerable unilateral cuts were also made by developing countries, notably Bangladesh, India, Kenya, Morocco, Nigeria, Peru, and Tunisia (World Bank 2020).

Regional Trade Agreements

As discussed in Chapter 1, the number of RTAs has increased significantly, and there are many overlapping agreements with significant implications for customs administration. The overall impact of this trend is contributing to the decline in tariff revenues. Also, it increases the needs for monitoring and control of the implementation of RTAs, which requires customs to distinguish between MFN imports and imports from RTA partners in order to levy the appropriate tariff for the former and grant preferential treatment to the latter.

The implementation of RTAs requires ensuring adherence to the RoO, which is complicated and different in each RTA. RoO are composed of three elements: origin criteria; consignment criteria (for example, trading route, nonmanipulation requirements); and procedural provisions (for example, certificate of origin, certificate of nonmanipulation). Origin criteria may be different by tariff lines and by RTA. Origin criteria may be whether the products are wholly obtained in the country of export. It may depend on to what extent the products are obtained in the country incorporating materials which may or may not have been wholly obtained there, or whether the materials have undergone sufficient working or processing, and so on. These challenges become more acute when a country is a

34 A study of 149 countries estimated that RoO reduced the trade creation effects of RTAs by around two-thirds of what it could have realized and that the costs of meeting RoO are equivalent to almost half of the available tariff preferences (Anson et al. 2005). Together with inadequate understanding of benefits of and requirements for traders, anecdotal evidence indicates that RTAs’ preferential duty rates are not fully used.

35 In an RTA for the European Union, for example, solvents are considered as originating if the value of all the nonoriginating materials used in their manufacture does not exceed 50 percent of their ex-factory price; by contrast, for calculating machines, the value of the nonoriginating materials used in their manufacture must not exceed 40 percent of their ex-factory price.
signatory to several RTAs, as preferential rules of origin for the same goods may differ from one agreement to another. In addition, the introduction of free trade between subgroups of countries makes it necessary to effectively control imports from third countries, which imposes a heavy burden on customs. Under these conditions, anecdotal examples indicate that the quality of the customs of each member country depends to a large extent on the quality of the weakest link among these countries.  

Some origin criteria require tracing back the process, for example, the value addition in producing the imported goods or the location obtaining substantive parts and processing. In practice, customs administrations do not have such ability and may rely on the third-party certificate of preferential origin (C/O) issued or endorsed by the authority of the exporting country, which is usually the obligatory document in applying RTA preferential duty rate in the importing country. Depending upon the RTA, C/O may be delivered by the customs administration or other specified issuing agency of the exporting country (for example, chamber of commerce) having its authenticity and regularity confirmed by the customs administration.

The future trend is replacement of third-party C/O with self-declaration of origin by manufacturers, exporters, or importers, making importing countries’ customs administrations more vulnerable to the risk of error and forged origin information than third-party C/O. In addition, verification of authenticity and its contents entail sovereignty challenges because the parties issuing self-declaration are located in foreign countries and the importing country’s customs administration does not have access to all necessary information and the authority to control these foreign entities. Therefore, these RTAs stipulating self-declaration have provisions for international cooperation between customs administrations, among which are best efforts clauses. New technologies, such as blockchain, may ensure the authenticity of the self-declaration, but they do not guarantee that the contents are accurate, and verification of accuracy requires international cooperation with foreign authorities (also see in Chapter 7).

For many customs administrations, this RoO function in export is a new role. This also applies to their responsibility to advise companies established in the country of any changes they may have to make in their supply chains and manufacturing processes if they wish their production to comply with the RoO laid down by the RTA and to be eligible for preferential tariffs on imports in partner countries.

Growing RTAs create challenges for customs through complex rules of origin and by self-declaration of origin.”

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36 EU candidate countries, for example, are scrutinized for the adequacy of customs external border controls because they will be the external border of the European Union.

37 For example, the Japan-Australia Economic Partnership Agreement, the Association of Southeast Asian Nations (ASEAN) Trade in Goods Agreement, and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership.

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INVESTMENT POLICY (DUTY/TAX INCENTIVES)

Customs Administration and Inward Processing

In order to promote export-led growth and, according to the government’s investment promotion agencies, generate associated relatively well-paid employment, among other things, many governments of both developed and developing countries are keen to attract foreign direct investment (FDI). FDI acts as a catalyst for these countries’ integration into GVCs by providing not only foreign capital but also technical, managerial, and marketing know-how. Traditionally, customs laws provide for duty relief in connection with such investment, notably that for inward processing, by exempting from import tariffs those imported raw materials and intermediate inputs that are used in the manufacture of exports, thereby facilitating economic activities.

Of course, the import duty exemption is conditional upon the export of the products in which the imported inputs are embodied. If the export condition is not met, the import duty is to be paid. If the duty-exempted goods are circulated in the domestic market without paying duty, this constitutes customs fraud—namely, misuse or diversion. To prevent and suppress such risk, customs administration monitors the import of raw materials and intermediate inputs, together with the export, as well as the associated inventory under this regime. Such monitoring involves an assessment of the “yield” (that is, how much raw materials/intermediate inputs are used to produce a certain quantity of exports), which has been agreed between the customs administration and the applicant, often in consultation with an expert, the line ministry, an investment board, and so on. Customs monitoring and control on inward processing are based on quantity and not on value.

In some countries, manufacturers’ inward processing inventory data can be electronically reported to the customs administration and compiled automatically, and in the case of exportation, the system automatically applies the “yield” and adjusts the record accordingly. Hence, monitoring is automated. Control of exempted goods is through desk audit and end-use verification at the site. Targets for control should be carefully selected, applying risk management (as explained in Chapter 5). Some countries also exempt capital goods, such as machinery and equipment used to manufacture exports and, in a few cases, motor vehicles for the use of employees. For these capital goods, an inventory is agreed with the customs administration, and monitoring (or annual status declaration by the applicant) and control are exercised by customs. Exemption of such capital goods may be replaced with extendable import suspension.

Special Economic Zones

A recent phenomenon in investment promotion is the increased use of tax preferences in addition to relief from customs duties. Tax preferences, which are among the most prominent features of SEZs, include exemptions from other indirect taxes (especially excises and VAT) and relief, if not exemption, from...
direct taxes (corporate and personal income taxes and social welfare charges). In
addition, nontax incentives include loans with low interest rates, flexible condi-
tions to establish a company and regulation with regard to corporate management
board composition, relaxed regulations concerning remittances (including divid-
ends), simplified corporate reporting, flexible labor standards, and so on.

Consequently, in several developing countries, tax/duty preferences are no longer
stipulated in customs law or tax laws but are provided for in other laws (for exam-
ple, Investment Promotion Law, Special Economic Zone Law).

Different countries define SEZs differently. SEZs can cover free zones (FZs):
an FZ could be an independent customs territory, that is, a foreign territory under
the customs law and possibly in other laws too. FZ can set different tariff sched-
ules or become a duty/tax free zone. An FZ often has its own administrative
structure, including its own customs and customs laws. SEZs in developing coun-
tries may contain partially or entirely the features of an FZ.39 Since one-stop
border posts (OSBPs) became popular at land borders—where two countries’
border authorities sit side by side in the same building—SEZs centered in OSBPs,
for example, cross-border economic zones (CBEZs), might emerge.40 SEZs are so
attractive to policy makers that, as seen in Chapter 1, the number of SEZs con-
tinues to increase. Nevertheless, there are failures where SEZs could not attract
investors or economic activities and job creation did not meet expectations.41

Besides SEZs, massive infrastructure projects, such as dam construction,
high-speed railway construction, and so on, are often granted tax/duty exemption for
certain imports for construction and its operation. Again, they are not stipulated
in customs law but in special laws or presidential decrees superseding customs
law. They may not be treated as a SEZ, but the features and challenges to customs
administration are almost identical.

The following paragraphs explain challenges associated with SEZs for customs
administration.42

**Organizational Challenges.** To manage SEZs, some countries create a special
government agency (instead of customs administration and tax administration),
such as an investment promotion board, an organization equipped with staff and
ICT systems. SEZ operators and SEZ users must then deal exclusively with such

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38 Direct tax reduction/exemption linked to export is regarded as a prohibited export subsidy and
subject to counter measures, according to the WTO rules (applied to all the WTO members). Indi-
rect taxes preference is only within the zone; thus, when the goods exit the SEZ, indirect taxes gap,
including customs duties, shall be paid.

39 For example, until 2020, Jordan SEZ had its own customs administration (staff were rented from
Jordan customs) and own tax administration under its own laws.

40 For example, at a border zone between China and Mongolia.

41 Approximately 70 percent of SEZs in China were regarded as unsuccessful (Asian Development
Bank 2018). Some SEZs in India, Kazakhstan, and the Kyrgyz Republic are also assessed as failure,
yet there are no universally established criteria to assess success and failure of SEZs.

42 Also see WCO (2020).
an organization and not the customs administration. In certain countries, customs administration (and tax administration) may have neither any authority over nor access to the SEZs.

**Resource Challenges.** In the past, the customs administration granted permission to operate inward processing under the customs law, including, for example, sustainability of business model, location (accessibility of customs officer), physical facility (wall, enclosure), and management responsibility. This permission may have been postponed, rejected, or modified in considering the availability of the necessary customs control staff. Under SEZs, customs administration may not even be consulted by the responsible government agency (for example, line ministry or investment promotion agency), which may not impose a requirement to fence the entire facility. Scarce customs resources will undoubtedly become increasingly stretched due to the proliferation of SEZs. End-use verification may be similar to post-clearance audit, but the purpose of the visit and focus are different.

**Accountability Challenge.** Government agencies promoting investment will ever increase the number of SEZs and the SEZ users (firms operating in/under the SEZ). In many countries, the fiscal impact of SEZs and its growth are not properly assessed in the budget bill, and the associated tax revenue forgone is often ignored. It is often observed that a customs administration does not meet its revenue target because of the significant size and growth of tax revenue forgone. Forgone revenue could equal the amount actually collected by customs. Important questions to consider are whether the investment promotion agency estimates the increase in the number of SEZ and SEZ users; whether it (or the Ministry of Finance) estimates the size of forgone revenue; whether the Ministry of Finance (and customs and tax administrations) is consulted in the SEZ application process (new SEZ, new users operating in/under SEZ); and whether they can postpone/reject/impose conditions in granting approval. Monitoring and evaluation of reliable data on the tax revenues forgone because of tax preferences are the foundation for evidence-based policy making and public accountability.

**Operational Challenges.** Conditional tax/duty exemptions always run the risk of diversion of goods into the domestic market without payment of duty/tax. The key to success is that the customs administration (and the tax administration) has authority to exercise as much control over goods imported into SEZs as it does over ordinary imports. Formidable challenges arise if customs does not have such authority or does have the authority but needs prior consent of the other government agencies (for example, investment promotion board) in order to conduct a control in each case.

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43 In some countries, companies pay for any additional cost to customs administration for service.
In addition, unlike traditional customs inward processing, certain countries grant relief from much broader direct taxes, such as corporate income tax. If the corporate tax rate is lower in the SEZ than in the rest of the country, abusive/aggressive transfer pricing can happen within a country, enabling a corporate entity operating inside and outside the SEZ to shift profits into the SEZ from elsewhere in the domestic economy, thereby evading taxes. As customs usually controls the border between the SEZ and the rest of the country, the customs administration can and should help the tax administration to detect abusive/aggressive transfer pricing through, for example, exchanging transaction data and high-risk profiles and exploring possible joint audits in SEZs. Even in cases where the duty rate is zero, customs valuation and value monitoring/control remain important to monitor intra-corporate trade activities and combat possible abusive/aggressive transfer pricing. The latter can be avoided, if, as advised by the IMF, tax relief in SEZs is confined to tariffs and other internal indirect taxes (or, as in some countries, related corporations cannot operate inside and outside the zone).

Trade statistics on goods in and through SEZs are not clearly harmonized across countries. The customs administration should be aware that certain SEZs, particularly those established in a transshipment port, may be used to camouflage the origin of the goods imported and re-exported with little, if any, addition of value or substantial process in order to avoid tariffs or other measures. Customs-to-customs international cooperation may exist, but if the customs administration of the SEZ country does not have access and a mandate to manage the data on activities in the SEZs, the customs administration of the importing country needs to explore how to ensure the traceability of goods, for example, nonmanipulated certificate issued by the SEZ authority (for the purpose of rules of origin, RTA consignment criteria, and so on).

Finally, there are also nonfiscal risks, such as money laundering, illicit drug smuggling, organized crime, terrorism, and intellectual property rights violations. While these matters are beyond the scope of this book, they also highlight the

44 Provided that the country has a legal framework regulating profit shifting and transfer pricing.

45 This has been a persistent practice since the introduction of the GSP as well as bilateral trade tension (bilateral trade imbalance disputes) since the 1970s. In order to be granted preferential market access of GSP or RTA or to circumvent the protective quota or punitive duties, companies attempted to change the goods’ origin by adding some value or processes, mostly not substantive processing, such as cleaning, labeling, packaging, or dying in transshipped countries.

46 “Consignment criteria” are part of rules of origin, which are the criteria to assess whether the goods maintain originating status for preferential tariff treatment while they are under transportation from a party to the other party: for example, list of permissible process, requirement of nonmanipulation certificate issued by transshipped countries, and so on.
importance of customs’ proactive authority and control of SEZs and activities therein.

CUSTOMS VALUATION

Customs Valuation Rules

Before 1995, a customs administration could impose its determined value on the imported goods. The Brussels Definition of Value (BVD) stipulated that a normal market price is defined as “the price that a good would fetch in an open market between a buyer and seller independent of each other” and countries compiled paper books of market price of each product. The system was more like an “imposition system” than a “declaration system.” Under this system, a list of market prices for each product (by product, not commodity, and so much more detailed than the tariff line) was ultimately important. Many countries that adopted BVD compiled such data in paper folders, and in the 1990s an ICT database was developed called a minimum price database. Some companies were selling market price data sets or services to customs administrations to check the market price in the exporting countries, namely pre-shipment inspection for valuation purposes.

Today’s customs valuation rules, in contrast, are stipulated by the WTO Customs Valuation Agreement (VAL), which entered into force in 1995, and now all WTO members are obliged to follow it. The VAL stipulates that customs valuation must be based on the actual price of the goods to be valued, except in specified circumstances, which is generally shown on the international sales invoice—thus, it is a “declaration system.” This price, plus adjustments for certain elements that are also listed in VAL, equals the transaction value, which constitutes the most important basis for valuation. When there is no transaction value for the imported goods or when the declared transaction value is not acceptable as the customs value because the price has been distorted as a result of certain conditions, the VAL enumerates five other valuation methods (so there are now six methods) to be applied in the prescribed hierarchical order (WTO [1994]): (1) transaction value, (2) transaction value of identical goods, (3) transaction value of similar goods, (4) deductive method, (5) computed method, and (6) fall-back method. Most of the national customs laws have equivalent provisions, largely duplicating key VAL provisions.

Customs Valuation Controls

As market price is no longer the basis of value, customs administrations must not apply minimum prices to the customs valuation. The minimum price database

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47 Some flexibility may have been applied, for example, 10 percent deviation from the market price set by customs administration.

was heavily criticized by some traders and academics because it lacks accountability, is not updated, ignores technological and business model evolution, is a nontariff barrier, and, most importantly, violates the WTO rules and is possibly subject to the WTO dispute settlement (and possible retaliation). Although VAL has been in force since 1995, customs administrations in developing and developed countries have faced problems administering this system. VAL has imposed a huge burden on customs regarding how to justify its doubt as to the truth or accuracy of the declared value. This includes the need to check the trade sales invoice’s authenticity, contents, and consistency with the declaration; to assess the relationship between the seller and the buyer; and to assess the adjustments, such as lease, royalty, commission, and consultant fee, which need a profound knowledge of international trade sales contracts. Some efforts by customs administrations to cope with VAL and to support practices for customs valuation are described in the following paragraphs.

Risk Management for Valuation Purpose. This is quite similar to the minimum price database, but the customs value reference database can help customs administrations filter a combination of information—that is, detailed goods description (tariff classification code), reference unit value, and exporting country or goods origin—in the selectivity module in the customs clearance system. (Details are presented in Chapter 5.) By this selectivity, if the declared unit value is lower than the reference unit value (by a certain percentage), the declaration may be selected for documentary check, and the customs administration may ask supplementary questions or ask for supporting documents to assess which valuation method should be applied. Commodities should be limited to those of high interest/high risk, and the reference unit value should be regularly updated, preferably with values validated by the customs administration in actual operations. Some companies are selling market price data sets for this purpose. Another frequently observed practice is that the customs administration analyzes its offense database to profile risky goods or trading patterns for lower invoicing and the results are reflected in updated selectivity criteria. This can be supplemented by trade data mirror analysis which may provide indicative risk information.

Postclearance Audit. Postclearance audit (PCA) has two objectives for valuation control: (1) to determine whether the selectivity criteria functions well (namely, compliance measurement) and (2) to detect valuation irregularities. Often random checking of the importation cleared through the green channel is applied to (1), while targeting based on risk management is applied to (2). Proficient knowledge of corporate books and accounting records, inventory records, and ICT software are needed for an effective PCA approach. PCA is also discussed in Chapters 4, 5, and 6.

49 The European Union claimed that potential losses of customs duties and VAT due to undervaluation of imports of textiles and footwear from certain countries were calculated to be close to EUR 5.2 billion for the period 2013–16 (European Court of Auditors 2017).

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Compliance Management. Traders’ compliance should be compiled and analyzed along with the information of sellers. Highly compliant traders face less or little control (for example, random check described previously) so that voluntary improvement in compliance can be motivated. Lowly compliant traders face more severe controls, thereby making their transactions more costly to their business partners than highly compliant traders. Thus, the market mechanism may also promote highly compliant traders. Some countries allow highly compliant traders to use a special sign (that can be used on business cards, webpages, commercial ads, and so on) to distinguish them from the others in the market. A similar concept is applied to highly compliant transporters or means of transport carrying only highly compliant traders’ goods (for example, dedicated lanes at the land border posts). Repeated fraud should result in increasingly severe penalties. Also, for this reason, compliance records should be well maintained. In many cases, traders are not compliant because the deterrent is not sufficient. There has been anecdotal evidence that customs officers may promote noncompliance to sustain their detection and thus penalty income; this malpractice should be eliminated. Chapter 6 addresses customs compliance programs in more detail.

Customs-to-Customs Cooperation. Valuation is the assessment of the international trade sales contract between the foreign seller and the buyer (not between the exporter and the importer; see Box 2.1). Accordingly, the foreign seller’s information (including if the seller exists, if the seller engages in this trade transaction, the sales price [value], and the seller’s compliance) is very helpful. Some countries may have legal constraints on the exchange of export value information, while others may not. Certain countries may have difficulty in push-type data exchange (where a whole data set is transferred), but pull-type data exchange (specified information with certain justification) may be less onerous.50 In many cases, bilateral/regional customs mutual assistance agreement (CMAA) 51 are helpful for such data exchanges. Anecdotal evidence indicates that such data exchange does not need to occur in real time, but even a quarterly exchange by batch file is sufficiently useful (in case of push type).

Customs–Bank Cooperation. International trade sales contracts can be seen as third-party information. If the international trade sales contract is using an LC, the commercial bank’s information, together with the transporter’s B/L and shipping documents, is useful supporting evidence. A few countries have direct contracts with commercial banks to obtain the B/L information containing the sales value and payment information.

50 “Push-type data exchange” means that the sender sends the data that are pre-agreed between the parties. “Pull-type data exchange” means that the sender sends particular data requested by the parties.
51 The Model CMAA is available on the WCO website. Weerth (2019) studied the number of CMAAs concluded by certain countries: United States (75), European Union (72), Turkey (63), Canada (42), Japan (19), India (12), United Arab Emirates and Argentina (11), Taiwan (8), South Africa (5).
SUMMARY

Customs revenue performance is determined by the trend of imports, among other factors. Following the financial crisis in 2008, the average annual growth of world trade has been generally slower than that of GDP. Trade liberalization and slower growth in international trade have obvious implications for tariff revenues collected by customs administrations. This downward impact on tariff revenues can be offset or mitigated to the extent that reduced tariffs (trade liberalization) and reduced trade transaction costs (trade facilitation) stimulate imports, which in turn increases customs collection, including excises and VAT on imports. Therefore, customs administrations should continue to explore measures facilitating imports while not compromising the level of compliance.

The environment surrounding customs and policies impacting customs are evolving. RTAs and SEZs are not only liberalizing trade but also making trade more complicated and increasing fraud risks. Increasing intra-firm trade, trade between related parties, small/expedited shipments, and trade in secondhand items and goods-and-intangible mixed all complicate customs valuation and the collection of duty/taxes. The composition of customs collection will lower customs duties and increase excise and VAT on imports, which may have implications for compliance risk assessment and customs resource allocation. When the environment evolves, customs administrations need to do the same.

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Institutional and Professional Foundations of Modern Customs Administration

János Nagy and Hubert Duchesneau

This chapter provides guidance to customs policy makers and senior managers on the institutional and professional foundations of modern customs administration. It looks at the main challenges for those who are trying to ensure their administration has the capabilities to meet the demands of the future.

The chapter is built on 10 key institutional and professional foundations of modern customs administration: (1) sustained political commitment, customs leadership, and ownership; (2) clear strategic direction; (3) result-oriented and measurable key performance indicators; (4) sound governance and accountability; (5) customs cooperative arrangements; (6) streamlined organizational structure; (7) institutional policy capability, enabling legal and regulatory framework, and transparent procedures; (8) professional and skilled customs workforce; (9) coherent integrity management framework; and (10) effective business continuity planning.

SUSTAINED POLITICAL COMMITMENT, CUSTOMS LEADERSHIP, AND OWNERSHIP

Sustained Political Commitment

Sustained political commitment at the highest levels is a key element in the success of customs modernization. Beyond endorsing the modernization strategy and securing the budget needed for implementing the planned reforms, the government’s role is to support customs leadership in dealing with external constraints, vested interests, and resistance to change. The authorities should ensure that the customs modernization program is aligned to governmental policies, priorities, and decisions and that the evolving regulatory environment does not conflict with customs modernization objectives. For the many countries that are part of a regional trade agreement (RTA), a large segment of the modernization program may come from the regional commitments, which must, of course, be respected and implemented by members.

An example of such political support is in Barbados, where the prime minister was interested in modernization and initiated a multiyear reform program in 2019. The Barbados Customs and Excise Department (BCED) moved forward with an aggressive reform agenda to mobilize revenue and facilitate trade in 2020. With the strong political and financial support of the government, BCED addressed...
fundamental flaws in terms of strategic direction, governance, compliance, and policy framework in the first year of the reform. Measures to improve key foundations such as organizational structure, strategic planning, automation, revenue collection, performance management, client service, and internal audit were significantly advanced. The department modernized the 59-year-old legislative framework and aligned it with the Caribbean Community and Common Market (CARICOM) model to promote economic integration and facilitate trade in the Caribbean region. Compliance programs such as post-clearance audit and trusted traders were created. Key stakeholders noted substantive improvements in BCED’s approach and culture.

In some countries, the Ministry of Finance (MOF), the usual parent ministry, tends to set revenue collection as the main priority and often pays less attention to other aspects of customs’ mandate such as border protection, security, and trade facilitation. Obtaining an understanding from all involved ministries (for example, the Interior, Industry, Public Health, Agriculture, Transport, Public Safety/Homeland Security) on the priorities for customs, having their support and cooperation, and sharing a good framework on which to base operations and reforms are important factors for success. An example of such inter-ministerial cooperation is the development of electronic single-window solutions where customs is frequently dependent on the progress in other government agencies.

**Customs Leadership and Ownership of the Modernization Program**

Senior managers need to develop a compelling customs modernization vision and a clear strategic direction prompting people to action. Modernization must be led and promoted by senior management and broadly owned by all parts of the customs administration and have buy-in by the trading community and other stakeholders. Notwithstanding the obligation imposed by the WTO Trade Facilitation Agreement to inform and, where necessary, train stakeholders prior to the implementation of new requirements, programs, or projects, it is critical to consult during the development of new plans with those partners and clients who have a legitimate interest in customs reform efforts.

The trading community’s expectations and capacity are important considerations in planning and undertaking customs reforms. In this respect, ensuring a level playing field for all, the fair administration of rules and policies aligned with government objectives, and the predictability and reliability of customs practices are important elements. Generally, private sector stakeholders are interested in the following:

- Establishing and engaging in a productive system of consultation, in particular for preparation and implementation of larger customs reforms
- Having customs administration rules easily available to them in an understandable way
- Ensuring free and convenient access to customs procedures and administration, including border formalities, making fulfillment of their obligations quick and easy

“It is vital to have agreement between customs and the parent ministry on objectives and priorities, and visible support from the highest levels of government.”
• Ensuring consistency across the whole customs administration in the application of laws, regulations, and policies and having national service standards, professional customs staff, and a fair adjudication of appeals, thereby making customs office “shopping” obsolete
• Lowering costs for government operations and for business compliance through modernized techniques like paperless/fully automated and account/system-based processing
• Simplifying and harmonizing procedures, including coordination among government agencies for initiatives like single-window operations and providing meaningful benefits to compliant traders through trusted trader and authorized operator programs

The modernization program needs to have reasonable objectives, be within an approved and realistic budget, and be completed on time. A good implementation practice is to establish a dedicated reform team that can concentrate wholly on the modernization agenda. Continuity of senior management is also important so that substantial and lasting changes have time to be implemented and to take root in the organization’s culture. The modernization plan should be reviewed periodically, remain flexible, and incorporate the emerging priorities that will occur during a long-term plan.

Senior management needs to ensure that both internal and external communications are optimized to ensure buy-in by all stakeholders. Customs’ staff and clientele should fully understand the objectives, the advantages, and the benefits of the changes—and the disadvantages and costs of not proceeding with the reforms. The key points for a successful customs reform and modernization based on IMF experience are summarized in Box 3.1.

Box 3.1. Success Factors in Managing Customs Reform and Modernization

- Securing political commitment from the highest levels of government from the outset
- Having visible commitment and promotion of the reform from senior management
- Having a compelling vision and a clear strategic direction prompting people to action
- Establishing a dedicated customs reform and modernization management team with the right mix of skills and levels (headquarters, field operations, enabling functions, and technical experts)
- Engaging and consulting with stakeholders, including the private sector and other government agencies (especially the Ministry of Finance/Revenue, Ministry of Interior [police/gendarmerie], Ministry of Agriculture [veterinary/phytosanitary department], Ministry of Health, Ministry of Trade, and so on)
- Gaining the understanding and acceptance of managers, employees, customers, and stakeholders
- Developing reasonable objectives and a workable and funded implementation plan with time-bound actions
- Having an internal and external communications strategy and adapting messages for different audiences’ interests

Source: Authors.
CLEAR STRATEGIC DIRECTION

Strategic planning is a keystone of modern customs administrations as it aligns programs to national fiscal, economic, social protection, and security objectives. Effective planning ensures that the administration’s priorities consider operational realities, risks, and capabilities and provides for strong reporting and accountability practices. It also requires an early and ongoing engagement of staff members and stakeholders in the development and implementation of the strategic plan.

The strategic plan informs subsequent corporate and operational planning, policy development, and individual management and staff performance. The strategic plan acts as a roadmap to guide the customs administration to fulfill its vision and mission and contribute to government outcomes.

Strategy formulation typically includes analyzing the internal and external environment in which customs operates to identify strategic issues and undertaking a strengths, weaknesses, opportunities, and threats (SWOT) analyses; evaluating the institutional risks and their probable consequences; developing or updating the organization’s vision, mission, and values statements; and formulating concrete strategic priorities and objectives to address the identified issues. These steps will then lead to the development of integrated business (for example, operational, work, functional) plans.

The strategic planning process needs to be built on a thorough understanding of the customs environment. It should begin with an environmental scan of external factors and main trends and challenges, including stakeholders’ expectations, all of which can potentially impact customs policies and programs. The main external factors are the following:

- Political (for example, national fiscal, security and environmental policies)
- Economic (for example, fiscal situation, investment policies, trade, and travel trends)
- Social (for example, demographic trends, levels of criminality and corruption, compliance attitude of the public, social acceptance of customs controls)
- Technological (for example, degree of automation and ICT use, remote work opportunities)
- Legal (for example, changes in legislative environment, privacy rights, prosecution challenges)

The SWOT analysis identifies areas that the organization can build on to meet future challenges and those areas that could be barriers to success. In assessing institutional risks, the customs administration will identify the risks it faces over the medium to long term that may impact its ability to carry out its core functions. These include internal factors such as the following:

1 Chapter 5 discusses institutional and compliance risks in more detail.
• Reputation (for example, credibility, integrity)
• Human resources (for example, sufficient number, skill levels, talent management)
• Infrastructure and material management (for example, adequate and safe workplaces, proper tools and equipment)
• Legislative framework (for example, gaps, powers of the customs officers, enforcement or compliance-based, transparency)
• Governance (for example, organizational structure, accountability structures)
• Finance (for example, availability of resources, strategic allocation, delegation, expenditure management and controls)
• Information technology (for example, sustainable systems and equipment, disaster recovery plans)

Taking into account all of the preceding factors is key when planning any modernization or reform; otherwise, the chance of success will be diminished from the outset. Information collected during this analysis raises the customs administration’s awareness of what is working well and what isn’t. It opens up avenues to address root causes of problematic issues.

For example, during the period 2015 to 2019, the government of Honduras decided to transform the customs administration based on external and internal factors, and although the process had some flaws and there are still improvements to be made, the changes contributed to considerably strengthening the organization’s foundations. These changes have allowed the customs administration to enhance its performance as well as develop new capabilities to better adapt to constantly evolving challenges. Among tangible outcomes achieved, goods’ release times have decreased by 80 percent without compromising customs collection. In addition, the customs administration was better able to face the challenges imposed by the COVID-19 pandemic, which would have been much more complicated if several of the reforms had not been undertaken.

Another example is the customs administration of Cambodia that was able to host consultative meetings with participation of critical development partners at regular five-year intervals. These meetings have been used successfully to articulate the strategic direction of the General Department of Customs & Excise and obtain the required financial and technical assistance support for the implementation of the midterm reform programs.

A further example is Madagascar, where the minister of finance, demonstrating high-level political support, opened a roundtable event involving bilateral, multilateral, and private sector development partners in 2020. The Malagasy customs used this meeting to present its strategic plan and modernization program requesting financial and technical assistance. At the conclusion of this event, pledges covering 50 percent of the costs of the customs modernization program were received.

In all successful cases, the initial focus has been on setting up reform coordination and project management functionality with a governance framework and
with later support coming in areas such as strategic management, legislation, exemptions, valuation, risk management, intelligence, and post-clearance audit.

The results of the strategic assessment are used to define or validate the vision for the organization. The vision creates a clear picture of what the leaders want the customs administration to be in the future. It serves as a benchmark for evaluating long-term success. Coupled with the vision statement is a mission statement that sets out the unique contribution that the customs administration can make given its mandate. These two statements are typically joined by a definition of key values that are principles that underpin the organizational culture.

It should be emphasized that more important than the vision and the mission statements itself is the process of their formulation, which is an opportunity for an open and intense internal dialogue for their elaboration within a customs administration. Box 3.2 shows examples of two countries’ such statements.

**Box 3.2. Two Country Examples of Customs’ Vision, Mission, and Value Statements**

**Australia**

Vision: to be a global leader in border law enforcement and trusted partner that helps build a safe, secure and prosperous Australia.

Mission: to protect Australia’s border and enable legitimate travel and trade.

Values: integrity, professionalism, respect and accountability.

**Bulgaria**

Mission: To protect the society, the environment and the economy of the country and of the European Union, to ensure the uniform application of the rules on the EU external borders, to facilitate the international trade through smart and risk-based supervision on the global supply chains, to be proactive and to work seamlessly with the interested parties, to commit to innovations and sustainable development—this is the role of the Bulgarian Customs Administration in the modern conditions of high degree of economic, health and social insecurity.

Vision: To have a more efficient, more effective and modernized Bulgarian Customs Administration, functioning in an increasingly integrated way with the EU customs authorities, with greater interoperability between the customs and other border information systems; with sophisticated training system for customs officials.

Source: Authors.

Taking stock of the preceding examples, clear, long-term strategic objectives are then established, covering a typical period of three to five years. These objectives provide high-level outcomes (for example, increased compliance) and have specific milestones and indicators attached to them (for example, increased voluntary payments of duties and taxes by 5 percent each year). The objectives are the basis for resource allocation and accountability and are supported by precise activities/projects that indicate how success will be achieved.

“Customs leadership must articulate a clear and compelling vision and set strategic objectives linked to that vision.”
Strategic planning, or, in more general terms, the capacity building development process, is a cyclical approach, which includes four phases: (1) need and gap analysis/objective setting, (2) planning and implementation, (3) monitoring and evaluation, and (4) feedback/update strategic approach. All phases of this cycle are important, but phase 3, if reform is supported by international development partners, takes on particular importance as the partners want to ensure they are getting value for the money.

RESULT-ORIENTED AND MEASURABLE KEY PERFORMANCE INDICATORS

Effective management requires that outputs and performance targets that are articulated in plans be measured. The analysis and management of key performance indicators (KPIs) will help the customs administration strengthen its core processes and corporate functions. Experience shows that organizational effort is directed to activities that are measured and away from those that are not. In other words, “What gets measured gets done.” Rigorous management oversight and accountability steer this process as attention is paid by the organization to the priorities that management is monitoring.

Outputs and use of resources are measured at different levels of the organization and for different purposes. At the organizational level, this is done to evaluate achievement and outcomes against the strategic objectives and for external reporting purposes. At the divisional or unit level, performance measurement enables managers to react to demands (for example, percentage of workload completed, processing times). At the individual level, this is done to evaluate staff contribution and to set rewards and incentives through a performance appraisal system.

Clear, result-oriented, and measurable KPIs should be determined for each strategic objective that will allow for the assessment and reporting of progress on a regular basis. Quantitative and qualitative measures are equally important. Quantitative KPIs measure output volumes, such as number of shipments or control actions. KPIs are also used to measure input and processes. Efficiency KPIs capture the link between resources spent and results achieved; they aim to measure the cost of delivering service. Qualitative KPIs reflect how well something was done, such as accuracy of answers to inquiries and client satisfaction levels. Time-bound indicators are an important consideration for management to ensure that activity or project milestones are met.

The starting point to use KPIs is with the fundamental customs responsibilities such as clearance procedures. As a customs administration becomes increasingly comfortable with using KPIs, the measures can move from having fewer and simpler indicators to numerous and more sophisticated ones. Having a baseline

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of organizational performance against which ensuing periodic achievements are assessed allows the customs administration and its stakeholders (including government) to validate progress.

The availability of accurate, reliable, and timely data to measure performance is critical. Customs management will depend on such data to make decisions. It is highly preferred that the data for most KPIs be available through an automated system rather than through manual data collection processes, which are more subject to human frailties. The organization also needs the analytical capability to assess variances, trends, and emerging issues. Some countries lack the appropriate data and analytical base to do this fully, but incremental steps can be taken.

The customs administration should have a culture of managing performance through KPIs in order to know where it is relative to its objectives and strategic direction. This culture of measuring and managing performance is led by senior management. Part of this process is to provide feedback so that performance can be changed to achieve the desired results. To have practical and relevant change, feedback must be combined with consequences. Appendix A provides examples of key performance indicators related to revenue collection, customs clearance, risk management and compliance, enforcement, and human resource management. Chapter 6 provides further examples specifically related to the enforcement function.

Performance Reporting

Performance reporting is designed to clearly and accurately explain the extent to which the administration’s strategic objectives were achieved and at what cost. Customs administrations typically have internal and external performance reporting such as monthly operational activity reports and annual performance reports to government respectively.

The frequency of internal monitoring and the management of those results depend on the business activity, the availability of reliable and timely data, and the importance to the organization. A good practice is to monitor and report performance against operational plans monthly, at least for the last nine months of the fiscal year, so that management can assess progress, identify significant variances, and take corrective action if necessary. Management will be interested in not only the current outputs but how they compare to previous time periods. This trend analysis helps management decide if action is required.

Performance reports to governments should set the customs operating context and be linked to overall government priorities. In presenting accurate performance information from the customs administration, a focus should be on the benefits for citizens and traders.

Performance Management

While reporting of strategic and divisional performance is done through the previously noted process, the measurement of individual performance is done through the staff appraisal process. This is a process that provides all staff within
the organization with clear direction (objectives) on what is expected from them, assesses the results of their work, and gives timely feedback.

Staff appraisal management ensures that staff and managers get the coaching and learning opportunities they need to continually improve their performance. It is conducted both formally and informally. The formal performance management process is time-specific and typically in three steps conducted bilaterally: at the beginning of the year, when performance expectations are established; at midyear, when performance is reviewed; and at year-end, when performance is assessed. It is complemented by an ongoing process in which constructive feedback is given frequently, often after a particular event (such as a team meeting), after a file has been submitted, or when a project is completed.

**SOUND GOVERNANCE AND ACCOUNTABILITY**

Both external and internal governance aspects are critical in achieving greater alignment to government policies, better performance including more efficient use of resources, transparency, and accountability. “Institutional Policy Capability, Enabling Legal and Regulatory Framework, and Transparent Procedures” deals with the place of customs in government and the organization structure related considerations.

The external dimension of governance arises from outside the administration (for example, the institutional environment within which an administration operates). A prominent role is played by the supervising ministry and the external oversight of the administration by the legislature or other agencies (for example, Court of Auditors). The internal aspects of governance include, for example, the head of the administration and the internal management approaches, structures, and systems as well as the processes. It is both the internal and external dimensions that together provide a complete view of the institutional governance of the administration.

A sound internal governance framework facilitates managerial oversight and accountability. Governance supports the strategic management of customs priorities; enables the consideration of issues at the right level; and ensures that decisions are transparent and communicated. A governance structure includes all layers of management. It typically comprises committees having responsibility for a distinct area (for example, overall corporate management led by the senior executive team, enforcement issues led by a direct report to the head of the customs administration, human resources issues led by the head of this function). Each committee has a Terms of Reference (ToR) defining the place of the committee in the overall governance structure, the mandate, the membership, its decision-making authorities, the frequency of their meetings, and housekeeping matters. Committee members include managers having at least some responsibility linked to the area covered by the committee and may be supported by a network of experts. Sharing decision making among managers in a governance structure increases the culture of stewardship across the organization and minimizes the monopolization of information and the concentration of decision making at
unnecessarily high levels. The governance structure for the organization would be approved by the senior management team.

Larger organizations will typically have a suite of committees ranging from management teams’ regular meetings that occur at all levels of the organization to operational, policy, and functional (for example, human resources, IT, budget, internal audit) committees at and/or below the level of the head of customs. Smaller administrations also have management team meetings throughout the organization and may consolidate the discussions on operational, policy, and functional matters into fewer fora as may meet their needs.

**CUSTOMS COOPERATIVE ARRANGEMENTS**

**Coordinated Border Management**

Cooperation of government agencies, international, and private-sector collaboration are fundamental to effective border management. Effective relationships with key national regulatory authorities who also have an interest in the border (for example, public health, safety, veterinary, phytosanitary, intellectual property, technical standards, environment protection) are critical to deliver efficient and effective services. Often the authority, knowledge, and skills required to effectively manage border issues are spread across several national agencies or departments, requiring mutual cooperation as part of a coordinated border management approach.

Parallel operations of too many OGAs at the border checkpoints/points of entry make the overall processing of cargo cumbersome, creating unnecessary delays in the flow of goods across borders and extra costs to both traders and government. Creating all necessary conditions for border controls by all OGAs at each border crossing can be very expensive; therefore, the importation of certain groups of commodities that are subject to specific controls (for example, live animals and food) can be restricted to a limited number of border crossings, where practical. Border controls under the main responsibility of various OGAs are best organized around customs control in a harmonized way, limiting interventions to only those controls that are indispensable at the border and for which inland checks later could create irreparable and excessive harm. Matters of national security, public health, and contraband interdiction are prime examples.

Bi- and multilateral agreements between and among such OGAs, harmonizing and streamlining the respective rules and standards, facilitate the management of border controls on their behalf by customs. Electronic information from OGAs (for example, certificates) and use of a single-window platform facilitate the processing of restricted and controlled goods at the border. International standards are also helpful in finding a solution to meet national needs (IMO Convention on Facilitation of International Maritime Traffic, London 1965; UN International

One specific objective of cooperation with other government agencies is to limit the number of control agencies operating at the borders to the minimum necessary, ideally only to passport and customs control authorities present. This will ensure the minimum cost and delay at the borders and reduce opportunities for abusing official powers.³ Best practice allows customs to perform at least the necessary basic border checks on behalf of OGAs based on cooperation and information provided to customs by those agencies. The relevant multilateral international agreements provide the necessary standards for such arrangements. They include the 1982 United Nations International Convention on the Harmonization of Frontier Control of Goods (land-border controls) and the International Maritime Organization’s Convention on Facilitation of International Maritime Traffic, London, 1965 as amended.

In situations where an electronic single window for trade is being implemented, the application of risk management is expanded to include OGAs involved in the regulation and control of international trade. This requires a much broader, inter-agency approach to risk management, led by the customs administration. Though in some countries other single-window solutions exist (for example, organized around the operations of the transport industry), it is important that a single-window system involving all OGAs that play a role in the border controls of goods is developed under the leadership of customs, built around customs controls, and integrated or connected to the customs system to enable interoperability.

**Customs and Tax Cooperation**

Even though customs and tax administrations have different competencies, there is plenty of common ground and a clear need for close cooperation between the two. While tax administrations oversee internal revenue, customs administrations are responsible for the collection of duties and taxes levied on international trade transactions. In addition, customs is responsible for monitoring and controlling international trade transactions and all the support infrastructure that entails, including the facilitation of trade, detection of smuggling, and border protection. To improve the effectiveness of both operations and better achieve their respective objectives, tax and customs administrations need to cooperate and exchange information. However, successful cooperation requires mutual trust and respect, and all too often a breach of that mutual trust and respect can lead to difficulties

³ An example of such streamlined border clearance is Cambodia, where the number of regulatory agencies stationed at the border was reduced over time from more than 10 to two (customs and immigration). This government decision required regulatory agencies to establish cooperative working arrangements and brought about a reduction in overall regulatory requirements and clearance times. An inter-ministerial Risk Management Committee oversees the development and application of risk management.
for both agencies when addressing common compliance issues. Some countries have attempted to address this problem by implementing memoranda of understanding (MOUs) between customs and tax authorities to establish clear lines of communications and set out procedures for inter-agency cooperation and the sharing of sensitive taxpayer information.

There are significant benefits to an enhanced customs–tax cooperation, including increased tax compliance and revenue, more efficient collection of duties and taxes, and even the ability of better addressing risks that may be linked to organized crime activities (arms, drugs, money laundering, intellectual property rights, and public security). For example, taxpayer information is essential to help address several revenue and security risks through the customs risk assessment process. Cooperation in the form of reciprocal exchange of information, shared risk management data, and close collaboration in post-clearance auditing enhance overall compliance and revenue mobilization for both administrations. Although Chapter 6 deals primarily with the advantages of customs and tax cooperation for revenue collection and enforcement, this issue is also referenced elsewhere throughout the book.

Thirty-six percent of those countries that provided data to the ISORA survey (out of a total of 135) have integrated their tax and customs administrations. Integration under a revenue authority can benefit both administrations in better fulfilling their mandates through shared and mutual support units (that is, legal, management, ICT, and certain auditing activities) and better information exchange while maintaining their core businesses separate and focused on their mandates. The Spanish Revenue Agency, AEAT, is a good example of this. It was created to go beyond a simple exchange of information and instead facilitates the sharing of access to systems and databases between those tax and customs units that require key information to fulfill their functions and tasks—albeit following strict security rules and regulations. In addition, common plans are designed to improve taxpayers’ operators’ compliance. However, in some countries integration has not necessarily resulted in noticeably improved customs operations. This could be attributed to the fact that the integration might have sought primarily to reduce spending on tax and customs administration operations and achieve economies of scale through the merging of common support

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5 International Survey of Revenue Administrations (ISORA) conducted by the IMF; the Inter-American Center of Tax Administrations (CIAT), the Intra-European Organization of Tax Administrations (IOTA), and OECD.

6 Some countries, particularly in Latin America (Argentina, Brazil, and Peru), have chosen to also integrate within their revenue authorities the management and enforcement of social security contributions, thus achieving a more comprehensive perspective for improving taxpayer compliance.
functions while core tax and customs processes that required improvement remained largely unchanged.

In the end, regardless of whether they are integrated, tax and customs administrations must develop effective mechanisms for cooperation and information exchange and promote specific initiatives aimed at improving services and compliance. Effective tax–customs controls require a comprehensive understanding of the taxpayers/operators, which is only possible through close and continuous cooperation. Both administrations must establish coordinated goals and implement strategic initiatives such as the following:

- A unique, up-to-date, and reliable tax identification number for customs transactions
- Timely and efficient electronic cross-validation between customs declarations and basic tax obligations
- An exchange of electronic information on taxpayer/operator records to assess levels of compliance and to define strategies for their own respective business purposes. This initiative should result in the development and utilization of a taxpayer profile for risk assessment purposes in both tax and customs compliance.
- Complementary strategies to monitor and control exemptions and special regimes
- Comprehensive and coordinated VAT and excise management and compliance programs
- Complementary strategies to monitor and control imports and exports of extractive industries (oil and derivatives, gas, gold, diamonds, copper, and so on)
- Provision of services to each other in selected areas having comparative advantage such as debt collection, specialized training and exchange of experience, consultancy
- Joint activities may be practical and more effective (for example, certain onsite audits)

This kind of information sharing between the two organizations has already been implemented in a number of countries and, when done in support of well-defined service and compliance programs, has resulted in better compliance management for both areas. In the absence of this information sharing, however, tax and customs administrations would continue working half-blind and any goal of improving compliance would be much more difficult to achieve. Appendix B provides additional context on the matter of integrating tax and customs.

7 It is important to clearly define what data are required from each administration, how it will be used, how it will be handled, and how confidentiality will be ensured.
Customs Matters: Strengthening Customs Administration in a Changing World

Customs–Private Sector Engagement

Governments, the private sector, and both national and international organizations including the WTO and the WCO recognize the value of and encourage meaningful and sustainable engagement with the private sector. The WTO Trade Facilitation Agreement (TFA) provides for regular consultations with the private sector and for having a national committee on trade facilitation (NCTF). It also recommends that the private sector be provided with opportunities to comment on legislative and regulatory proposals and to be informed in advance before such changes come into effect. Finally, the TFA provides trade facilitation measures for the authorized operator. More information about the TFA and its implications for customs can be found in Chapter 4.

The WCO revised Arusha Declaration on Integrity in Customs promotes an open, transparent, and productive relationship with the private sector to address corruption and promote customs integrity. The WCO and the IMF have also noted that the response to COVID-19 has highlighted the importance of strengthened relationships with the private sector to support the business continuity of the national economy and international trade.

The WCO Private Sector Consultative Group (PSCG) is an example of valuable and fruitful collaboration and partnership between customs and the private sector. The PSCG informs and advises the WCO and its members on customs and international trade matters from the private sector’s perspective. The PSCG argues that the customs administration’s commitment to engagement with the private sector as well as to transparency, predictability, and efficiency is a strong foundation for success.

Most customs administrations, at headquarters and through regional or local offices, engage with private-sector stakeholders (particularly importers, brokers, couriers, exporters, carriers, airport and seaport authorities, industry associations, and wider national regulatory agencies) in many ways. For instance, formal consultative committee structures are used to share information, raise awareness of issues, and discuss important strategic questions such as policy issues and legislative amendments. Working groups and subcommittees typically seek input and feedback from stakeholders and find solutions to technical or process-related problems. Chapter 4 discusses in more detail the principles of stakeholder engagement.

Customs-to-Customs International Cooperation

Customs administrations should not limit their reach to partner government agencies and economic operators within their country’s borders. Cross-border trade requires customs to have a proactive approach to issues that originate or end beyond such borders, and the first, basic step is to engage with counterparts, particularly those from neighboring countries and trade partners. Customs administrations benefit greatly from robust and reciprocal cooperation programs and mechanisms designed to enforce their laws, increase compliance, facilitate trade (including through the simplification and harmonization of procedures and joint or coordinated customs inspections), share best practices, and receive/
provide technical assistance or training in those areas that can or should be improved. For these purposes, negotiating and implementing bilateral or multilateral agreements is the best way to build a foundation for an effective two-way cooperation. The more solid the agreements, the stronger such cooperation can be.

The most common type of a customs cooperation agreement between two customs administrations is a Customs Mutual Assistance Agreement (CMAA). The CMAA provides a formal conduit for the exchange of information for enforcement purposes, although most of them also include specific provisions for cooperation in trade facilitation and technical assistance matters. Most of the CMAAs allow for the exchange of information on a case-by-case basis. However, in recent years some customs administrations have agreed to expand the scope of their agreements to allow for the exchange of bulk data. Also, some bilateral trade agreements contain provisions for customs cooperation on the aforementioned matters while others refer such cooperation to a CMAA or other equivalent agreement.

Multilateral agreements on customs cooperation, either customs-specific or those included in multilateral trade agreements, contain provisions on the same matters as bilateral agreements, some of them with an equal force, while others simply encourage the parties to cooperate.

Also, there are customs cooperation agreements between member countries of a customs union as well as agreements between individual countries and a block of countries or a customs union. Such is the case of several agreements signed by the European Union with Korea, Canada, Hong Kong, United States, India, China, and Japan. The European Union also has Partnership and Co-operation Agreements with a number of countries, including Russia and Ukraine, which cover customs cooperation and include a protocol on mutual administrative assistance.

Nevertheless, although most customs administrations have signed cooperation agreements, often the biggest challenge is not having them in place but putting them into practice. It is common to see that these agreements are underused, because of either a lack of political will or a clear cooperation strategy. Other factors that delay cooperation between customs administrations or make difficult the implementation of these agreements include significant gaps between the parties, potential vulnerabilities in data protection, agreement management (including governance and oversight), different priorities, and courts that have not been familiarized with investigation cases conducted under the agreement. Therefore, when negotiating a customs cooperation agreement, it is essential to consider the aforementioned aspects as they will come into play when the agreement enters into force. Otherwise a tool intended to strengthen the signing customs administrations’ capacities will be underused.

8 For more information on the EU customs cooperation arrangement, see https://ec.europa.eu/taxation _customs/international-customs-co-operation-and-mutual-administrative-assistance-agreements_en.
A good example of strengthened customs cooperation between a developed economy and an emerging one is that between Mexico and the United States, two neighboring customs administrations at different development levels but with common interests in protecting their trade agreement and their borders and populations. Another common critical interest is the need to process the high traffic volumes at the border, including that of their bilateral trade. On a daily basis, 1.2 million people, 18,260 cargo trucks—including loaded rail containers—and 367,000 personal vehicle passengers cross the common border through 42 border crossing points (US Department of Transportation 2019). In 2019, their bilateral trade in goods amounted to $612 billion (United States Census Bureau 2019), where more than 90 percent of it moved from one country to the other on cargo trucks or by rail.

The 1994 North American Free Trade Agreement (NAFTA) forced both customs administrations to strengthen their cooperation and bring it to a higher level. In 2000, both customs administrations had expanded the scope of their CMAA (US Department of State, 2000), and through the years, these customs administrations have been capable of developing and implementing numerous cooperation programs and mechanisms, including mechanisms for an automated customs data exchange pertaining to transactions in all modes of transportation—some of such exchange in real time—harmonization of electronic cargo manifests, joint customs inspections at shared facilities in 13 ports of entry (Unified Cargo Processing), secure and dedicated lanes for Authorized Economic Operators at six large ports of entry, coordinated approaches to risk management and targeting—including deployment of risk analysts at their targeting centers—joint investigations and enforcement task forces through a Trade Transparency Unit, and business resumption protocols to address natural disasters. Mexico Customs embarked on a strong modernization process in the early 1990s, which allowed it to automate all its processes and conduct its operations based on risk management. Regardless of the gaps in economic development between Mexico and the United States, their customs administrations have proven that it is possible to build and benefit from a strong and well-planned cooperation.

STREAMLINED ORGANIZATIONAL STRUCTURE

A modern customs administration needs an efficient organizational structure capable of delivering the required results effectively and within the resources allocated. The structure cascades from the administration’s mission, vision, and strategic priorities. As an administration’s enabler, the structure should support core customs processes, emphasize customer service, and minimize overhead. The organizational structure will take into account the country-specific priorities and geography, the economic and security needs of the citizens being served, and the national public administration culture. Box 3.3 outlines some key principles to consider in designing an organizational structure for customs.

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Customs within the Government Apparatus

Good practice provides for a customs administration that is established with independence from political direction. The location of the customs administration within government is based on the public administration culture, importance of its fiscal role, and current government strategies and policies. There are three main options: (1) customs fully integrated into the parent ministry (often Finance) structure, (2) autonomous/semi-autonomous customs agency, and (3) customs integrated with tax into a revenue authority or other service like passport control/border security agency. These two latter structures are still normally supervised by the minister/Ministry of Finance directly or through the intermediary of an independent board.10

The main advantages of full integration into the Ministry of Finance are that it provides the minister, who is responsible for budgetary revenue, with full control over an important revenue-collecting administration and can more easily ensure a coordinated supervision with tax policy and the administrations enforcing those policies. In some countries, such a close supervision from a cabinet minister may allow direct political influence in the daily management of customs administration, undermining public trust in the independent administration of customs matters.

In a few instances, regional or state governments benefit from customs revenue directly and have a say in supervising customs administrations, including in selecting regional managers. However, this is not in line with good international practice. A national administration (that is supervised by the central government/minister of Finance) is the most effective way of collecting revenue for both regional/local and central governments. Financial resource needs of regional and local governments should be met through redistribution of revenue by central governments according to a formula agreed and guaranteed by law. On the other

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10 According to the WCO 2019–20 annual report, there were 55 separate or semi-autonomous customs agencies (30.1 percent), 72 administrations integrated into ministry structures, and three border protection services (1.6 percent), in addition to the 53 combinations of tax and customs in revenue authorities (29 percent).
hand, this principle does not negate the need for regional and local customs offices to coordinate activities and to cooperate with regional and local governments.

In some countries (Australia, Canada, United States, New Zealand, and somewhat the United Kingdom), customs is partly or fully integrated into a single border control agency. This was done in line with emerging government priorities and the changing balance of customs administration mandates.

**Functional Direction and Management**

Many customs administrations operate under a functional model. Functional direction can be defined as guidance that cuts across the vertical lines of authority in an organization. This would be, for instance, policy or procedural guidance provided by headquarters (HQ) to frontline (field) operations or direction by one branch or division to another. Functional management links program performance to resource allocation and program expenditures. HQ functional areas set direction and performance objectives for regional or local operational offices and assign the appropriate amount of resources to achieve these objectives (budget, full-time-equivalent resources, training, equipment, and so on). In turn, field operations are expected to deliver on the objectives set, manage and report on operational performance to the functional areas, and use discretionary authority to adjust allocated resource levels responsibly to meet local emergent risks.

Strong functional direction and management are instrumental where field operations are substantial; frontline officers’ exercise of powers has considerable discretion; and operating circumstances vary widely across regions, offices, and functions. Chapter 6 provides an outline of a headquarters functional organization of customs enforcement.

Three requirements to ensure smooth operations under this model are the following:

- The roles and responsibilities of both frontline and HQ functional management must be clearly defined.
- Effective communication and cooperation must be maintained between frontline and HQ functional units at all levels. Frontline managers and staff must know what direction is being received from the functional areas, while functional managers must get feedback from the front line if they are to ensure that policies fit the operational reality.
- Customs senior management must hold both operational and functional managers accountable for their respective responsibilities.

**Headquarters and Field Operations Roles**

**Headquarters**

Modern customs administrations should have a strong HQ function providing oversight and ensuring uniform operations across the field network. The prime responsibility of HQ is the development and oversight of nationally consistent policies, procedures, and performance criteria that are effective in achieving
customs’ outcomes. HQ is not involved in day-to-day operational issues, which are the responsibility of customs regional and local office managers. In customs administrations that are compact, it may be more difficult to separate HQ and field responsibilities, but HQ involvement in day-to-day decision making should be limited to the extent feasible.

HQ should also be responsible for the implementation of international and regional agreements and interaction with bodies like the WTO and the WCO. HQ is to ensure that legislation, regulations, and procedures are up to date, in compliance with a country’s policies, and applied uniformly by each customs office. In addition, HQ should interact with policy makers, in the ministry responsible for customs or others as may be appropriate, to agree on such matters as revenue targets and to provide input on the administrative impact of proposed policy options.

Field Operations

Field operations implement operational policies identified for regional and local structures. They are accountable for border clearance, revenue collection, enforcement measures, and investigations.

A good practice is to have a field liaison function or coordination office at HQ with a corresponding contact in the regions. This relationship can clarify operational direction and guidance to the regions, which helps ensure national consistency and also is a forum for the regions to present issues to HQ for consideration when developing policies and procedures.

Corporate Functions

A modern customs administration requires professional support services to develop policies and deliver programs aligned with government priorities; to draft legislation and provide legal interpretation and advice on policies and procedures; to oversee and participate in the negotiation and implementation of international agreements; and to provide guidance and support for people and financial management, personal and physical security, procurement, material and information management, real property, communication, and ICT solutions.

In addition, it is good practice to have internal affairs, internal audit, and program evaluation reporting directly to the head of the customs administration. Internal affairs should ensure compliance with all security activities and integrity/professional standards. Internal audit and program evaluation should be responsible for reviewing operational, administrative, and financial systems and processes, monitoring compliance with management policies and priorities, assessing effectiveness and efficiency, and providing advice on improvements and how to address issues.

Some corporate functions such as public and media relations, communications, legal affairs, international affairs, and reform and modernization could also report to the head of customs or to a deputy head.
Appendix C presents some ideas on organizational design for a customs administration. This is presented to identify the key components of a typical organization structure and needs to be adapted to each administration’s national context.

**INSTITUTIONAL POLICY CAPABILITY, ENABLING LEGAL AND REGULATORY FRAMEWORK, AND TRANSPARENT PROCEDURES**

**Customs Role in Policy**

Converting government’s strategic requirements into action requires policy and program development. Often a neglected function in customs administrations, analytical and policy capability is critical to sustainable success. A good example in translating government’s strategic requirements into customs programs is the implementation of the WTO TFA measures of efficiency and predictability and building appropriate compliance programs to mitigate the risks. In that context, customs administrations are developing risk management, single-window, advance rulings, authorized economic operators (AEOs), and post-clearance audit programs for their countries.

**Enabling Legal and Regulatory Framework**

A modern customs administration requires a clear policy, legal, and regulatory framework aligned with national legislation; bilateral, regional, and multilateral agreements; and international standards, such as the WCO Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures and the WTO TFA. The legislative instruments include the customs law that requires the approval of the national congress or parliament and the regulations that do not require submission to these bodies. Regulations are therefore more easily updated to reflect current needs. This framework should be supported by transparent and predictable customs procedures.

Customs needs clear and comprehensive legislation that does the following:

- Delineates the competencies of the customs administration
- Identifies responsibilities of the customs administration and the collaborating other government agencies
- Provides guidance, rules of procedure, and empowerment to adequately promote compliance and implement and enforce the provisions of law
- Complies with obligations from international treaties and agreements and good international standards

The customs administration often plays an important role in developing the legislation and regulations, while the parent ministry leads the work by providing guidance and taking the draft instruments further to government (cabinet) for approval and to parliament for adoption when required. This reflects their respective roles, with the ministry responsible for identifying high-level policies for customs administration and customs responsible for implementation.
In preparing new legislation, it is important to consult with stakeholders early in the process and to ensure sufficient time before government and parliamentary review so that customs, the trading community, OGAs, and any other interested parties can provide input and prepare for implementation. This preparation frequently includes developing changes to automated systems and training both customs personnel and traders to understand the new provisions. The legislative process may take several years depending on the scale of changes and the capability to manage and absorb them.

**Transparent and Predictable Customs Procedures and Border Formalities**

Transparent, predictable procedures and border formalities are critical to the smooth and efficient operation of international trade and travel and to the increased competitiveness of the country and its economic operators. Chapter 4 addresses these principles in more detail and discusses tools such as advance rulings.

Some administrative, fiscal, and trade policies—that is, suspensive regimes, exemptions, free-trade zones, preferential treatment agreements, and indirect/special taxes and duties—are very complex. This creates a challenge for traders to understand these policies and for their consistent application and monitoring by customs staff. Such policies make both administration and compliance more expensive and difficult, and customs needs to work at delivering clear and simple explanations of traders’ responsibilities under these policies.

**PROFESSIONAL AND SKILLED CUSTOMS WORKFORCE**

**The Customs Profession**

A professional, well-trained, high-performing, and ethical customs workforce underpins the customs administration. Customs officials need to have specific knowledge, skills, and behaviors. The customs profession has unique and varied roles, only some of which include customs inspector, customs service officer, import and supply chain security specialist, post-control/clearance auditor, risk targeting officer, intelligence officer, and customs investigator.

Some customs administrations struggle with this focus on professionalizing their workforce. The absence of, for example, clear recruitment standards, standardized job descriptions, competency profiles, meritorious promotion policies, a comprehensive learning and development program, and a professional career path hinders an administration’s ability to improve its performance.

**Key Features of an Effective Customs Human Resource Management and Development Framework**

A competency-based human resource management framework offers a sound methodology to translate the customs strategic priorities and core values into
effectively and efficiently. Competency-based management informs workforce planning, facilitates the recruitment and selection of candidates to meet the organization’s needs, and improves the alignment of learning needs to organizational gaps.

The use of workforce planning and gap analysis to assess skills and diversity needs to meet current and future priorities enables customs to have the right number of people with the right skills at the right place. Managers should consider human resource development needs when having performance management discussions with staff, recruiting a new employee, and developing annual work plans. Well-defined and professional job descriptions contribute to effective and efficient recruitment, training, and performance management programs.11

A needs-based training program will ensure that staff acquire and maintain the necessary competencies for their duties. The first step in the development of such a program is a training needs assessment that should be carried out as part of the organization’s planning for the future. Typically, customs training and development include a customs recruit induction training program, professional and specialized training, core value training, and management programs.

A recruit induction training program is a good international practice. There are often two components in this program. Firstly, there is an orientation to the customs administration to become familiar with the administration’s vision, mission, operational goals, and operating environment. At the same time, recruits need to understand their own role in achieving the mission and goals, their conditions of service, institutional values and ethics, and sanctions for wrongdoing. Secondly, other training components develop the knowledge and skills specifically related to the recruits’ duties and to their practical application in an operational environment. An induction training program delivered nationally builds a sense of belonging into the organization, enhances the organizational culture, and ensures consistency in delivery of the learning modules.

Specialized training and development modules provide for the enhancement of knowledge and skills in areas such as valuation, classification, risk management, investigative techniques, and others. Such modules allow the customs officer to become more proficient following the induction training and some on-the-job experience. This training may be offered by the customs administration or through bilateral or international organization support, including virtual learning and recorded training sessions. Other specialized training for emerging skills such as data management or data analytics may be obtained from private-sector service providers or local colleges and universities and on the internet. Core value training covering topics such as proper behavior in the workplace, respect

“The goal of effective human resource management is to have the right number of people with the right skills at the right place at the right time.”

11 WCO has also developed a Framework of Principles and Practices on Customs Professionalism. For more information and WCO tools in this area, see https://clikc.wcoomd.org/pluginfile.php/30120/mod_label/intro/Intro_EN.pdf.
for staff and clients, security protocols, harmonious working relations, and integrity is often delivered in short modules and may be repeated at regular intervals to ensure internalization of these principles.

Leadership and management development programs prepare those participating employees to assume more senior decision-making roles. The curriculum is often built around key leadership competencies identified by the national public service, including the ability to drive a shared sense of purpose and lead change; relationship building; integrity and accountability; and the ability to achieve results in a timely, efficient, and effective manner. A good practice in the design of such a program is to consider the distinctive operational challenges faced by customs managers, such as managing remote work, shift operations, and so on.

Increasingly, customs administrations deliver context-based learning, using real-life examples, simulations, and practical experience in addition to knowledge. A good practice is to offer blended and online learning opportunities so that learning modules can be accessed at any time, completed over multiple sessions, and accessible from remote locations. Box 3.4 provides an example of human resource management functional strategy.

**Box 3.4. Example HRM Functional Strategy**

<table>
<thead>
<tr>
<th>Desired outcomes</th>
<th>Objective</th>
<th>Key actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A customs administration that has the capability needed to deliver on the core priorities now and in the future.</td>
<td>Get the right number of people with the right skill sets in the right job at the right time.</td>
<td>Develop a comprehensive HRM plan linked to organizational needs and aligned with government priorities, organizational goals, and available resources.</td>
</tr>
<tr>
<td>A professional, capable, ethical workforce that is service oriented, achieves results, and is adaptive to change.</td>
<td>Recruit, integrate, develop, and retain an adaptable workforce able to meet challenges now and in the future.</td>
<td>Develop a customs competency framework including a repository of standardized job descriptions, competency profiles, and job performance indicators. Implement a national induction training program to integrate quickly and effectively new employees to facilitate performance, commitment and employee retention.</td>
</tr>
<tr>
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<td>Develop competency-based training and development programs and curricula with blended and online learning options.</td>
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COHERENT INTEGRITY MANAGEMENT FRAMEWORK

The risk of corruption within customs administrations is prevalent because of the very nature of customs work, which is directly linked to the collection of money and the discretionary power of officials to enforce a wide range of complex legislative regulations often in remote and largely unsupervised border checkpoints/points of entry.

The most important institutional factors conducive to a lack of integrity in customs include complex administrative, fiscal, and trade policies. Examples of such factors are suspensive regimes, exemptions, free-trade zones, preferential treatment agreements, special taxes and duties; restrictive tax and foreign trade systems; high tax and tariff rates; complex and bureaucratic procedures; and weak transparency and accountability. At the professional level, they may include poor salaries and a lack of effective preventive, investigative, and disciplinary measures.

The prime responsibility for fostering an environment conducive to integrity and to prevent corruption must rest with the highest political leadership. The head of customs and the management team must advocate for transparency and an accountable administration.

“Lack of integrity in customs undermines not only operational performance but also trust in government and public safety.”

<table>
<thead>
<tr>
<th>Desired outcomes</th>
<th>Objective</th>
<th>Key actions</th>
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<tr>
<td>Effective leadership and management skills and attitudes demonstrated at all levels of the administration.</td>
<td>Build leadership capability and develop strategic and front-line managers equipped with the skill set to lead and manage change in a modern customs environment, provide clear direction and expectations, assess results, and give timely feedback to their team.</td>
<td>Develop and maintain a catalogue of leadership and management competency profiles for both strategic and operational managers, structured development programs, and succession plans to identify talent with strong leadership potential.</td>
</tr>
<tr>
<td>A workplace that is respectful, inclusive, healthy, and efficient, where people strive to excel.</td>
<td>Develop and implement effective human resource management practices and delivery model.</td>
<td>Provide effective human resource management tools and a healthy workplace for employees and leaders.</td>
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<td>Develop workforce diversity and flexible work policies.</td>
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Source: Authors.
Leaders must model the values of the administration through words and actions; demonstrate probity, prudence, and rigorous stewardship of public resources and assets; and create an institutional climate and an incentive structure that fosters high standards of ethics, service, and accountability.

Designing and implementing an integrity management framework requires a multifaceted approach. The IMF’s experience in assisting customs administrations suggests that several elements need to be present, as shown in Box 3.5.

A well-resourced, professionally trained, and value-based customs administration is more likely to operate with integrity. It should have the funds to pay reasonable salaries relative to the labor market to help retain staff and encourage them to be proud to work in customs. Resources to invest in technology and increased automation will lead to less interference by individual officials in customs transactions.

The international community has developed a wide range of instruments and practical tools to develop effective customs integrity management practices. Among different instruments and tools, the WCO developed the Revised Arusha Declaration Concerning Good Governance and Integrity in Customs (2003) supported by a good practices guide on the 10 principles of the Declaration and a model code of conduct.

Box 3.5. Elements of an Integrity Management Framework

- A consensus within government, starting at the highest level, that customs should operate based on professional and technical criteria and be free of intervention for political or personal gain
- Extensive use of information technology and digitalization (zero paper) to reduce human interaction, face-to-face contact with clients, and the physical handling and transfer of funds. ICT also increases the level of accountability and provides an audit trail for review and monitoring of staff decisions.
- Modern management practices that emphasize accountability and service, active engagement with the private sector to address issues of integrity, and an effective control framework based on risk
- A professional customs workforce, based on transparent, merit-based selection, appointment, and assignment, that is subject to a code of conduct for which there are sanctions for inappropriate behavior
- An appropriate remuneration and reward system in addition to a career path for deserving officers
- A legal and regulatory framework clearly defining the accountability, transparency, and control environment for the use of public resources
- Transparent procedures and easily accessible information to the public and trade community defining discretionary powers, appeal mechanisms, and service standards
- A streamlined organization structure, based on functional management with separation of duties, providing clear direction, standard operating procedures, and oversight to ensure uniform and consistent actions by all customs staff

Source: Authors.
EFFECTIVE BUSINESS CONTINUITY PLANNING

The purpose of business continuity planning is to ensure a reasonable effectiveness of administration under critical conditions, including public health crises (for example, pandemics), terrorist attacks, and natural disasters (for example, hurricanes, floods, earthquakes, landslides) when work conditions may deteriorate significantly and/or the critical ICT systems may become inoperable. ICT continuity relies on a protective physical infrastructure, a regular (for example, daily) saving of important data, and the operation of a parallel mainframe computer in a secure distant location that is unlikely to be impacted at the same time by those natural disasters. The operational answer in such demanding times is a return to paper-based essential operations until electricity and/or the ICT systems can be restored. Although there are customs business continuity international standards for natural disasters, the COVID-19 pandemic challenged leaders around the world as it affected all activities and practically all locations of customs operations at the same time (with no haven to continue to conduct business).

A good practice is to refer to the reference material developed by international organizations competent in customs matters, including the WCO, the World Bank, and the IMF. Early in the process of managing COVID-19, the IMF developed and disseminated a Special Series of notes, including on Business Continuity for Revenue Administration and Priority Measures for Customs Administrations12 to secure international supply chains, especially imports of essential goods, as well as continuing to mobilize revenue, facilitate trade, and safeguard border security. The IMF recommends the creation of a response team consisting of managers of all ranks, supported by technical experts, to coordinate response procedures at customs offices and border entry points, in collaboration with other government agencies present at the border and foreign customs administrations. Special practical measures must be put in place for ensuring business continuity during pandemics, including those outlined in Box 3.6.

An example of a country applying a methodology to develop business continuity plans (BCPs) is the Seychelles Revenue Commission (SRC). The SRC has established an Emergency Management and Business Continuity Committee that leads the development of BCPs. Procedures have been developed and training delivered to managers on how to complete risk assessments and to design a BCP. Plans for high-risk areas including the airport passenger terminal, taxpayer services, and information technology have been prepared. A disaster recovery plan (DRP) was separately prepared as part of this process. The DRP allocates specific

12 This publication and other COVID-19-related relevant IMF publications from April 2020 can be found on the IMF website, /Publications/Special Series Notes on COVID-19/Fiscal issues at https://www.imf.org/en/~/link.aspx?_id=27A8645D20AA4186A005A31874F699D0&_z=z#fiscal.
Box 3.6. Special Practical Measures for Ensuring Business Continuity during Pandemics

- Having a contingency plan and a governance framework to manage the crisis
- Protecting staff with personal protective equipment (PPE)
- Restricting traders and visitors from entering customs facilities with strict in/out controls
- Reducing physical interaction during cargo inspections
- Conducting virtual audits
- Ensuring continuity of customs controls even at the expense of limiting the number of crossing points
- Ensuring minimum disruption in the flow of goods across borders while assisting in controlling the movement of the limited number of people (mainly truck drivers and personnel of the various vehicles in international circulation, government officials, and so on)
- Prioritizing and expediting critical consignments (for example, PPEs, basic foodstuffs, medicines)
- Easing controls to minimize disruption and the administrative burden and cost to businesses
- Postponing steps in controls that can be undertaken later (for example, PCA)
- Postponing or easing collection of revenue and penalties following government policies (while strictly registering all steps and incidents)
- Assessing duties and taxes to enable monitoring of late or failed payments after the crisis
- Communicating the above principles to traders so they understand the new/interim rules and protocols

Source: Authors.

roles, responsibilities, and the response procedures for a range of potential scenarios, including widespread industrial action, acts of nature, and pandemics. An Emergency Operations Center will be established to coordinate the response to any of the scenarios detailed in the plans. As a result of this work, the SRC is better equipped to maintain the provision of services and to respond effectively to a wide range of potential challenges.

SUMMARY

A modern customs administration requires sound institutional and professional foundations. Customs policy makers and executives should develop and communicate roadmaps to modernization and embrace international good practices for managing an effective and efficient customs administration. Institutional enabling factors include sustained political support, customs ownership and leadership, and a supporting legislative framework. A well-skilled workforce with strong ethical and organizational values is critical.

An appropriate governance framework, the use of strategic management, and a functional organizational structure that clearly separates headquarters and field responsibilities, as well as a business continuity and crisis management plan, are
Customs Matters: Strengthening Customs Administration in a Changing World

key to improved performance. Customs should develop a coordinated border management approach with other government agencies, build a cooperative relationship with the national tax authority, and foster partnerships with the trading community.

REFERENCES


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This chapter explores how to create a pro-trade and competitive national economy while keeping appropriate revenue collection and border controls by (1) ensuring trader-friendly and transparent procedures and (2) increasing cooperation with other government agencies, the private sector, and other customs administrations—particularly in developing countries (WTO, 2015). Furthermore, the chapter aims to assist customs administrations to develop their strategies for implementation of the various trade facilitation measures that are linked directly or indirectly to customs.

There is no doubt that trade facilitation activities have a positive impact for international traders when they are implemented effectively. Streamlining customs formalities for imports, exports, and transit of goods has the multiple benefits of increasing trade activity while reducing bureaucratic red tape and expensive delays for traders as well as lessening administrative costs at the border. Repeated studies have shown that improvements using trade facilitation measures have comparatively greater positive effects on trade flows than reductions in tariff barriers (Sakyi, Afesorgbor, and Kwako 2019). In addition, increased trade activity has a positive correlation to increased income/growth and reductions in poverty and inequality (Sakyi, Afesorgbor, and Kwako 2019).

The WTO indicates that least developed countries (LDCs) stand to gain the most from improvements in trade facilitation with reductions in trade costs—that is, the cost of getting the goods from the exporter to the importer’s market—of 16.73 percent on average (World Trade Report 2015). An additional critical strength of trade facilitation measures is that it allows administrations to focus valuable resources on areas of highest risk and reduce costly delays for known compliant traders.

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1 The WTO estimates developing and least developed countries (LDCs) to accrue the greatest benefits from trade facilitation measures; therefore, trade facilitation measures between developing countries have the greatest potential for reducing costs and streamlining trade. The UN Economic and Social Council determines which countries are LDCs. The WTO does not have a definition for either developing or LDCs as members make their own determination, which can be challenged by other members (World Trade Organization, World Trade Report 2015).
A FEW WORDS ABOUT TRADE FACILITATION

Trade facilitation in the broadest sense would be any action taken to encourage trade or ease the movements of goods internationally. As a concept, it can apply to the entirety of the supply chain.

In 2015, the director-general of the WTO noted, “Trade costs in developing countries are, on average, the equivalent of a 219 percent import tariff. For each dollar it costs to make a product, it costs a further $2.19 to bring it to developing countries’ consumers. For high-income countries, this cost is closer to $1.34—still a substantial surcharge. Cutting trade costs would therefore have a dramatic effect around the world: a reduction of 1 percent would support a 3 to 4 percent increase in trade growth” (Azevedo 2015).

Between tariff and non-tariff measures, one could posit that the reductions of tariffs would have a greater impact on trade volumes and flows; however, tariffs can be subject to political whims, sometimes contrary to international agreements and accords. On the other hand, it is politically palatable to negotiate agreements to reduce non-tariff barriers, red tape, or other impediments to trade by simplifying, standardizing, and harmonizing border requirements.

Figure 4.1 depicts the main events since the end of World War II on the journey toward increased trade facilitation.

Figure 4.1. Key Trade Facilitation Events since World War II

Source: Authors.
THE STATUS OF THE WTO TRADE FACILITATION AGREEMENT

The most significant recent trade facilitation framework is the WTO TFA. TFA is based on the core principles and measures contained in the WCO Revised Kyoto Convention, which was the key reference instrument during the WTO trade facilitation negotiations. TFA sets rules on trade facilitation and requires members to implement a suite of trade facilitation measures to ease border congestion, increase customs transparency, and speed goods to market. By now, many countries have taken preliminary steps toward implementation; however, surveys by the UN Global Survey on Digital and Sustainable Trade Facilitation show developing countries behind in implementation of the various articles and measures, as many trade facilitation measures are complex and require either additional capacity or resources to put in place. As can be seen from the 2021 survey, implementing these measures has been particularly challenging in sub-Saharan Africa, LDCs, and Pacific Island nations (UN Global Survey on Digital and Sustainable Trade Facilitation 2021).3

The WTO TFA is, for customs, one of the most impactful international agreements since the implementation of the GATT. It touches on all aspects of core customs processes, such as transit of goods, clearance, and post-clearance audit, to backroom activities, such as risk management, appeal procedures, and advance rulings. The overarching driver behind the WTO TFA is to make trade flow more freely by reducing the administrative burden through simplification, standardization, and harmonization, done in a transparent manner, and under a coordinated border management approach.

The conclusion of the TFA has provided an important boost and momentum in moving the trade facilitation agenda forward. Development partners and donors have contributed with substantial financial support, while international organizations have launched dedicated assistance programs to support its implementation (WCO Mercator Programme 2014).

Technical assistance for trade facilitation is provided by the WTO, WTO members, and other intergovernmental organizations, including the World Bank, the WCO, and the UNCTAD. In July 2014, the WTO announced the launch of

“The WTO TFA’s timeline for implementation of the measures is linked to the individual capacity of each member-state, with developing and least developed countries receiving capacity development assistance as well as additional time to meet the TFA requirements.”

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3 See also https://www.tfafacility.org/ and https://tfadatabase.org/, where the WTO publishes the official notifications sent by members regarding the implementation status of the WTO TFA.
The COVID-19 crisis underscored the critical need for more effective and efficient trade and faster and more technologically based customs processes. The crisis brought about by the pandemic laid bare the limitations of customs administrations who were still requiring paper documentation and in-person interactions to release goods. The issue of customs and other border control agencies holding up relief supplies is often cited as a major roadblock to international aid getting to needed recipients as quickly as possible. This can be further complicated for landlocked countries that rely on transshipment to receive supplies, as intermediary countries may apply additional rules and regulations for goods to pass through their territory. There may also be export controls, transshipment controls, and import controls on the same shipment. During an emergency, customs can facilitate goods movement quickly; however, if implemented poorly or without the proper risk management controls in place, unscrupulous traders can take advantage of the situation to avoid paying taxes and duties by misclassification or mis-valuation or to move illegal, illicit, or contraband and counterfeit goods, generating unfair trade and threats to citizens’ security and safety.

The requirement for more effective and efficient customs, which also act as the coordinating body for other border control agencies, is clear. During the COVID-19 crisis, almost every customs administration in the world implemented some trade-facilitative measures to support national efforts to reduce infections and protect first responders and members of the public. The WCO produced a list of actions taken by various member-states to facilitate trade in goods required...
to combat COVID-19, including measures such as lowering or waiving duties and taxes (WCO 2020). The IMF also produced policy advice for administrations to respond to the COVID-19 crisis (for example: Priority Measures for Customs Administrations; and Tax and Customs Administration Responses [IMF 2020]). Likewise, the World Bank Group also published several series of publications to support countries in response to the pandemic\(^4\) (WBG 2020). Many administrations also implemented other trade facilitation measures, such as implementing e-declarations and accepting electronic documents, electronic signatures, and e-payments, to name a few. This illustrates how even those administrations that perhaps did not have a formal plan to deal with a pandemic of this nature were able to quickly implement many measures to face the crisis.

Additionally, as seen later, there are many humanitarian policy initiatives and instruments designed to help reduce the impact of customs on relief efforts.

Unexpected events and crises like the COVID-19 pandemic can have a deep and significant impact on international trade; for example, UNCTAD’s Nowcasts\(^5\) in December 2020 identified the value of global merchandise trade a significant drop in export values and volumes in the first half of 2020 linked to the COVID-19 pandemic. While global trade in merchandise improved in the third and fourth quarters, it was insufficient to recover the drop from the first half of the year. This would be the greatest contraction in merchandise trade since 2008 when, due to the financial crisis, the value and volume of merchandise trade fell by 22 percent (UNCTAD 2020). However, improved trade facilitation measures can be effective tools for mitigating some of the damage. This is particularly true for low-income countries engaged in south-south trade, as complex trade arrangements dissuade firms and countries from engaging in international production and trade (Sakyi, Afesorgbor 2019). Trade facilitation measures are part of an overall management strategy for all customs administrations where the underlying goal is always to facilitate legal, compliant trade while focusing resources on the unknown, noncompliant, or high-risk trade and traders. To this end, many of the trade facilitation measures mentioned here will be covered in greater detail in other chapters as they have both a facilitation aspect and a compliance or control aspect.

The UN Economic Commission for Europe (UNECE) and its UN Centre for Trade Facilitation and Electronic Business (UN/CEFACT) define trade facilitation as “the simplification, standardization and harmonization of procedures and associated information flows required to move goods from seller to buyer and to make payment” (UNECE 2012). This is not a new concept, and prior to the WTO Bali Agreement, various UN organizations and the WCO developed the international standards to encourage customs modernization and trade facilitation. Many organizations, including, at the international level, the IMF and its


\(^5\) UNCTAD’s global merchandise trade Nowcasts are real-time estimates of current trends in international trade in goods based on timely information from many data sources. The nowcasts presented correspond to total merchandise trade in value and volumes for the previous and current quarters.
sister organization the World Bank, and non-government organizations (NGOs) have consistently supported their implementation. Trade facilitation implicates the entire trade supply chain and invokes improvements between all trade chain partners including buyers, suppliers, transporters, wholesalers, banking and finance, importers, exporters, shippers, and so on. However, for our purposes, the discussion is limited to customs, traders, other border control agencies, and trade chain partners who interact with customs and those trade facilitation measures that directly or indirectly impact the work of customs.

THE TRADE FACILITATION PILLARS AND CRITICAL CONSIDERATIONS FOR EACH

The United Nations Trade Facilitation Implementation Guide identifies the four pillars of trade facilitation as transparency, simplification, harmonization, and standardization (United Nations UNECE 2012). These are the key concepts on which successful and lasting facilitation measures are built. In this chapter we will explore all four pillars, providing suggestions for an implementation strategy that can be adapted to individual customs administrations’ current needs.

Pillar 1: Transparency

Information and advice need to be available for all who participate in trade. Business requires predictability in costs, processes, and government requirements. Transparency supports businesses by making the “rules of the game” accessible, and this in turn leads to improved compliance as traders are informed and understand the business of trade. There should be no mystery to importing or exporting, and guidance documents should be written in plain terms, not overly technical, and available in the languages that traders speak and, when possible, by electronic means. Transparency refers to predictability on the one side, which indicates the degree of essential information on customs and all border formalities, rights, and obligations, available in advance to all stakeholders and, on the other side, accountability, which presents a clear responsibility for each country to safeguard private and public interest on trade, to enforce policy and procedural measures to ensure it, and to provide reliable information to all parties concerned. Furthermore, it includes participation of trade stakeholders (public and private sector) in consultation and interaction in the legislative process, providing their views and perspectives on proposed laws before enactment to facilitate compliance.

Pillar 2: Simplification

Customs processes need to be streamlined for all agencies that work together to manage the border. Coordinated approaches should make crossing the border as simple and straightforward as possible. Processes are examined to remove duplication, unnecessary approval levels, discretion, and any nonessential steps. This is often achieved using technology, ensuring the appropriate legal framework is in place, and coordinating with other border agencies and in consultation with traders.
Pillar 3: Harmonization

National processes need to be aligned with international conventions, standards, and practices. Harmonization creates opportunities for greater cross-border cooperation between administrations. Customs operations should be similar around the world—this is achieved through the adoption of international standards, the cross-border sharing of information with other customs administrations, and the use of reciprocal agreements and other activities that promote working closer with partner administrations.

Pillar 4: Standardization

Standard policies, procedures, formats, documents, and processes need to be created within customs administrations so goods are treated the same way at every border crossing. The standardization of processes supports eventual cross-border harmonization. This is achieved through various methods including creating one declaration document, having standard operating procedures for when goods are searched or seized, or publishing a list of required documentation to provide with a declaration. This provides predictability and consistency to anyone that deals with the customs administration.

Harmonization refers more to aligning policies to international standards, while standardization helps ensure consistency for traders that processes and documentation required for importing will be the same. As these two pillars work closely together to promote trade facilitation, we discuss them in the same section later in the chapter.

Next, we explore all four pillars, giving concrete suggestions for implementation. We also discuss the complexity of implementing the measures as well as provide a suggested implementation strategy, or roadmap, that can be adjusted to individual customs administrations’ needs.

Transparency

The goal of customs is to achieve compliance: compliant traders classify, value, and declare the origin and amounts of their goods honestly following policy and pay duties and taxes owing without intervention from customs. Traders and others involved in international trade should be able to access the necessary information to determine everything they need to complete their transaction. The aspects of trade facilitation that promote transparency include published customs information, fairness, access to expert advice, post-clearance audit (PCA), stakeholder engagement, trusted trader programs (TTPs), and access to recourse.

On the other hand, transparency and accountability are part of good governance and integrity programs in customs administrations (as covered in more detail in Chapter 3). Mechanisms ensuring transparency and accountability encourage both public officials to act in the interest of the public and enterprise representatives to protect the interest of shareholders. Good governance and integrity are nowadays integral parts of every customs administration’s strategic and operational objectives. The Declaration of the Customs Co-operation
Council concerning Good Governance and Integrity in Customs (WCO Revised Arusha Declaration 2003) is a tool and important feature of a global and effective approach to preventing corruption and increasing the level of integrity in customs administrations.

**Published Customs and Border Procedures Information and Service to Traders**

One of the easiest ways to encourage compliance is by ensuring that traders and the trading public have access to all appropriate acts, codes, regulations, and policies, and in some cases, customs have also published written advance rulings. The publication of such information can be straightforward; the challenge is ensuring that this information is stated in plain, understandable language; is available to whomever wishes to read it; and is kept up-to-date. The use of guidance documents to explain import, export, and transit of goods procedures, including penalty systems, rates of duty, and appeal rights, as well as how to apply for various customs programs, such as bonded or customs-controlled warehouses, drawbacks, or temporary admissions, is a critical step in improving trader knowledge as well as creating transparency around customs processes. All guidance documents need to not only contain information about the program or customs process but also give a clear indication of what needs to be done to be compliant.

In the modern age, publishing of information is not as onerous as it once was. Customs administrations can develop web-based information, which can be readily available to traders and the public at large for little effort or cost, including the use of social media, which has demonstrated effectiveness in communicating and updating the trade community about customs-related issues. The WTO TFA under Article 1, subsection 2, requires that each member shall make available (and update) (1) descriptions of procedures for importation, exportation, and transit, including recourse processes and rights as well as the practical steps required; (2) required forms and documentation for these processes; and (3) how to contact customs enquiry points (WTO 2020b). Table 4.1 provides more information.

Transparency requires not only that the information is available but that traders are able to ask customs questions and seek expert advice. The provision of an enquiry point is also a strong trade facilitation measure. Enquiry services can include internet or telephone self-service options with automated systems, including bots, linked to service agents to respond to more complex questions. The email service treats questions that range from basic to complex. Any service of this type will need to include service standards noting how long responses or wait times should be. In

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international call centers, a frequently used service standard is that calls are answered within 120 seconds and more complex calls are transferred to senior trained agents who may have to call back with more information. A frequent email service standard is that all emails receive an acknowledgement within 48 hours and questions are responded to within seven days; more complex questions are referred to senior trained agents who may take up to 30 days to respond. Requests for expert advice are discussed in the advance rulings section that follows.

For many administrations, a small contact center could manage most enquiries on a national basis. Some administrations have calls directed to local customs offices or other border agencies for response—a practice that is not recommended as service is inconsistent, is more difficult to manage, and does not ensure that the correct information is shared with traders. Contact centers can develop what is known as a “probing guide,” which is a collection of responses to the most frequently asked questions. Information agents can use the guide to provide callers with the information they require. The most basic questions can also be programmed into most call center systems or placed on webpages for self-service purposes. At times, it is necessary to talk to an agent to clarify the question and find the required information.

Contact centers can also be a source of information leading to further analysis of current customs formalities, identification of procedures, and documentation that need further streamlining and simplification. Figure 4.3 is a typical contact center flow chart showing how enquiries can be treated either by phone, by email, or through internet inquiries.

In addition to the critical elements of availability and usability, information must be up-to-date. Whatever is used or published must have a regular review to ensure
that any changes to programs, policies, regulations, applicable codes, and forms are reflected in the information provided to traders and others. It is important to note that enquiry points can provide general information on import and export procedures, forms required, and regulations for border agencies. They are not, however, a replacement for advance rulings, which are legally binding rulings and require a set application process. Advance rulings will be discussed later in the chapter.

If so desired, enquiry agents can play a key role in outreach and training to the trade community. These agents can provide training for traders and other supply chain partners, like customs brokers/agents, transporters, and freight forwarders, and so on. Providing training will highlight the transparency of an administration and help promote voluntary compliance.

A basic level of training can be achieved with an easily accessible website and clear published procedures. More advanced outreach programs can provide workshops on importing topics developed for specific audiences, such as Small and Medium Enterprises (SMEs), customs agents, or brokers, and so on. Providing training will highlight the transparency of an administration and help promote voluntary compliance.

As an example, in March 2021, the National Customs Service of Costa Rica launched its first web portal called “AduanaFácil (Ministerio de Hacienda 2021)” inspired by articles 1 and 2 of the WTO Trade Facilitation Agreement. This web portal, a first for Customs in Costa Rica, developed a “one-stop-shop” approach that includes more than 25 guidelines, 16 procedures manuals, and six services. Everything is written in easy-to-understand language and allows customs to increase transparency and trade predictability and promote foreign investment and voluntary compliance. In just three months after its launch, this new web portal reached the threshold of more than 73,000 visits from 62 countries and has been broadly recognized as a key achievement of the National Customs Service by other governmental agencies and the private sector at the national trade facilitation committee (NTFC). This initiative has demonstrated the value
added for these types of tools for providing information, services and strengthening the relationship between Customs and stakeholders. Costa Rica also used the portal to support traders during the COVID-19 pandemic by providing service and information while limiting face to face contact.

Fairness Provisions

Fairness provisions speak to equal treatment of traders and others who use the services of customs. There is no differentiation of information provided to any trader and no differentiation in treatment of compliant traders and trade chain partners. All fees and charges for the same services are published and known without differentiation based on the trader. Compliant shipments identified in the green channel that were automatically cleared for release by the system are cleared and released in first in, first out (FIFO) order with no preference given to any particular trader. (This, of course, may be influenced by any TTP whereby program participants receive expedited clearance due to their high level of compliance; TTPs are discussed in depth later.)

Imports and exports should not be selected for either documentary review or physical inspection arbitrarily. They should be selected based on risk, as articulated in a comprehensive risk analysis and management process as discussed in Chapter 5. While there may be benefits to conducting random inspections, this process should be conducted in a statistically randomized way and not at the arbitrary whim of a customs officer. One way to avoid this risk is to have a computer system select those shipments that will be randomly reviewed.

Article 10.6 of the WTO TFA addresses the role of customs brokers, recognizing the role that brokers play in concert with many customs administrations. The agreement specifically bars member-states from introducing any new requirements for the mandatory use of customs brokers for completing any customs formalities. In a trade facilitative environment, traders should be able to complete their customs requirements without a mandatory intervention of a broker, although there may be business reasons for engaging one.

Access to Expert Advice

Providing access to expert advice within an administration can be achieved in several different ways, including access to advance rulings, a consistent appeals mechanism, and training offered by the administration to various actors in the importation process, as outlined in the preceding section on published information.

One of the main ways to provide access to advice for traders is through advance rulings. They allow traders to access consistent, binding decisions on how goods will be treated when they are imported. This allows traders to better plan for the costs of importation. Predictability of the rules and their administration is critical for business. As mentioned previously, advance ruling are more specific, will often entail an application package supplied by the trader, and may include product information, data on the origin of various components, and so on. The officer will then conduct research and verification of the goods, including sending any samples to the customs laboratory in order to issue the advance ruling.
The main features of an advance ruling are that it is binding and provided in writing, has a right to an appeal, and is issued within a reasonable time frame, as defined by the WTO TFA. Having the ability to publish the advance ruling (under anonymity of the requesting company) for other traders to access will increase the transparency of the process and eliminate multiple advance ruling requests for similar products from different traders. Also, the exchange of advance ruling among trade treaty partners is highly recommended to provide uniform treatment to stakeholders within the free trade area. Application requirements should be published and readily available. All traders should be able to request an AR with no arbitrary discrimination in place.

To properly execute an advance ruling program, an administration will need a structure in place. It will require experts working in the areas that the advance ruling are offered, the ability to publish the requirements and outcomes of the rulings, and access to an appeals process. The main areas of advance ruling include tariff classification, origin, and valuation, and detailed training in each area should be provided to the customs officers providing the rulings. Combining the advance ruling program with that of PCA is one way to take advantage of the experience of a PCA program, as many of the skills of an advance ruling officer are transferable to PCA. These skills include knowledge of the tariff classification and valuation programs, ability to conduct research, and strong written and oral communication. If officers are rotated regularly, then an effective career progression includes work as an advance ruling officer followed by work as a PCA officer.

One other feature of an effective advance ruling program is providing traders with a right to an appeal. The advance ruling appeal process should be operated independently from the area that issues the advance rulings, either at a higher level of decision-making or in a separately operated recourse division. (Appeals are discussed in further detail in a subsequent section.) Integrating this appeal process into one that is already set up for PCA can help build efficiencies into the process and take advantage of expertise in program areas.

**Post-Clearance Audit**

PCA is a control measure that verifies the information declared to customs using the books and records of the importer and their customs agent or broker to confirm that the correct duties and taxes are paid. It is a method used to measure the compliance level of an importer. Customs administrations that have an effective PCA program in place spend fewer resources at the border verifying basic customs information and can focus resources on areas of higher risk. Since fewer

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shipments are subject to inspection or verification at the border, there are fewer
delays and reduced dwell time as cargo is released more quickly. It also gives
administrations the confidence to know that irregularities in customs declarations
will be discovered after the goods are imported. Unfortunately, for most develop-
ing countries, there is limited investment in PCA, as it is complex work, requiring
specialized training, sometimes without immediate benefits for the administrations. A greater focus in this area has the potential in the short term to increase
revenue and in the longer term to have a significant impact on trader
compliance.

The key elements of a PCA process are based on the principles of it being risk-
based and transparent and providing for due process. It is a program that can
measure the compliance of traders and allow for segmentation of traders into risk
levels. This is an important mechanism that brings confidence to facilitation of
importations across the border without the checks being performed at that time.

The selection of entities to audit should be based on a variety of factors,
including identified risk indicators from the customs administration’s risk man-
agement process, its analysis of customs regime compliance issues, HS code
studies, and relevant sectoral studies. The results of the audits should be fed back
into the risk management cycle to ensure that future risking decisions are made
with current information. More information on the technical aspects of risk man-
gement and PCA can be found in Chapters 5 and 6.

A challenge often faced by administrations is to implement a full systems-
based PCA program while building staff capacity and establishing proper policies
and structures concurrently. A systems-based PCA or customs audit program
means that PCA should not be based solely on the customs transactions presented
or selected at a given time; rather, it should be a review of the systems (ICT or
paper-based systems for ordering, purchasing, shipping, insurance, banking, pay-
ments and so on) to verify that the correct information is collected and used
appropriately at each stage in the import, export, and transit of goods processes,
including inward and outward processing, to satisfy customs requirements.
Establishing a PCA section necessitates a large amount of work and commitment
from the administration. It may require the revision of legislation or changes in
organizational structures. Each administration will be starting from its own
unique operational environment and will need to develop a customized plan for
developing a PCA section or building capacity into a section already in place.
PCA is an iterative process that begins with document reviews and transaction-
based audits and moves toward system-based audits. The PCA program can be
implemented in phases to ensure that a solid foundation is created. In this way,
administrations can begin to reap the benefits of improvements in revenue and
the emergence of compliance results.

**Stakeholder Engagement**

For any trade facilitation measure to be successful, a thorough stakeholder
engagement process should be developed. The administration should formalize
an engagement process and delegate an organizational area to oversee the process and to guide the many program areas in how they will identify stakeholders and methods of engagement, compile the issues, and report on findings. Figure 4.4 represents how this process works. This stakeholder engagement unit can be part of a communications or public relations division of an administration. It is important that all areas of the administration follow the same framework and processes in their engagement.

Stakeholder identification is an important part of the process. A customs administration should look at stakeholders both inside the government and in the private sector. Government or border-related bodies, like revenue agencies, health and agriculture ministries, and immigration authorities, should be included. Private sector bodies having an interest in border and trade matters should be considered, and it is important to look at more than just trader and commercial entities. Police, security, and IT organizations are also important to consider in

\[\text{Figure 4.4. Stakeholder Engagement Model}\]

- Provide feedback to stakeholders
- Proposal for new initiative or change to an existing one
- Refine proposal based on feedback analysis
- Identify key internal stakeholders
- Ensure external stakeholder representation is balanced, large, medium, small, gender, and so on
- Multimodal consultations: person, small groups or at trade events, and so on

Source: Authors.

addition to customs agents/brokers, freight forwarders, couriers, and transportation companies.

One potential problem with stakeholder identification is the tendency to focus mostly on large stakeholders that hold a lot of influence. A balanced stakeholder engagement strategy includes smaller traders, female trade organizations, and minority groups. Including multiple voices in the conversation can bring new perspectives and help make the trading system more accessible. This can have economic benefits by ensuring an inclusive business environment.

After stakeholders are identified, the method of engagement can be developed. Having a standardized process for conducting the engagements, with flexibility built in depending on specific circumstances, will allow for a streamlined process that should be conducted in a reasonable time frame. These methods should take the stakeholders’ needs into consideration, including any language or cultural barriers, and ensure that all stakeholders have the same level of access to the engagement process. Formal engagement channels can then be established, and stakeholders can be confident that their concerns will be heard.

It is important that the administration customize the engagement process to meet the needs of their stakeholders. For example, if there is limited internet access in many areas of the country, it will be more important to have written material available and schedule in-person engagement sessions. Geographically dispersed populations may mean that engagement happens in a number of different centers of business where smaller countries may be able to hold one session in the capital city.

It is also important to have a formalized process for reporting back to stakeholders on the results of the engagement practice. Without feedback demonstrating interest and results, stakeholders will quickly lose confidence, while timely and constructive action and feedback will build trust, cooperation, and voluntary compliance. This feedback can be as simple as a printed report circulated or provided online. Sometimes it may be preferred to have a formalized meeting to report back to individual stakeholders. The method of reporting will depend on the constituency of the stakeholder group and can be decided in consultation with the stakeholder engagement unit.

Once these communication channels and processes are in place, the administration can be in regular contact with stakeholders. The national trade facilitation committee can set up standing meetings with key stakeholders to take place at defined intervals of time, not just when a certain issue needs to be discussed. Having this open forum for dialogue can help stakeholders present their issues to customs before they become bigger problems and allows for earlier and less costly resolution.

**Trusted Trader and Authorized Economic Operator Programs**

While all authorized economic operators (AEOs), are TTPs, not all TTPs are AEOs. Both are based on the compliance histories of traders and may grant certain privileges. The main difference between them is that the AEO programs
include security requirements and standards while not all TTP include such requirements and standards. Many of TTPs are only focused on compliance, including tax compliance. TTPs can be the first step in the evolution to a full AEO without the significant investments.

As a good example, in Belize, customs introduced a TTP in 2017 to replace a Voluntary Compliance Program (VCP) that removed penalties for companies that chose to disclose errors or noncompliance. The TTP built on the VCP and gave additional defined benefits to members to allow for faster, easier cargo clearance. It is aimed at importers and includes a rigorous risk assessment and periodic risk testing. Approximately 80 percent of imports by CIF are now brought in by TTP members with trade by members increasing by 35 percent since the start of the scheme and, importantly, revenue from TTP members increasing by more than 50 percent.

Pursuant to Article 7.7 WTO TFA, each member shall provide additional trade facilitation measures related to import, export, or transit of goods formalities and procedures to operators who meet specified criteria, called authorized operators (AO). Alternatively, such trade facilitation measures can be offered through customs procedures generally available to all operators, and establishing a separate scheme is not required.

Some factors to consider when setting up AO qualification criteria include:

• demonstration of a system to manage customs records,
• a positive record of compliance,
• financial stability,
• the ability to post appropriate security,
• meeting the required level of supply chain security, or
• factors related to regulations or procedures for importation that can be measured by the administration.

None of the above criteria should be unnecessarily restrictive or discriminatory.

In 2005, the WCO adopted the SAFE Framework of Standards, one of the key components of which is AEO. The framework set out a high standard to meet in establishing a national AEO scheme. Administrations in less developed nations may want to start with a national TTP that has a lower threshold for obtaining membership. Building a TTP based on achievable standards allows local traders to work with an administration to improve compliance.

It is important to balance the work that a trader must complete to meet the set AEO criteria with the benefits that it will accrue once they successfully become a member. The benefits should be published, be easily understood, and

“If the administration is facing an importing community that has a large amount of small and medium-sized enterprises, it can look at having a tiered TTP with benefits increasing as more criteria are met by the trader.”
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represent a tangible reward for their efforts. Some of the benefits can include fewer inspections or priority treatment at the border, reduced security and guarantee requirements, expedited release and pre-clearance, and simplified procedures. In some customs administrations that do not correctly apply risk management principles, have excessive customs officer discretion, or suffer poor border management, the benefits that would normally accrue under a TTP or AEO are severely eroded, making them less attractive to the trader and, in reality, a barrier to trade rather than a facilitation measure. Zimbabwe, for example, launched an AEO program but a few years later realized that it was not achieving the planned or desired results for either the administration or participating traders. In 2020, an action plan for legislation and needed reforms was introduced. The plan has been shared with industry, focuses on enhanced program management and improved client relations, and aligns the program to international standards.

Results of PCA should be included in the assessment of a trader’s AEO application. If the administration has a well-developed PCA program, it can draw on the information and intelligence generated by PCA officers through completed compliance reviews on the trader to compile a report of the trader’s compliance history. An administration should establish a qualified team in AEO certification, which can establish contacts, develop dialogue, and closely monitor the applicant until the trader compliance level and trust develop to satisfactory levels. The AEO team shall cooperate closely with experienced PCA officials who may assist in the design of AEO guidelines and recommendations for the traders to help them improve their internal procedures and better demonstrate their compliance levels. While the PCA approach related to AEOs would be more efficient when used in situations when the information and explanations given by the company do not satisfy the administration, PCA’s main role is broader than merely supporting AEO.

If the administration is facing an importing community that has a large amount of small and medium-sized enterprises (SMEs), it can have a tiered TTP with benefits increasing as more criteria are met by the trader. It can sometimes be difficult for SMEs to meet strict AEO criteria or have the financial ability to invest in security and other controls. This option will give these traders more time to build their capacity to meet the AEO criteria while still realizing some benefits of the program by meeting a less strict standard and provide encouragement for graduating into a higher tier.

One added feature of AEO programs is that a mutual recognition agreement with a foreign AEO program could be considered. This will significantly improve the benefits to a trader by allowing them access to the foreign AEO program by virtue of their acceptance into their home administration’s program. This is a particularly significant benefit for landlocked developing countries (LLDCs), as the bulk of their trade must pass through at least one other jurisdiction, increasing the costs of both importing and exporting. In some cases, such as the East African Community (EAC), LLDCs’ transport costs can be as high as 75 percent of the value of the export (Hassan, Odularu, Babatunde 2020). This type of program has the potential to reduce transit time and costs for traders.
AEO mutual recognition agreements should not incur many added costs for the administration as the acceptance into the foreign AEO program is contingent only on the trader meeting the home AEO program requirements. Having a well-developed AEO program in place positions a customs administration to take advantage of mutual recognition agreements and to make those agreements more attractive for potential partners.

WCO has developed and published an AEO Compendium (WCO 2020), which has become a single point of reference of information for customs administrations, the private sector, and other stakeholders. Information in the compendium is provided and verified by WCO members. The AEO compendium is incorporated in the WCO SAFE Package, which contains several tools to assist with establishing and administering AEO programs.

Access to Recourse

It is important that customs administrations work in a transparent way and that they be accountable for their decisions. One way to hold customs administrations accountable is through an appeal or review mechanism. There can be an imbalance of power between a trader and customs, and one way to ensure fairness and to reduce corruption is through accountability. Requiring that decisions be provided in writing and include a detailed explanation of the reasons the decision was made is one way to increase transparency and allow the trader the ability to prepare an appeal.

In the WTO TFA, providing an appeal mechanism is mandatory for any administrative decision that is issued by a customs administration. This can include both actions and inactions taken by customs. The Revised Kyoto Convention (RKC) sets out key governing principles for customs administrations including principles for appeals. The appeal system should consist of four levels: (1) the right to request the reason for the decision, (2) the right of an initial appeal to customs, (3) the right of further appeal to an authority independent of customs, and (4) the right of appeal to a judicial authority.

Having an escalating scale of appeals allows the customs administration to quickly correct small oversights or mistakes at a lower level while still providing a mechanism for a higher-level review when warranted. This can save time and money for both customs and the trader. As the appeal advances through various levels, the process should move to a more autonomous review, first allowing the customs administration to review its decision and then moving to an arm’s-length review by an independent authority or administrative tribunal before being heard by the courts. Each of these levels should have a reasonable time allotted for a decision to be rendered and the ability to escalate the issue if a decision is not forthcoming within that time frame. This will ensure that customs does not arbitrarily stall a decision that it views as unfavorable.

Access to the different levels of appeal should be the same for each trader without any unnecessary barriers, such as fees to submit an appeal or overly complex procedures. However, it is acceptable for customs to require that the duties and taxes be paid or security be posted in the form of a bond or some other financial instrument prior to accepting an appeal request. Failure to pay the duties and taxes owing or post security can result in additional interest charges for the importer. A trader should not be required to use the services of an agent, broker, or lawyer to lodge an appeal.

In all cases, customs shall be required to provide the reasons for the review decision, whether the appeal is accepted or dismissed, in writing to ensure transparency. The right of appeal in customs matters will contribute to a predictable trading environment, especially in conjunction with the publication of customs law and regulations.

Results of the hearings of any administrative tribunal or appeal mechanism should allow for those decisions and reasons to be published. This allows a collection of jurisprudence for traders to review when considering an appeal. It can also be used to ensure consistency in treatment to guide both traders and customs officers in making future decisions.

It is also worthy to consider investing resources in delivering training to judges since customs and international trade are complex contexts with which judicial authorities may not be familiar and which may cause misunderstandings of some operations and provisions. It is equally important to promote transparency at administrative and judicial tribunals as a key element for fair and impartial resolutions.

**Simplification of Trade Formalities**

Much has been written in the past few years about the complexity of customs formalities. The Organization for Economic Co-operation and Development (OECD 2020) publishes trade facilitation indicators and includes metrics specifically regarding simplification and harmonization of trade documents. While many assume these requirements and formalities are “customs” requirements, in fact there are often many different agencies involved with the import and export processes, often each with its own specific documentary requirements. Simplification speaks to customs working with the other regulatory authorities to look for overlap and duplication and eliminate them at the same time as customs looks to streamline its own requirements. This requires looking at not only what information is required but also when and how it can be collected and used.

Technology is a key enabler in simplification; however, there is a tendency in some customs administrations to mirror existing processes and to simply use a computer to do a function that used to be done manually with paper documents. The real challenge is for administrations to understand why certain steps and requirements exist in import, export, and transit of goods procedures and to

“The real challenge is to understand why certain steps exist and eliminate those that do not add value.”
eliminate those that do not add value to the whole process. In this context, business process reengineering (BPR) is an important approach for streamlining procedures, defining stakeholders’ interactions, and reducing and defining the flow of documents and information. Management should focus on continuous improvement of customs processes, help identify organizational bottlenecks, simplify procedures and formalities, and bring business practice in compliance with international standards, such as the TFA. Engaging with stakeholders in the private sector is critical in identifying bottlenecks, overly bureaucratic processes, and roadblocks to trade facilitation. As there are oftentimes many government agencies involved with border procedures, it is equally important to take a whole of government approach to ensure that one bottleneck is not inadvertently replaced by another.

Furthermore, cooperation between customs and trade to engage in a process to improve formalities and their participation in pilot initiatives is very beneficial. An example is the national public–private alliance launched in Brazil in 2003 to improve customs processes and facilitate trade.\(^\text{10}\) The following are some approaches to simplification:

**Legal Framework**

A critical early step in the simplification process is a review of the legal framework for customs. Many customs codes have not been updated for long periods of time—in some cases, decades. To facilitate trade, the legal framework for customs needs to be clear, concise, and transparent for all involved in trade. Most trade facilitation measures require a basis in the legislative code to function. For example, a PCA unit requires the authority to compel an importer to produce books and records, the authority to conduct audits on traders’ premises, the ability to assess and reassess duties and taxes, and the ability to levy fines and penalties. In some developing countries, due to the existing code, the courts have determined that customs cannot make these changes and the ability to make these adjustments only exists at the point of entry. This means that goods are held at the frontier or clearance office pending a decision by a customs officer, which slows trade and increases costs.

Likewise, most older customs codes did not contemplate the existence of programs such as single window, TTP/AEO, and other trade facilitation measures or e-commerce and e-payment measures, such as electronic signatures or the acceptance of digital documents (manifests, waybills, procurement orders, and so on). Neither do they have provisions for administrative or civil penalty systems. A frustrating trend in some customs codes is that all penalties are enshrined in the legislation, and they are often seen as too lenient or too severe for the infraction (that is, a $50 fine or five years in prison). These penalties seldom get updated because of the significant time and effort that is required to get legislative changes through parliament. A better practice, particularly for civil or administrative

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\(^{10}\) For more information about this, see https://tfig.unece.org/cases/Brazil.pdf.
penalties, is for the legislation to grant the authority to the minister responsible for customs to create and maintain a penalty system through regulations. The administration can then create a master penalty document or codex for a variety of infractions and the penalties can be updated and reviewed on a periodic basis without the need for an overhaul of the legislation. Many customs codes need updating to meet international standards, such as the WTO TFA, as well as reflecting the countries’ participation in regional trading blocs or customs unions (Communauté Économique et Monétaire de l’Afrique Centrale [CEMAC] or the Caribbean Community [CARICOM], for example).

The WTO TFA establishes in Article 2 that traders and other interested parties must be given an opportunity and reasonable time to comment on proposals for new trade-related and customs laws and administrative regulations as well as any amendments thereto. Additionally, new or amended laws and regulations must be made publicly available as early as possible before their entry into force.

As good practice, the European Union Customs Business Process Model (EU BPM\(^\text{11}\)) was created in 2010 upon request of the member-states’ customs authorities and the trade community in order to facilitate the reading of the newly proposed legal provisions.\(^\text{12}\) It aims at a better understanding of the “TO BE” or proposed future state as well as the impact of the changes to the customs processes and procedures.

**Single-Window Platform Initiatives**

Single window is a whole-of-government enhancement related to trade. The WTO TFA requires that “members shall endeavor to establish a ‘single window’ to which a trader can submit all documents and/or data required by customs and all other border or licensing authorities for the import, export or transit of goods, and from which the trader will receive all notifications” (Article 10.4). When done well, it facilitates communication not only between the trader and the various government agencies but also among the agencies themselves, reducing duplication and strengthening information management on behalf of many departments. This tool coordinates reception of information for all government agencies implicated at the border and shares information across those agencies. This single point of contact reduces the requirement for traders and their representatives to visit a multitude of government offices to secure a variety of licenses, permits and authorizations.

The current technology allows for a web portal to upload required documents and then to receive the various approvals electronically, while at the same time all information is shared among the government departments participating, which helps, among other purposes, improve risk management practices. This creates

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\(^{12}\) In 2010, the EU drafted a New Modernized Customs Code (NMCC), nowadays known as Union Customs Code (UCC).
seamless licensing for traders, reduces red tape, and shortens clearance times. As part of the planning and implementation of a single window, it is important that the government, together with the participating agencies, use it as an opportunity to review and improve their processes to reduce the often burdensome and unnecessary requirement for licenses and permits that can be significant barriers to trade. Unfortunately, we sometimes see that, despite the advertised presence of a single window IT platform, the procedures do not work entirely as intended and that paper copies are still required, which reduces the impact of this type of initiative on improving trade facilitation.

As mentioned, technology is an enabler of the single-window model, and a variety of tools are available to administrations. Some of the challenges with single-window initiatives are that sometimes customs is seen as almost an afterthought to the process—the single window may be driven by the Ministry of Trade or Finance, and customs is not at the table during the discussions on how the process should work or how the information is to be treated. In some cases, the single-window portal is held outside government with a contractor, and importers or their agents can submit and change content of cargo manifests and declarations without customs knowledge. This creates opportunities for fraud, misclassification, and mis-valuation, among other risks. At a minimum, the single window should be housed within government and preferably within customs. Other departments and agencies should have access to the information they require for decision-making without the ability to alter the record. A key principle is that the declarations and documentation, once submitted, should not be changed without creating a record of that change and an audit trail.

Another challenge for single-window initiatives is when all agencies that have authority over the border do not participate in the single window. This occurs for a variety of reasons, including a lack of technology or funding, an inability to link with the single-window systems, a lack of regulatory framework to allow for decisions to be made based on electronic documents, or other reasons. If all border regulatory bodies are not participating, the efficacy of the single window will be reduced, and trading will be slower. Additional references to consider while implementing a single window platform for trade are (1) the WCO SW compendium (WCO 2014), (2) the WCO Single Window Data Harmonization (WCO 2007), (3) Single Window Environmental Maturity (WCO 2007), and (4) the UNCEFACT recommendation 33 (UNCEFACT 2005).

**Coordinated Interagency Inspection**

While customs is thought of as being responsible for managing the border, there is a mixed bag of departments, agencies, and other regulatory authorities from different levels of government at times (federal or state level, for example), which have different powers over various aspects of the border. While this is not an ideal situation, it is the reality that is faced by many administrations and provides a challenge when implementing any trade facilitation measure. For example, the immigration ministry has authority over the movement of people, including

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ships’ crews and truck drivers. The Ministry of Health will control permits for imports or exports of medications, medical samples, and so on. The Ministry of Trade may have authority over certain goods under import or export quotas or food inspection authorities. The difficulty is that each of these authorities can cause a shipment to be held at the border or the customs release office. A coordinated approach to inspection and release will reduce dwell time at border crossings as well as costs for traders. To minimize delays, a variety of strategies can be adopted.13

The first strategy is to determine who leads at the border. Since customs is normally charged with the management of the border overall, it should have an overall coordination role for inspections. All cargo crossing the border must be reported to customs; therefore, customs is in the best position to identify which cargo requires inspection, licenses, or permits. Likewise, customs can coordinate inspections to ensure that all required authorities are present prior to opening the shipment. This will reduce the costs and time associated with having to open a container multiple times for various authorities.

Another strategy that has been successfully implemented by some countries has been to legally delegate various authorities to customs to act on behalf of other ministries. This can be in place for nontechnical inspections or to verify a permit or license. Technical requirements, such as animal health, should continue to require the relevant ministry’s expert. Also, there should be an increased focus on reviewing pre-arrival information to identify which cargo requires inspection or review by multiple authorities. In using this information, customs can coordinate who needs to attend a physical inspection, and in this way, inspections can be coordinated and requirements for release can be validated prior to the cargo arriving.

Finally, regarding further expediting of cross-border formalities, a customs-to-customs bilateral agreement on conducting coordinated inspections at adjoining borders is another solution. For instance, Guatemala has this in place with Honduras and El Salvador and has a signed formal agreement with Mexico to implement the same procedures.

Red Tape and Administrative Burden Reduction Strategies

Many countries are implementing “red-tape” reduction strategies with the overall goal to reduce the administrative burden on business. Some jurisdictions have enacted one-for-one legislation to cap the requirements of policies. A one-for-one rule requires that for any new regulation to be added an existing regulation needs to be removed so the overall number of regulations does not increase. The WTO TFA sets the framework for customs formalities and documentation simplification as outlined in Box 4.1.

13 For example, the WCO Coordinated Border Management Compendium can provide useful guidance; for more information, see http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/cbm-compendium.PDF?la=en.
For many countries, customs transactions continue to be very bureaucratic. UNCTAD estimated in 2014 that an average customs transaction required 20 to 30 different parties, 40 documents, 200 data elements (many that are repeated many times), and the complete rekeying of all data at least once (WTO 2020a).

Another red-tape reduction strategy is to have government departments review all their documentary and data requirements to determine if each requirement continues to be necessary or if it can be abolished. For example, in some cases customs administrations require the bank that did the foreign exchange transaction to validate the value of the goods to customs. The bank has no expertise in customs valuation. This not only added no value to the process, but it hindered the determination of the customs value. As an additional example, some developing countries require that exporting companies have certificates of origin approved and signed by local government officials despite this not being a requirement for the relevant free trade agreement. This action is time-consuming and is an added cost to exporters without providing any benefit.

Countries also have enacted laws that prohibit public institutions from requiring documents that are already in the possession of another public institution, which promotes communication between government agencies and reduces the administrative burden and costs for traders. It also helps government agencies to streamline their procedures and promote foreign investments. In Central America, Guatemala, El Salvador, and Costa Rica have laws of this nature that apply both to customs administrations and to any other government agency.

The use of technology for customs processes is another strategy for reducing administrative burden. A more comprehensive discussion of technology and customs is in Chapter 7. Most customs administrations have an automated system in place, but unfortunately many administrations require traders to also produce...
paper copies of the information submitted through electronic means. This is a duplication and slows the entire process. The COVID-19 pandemic has been a catalyst for many customs administrations to revisit this requirement, and they are now making decisions based on electronic records.

Hand in hand with this is the use of technology for inspection services—scanners and other technology to reduce the number of containers or cargo that need to be unloaded. It can be problematic when administrations decide to scan all containers and fail to apply any risk controls to determine which ones should be inspected (either with technology or physically). Many customs administrations attempt to look at everything, either through scanners or by physical inspection, leading to poor examination results and long wait times for clearance and release as the resources required to inspect 100 percent of all imports is far beyond what any administration has available for the task.

Modern technologies like artificial intelligence (AI) are being piloted by a few advanced customs administrations to interpret scanning imagery accurately, minimizing human intervention and shortening processing times. At present, these technologies are costly because sustainable systems are not fully developed, but this is the trend for the future.

Technology in the ICT domain also includes advanced software packages that customs administrations use behind the scenes. Whether off-the-shelf programs like ASYCUDA World or a custom-designed program tailored to a specific administration, investment in this form of technology is as important as technical hardware. Training should be provided to all relevant staff to ensure that the full capacity of the program is being utilized. An example of this is an accounts receivable software to digitally record traders’ financial accounts with the administration. Proper usage of the software can ensure that all payments are being collected on time, outstanding debt is identified quickly, and any refund to traders is processed in a timely manner.

Although technology has significant benefits to accelerate processes, customs administrations must be first focused on improving business processes. The technology would then be applied to such improvements instead of automating burdensome, obsolete procedures.

At the same time, customs should be looking at the level of approvals required to clear and release shipments. In some jurisdictions, multiple approvals are required to release cargo. Approval to clear and release goods should be delegated to the lowest level possible, interventions should be based on risk, and shipments of traders with good compliance histories should be released in the green lane. The use of advance information is critical in determining risk and customs should not wait until the shipment has arrived at the port or clearance center to begin reviewing the shipping manifest or other information available prior to the filing of a declaration. In fact, many countries have implemented pre-arrival clearance

“Customs should maximize the use of technology for payment of duties and taxes and reduce the requirements for paper letters of credit, checks, or other means of payment.”

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protocols to reduce congestion at the border. It may not be possible to do pre-
arrival clearance in all jurisdictions; however, it is possible to begin screening for
risk and to develop the risk profile for the trader and the goods. Integrated risk
management is critical to reducing the level of customs intervention, and this
approach is detailed in Chapter 5.

Proper attention should also be given to minimizing the red tape in logistics
operators processes for the movement and release of cargo (for example, payment
of port fees and charges and so on). In this regard the benefits of developing and
implementing Port Community Systems (PCS) are a possible solution. According
to the European Port Community Association, “a PCS is an electronic platform
which connects the multiple systems operated by a variety or organizations that
make up a seaport, airport or inland port community . . . enabling intelligent and
secure exchange of information between public and private stakeholders in order
to improve the efficiency and competitive position of the sea and airports’ com-
munities. [It] optimizes, manages and automates smooth port and logistics pro-
cesses through a single submission of data and by connecting transport and
logistics chains” (EPCSA 2012).

A PCS can act as a national single window or be integrated into a national
single-window platform. A PCS can also be a precursor to the single window and
will reduce duplication of data input through efficient electronic exchange of
information.

**Harmonization and Standardization**

The harmonization and standardization trade facilitation pillars are closely linked
and complement each other. Opportunities for greater cross-border cooperation
between administrations are created by harmonizing processes, documents,
forms, and data requirements. Standardization creates policies, procedures, for-
mats, documents, and processes that are consistent within the administration.
When those standardized products conform to international standards, they
support cross-border harmonization.

The origins of the GATT, the WTO, and the WCO were all based on harmo-
nizing and standardizing trading rules and international trade processes. This
allows the system to work more efficiently for all participants.

National processes need to be aligned with international conventions, stan-
dards, and practices. An example of a harmonized and standardized process is the
Single Administrative Document (SAD) that is used for all declarations for the
European Union (EU) and the European Free Trade Association (EFTA) coun-
tries, also extending the usage to Turkey, the Republic of North Macedonia,
Serbia, and Albania. It allows for eight sections that are used depending on the
step in the importation/exportation process. This one document reduces red tape,
facilitates automation, and increases the reliability of trade data collected. A sim-
ilar case occurs with the Single Central American Customs Declaration (DUCA
by its acronym in Spanish), which is the document used in all imports, exports,
and transit of goods carried out within the region and that is accepted by the six member countries from this region.

**Harmonization of Procedures**

A critical first step is for customs administrations to implement international standards. Important references here are (1) WCO RKC (WCO 2006), which is the blueprint for modern and efficient customs procedures in the 21st century (2) WCO SAFE Framework of Standards (WCO 2018), which modernized supply chain security standards; and (3) the WTO Customs Valuation Agreement (GATT 1994), which standardizes how goods are to be valued for customs purposes and outlaws the use of arbitrary or fictitious customs values. While the implementation of various articles of the WTO TFA is currently ongoing, when fully implemented, they will make the importing experience consistent among trading partners and for traders worldwide.

Part of international standardization is the adoption of internationally accepted definitions, weights, and measures. The importation and exportation of petroleum products are a good example; the international standard for these products, which expand and contract significantly with temperature, is the volume corrected for the product at 15 degrees centigrade. The adoption of international standards increases the predictability of trade costs for businesses.

While the sharing of trade and commercial information between customs administrations has been a feature for some time internationally, cross-border information management speaks to closer working relationships among customs administrations to achieve a variety of ends. These can be for enforcement purposes or for reducing redundancies and thereby making the customs process more predictable for traders. Memoranda of Understanding or other mutual assistance mechanisms can be developed between countries to provide the parameters of when and how information can be shared. They should take national privacy laws into consideration when they are developed as well as consider the type of information that will be needed and in what format it should be shared.

The exchange of information ranging from export and import data to information about the trader and the origin and value of the goods is another important tool of customs to customs cooperation that supports standardization. As this information can be sensitive, the countries involved in the information exchange agree to respect the confidentiality of the information. Also, these data exchanges are based on the principle of reciprocity (UNECE 2020).

Many customs administrations have concluded Custom Mutual Assistance Agreements (CMAA) to assist in combating fraud (WCO 2020). The WCO is taking a lead role in expanding the bi-lateral agreements by undertaking “a comprehensive analysis of the potential to rationalize, harmonize and standardize the secure and efficient exchange of information between WCO members” (WCO...
More information related to the international exchange of information can be found in Chapters 3 and 6.

**Harmonization of Standards and Norms**

Non-tariff barriers to trade or technical barriers to trade (TBT) are technical regulations, standards, and conformity assessment procedures that are sometimes required in the import and export processes to protect human health and safety or the environment. An example of this is the additional import requirements under the Convention on International Trade in Endangered Species (CITES). Signatories to the CITES convention require additional permits to import goods associated with endangered species with the aim to ensure that international trade in specimens of wild animals and plants does not threaten their survival (CITES Secretariat 2020). This additional regulation makes the trade in endangered species more difficult and in many jurisdictions carries serious consequences for failing to comply. However, not all TBTs are benign; in some jurisdictions, additional requirements are added that in turn “thicken” the border, causing additional delays and costs for traders. The international agreement that governs TBTs is the WTO Technical Barriers to Trade Agreement, which has as its raison d’être to ensure signatories implement technical regulations, standards, and procedures that are nondiscriminatory and do not create obstacles to trade. The WTO TBT promotes the use of international standards to facilitate trade in a transparent, predictable manner (WTO 2020a). For customs administrations, this means ensuring that no additional customs requirements are added to the processes that would contravene the spirit of the WTO TBT.

**Regional Transit of Goods**

The ability to move goods through various jurisdictions is critical in the modern global supply chain. The principle of freedom of transit is critical for many countries as their imports may pass through a multitude of territories in a duty-suspended state and under a simplified transit declaration before reaching the final destination where duties and taxes are assessed. National customs laws govern the movement of goods within the country whilst the cargo is under customs control; however, goods that transit multiple international jurisdictions require bilateral or multilateral agreements. These agreements stipulate how the goods will be treated, what kind of declaration/documentation is required for transit, whether any forms of security or guarantees are needed, and what technical requirements need to be in place to transit the territory. Several international conventions support the regional transit of goods, most notably the Customs Convention on International Transport of Goods Under Cover of TIR Carnets (TIR Convention 1975) (UNECE 1975), which created the framework for simplifying and harmonizing the administrative formalities of international road transport to facilitate international transit by simplifying customs transit procedures as well as establishing an international guarantee system (UNECE 1975).

The TIR system has more than 30,000 authorized operators and is in use at more than 3,500 customs and border control offices worldwide. As of May 2021,
a new legal framework for the full digitalization of the TIR system (customs-to-customs advance TIR data) entered into force. The eTIR international system (customs to customs pre-arrival information) ensures the secure exchange of data on the international transit of goods, conveyances, and containers according to the provisions of the TIR Convention. The eTIR facilitates communication between national customs systems and allows customs to manage the data on guarantees issued to entities authorized as users on the TIR system (UNECE 2021).

Another solution for regional transit facilitation is the so-called “transit corridors,” where transit procedures are standardized in the corridor covering multiple jurisdictions. An example of this is the Central America transit system (Martincus 2017). With the support of the Inter-American Development Bank (IDB), Central American countries adopted the International Goods in Transit (TIM, acronym in Spanish), an electronic transit system to manage and control the movement of goods in transit that is partially based on the European Union’s New Computerized Transit System (NCTS).14

However, many developing countries continue to use customs escort services, which are expensive, slow trade, and, unfortunately, invite rent-seeking behavior. A key element of an efficient transit regime is the well-organized exchange of information along with a well-designed system for guarantees.15

To improve this situation, modern tools are recommended, such as applying radio-frequency identification (RFID) technology to means of transit and GPS customs seals for containerized goods. These seals emit a signal that can be traced from the customs office and if a shipment departs from its approved route, customs enforcement teams can be deployed to determine what has happened with the cargo. Some countries have required that all trucks must be outfitted with at least one of these traceability technologies so that customs can track their movements. An important challenge that is still faced by some regions is the limitation of ICT coverage within the whole region (GPS) or standardization of standards and norms related to the devices utilized (RFID). In many instances, drivers are given an approved route and customs will want to ensure that any detour is not for prohibited purposes.

There are other tools that administrations can use, including additional guarantees for high-value, high-duty, or high-risk goods. For lower-risk goods, such as bulk goods, a simpler verification can be conducted, such as weighing the truck and trailer upon entry and again at destination or on exit to ensure there is no significant change in the weight. Another good practice related to transit of goods is to coordinate physical infrastructure at common border crossings; some countries have successfully shared infrastructure and have worked together to develop


commercial only lanes, for example. In the Central American region, customs agreed to accelerate the cross-border movement of goods in transit by defining that only the country of entry applies customs controls and shares information about results with the country of exit; the rest of the countries through which the goods will pass in transit use a regional IT system. Additionally, the goods are traced by applying RFID technology to the means of transit.

**Standardization**

Standardization is achieved through various methods including regulatory cooperation, customs unions, and integrated data sharing with partner administrations, to name a few. Two of these methods include joint border controls and mutual recognition agreements.

With joint border controls, two neighboring customs administrations agree to operate the customs crossing by coordinating export and import controls, having synchronized opening and closing hours, and having similar competencies. For example, both offices would deal with commercial shipments or personal small shipments. Also, if a border crossing of one country is known to be used extensively for exporting machine parts, the neighboring country can have officers who are experts in machine part importations assigned to that crossing.

Mutual recognition agreements are, as mentioned above, specifically in relation to trusted trader or AEO programs, in that a trader who is approved by one customs administration would be granted the same status in the second country (or third, and so on, depending on the number of mutual recognition agreements signed). This has the potential to expand program benefits more quickly for traders. However, it continues to be a challenge for traders in some developing countries to accrue any real benefits for participating in the AEO program. Often trusted trader or AEO shipments, sometimes transferred to the “blue lane” (or trade facilitation lane) are selected for additional inspection and the promised expediting at the border is not as significant as expected. Customs administrations need to ensure real benefits to traders and need to enforce sanctions against noncompliant participants until they establish their “good citizen/trader” behavior again.

In the context of customs unions, the recommended approaches to standardization are, among others, regional customs legislation; recognition of non-tariff requirements; payment of taxes and distribution of incomes; and integration of customs operations at the border such as the juxtaposed model, binational customs offices, peripheral offices, double header office, and so on. For example, in Latin America, there are at least three customs union examples with different levels of integration: Mercosur, Andean Community, and Central American Integration.

17 Andean Community members and associated states: https://www.comunidadandina.org/quienes-somos.
CONSIDERATIONS IN PREPARING A ROADMAP FOR TRADE FACILITATION

An administration looking to add trade facilitation measures should consider several things. While the customs administration may not be the only agency involved, it will certainly be a main contributing partner. It will be involved in most initiatives and, as such, needs to have a clear idea of what it will be expected to contribute over what time frame and what funds will be expected from its budget.

The establishment of a national trade facilitation committee (NTFC), as the overarching steering committee, is a critical step in planning and implementing trade facilitation measures. It is extremely important that customs be on the committee as the lead government organization responsible for border related TFA measures and a key player in advising on related TFA measures in other government departments. It is important to determine the government and public bodies who have a role in trade facilitation at the beginning of this process and include them as permanent members in the NTFC. Clear reporting structures and communication methods should be established at the outset along with clear terms of reference to formalize these processes.19

The NTFC can be leveraged to build stakeholder engagement into the design and development of new policies by including a diverse membership. A dedicated unit within customs can act as a repository and resource for all trade facilitation projects and as a project management office, to hold lessons learned, key findings, and best practices. This is important knowledge that should not be lost with a change in government or committee leadership.

The notification instruments prepared for the WTO upon ascension into the TFA can be used to establish timelines for key TFA measures. Starting with small, easy to implement initiatives will ensure that progress is visible and momentum is maintained. Capacity building and technical assistance can be requested in areas that already have been identified as major initiatives needing expert advice. It may seem an overwhelming task; however, customs administrations do not have to reinvent the wheel or attempt wholesale change in isolation. Many organizations have resources available and capacity-building assistance that can be accessed to assist in implementing different projects.

Organizations like the IMF, the WTO, the WCO, and UNCTAD all have various means to support the implementation of trade facilitation measures. Information about what is available to member-states can be found on the

19 More guidance for developing countries to better evaluate the policy, organizational, and funding options for NTFCs that best suit their circumstances can be found at https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/2014-2015-324%20-%20National%20Trade%20Facilitation%20Committees_Low-res.pdf.

“It is vital that customs be on the NTFC as the lead government organization responsible for border related TFA measures.”
organizations’ websites or by contacting each organization directly. For example, the World Bank Group (WBG) Trade Facilitation Support Program (TFSP) was launched in 2014 to assist developing countries in aligning their trade practices with the WTO TFA. The program is designed to provide practical and demand-driven assistance and supports developing member-states in trade facilitation reform and harmonization of systems and procedures in line with international standards covering import, export, and transit activities.20

Best practices from other jurisdictions can be adapted and modified to fit a specific administration’s operational environment.

An internal diagnostic review of the current state of trade facilitation measures can be helpful to acknowledge where the administration is, determine where it wants to be, and chart a course on how to get there. Having a solid framework established at the beginning of the planning process will help to ensure that all initiatives are working together towards a common objective. This will assist the administration to highlight capacity building funding requests and seek for support from available international capacity building programs.

Time-release studies are an important tool to identify bottlenecks, unnecessary documents, and requirements and make a clear identification of responsibilities between the various stakeholders participating in the customs clearance process. Based on the outcome of these studies, a national action plan is defined in order to improve trade facilitation measures. For this purpose, the WCO has developed a methodology and IT tools to help countries conduct this study, which would be an important part of a national roadmap for trade facilitation (WCO 2018).

As projects are implemented and completed, it is important to report the results back to the NTFC. The NTFC will monitor progress of initiatives, ensure obstacles such as funding or partner collaboration are addressed, update the roadmap as changes occur, and make course corrections as necessary. Program evaluation after completion can review any issues or unintended consequences to formulate lessons learned and inform the creation of future policies.

It is important to point out the relevance of incorporating the TFA roadmap into the customs strategic plan. This will ensure monitoring of its implementation as part of a customs modernization agenda.

From a customs modernization perspective, implementation of sound risk management and compliance enforcement systems are critical to the success of any trade facilitation measure. (Integrated risk management is discussed in further detail in Chapter 5.) Many customs administrations in developing countries have immature or ineffective risk management systems or inadequate compliance enforcement mechanisms in place, making verifying the compliance of traders difficult. In some cases, administrations do not have the capacity or are not equipped to receive or process pre-arrival information on cargo making clearance in advance of the goods arrival difficult or impossible. Customs administrations

20 For more on the program, see https://www.worldbank.org/en/programs/trade-facilitation-support-program.
with advanced risk management systems operate with more than 90 percent of transactions released on the green channel. Advanced information processing capacity allows customs to expedite clearance so that traders can remove cargo soon after the goods’ arrival, reducing time and costs of importing.

Another effective trade facilitation measure implemented by some advanced customs administrations is the separation of release and final determination. This can be achieved by separating the clearance process into two steps (for example, US, Canada, New Zealand): immediate release, based on a minimum set of data requirements; and the final determination and payment, after the release based on a comprehensive customs declaration (or even considering the possibility of consolidated declaration for multiple transactions filed on a periodic basis).

**SUMMARY**

It is important to remember the four trade facilitation pillars when planning and implementing initiatives: transparency, simplification, harmonization, and standardization. Trade facilitation (TF) measures should be well planned and coordinated with other governmental agencies acting at the border and with active participation of traders and other stakeholders.

Using the WTO TFA to identify articles that are currently being met, those that are easily addressed, and those that will require more advanced interventions will help create the framework for progress. The TF roadmap should be incorporated into the customs strategic plan and be monitored as part of the customs modernization agenda. Monitoring results will ensure steady incremental progress. Strong and consistent leadership will guide implementation.

**REFERENCES**


Chapter 4 Customs in a World of Enhanced Trade Facilitation


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CHAPTER 5

Strengthening the Core Customs Processes through Integrated Risk Management

Augusto Azael Pérez Azcárraga and Rossana San Juan

This chapter presents integrated risk management (IRM) as an approach for customs administrations to strengthen customs controls while encouraging economic operators’ voluntary compliance and supporting improved trade competitiveness. The adoption of IRM requires a change in mindset from the way a traditional customs administration operates. It introduces several key components that must be implemented at the enterprise level to achieve benefits and ensure compliance across the trade community. This involves a holistic and comprehensive view across organizational units and functions to develop a strategic vision, manage data and information, adopt new IT systems and technologies, update processes, relocate human resources, and potentially implement legal and regulatory changes. Introducing an IRM approach is the foundation to improved decision-making and compliance.

The chapter also discusses why risk management has not, for many customs administrations, improved operator compliance or provided significant trade facilitation benefits. It introduces the critical strategic components that are the basis to support proper operational functioning in customs. This is followed by a practical guide for customs to identify control gaps by comparing the current performance against good practices under each core customs process, thus aiding the administration to develop its own roadmap for improvement. Finally, it encourages customs administrations to optimize data usage to improve trade facilitation measures and mitigate a range of threats, providing detailed guidelines on how to achieve both objectives.

The chapter encompasses valuable insights garnered from the significant practical experience of IMF customs experts through their work to support and strengthen members’ capacity and that assists to adapt their processes to several international policy instruments and tools.1

1 The WTO’s Trade Facilitation Agreement (WTO 2017), the ISO 31000:2009 (ISO 2019), the WCO’s Revised Kyoto Convention (WCO 2006), the WCO’s SAFE Framework of Standards to Secure and Facilitate Global Trade (WCO 2005), and both volumes of the WCO’s Risk Management Compendium (WCO 2012a, 2012b).
RISK MANAGEMENT AND ITS RELATIONSHIP TO CUSTOMS CORE PROCESSES

Currently, all customs administrations apply risk management—at least in theory—as a driver of their business. Most international customs good practices highlight the importance of applying risk management as a fundamental pillar for the proper implementation of adequate controls and to facilitate legitimate trade. Regardless of this commitment to risk management, it appears that many customs administrations have yet to succeed in advancing to a mature risk management system. Therefore, the two critical questions to ask are (1) How many customs administrations have in place a functioning institutional strategy of integrated risk management? and (2) Why, in many cases, the risk management systems have failed to strengthen customs controls, and improve trade facilitation and compliance?

Demand for technical assistance on this subject and insights garnered by working with IMF member countries confirm that there are still many customs administrations that have not been able to fully implement risk management. Adequate risk management requires the adoption of a structured and systematic process of identification, analysis, assessment, prioritization, and treatment of risks. This is dependent on a comprehensive vision to address institutional and compliance risks while working with the available resources in their current customs context.

Risk management is commonly limited to the application of risk criteria or selectivity criteria during the processes leading to the release of goods. In many cases, this approach focuses only on the detection of formal irregularities or on applying minor value adjustments—on occasion without applying penalties. These actions are frequently carried out as transactional, isolated cases with no comprehensive strategy or oversight of the final results, thus generating limited or no improvement in operators’ compliance. This reaches extremes when some customs administrations continue to identify the same irregularities—customs offenses—perpetrated by the same traders without ever questioning the lack of improvement to compliance. In addition, some customs administrations do not question why certain sectors and/or economic operators seem to never be subject to any controls. There is an apparent myopia about the evolving economic operators’ behaviors as well as the involved goods that may pose a greater threat.

Furthermore, some customs administrations consider that a reduction of selectivity rates—yellow/orange and red channels—is sufficient to be viewed as modern and aligned with good international risk management practices. And although reaching this goal is fundamental within risk management, customs administrations must also tackle the effectiveness of results as well as the implementation of other measures that collaterally contribute to improving compliance with customs rules. For example, customs must achieve the development of complete and reliable cargo traceability, a robust post clearance audit function, and an institutional culture based on efficient use of data as a backdrop to decision-making. Unfortunately, these conditions are still not being met in many cases. Layered on top are a series

“It is recommended to constantly review the existing risk management approach and focus on developing a vision beyond selectivity related risk criteria.”
of myths and/or false assumptions about risk management that tend to distract from an integrated focus (see Box 5.1).

**Box 5.1. Risk Management Myths versus Reality**

<table>
<thead>
<tr>
<th>Myth</th>
<th>Reality</th>
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<tbody>
<tr>
<td><strong>MYTH:</strong> The definition, development, and implementation of an IRM strategy is the sole responsibility of an administrative unit within the organization.</td>
<td><strong>REALITY:</strong> IRM is a responsibility of the entire organization, which should be fully engaged with the objective of improving the customs compliance of the trading community.</td>
</tr>
<tr>
<td><strong>MYTH:</strong> Risk management starts when the customs declaration is submitted.</td>
<td><strong>REALITY:</strong> Effective IRM covers all phases of the customs cycle and includes measures prior, during, and after the release of goods, including through the legal period of customs review.</td>
</tr>
<tr>
<td><strong>MYTH:</strong> The selectivity module of the customs IT systems should be the central element of IRM.</td>
<td><strong>REALITY:</strong> Selectivity modules are very important; however, they only affect in-line controls of cargo; therefore, they must be complemented by other pre- and post-release measures, as well as the strengthening of technical capacities and integrity of customs staff involved during customs clearance.</td>
</tr>
<tr>
<td><strong>MYTH:</strong> The more physical inspections performed at the point of entry, the better the results.</td>
<td><strong>REALITY:</strong> According to the identified risk, the appropriate treatment or action must be applied, before, during, or after the release of goods. Applying high rates of physical inspections without adequate risk management tools tend to be a waste of scarce resources, raising costs for both customs and traders while also increasing unnecessary delays.</td>
</tr>
<tr>
<td><strong>MYTH:</strong> The private sector cannot and should not participate in customs IRM.</td>
<td><strong>REALITY:</strong> The compliant private sector can and should be a strategic partner with customs in the implementation of an IRM approach; examples of this are compliance and facilitation programs such as AEOs. Regular exchanges and meetings with the private sector allow customs to identify new risk profiles and recognize changing trends.</td>
</tr>
</tbody>
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Source: Authors.

The figures in Figure 5.1 garnered through the international survey on customs administrations (ISOCA)\(^2\) demonstrate some interesting trends in risk management in 2017. Taken together, the figures show for many countries a reported high use of risk management yet also a high reliance on strong control at the release point.

\(^2\) The ISOCA survey is a joint effort between the IMF and the WCO to collect information about the customs services of member countries through an IT platform; 51 countries participated in its first version launched in June 2019 and finalized in June 2020.
The main challenge of any customs administration is being able to fulfill its key mandates in the face of an ever-increasing volume of international trade—especially in a complex setting that is under constant and varying demands from users. This difficult environment in which they operate is in turn conditioned by a series of internal and external threats. Chapters 2, 3, and 6 in this book also refer to some of these. Among them, we may find the following:

- Constraints on infrastructure, budgetary, technological, and human resources
- High turnover of management personnel, stemming from both changes in governments and an absence of policies allowing for adequate talent retention
- Weak human resources capabilities
- Corruption
- Administrative, fiscal, and trade policies, that is, suspensive regimes, exemptions, free-trade zones, preferential treatment agreements, indirect/special
taxes, and duties, that in many cases are difficult to administer and sometimes have not shown substantial benefits for the economy

- High informality
- Low compliance by traders
- Forms of fraud that are diverse and constantly evolving that undermine revenue, protection, and the safety of society

Further complicating this operating environment, customs administrations must respond to the increasing demands of the trading community and the public for simplification, transparency, procedural predictability, and both time and cost reductions. Since the COVID-19 pandemic, social distancing has become extremely important, emphasizing the need to accelerate automation. While faced with the aforementioned challenges, revenue collection functions must not be ignored; in some low- and medium-income countries, these represent up to 40 percent or more of overall total tax revenue. Also, customs must remember its role in the security and protection of society.

Adopting an IRM approach enables customs to comprehensively address current challenges; however, this approach requires a change in mindset from the way a traditional customs administration operates, as it encompasses new ways of managing data and information, IT systems, processes, and resources as well as legal and regulatory changes in many cases. It brings together the risk concerns and contributions from all relevant units within the customs administration and its partner government agencies, mainly the tax administration and other border control agencies. Therefore, building and implementing an IRM approach is not an easy task technically, politically, and operationally, but it certainly is worth pursuing as it enriches significantly the country’s capacity to detect and address risk in its foreign trade transactions. The IRM approach should set out in detail how the customs administration intends to respond to those risks, preferably with the support and contributions from the other competent agencies.

The IRM’s purpose is therefore to identify and respond to the most significant risks through a range of measures aimed first at identifying and prioritizing them and then at correcting their underlying causes with a view to increasing voluntary compliance across the economic operators’ population. In doing so, it must give a clear indication of what needs to be done, who will do it, how, and when. It should be prescriptive enough for all participating units to ensure compliance, but at the same time allow some room for units to develop detailed subplans appropriate to their environment and mandates. Aligning objectives, expected outcomes, and milestones is very useful for this purpose. In support of the above, it is also essential to understand the total population of importers and exporters through a clear segmentation based on their relative importance in terms of CIF/FOB value and risk level associated, in order to be able to apply the most suitable treatment to each segment of traders—this chapter provides further details on this matter below. Among other advantages, adoption of IRM allows for (1) resource

“An effective adoption of IRM must address both internal and external threats that could hinder the organization’s optimal performance.”
optimization, (2) quicker response to changing circumstances, (3) ensuring risk treatment strategies are applied on the basis of their priority, (4) improving decision-making impacts to achieve the overall institutional strategic objectives, and (5) improving predictability and facilitation for the business-trade community.

Failing to adopt IRM negatively affects the efficiency of facilitation and control actions. Likewise, the administration will not be able to identify and respond to the most significant threats in trading patterns and within the trade community. It is fairly common to observe control actions that do not follow a strategy designed to prevent and mitigate the risks underlying each of the main processes. Furthermore, control actions do not usually focus on different groups of importers and/or exporters on the basis of segmentation and risk level. This undermines the overall effectiveness of said actions, thus failing to induce importers and other economic operators to modify their behavior and improve their compliance.

It is necessary to understand that IRM is a dynamic and iterative process that cuts across the organization. Its implementation can only be gradual, which, on occasion, leads customs to desist from undertaking profound changes when immediate results cannot be achieved. However, failure to do so will delay customs modernization and increase the cost of overcoming root problems that curtail substantial improvement of main processes.

The New Zealand Customs Service is a well-recognized customs administration and a good example of a customs administration that has evolved its traditional risk management approach to an integrated one. Among other lessons it has shared with the customs community, which are aligned with the IRM approach presented in this chapter, the following are worth noting (Foley and Northway 2010):

- Risk management refers to the culture, processes, systems, and structures developed to manage potential risks and their adverse effects, and must address a range of issues at each stage.
- Implementing risk management requires trust in a customs administration’s processes.
- It is a way of thinking that moves a customs administration toward proactive—rather than reactive—border management.
- Risk management should be viewed as a continually evolving process.
- Risk management, including intelligence and operations, must rest on modern legislation that enables information collection and sharing, including internationally where appropriate, and should reflect changing risk management processes.
• Effective processes require well-trained staff, suitable systems, knowledge transfer between domestic agencies, and international collaboration and must also be subject to checks and balances.

Concluding that an IRM approach is an adequate way to address the present challenges, it is necessary to have awareness of the importance of organizational performance, which is divided into strategic functioning and operational functioning. While the former has the treatment of institutional threats or threats intrinsic to the organization as an objective, the latter focuses on the mitigation of compliance risks of the core processes. Typically threats to strategic functioning are addressed through governance and management policies, while threats to operational functioning are addressed through a compliance program.

Figure 5.2 summarizes the key components of the IRM approach to improve the main customs processes. This approach will be expanded upon in greater detail throughout this chapter. Analyzing each of these components will help the customs administration define and articulate its own IRM approach.

Figure 5.2. Key Components for Strengthening Core Processes Using an IRM Approach

1. Strategic vision

Risk management is a fundamental pillar for the proper implementation of adequate controls and to facilitate trade.

2. Organizational performance

Its effective adoption depends on the capabilities and performance of the organization.

3. Institutional and compliance risk within processes

... as well as having a systematic methodology in place for identification, analysis, assessment, prioritization, and treatment of the main risks.

Core processes or streams

<table>
<thead>
<tr>
<th>Prior actions</th>
<th>Cargo management</th>
<th>Customs clearance</th>
<th>Post-clearance audit</th>
</tr>
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<tbody>
<tr>
<td>Legal framework</td>
<td>Transparency and integrity</td>
<td></td>
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</tr>
<tr>
<td>Governance and organization</td>
<td>Resources and capacity</td>
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<tr>
<td>Information and Technology</td>
<td>Origin</td>
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<tr>
<td>Valuation</td>
<td>Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff classification</td>
<td>Prohibited goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-tariff regulations</td>
<td>Intellectual property</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smuggling</td>
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</tr>
</tbody>
</table>
4. Structural elements
To achieve this, it is important to know the main vulnerabilities and their gaps against the good practices of each process, under each structural element . . .

5. Data usage optimization
. . . as well as develop different measures and tools to identify and target the core variables of analysis.

6. Treatments
Finally, it is crucial to select the most suitable risk treatment . . .

7. Trade facilitation and control strategies
. . . which must address the underlying causes of noncompliance and existing operational capabilities to act in a timely manner.

Source: Authors.

KEY COMPONENTS FOR SUSTAINED STRATEGIC FUNCTIONING

Strategic Vision for IRM

Customs administrations must evolve to be dynamic and able to face the constantly changing environment in which they operate. Preparation for this context requires developing integrated approaches and incorporating risk management into institutional policies. According to Widdowson and Holloway (2011), “The management of risk is integral to any management process and, as such, should not be regarded as something that is done in isolation from an organization’s management framework. Many customs make the mistake of treating risk management as a separate activity that is carried out in ignorance of other functions.” Box 5.2 shows some key concepts and strategic directives for developing this objective.

“Developing a comprehensive vision linked to IRM is key to properly guide the modernization reforms of a customs administration.”
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Box 5.2. Risk Management Strategic Guidelines

- Risk management must be part of the strategic plan (SP), which must be adopted at the highest level and clearly reflected in the institutional policy.
- Projects and measures for prevention, mitigation, and treatment of risks must be part of strategic projects defined in the SP.
- It has to be acknowledged that risks must be faced by the institution as a whole. This implies that all areas should articulate and coordinate toward the application of IRM.
- Institutional and compliance risks must be addressed holistically, which is to say with a thorough understanding of how they correlate and are interdependent.
- IRM application requires knowledge of the customs and trade environment, the actors, goods, and customs regimes within which they interact.
- A coordinated framework with other government agencies, the private sector, and other customs administrations must be in place.
- Key indicators must be established for analysis in order to monitor results and overall performance of customs against its operational and strategic objectives.
- IRM must be applied across all of customs processes adopting the appropriate technology to improve efficiency and promote transparency and integrity.

Source: Authors.

Knowledge of the Environment

Identifying and analyzing the main factors that may be facilitating and enabling smuggling or customs fraud, as well as their link to the main economic operators, are critical. Analyzing the cross-border context—the socioeconomic reality of the country and differences with its neighboring countries, including the impact of fiscal policy and its interactions with trade policies (tax and customs duty differences, exchange rate adjustments, and variations in the regional market)—could help in understanding the roots of fraud and identifying different ways to address the risks from a broader perspective. Likewise, the monitoring of economic operators, particularly importers, in terms of their CIF\(^3\) value of imports, amount of revenue, type of imported goods, and suppliers and customers against patterns of domestic consumption and market prices can identify linkages to some key variables in fraudulent activity. Additionally, institutional cooperation across government departments, ministries and agencies, and outside actors should be evaluated.

Preventive Focus

Customs needs to shift from a purely reactive or corrective vision toward a preventive focus that would contribute to reducing the probability of occurrence of the main risks. Priority should be given to initiatives aimed at (1) decreasing the use of discretion, (2) expanding electronic validation with third parties, (3) increasing knowledge of operators’ performance, and (4) broadening digitization and customs automation and incorporating new technologies. Box 5.3 provides an overview of some common initiatives.

\(^3\) Cost, insurance, and freight.
Customs Matters: Strengthening Customs Administration in a Changing World

Box 5.3. Examples of Preventive Initiatives to Manage Risks

- Single window (SW) and authorized economic operator (AEO) are two examples of this type of initiatives. Correct implementation of SW contributes to risk management as it guarantees verification, authorization, and electronic issuing of certificates and permits while at the same time ensuring and streamlining clearance processes. For its part, the AEO program can be seen as a preventive initiative of risk anticipation, stemming from the segmentation of the economic operators based on their compliance records with the customs administration as well as certification of a series of processes adjusted to security requirements. Along this line, a first step for many administrations might be to develop a trusted trader program, which is less expensive and also helps mitigate several risks. This allows for customs to optimize their resources and concentrate their efforts on high-risk economic operators. This is discussed in detail in Chapter 4.
- Periodic review of policies and procedures to reduce discretionary practices and to adjust to the operational realities of customs.
- Development and/or updating of e-forms and database index. Whenever possible, a switch from paper documents to e-forms should ease information management through better exploitation and analysis of data.
- Strengthening electronic validation of customs declarations by incorporating validation rules to generate greater certainty in declared information. For example, this can ensure data consistency of customs declarations and compliance with requirements by means of verification of third-party information sources.
- Use of an advanced e-signature. This allows validation of economic operators’ identity by electronic means and may even be used to recognize operational delegation from traders to customs brokers.
- Automation of economic operators’ registration and customs surety bond processes by implementing electronic procedures that facilitate (1) communication with economic operators without their presence at customs facilities, (2) step-based flow management, (3) operational logs, and (4) e-payments and automated customs bond management.
- Regularly reviewing and simplifying procedures to make it easier for traders to comply.

Source: Authors.

Technology Adoption

A gradual adoption of new technologies should be developed to (1) provide agility to processes, (2) discourage discretionary practices, (3) strengthen operational traceability, (4) enable better data collection and information management for decision making, (5) establish an effective third-party interconnectivity framework, (6) incorporate procedural auditability, and (7) replace paper, seals, and handwritten signatures. Chapter 7 provides further guidance on several of these points.

Data Optimization

Customs modernization reforms should include promoting a culture where management is supported by data and information. This includes developing tools that are cross-cutting in nature for collecting, processing, and exploiting data and

“Building internal capacity to manage procurement and technology is vital.”

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to support decision-making for each of the main processes. Likewise, it is necessary to have a plan for improving information management that foresees (1) the development of data dictionaries; (2) the definition of proprietors, guardians, and users of the information; (3) the development of confidentiality policies, including sanctions for noncompliance; (4) the implementation of access dashboards and audit procedures; (5) the evaluation of the quality of the data that is generated and received; and (6) the construction of applications to address the needs of data collection, extraction, exploitation, and analysis of the business areas.

Although customs has lots of data, in many cases they are not yet used in a practical way. It is common to find a lack of basic tools to summarize the profile of the operators or monitor the status of cargo efficiently without the need to request special extractions from the ICT unit. In addition, many continue to target cargo manifests manually and outside the system and still do not have the conditions to be able to categorize and evaluate the total population of importers, apply systematically a methodology to assess and refine selectivity criteria, or support PCA procedures. This topic of data optimization and tools to address it are covered more fully at the end of this chapter.

**Risk Management Committee (RMC)**

It is strongly recommended that a customs administration have a risk management committee (RMC) in place. It provides important oversight functions with respect to identifying, assessing, and prioritizing risks and on determining, monitoring, and evaluating risk mitigation strategies and activities under an IRM approach. Though it is common to see that customs administrations have an RMC, in practice such committees are not fully utilized and often are focused on selectivity criteria. This approach is limited and does not assist in identifying and addressing the main causes of the risks.

For instance, when analyzing examination results, customs should not only focus on assessing the selectivity criteria; they also must assess whether further training is necessary for officers, whether the sanctioning framework helps to deter noncompliance, whether procedures force feedback into the system, whether oversight of procedures needs to be improved, and if the IT system has the capabilities to optimize the use of data, as well as assess how customs clearance and post-clearance audits (PCA) complement each other. All of these questions help identify current weaknesses that prevent mitigating risks in a timely manner, so they should be discussed extensively.

The RMC should be broad in scope and be constituted by a multidisciplinary team. It should be institutionalized and structured on clear terms of reference to ensure a disciplined and effective governance. This includes well-defined roles and responsibilities of team members as well as meeting frequency and protocols. Box 5.4 shows some suggested guidelines to consider when defining an RMC.

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4 An inventory of names, definitions, meanings, and attributes about data elements, which also serves as a metadata repository.
Box 5.4. RMC Governance

Key Governing Roles and Responsibilities

**Head of customs.** Directs, supports, and approves the development of policies for strengthening core processes in line with an IRM approach. Provides oversight on the implementation of these policies. Monitors progress through key performance indicators and ensures that adequate and opportune remedial actions are implemented.

**Directors and/or heads of divisions.** Define risk management strategies and prioritize risk mitigation measures. Supervise risk mitigation action plans for key customs processes. Evaluate the impact of the activities on improving compliance. Define performance indicators and regularly report to the head of customs on results achieved.

**Technical subcommittees.** Identify critical risks for each process and subprocess and recommend remedial actions. Working inclusively, promote and enable the adoption of a culture of prevention, mitigation, and risk treatment. Report regularly to directors or heads of divisions.

**Customs offices, operational units, and staff.** Carry out specific tasks defined to strengthen processes under the IRM approach. Perform risk mitigation actions with diligence and in a timely fashion. Provide operational input and evidence to feed the analysis of current and emerging risks.

**All parties.** Support and promote the adoption of a risk management culture within the customs administration and provide inputs and resources necessary to implement and improve the IRM approach on a continuous basis.

Functions of the RMC

The RMC has the following functions:

- Identify and analyze border-related vulnerabilities within the core customs processes to determine whether they are providing opportunities for smuggling, tax evasion, and commercial or customs fraud.
- Define the risk treatment measures or projects to address those vulnerabilities in keeping with principles embedded in the IRM framework.
- Assess and approve the risk treatment activities that will be conducted before, during, and after customs clearance.
- Monitor the implementation of the risk treatment activities to ensure they mitigate risks as intended and adjust as required.
- Define the procedures that will be applied to keep the selectivity criteria relevant and effective.
- Act as a permanent and institutionalized channel for cooperation and information exchange among the different divisions and law enforcement agencies to mitigate risks effectively.
- Design and implement an internal communication strategy to disseminate the IRM framework and to articulate to officials how their activities contribute to meeting the strategic objectives.

The committee should be supported by resources or specialized technical subcommittees to consider, for example, new enabling technologies, management and optimization of data usage, updating of selectivity criteria, collecting intelligence, conducting investigations, and improvement of the PCA function.

Source: Authors.
Although it has been pointed out that risk management involves the entire customs administration, in practice, it is necessary to have a unit responsible (a “champion”) for articulating and monitoring the various efforts that shape the risk management strategy. Within an organization, the enforcement unit frequently takes the lead, although such lead may vary depending on the size of the customs administration, its national complexity, and staff capacity. Among the appropriate units to assume this role one can find the risk management unit, the intelligence unit, or the investigations unit, all of them from headquarters. It should be noted that the team responsible for assessing, prioritizing, and monitoring the treatment for identified risks as well as the general management of the strategy must be different from the one in charge of its execution in the field. This tactical approach becomes key to link the customs administration’s risk strategy with its operation.

**Institutional and Compliance Risks**

For customs administrations, *compliance risks* may be understood as the greatest threat to revenues while also hampering facilitation and reducing competitiveness as well as potentially affecting national security or citizens’ protection. *Institutional risks*, on the other hand, relate to obstacles or vulnerabilities that hinder the customs administration from attaining expected levels of effectiveness and organizational performance. Specifically, institutional risks refer to the governance and management arrangements or weaknesses that hamper the operational functioning of the core business. These include, for example, inadequate resources, an outdated customs code or regulations, lack of accountability, limited IT systems that do not meet core business needs, corruption, or insufficient technical skills and capacity among staff. Customs administrations should undertake an integrated identification and analysis of both types of risks, since they can influence directly and indirectly overall efficiency and effectiveness.

In order to identify both types of risks as well as find their causes, the vulnerability levels of customs processes in relation to the institutional limitations of the following structural elements must be reviewed: (1) legal framework, (2) information, (3) processes, (4) IT systems, (5) infrastructure, and (6) human resources. Box 5.5 describes each element in greater detail and provides examples on how to begin its assessment.
### Box 5.5. Structural Elements Related to Risk Identification

<table>
<thead>
<tr>
<th>Definition</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legal framework.</strong> The customs code should be complete, flexible, and related to the current context. Also, it should be kept continually updated and aligned with international good practices, with a comprehensive view encompassing all control phases. In addition, it should provide the authorities with legal powers and coercive means to ensure dissuasion from illegal or fraudulent practices.</td>
<td>Are there sufficient powers to enforce the law in accordance with the mandates assigned to the customs administration? Does it enable preventive and corrective powers throughout all control phases? Does it include sanctions and penalties for irregular conduct that are proportional, dissuasive, and effective through all control phases? Are there sufficient powers to require full and complete information to be provided and declared by electronic means? Does customs have the authority to review, determine and further control a given declaration or to examine books and records either in the customs office or at the taxpayer’s or economic operator’s premises? Is there clarity and complementarity between powers and tasks for the units or departments involved?</td>
</tr>
<tr>
<td><strong>Information.</strong> It should be standardized, reliable, timely, and preferably received and disseminated in electronic format, thus enabling large-scale processing and analysis.</td>
<td>Is most of the available information handled in electronic format, or does it require a data capture process? Is it properly structured, or does it require indexation? Do we have useful electronic information from third parties? Can it be extracted, exploited, and analyzed on a large scale? Is data quality acceptable, ensuring trustworthy results from the analysis undertaken?</td>
</tr>
<tr>
<td><strong>Processes.</strong> Processes should be clear and predictable, aligned with the legal framework and the institutional objectives, and supported by IT systems. They should be properly documented with clearly defined functions and responsibilities and cover all areas of the organization.</td>
<td>Are all processes uniform, understandable, and predictable? Do the processes align with the legal framework supported by IT systems? Is there permanent oversight and an ongoing action plan for process maintenance and improvement? Is there a permanent consultation system with the private sector, and is it activated prior to the implementation of new processes or improvements thereof?</td>
</tr>
<tr>
<td><strong>IT systems.</strong> Far from being limited to the basic recording and filing of transactional functions, IT systems should enable data collection, handling and analysis to strengthen operational management as well as to standardize processes, reduce discretion, and facilitate management decision-making.</td>
<td>Are there data analytic capabilities available throughout all phases of control, enabling action and follow-up on the basis of information analysis? Do the IT systems allow for the management of an economic operator’s compliance history? Do they ensure full cargo traceability? Do they allow for massive cross-checks and analysis of internal and external data, as well as the validations of electronic certificates and permits? Do they guarantee data security and allow it to be audited easily?</td>
</tr>
</tbody>
</table>
Infrastructure. Infrastructure should support the needs and objectives of the organization, adding value through its alignment with the operational processes. It must help support the operational functioning and provide security in the execution of customs actions and controls. This would include, for example, technological tools such as scanners, electronic seals, and RFID technology to monitor cargo, while CCTV and physical inspection platforms are complementary options that enable the supervision of customs officers.

Are there modern facilities, in optimum condition and adequate to support trade volumes, so as to enable proper physical inspections? Are there technological tools such as nonintrusive equipment, tag readers, RFID transmitters, weigh stations, and so on linked to IT systems and aligned with critical processes? Is there enough capacity available to ensure an efficient service to all traders in all channels? Are there strict access registry mechanisms in place for vehicles and visitors to ensure sterile facilities?

Human resources. HR requires well-defined job profiles and training in accordance with functions and responsibilities. Staff stability should be ensured through a professional career management system with a complementary merit recognition program conducted through the regular performance evaluation cycle.

Are there clearly defined job profiles that are respected in the staffing process? Is there a strategy for ensuring the transfer of technical knowledge? Are there mandatory induction courses? Are there technical training courses for the different staff levels or different specializations? Are there staff with the technical skills necessary to perform new or emerging functions, such as those related to data management and analytics? Is there a code of conduct made known to all staff that incorporates sanctions for violations? Is this code applied? Is there a transparent career management system that privileges internal promotion and fosters professional growth of the staff?

Source: Authors.

KEY COMPONENTS FOR SUSTAINED OPERATIONAL FUNCTIONING

In order to have full operational functionality of the customs system, the fundamental aspects of the main processes must be included in the system and must serve their intended purposes. An efficient operational functionality will contribute to reducing compliance risks and achieving a balance between control and facilitation.

The Starting Point

In general, all customs administrations are exposed to the same risks; however, what changes is the level of exposure and the probability that these risks will materialize. For many of the administrations the challenge rests with limitations in identifying threats as well as in acknowledging internal vulnerabilities that
impede an effective and efficient control. Furthermore, many administrations struggle with linking compliance risks to institutional risks in an integrated manner while defining suitable treatments.

Also, it is important to distinguish between commercial fraud and smuggling. The former is defined as any offense against statutory or regulatory provisions that is under customs enforcement authority (WCO 2018). Overall, it is associated with inconsistencies between declared quantities, customs value, misclassification, lack of regulatory compliance, and documentary irregularities. Smuggling, on the other hand, is the illegal entry of goods, without complying with formal procedures, via concealment methods and/or unauthorized entry points, thus avoiding customs control. The difference between the two is important as the legal powers and strategies for each case may be different. It is common to see that customs administrations face legal and resource constraints to combat smuggling. For example, sometimes they are not authorized or empowered to act in primary zones before the cargo has a customs declaration or outside authorized points of entry, carry weapons, seize, arrest, or use tracking devices. Chapter 6 addresses this topic in greater detail. Box 5.6 describes some examples of compliance risks faced by customs.

**Box 5.6. Examples of Compliance Risks**

**Valuation.** Under- or overvaluation occurs when omitting (1) the real price on the invoice; (2) the freight and/or insurance costs; (3) links between economic operators; (4) loading, unloading and/or handling costs; (5) indirect payments; (6) commissions; (7) royalties and licensing rights; and (8) other related amounts, as stipulated by the WTO Valuation Agreement. It is important to mention that this type of risk may be identified through a values database without overlooking international regulations on reference price setting. It is worth distinguishing whether one is faced with a genuine valuation issue or customs fraud through the presentation of false documents, in which case it should be addressed differently.

**Tariff classification.** Misclassification may be attributed to various defrauding intentions, among which can be found (1) customs duties and tax payments reduction and/or evasion; (2) non-tariff regulations—special permits and/or certificates—omission; (3) customs controls evasion; and (4) introduction of prohibited or restricted goods. Usually, risk confirmation can only be carried out by physical inspection, or in some instances through access to manuals and/or documents that detail the technical aspects. In other cases, obtaining a sample for laboratory analysis is needed.

**Origin.** The purpose of an alteration of the goods’ origin is duties and/or tax evasion by claiming preferential tariff treatment falsely. However, it can also be associated with an

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5 Committed in order to: (1) evade, or attempt to evade, payment of duties/levies/taxes on movements of commercial goods; (2) evade, or attempt to evade, any prohibition or restrictions applicable to commercial goods; (3) receive, or attempt to receive, any repayments, subsidies or other disbursements to which there is no proper entitlement; and/or, (4) obtain, or attempt to obtain, illicit commercial advantage injurious to the principle and practice of legitimate business competition (WCO Glossary of International Customs Terms).

6 This term may also cover certain violations of customs legislation relating to the possession and movement of goods within the Customs territory. See WCO 2018 Glossary of International Customs Terms.

intent to avoid quotas or country restrictions, as well as with security when the true origin has a link with a prior history of drug-trafficking, prohibited substances and/or goods with which to wage war. Generally, risks of this type can only be confirmed if a physical goods inspection is carried out and documentation is analyzed to assess the validity of the certificates of origin presented and their compliance with formalities.

**Non-tariff regulations.** Non-tariff regulations or non-tariff measures imply the non-submission or alteration of certification and/or authorization of certain goods that must comply with various standards (measurement, technical, chemical and/or safety), as defined by specialized agencies or authorizing departments or ministries. When no electronic validations with other entities are available (that is, absence of a single window), adequate threat control demands a physical inspection in addition to documentary examination. Just as with misclassification, inspection may require the presence of other government agencies.

**Prohibited goods.** These are goods that are barred from entering the country (it may be a complete or partial ban). It is worth mentioning that “rip-off” modalities⁸ exist that are difficult to combat relying solely on the customs IT system’s information; therefore, it is fundamental to engage intelligence support from other national and international agencies. In dealing with concealed goods, the use of nonintrusive equipment may be very useful as a prior step to physical control/inspection, and said inspection must be conducted as soon as the shipment reaches the national territory—to avoid the extraction of substances or goods prior to the presentation of the customs declaration, while cargo waits in the primary zone.

**Intellectual property.** The risk to intellectual property must be understood not only from the point of view of trademark, authors’ rights and patents violations, but also by the implicit security and safety risks carried by counterfeit goods that do not comply with national and international regulations (for example, safety, electrical, health, and so on). Physical control is critical to ascertain possible threat materialization.

**Actions**

When analyzing and mitigating risks, some key actions include (1) identifying previous customs declarations with identical and/or similar conditions, (2) identifying other importers who trade in the same or similar goods or who have used the same supplier, (3) carrying out a sectoral study or one by HS code, and (4) taking samples for further laboratory analysis and investigation.

Source: Authors.

Once the main risks have been described, it is necessary to analyze the leading threats that can materialize during the customs processes. IRM promotes the best use of available resources to mitigate the most significant (that is, probable and consequential) risks and to facilitate better integration of structural elements.

Based on the practical experience gathered by IMF experts through their work to support and strengthen their members’ customs capacity, Box 5.7 summarizes the key vulnerabilities or weaknesses frequently observed within customs’ operational functioning, organized according to structural elements. The next section presents some core customs good practices to respond to these weaknesses.

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⁸ The rip-off modality is a concealment method whereby a legitimate shipment is manipulated to smuggle prohibited substances. Normally the contraband is introduced into the container in bags that are positioned close to the door. Typically, neither the shipper nor the consignee is aware that their cargo is being selected to hide illicit goods.
Box 5.7. Major Common Weaknesses within Operational Functioning

Legal Framework
- Legal voids related to the responsibilities, obligations, and grounds for suspension and cancellation of privileges for economic operators
- Lack of adequate sanctions and penalties for the operational context to act as a deterrent for noncompliance
- Complex and bureaucratic administrative procedures for applying sanctions, penalties, customs duties, and tax reassessments
- Lack of detailed rules, such as specifying mandatory data fields and penalties for nonfulfillment or for requiring advanced information in electronic format
- Poor or limited regulations to administer and monitor free zones or special regimes, including applying sanctions in cases of noncompliance
- Limited powers to act in primary zones before the cargo has a customs declaration or outside authorized points of entry, conduct post-clearance audits, and exchange information electronically with the tax administration and other agencies

Processes
- Fragmented view of processes with a failure to treat the entire control cycle, addressing risks that arise prior, during, and after release as they are integral to the cycle
- Absence of a general processes map, thus contributing to a lack of process transparency and traceability
- Operational procedure manuals that are either outdated or lacking, allowing for unauthorized discretion
- Inconsistent application of standard operating procedures
- Excessive discretionary actions without proper oversight—for example, lack of adherence to the principles of green or red channel selections without rationale or approval
- Strong reliance on paper documents, seals, and handwriting—wet—signatures
- High volume of manual processes requiring the physical presence of the trader or economic operator in the customs office
- Rules for oversight of economic operators designed for validating conformity with formal requirements (that is, is the right box ticked) rather than the verification of the compliance level
- Absence of protocols enabling joint action with other agencies in the primary zone
- Manually kept records on entry and exit of goods in customs warehouses and poor or nonexistent audit protocols
- Lack of enabling legislation and procedures allowing for the corroboration of inventory in free zones and goods under special suspensive regimes
- High percentages of physical inspection of goods and outdated selectivity criteria with limited effectiveness
- Lack of procedures for the ongoing evaluation and adjustment of selectivity criteria
- Minimum oversight on physical inspection results, a lack of feedback from customs employees conducting the inspection, and limited sharing of exam results
- Lack of procedures for sampling goods that are difficult to classify
- Absence or poor policies and procedures for post-clearance audit

Information
- Lack of institutional capacity to use information as a key tool for process management and risk handling
- Limited indicators, metrics, and related measures for monitoring and assessing volume, value, and revenue collection for the main transactions, goods, and economic operators
• Inconsistent data in electronic form and limited coding for mandatory data fields
• Few sources of electronic information from other agencies and the private sector that can be used for risk management
• Absence of key elements such as data dictionaries; owner, guardian and user of information; confidentiality policies; audit procedures; data quality assessment—both for internally generated data and those received from third parties
• Physical inspection results recorded in paper dossiers or other antiquated formats that prevent their analysis or utilization by management or specialized risk management units

**IT Systems**

• IT systems are predominantly oriented toward data recording rather than information management
• Limited electronic cross-checks between customs declarations and other government agencies
• Revenue collection IT subsystems—duty and tax payments, reassessments, penalties—that lack full integration with the main customs IT transactional system
• Limited interoperability between the customs IT transactional system and those used by traders and economic operators, hampering full cargo traceability
• Lack of data analytic tools to integrate cargo manifests into the bulk data analysis
• The transactional IT system is not designed to manage temporary admissions and special regimes appropriately; bulk cargo in import and export transactions is poorly managed
• Selectivity modules that lack flexibility and hinder management of risk criteria
• Lack or poor IT tools to support the management of post-clearance audits

**Infrastructure**

• Deficiencies in infrastructure, particularly at land border crossings
• Lack of facilities for sterile areas amenable to strict controls of entry and exit of individuals and vehicles as well as technology to support and improve the processes
• Nonexistent or very limited IT tools integrated into the points of entry infrastructure allowing interactions with the customs IT system, helping to gather information and strengthen processes

**Human Resources**

• Low staff morale due to the lack of a professional career management system privileging meritocracy
• Staff appointed to positions requiring technical skills that they lack or the shortage of staff with skills in emerging areas such as data analytics
• Lack of a permanent training program for all staff positions at all levels according to the specific capacity development needs
• Limited or nonexistent induction training for newly recruited staff
• Outdated or absent codes of conduct, leaving management without the ability to address poor performance of employees or corruption
• Noncompetitive salary scales that fail to guarantee reasonable income levels for the staff

Source: Authors.
Analysis of the Key Customs Processes

Having identified the starting point, a second level of analysis further explores good practices within each customs process that can help to identify gaps and serve as signposts for outlining a roadmap toward reforms and modernization. In this sense, customs administrations may focus their efforts on four key processes or streams, which have been identified to facilitate such modernization efforts through the implementation of an IRM approach: (1) prior actions, including management of economic operators and pre-arrival “cargo targeting”; (2) cargo management through “end-to-end traceability”; (3) customs clearance; and (4) post-clearance audit.

Prior Actions (Management of Economic Operators and Pre-Arrival “Cargo Targeting”)  

For the purposes of this chapter, the term “prior actions” refers to (1) those functions that customs can perform to manage the registration and authorization processes (when applicable) and to monitor economic operators and (2) cargo targeting, based on advance electronic information. These actions aim to prevent illicit or noncompliant transactions through a screening process of economic operators.

The management of economic operators encompasses their initial registration, profile and registry updating, suspension, cancellation, and their reestablishment upon correction; it is a vital component for enabling and validating customs transactions. While it tends to be considered a purely administrative process, it has direct impact on operational functioning. It should include risk analysis that verifies the fulfillment of formal requirements established in the legal framework and the analysis of the economic operators’ profiles, as well as permanent profile monitoring. For example, it is necessary to have a robust regulatory framework and effective procedures in place to ensure a certain level of compliance from, say, customs brokers. However, often customs administrations do not monitor customs brokers’ compliance after they have been licensed. They lack the capacities to monitor their behavior properly and deter noncompliance or the appropriate sanctions to punish them. Sometimes the procedures are lengthy and ineffective, leading some customs administrations to desist from trying to sanction them.

A solid program for the management of operators is a preventive measure in IRM because it ensures that necessary preconditions are met for allowing them to conduct their interactions with customs; an initial basic level of trust is built, which serves as filter to mitigate risk.

For an effective management of economic operators, a modern customs administration needs a reliable and robust IT platform to perform both its administrative and operational functions. This must include identifying individual entities and preventing multiple registrations. The use of their tax

9 It is not intended to promote the establishment of an importers and exporters registry but a basic tool to monitor compliance and make decisions based on the operators’ behavior.
identification number (TIN) is highly useful, and ideally it should be the same TIN used by the national tax administration, allowing for risk profiling. This is the foundation of a risk-based environment for managing economic operators. Likewise, the use of e-signatures is another important measure that helps validate the identity of economic operators and reduce the risk of identity theft. Figure 5.3 shows the percentage of customs administrations that currently use the TIN and accept e-signatures in their transactions, ordered by economic groups.

Figure 5.3. Use of TIN and E-signatures

Source: International Survey on Customs Administration (ISOCA) co-managed by the IMF and the WCO, 2019–2020.

Box 5.8 provides a summary of good practices for managing economic operators to serve as a reference for identifying possible weaknesses or opportunities for improvement.

Box 5.8. Good Practices for the Management of Economic Operators

- Establish formal registration requirements for economic operators.
- Adopt the tax identification number as a key identifier for all customs interactions and transactions.
- Incorporate an e-signature to reduce the risk of identity theft.
- Develop and implement simple, straightforward, transparent parameters and procedures to enable monitoring, suspension, reestablishment, and cancellation of economic operators, along with fines and penalties to deter and sanction noncompliance accordingly.
- Negotiate and implement protocols for cooperation and information exchange with third parties, including domestic (particularly with the tax administration) and foreign government agencies.
- Evaluate the consistency and coherence of the traders’ records within the tax administration (taxpayer size, compliance, and behavior) and their customs profile.
- Automate and record the flow of activities and exchanges between customs and economic operators, as well as with other agencies involved. This engagement allows customs to identify inconsistencies promptly and enables timely risk profile adjustments.

Source: Authors.
On the other hand, the analysis of electronic information under pre-arrival control helps expedite the release of goods, while at the same time cargo targeting is carried out. This analysis is usually performed before the shipment’s arrival by reviewing cargo manifests. Risks identified in this control stage are, for the most part, related to security issues and the protection of society. This action calls for a mitigation strategy, and it requires significant coordination and cooperation with different stakeholders, including the port authorities and other law enforcement agencies. The biggest challenges are not only related to information quality and sensitivity of data but also to amendments to legislation needed to provide customs with the capacity for swift responses and allow for the quick implementation of operational measures. These actions require an effective cargo targeting IT system, generally nonexistent in many customs administrations, as well as timely and reliable electronic data and a team dedicated to this function; the team members must be properly trained and subject to a strict integrity process. As Figure 5.4 shows, in some cases, customs administrations still face considerable difficulties in receiving advance information through electronic means and lag in automation, which further complicates the challenge to address the risks and achieve full data traceability.

**Figure 5.4. Mandatory Pre-arrival Electronic Data**

Mandatory pre-arrival electronic data by means of transport and economic groups

<table>
<thead>
<tr>
<th>Transport</th>
<th>Advanced economies</th>
<th>Emerging markets</th>
<th>Low-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea</td>
<td>75%</td>
<td>46%</td>
<td>57%</td>
</tr>
<tr>
<td>Air</td>
<td>75%</td>
<td>50%</td>
<td>61%</td>
</tr>
</tbody>
</table>

"YES rate" responses (%)

Source: International Survey on Customs Administration (ISOCA) co-managed by the IMF and the WCO, 2019–2020.

Box 5.9 presents several good practices that can strengthen the pre-arrival control—“cargo targeting”; these can be used as a reference to identify potential weaknesses to be addressed.

**Box 5.9. Good Practices for Pre-Arrival Control—Cargo Targeting**

- Incorporate mandatory requirements for advance cargo manifest information in electronic format.
- Include adequate powers and action protocols for customs to enforce these requirements.
• Establish mandatory data fields and transmission time frames through well-documented procedures and instructions, as well as applicable sanctions for noncompliance.
• Develop cooperation protocols between all intervening agencies, such as port operators, cargo handlers, and other government agencies.
• Put in place audit procedures and protocols to deter infringements and enhance compliance.
• Implement an IT module to handle cargo manifests and air waybills, with data analysis capabilities through massive data management tools. Ensure maximum coverage of data fields and reliable pre-arrival validations through online tools, including access to reference catalogs. Include “risk alerts” management, from targeting to examinations and release, as well as results and feedback.
• Create a sustainable training program to refresh and update training topics such as risk analysis techniques and targeting.\(^\text{10}\)
• Customs administrations have progressively started to incorporate data analysis tools such as big data, artificial intelligence, and network analysis into their targeting processes. These tools should be added on top of to a solid risk management program, not the other way around.

Source: Authors.

**Cargo Management: Traceability End to End**

Cargo traceability is a key component of a robust risk management strategy; however, it is a significant weakness in many customs administrations. It consists of identifying, monitoring, and tracking the movement of imports, exports, in-transit, and transshipped cargo originating from, destined for, or touching the customs administration’s territory. The objective of such traceability is to secure trade integrity; therefore, it should consider (1) entry to and exit from land ports, seaports, and airports; (2) loading, unloading, and changing hands at any location; (3) entry to, storage in, and exit from customs warehouses; (4) transfers and transit; and (5) monitoring inventories of goods at warehouses, free zones, special regimes (such as exemptions and suspensive regimes), and temporary admissions.

Cargo traceability cuts across all control phases, promotes adequate knowledge of the status of the goods, and is useful in developing validations for detecting inconsistencies when comparing cargo movements and successive declarations. Achieving “end-to-end” traceability is not an easy task as it requires a coherent transactional management IT system for all customs regimes; sometimes, the challenge stems from technical or legal obstacles that hamper the interoperability between customs and economic operators. Box 5.10 presents several good practices that can strengthen cargo traceability; these can serve as a reference to identify potential weaknesses to be addressed.

\(^\text{10}\) The WCO’s Risk Management Compendium (WCO 2012b) provides detailed guidelines on cargo targeting.
Box 5.10. Good Practices for Effective Cargo Traceability

- Implement mandatory electronic transmission of cargo movement and status.
- Ensure interoperability between customs IT systems and those of all intervening economic operators (private stakeholders) and government agencies enabling intelligence and secure information exchange.
- Implement automated validations of key data elements of transport and cargo documents—weight, units of measure, and so on—for entry and exit of goods.
- Require that all intervening economic operators use an inventory control system, capable of providing customs with a minimum set of information according to predefined functionalities and protocols.
- Supervise and control inventories regularly through risk analysis procedures.
- Obtain information on goods stored under special regimes or free zones—ingress, transfers, local sales, and reexport of temporarily imported goods.
- Update the customs IT systems to enable full traceability of goods, both forward and backward, from within any link of the supply chain, starting with key data elements, including the carrier ID, manifest number, declaration number, goods storage number, container ID, warehouse ID, and so on.
- Implement regular surveillance programs on warehouses, free zones, and companies that operate under special regimes as well as selected document and physical inspections to verify the shipments’ integrity and the reliability of the tracking mechanisms and procedures.
- Develop a technology enhancement program, gradually adding tools such as RFID, weigh stations, automated gates, vehicle tag readers, container ID readers, CCTV, scanners, Internet of Things (IoT), and other nonintrusive equipment. All these tools should be interconnected electronically and linked with the customs IT transactional system and be accessible via electronic links to other agencies operating at the border or inland as the traceability data are also valuable for national logistics and infrastructure planning.

Source: Authors.

Also, end-to-end traceability can be reinforced by linking other transactional documents to the shipment’s physical traceability. Some customs administrations, such as those from Brazil and Mexico, are leveraging their domestic e-invoice programs by adding a foreign trade component by requiring the conversion of the foreign exporter’s commercial invoice information into manageable data and linking such data to the importer’s domestic supply chain, including the importer’s VAT chain.

On the other hand, for exports a customs administration may add a few data fields to its domestic e-invoice to require the foreign importer’s taxpayer identification number and other relevant data elements, which can be validated with that importer’s customs administration. The purpose of such validations, which can be conducted in real time, should be to impede any false or simulated export to occur as they can be used to launder money, claim a VAT refund for which the exporter is not entitled, or simulate the reexport of goods under a special regime to introduce such goods into the domestic market avoiding tariffs, taxes, and non-tariff regulations. The other data contained in an e-invoice (that is, goods, value, quantity, unit of measure) can be shared and verified as well, thus adding value to the initiative by enhancing the trade and customs compliance and enforcement capabilities of the participating customs administrations.
Customs Clearance

Clearance has traditionally been the core role of customs. It consists of verifying compliance with obligations to which the goods are subject during the importation or exportation process through the following series of steps: submitting the declaration, paying the corresponding taxes and duties, assigning a channel, examination, and release of goods.

To clear goods, customs evaluates the information found in customs declarations and supporting documentation in order to identify threats primarily associated with tariff classification, measurement units, origin, supplier, valuation, other non-tariff regulations, and tax and duty payment. The risks faced here are primarily revenue related. Customs also evaluates other factors such as intelligence received, the routing of the shipment, the history of the traders, non-tariff regulations, and so on to make a clearance decision that may be related to revenue, health and safety, or other priorities.

In the case of exports, it is fundamental to ensure the effective exit of goods from the country to avoid inappropriate use of benefits linked to deferments or export tax-based credits and for closing temporary admissions or suspensive regimes. Also, to detect simulated exports or manipulated transactions that may be used to launder money or shift profits amongst related parties.

Overall, modernization efforts in customs clearance focus on reducing controls and release time, usually achieved through lowering selectivity rates. However, this will not have the desired outcome if other aforementioned weaknesses within operational functioning as well as institutional risks are not addressed in an integrated manner. In addition, it is necessary to ensure that the selectivity system is evolving to contribute to the expected results. Table 5.1 illustrates how customs may evaluate the maturity levels of the selectivity process.

**TABLE 5.1.**

<table>
<thead>
<tr>
<th>Maturity Levels of Selectivity during Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
</tr>
<tr>
<td>All rules and profiles are managed by the IT unit.</td>
</tr>
<tr>
<td>A few data fields of the manifest and only some basic data fields of the customs declaration are available.</td>
</tr>
<tr>
<td>A rule or profile is created to select just one declaration.</td>
</tr>
</tbody>
</table>

(continued)
The number of hits derived from a rule or profile is unknown. The effectiveness of a rule or profile is unknown. Rules and profiles assessment can be calculated manually, and ineffective ones are sporadically removed. Rules and profiles are automatically assessed through the system and ineffective ones are regularly removed.

Irregularities cannot be linked to a specific declaration. Irregularities are linked to a specific declaration. Irregularities are linked to a specific declaration and its offense amount is calculated automatically by the system. Irregularities are linked to a specific declaration; its offense amount can be calculated automatically and records—data before and after detection—are available.

Source: Authors.

To bolster the selectivity module, it is necessary that the system meets specific requirements presented in Box 5.11 at a minimum.

**Box 5.11. Good Practices for Strengthening the IT Selectivity Module**

*Initial steps should include the following:*

- Integration of variables originating in data fields in cargo manifests, historical records of transactions and economic operators, and cargo movements
- Incorporation of validations of text fields to identify similarities or approximations to key terms
- Building multivariate risk profiles
- Measuring risk levels for each transaction through different empirical models based on current and historical information
- Requirement for feedback through pre-established catalogs
- Recording all actions executed in connection with rules module management
- Modelling and calibration of rules autonomously or by risk analysts directly into the selectivity module, for example, without the direct participation of the IT area
- Development of a valuation database on sensitive goods, in support of the definition of specific selectivity criteria

*Once profiles have been built and are in use, it is recommended that the following prioritization model be used:*

- Normative rules—mandatory controls defined by legislation
- Exemption criteria—for low-risk importers and/or AEO
- Deterministic rules—certain risk profiles, conditions and/or patterns are verified from customs offenses records and outliers through data analysis techniques
- Random rules—based on some criteria or for the total of the declaration from which a random selection is applied

*A basic condition for the effectiveness of a set of profiles is to have in place a rules-updating process. Any risk profile remains in force if its effectiveness meets or exceeds the selected criteria:*

---

11 Number of hits or customs controls with tax payments amount and/or customs offenses confirmed.

12 Multivariate profiles should consider (1) commands for building the profile through logical expressions (“and,” “or,” “>,” “<,” “=,” “in,” “contains,” and so on); (2) lists or catalogs for reference searching; (3) a profile description; (4) validity (in time) of the programmable profile; (5) a module for impact testing; and (6) a rules management registry.
Chapter 5  Strengthening the Core Customs Processes through Integrated Risk Management

- Average effectiveness of random rules
- Average effectiveness of normative rules
- Average effectiveness of deterministic risk rules
- Average effectiveness of the selectivity channel for which the rules were created
- Effectiveness levels as defined by the organization
- Effectiveness levels reached in the previous period (semester, year, or other, including the same month in the previous year)

Source: Authors.

Additionally, Box 5.12 presents several good practices that can strengthen cargo release; these can be used as a reference to identify potential weaknesses to be addressed.

Box 5.12. Good Practices for Effective Control during Cargo Release

- Ensure the legal framework includes rules and procedures aligned with the current environment and needs, considering the intensive usage of new technologies. The legal framework should also include powers enabling customs to request and analyze documents and information from traders and economic operators in electronic format. Adequate and proportional sanctions aimed at correcting behavior should be an integral element of the framework.
- Fully automate all steps and functions in the customs process related to declaration filing, payments, selectivity channel assignments, results feedback, and goods release.
- Use bar or QR codes in the declaration, as well as RFID to allow tracking of cargo status.
- Implement procedures to assess, eliminate, refine, and incorporate selectivity criteria/rules periodically.
- Incorporate a random selection mechanism that allows for the application of different random selection rates according to risk factors and existing and potential threats, and compare the effectiveness of the selectivity criteria/rules versus the results derived from the random selection. Also, assign random inspections according to the availability of personnel. Discretionary selection should be avoided, but if it occurs there should be clear procedures in place and both the procedures and results must be monitored periodically.
- Promote a proactive role of the customs laboratory in developing strategies for taking samples of sensitive and/or difficult to classify goods. Technical rulings should be used as inputs for the definition of selectivity criteria and/or for a PCA program.
- Strictly supervise the way inspections are executed and reported, as well as the quality of the information entered as feedback.
- Ensure adequate training for all staff and create specialized groups for dealing with key harmonized system (HS) tariff chapters linked to sensitive products whenever possible.
- Develop a dashboard with at least the following indicators: (1) time release; (2) evolution of number of declarations, CIF values, and revenue collection; (3) selectivity channel percentage distribution; and (4) effectiveness of all control measures. These indicators should encompass all transactions, main goods, and most relevant economic operators.

Source: Authors.

13 Sensitive goods are those more susceptible to be misclassified. This tends to be more likely in tariff codes that are (1) subject to VAT and/or duty exemptions; (2) show greater value adjustments; and/or (3) selected by experts and supported by the laboratory—for example, chemical products, electronics, medicines, steel, fuels, textiles, clothing, and footwear.
Risk Management also Matters in Exports

Traditionally, customs administrations have paid less attention to controlling their countries’ exports. In some cases, customs administrations deem exports as low-risk transactions; therefore, they implement weaker controls. Exports may contribute greatly to a country’s economic growth and prosperity and customs must facilitate such transactions, but that doesn’t mean that customs should look the other way and ignore the numerous risks involved in them.

Risks associated to exports are generally linked to (1) close out a temporary import, including those under special regimes, to introduce the goods into the domestic market without paying applicable duties and taxes; (2) claim an unsupported VAT or other tax refund; (3) shift profits among related parties; and (4) reduce royalty payments, particularly in the mining industry. Other risks include exports of illegal drugs, weapons, munitions, counterfeit goods, and national art and cultural treasures.

Exports and imports are also utilized to launder money derived from illicit activities and even to finance terrorist organizations. Trade dynamics, the diversity of tradable goods and services, and the involvement of multiple parties, pose significant risks to governments and society, which customs administrations can help mitigate (FATF – Egmont Group 2020a). The IMF and the United Nations Office on Drugs and Crime (UNODC) have estimated that the amount of money laundered globally is between 2 and 5 percent of the world’s total GDP per year.

On the other hand, a significant number of countries are signatories to different international conventions aimed to enhance export controls and impede the proliferation of nuclear materials and weapons of mass destruction, chemical precursors trafficking, and unlicensed trade in dual-use goods.

Some of the illicit transactions are conducted through the simulation of exports (that is, empty containers declared as an export of certain goods to further “legitimize” the transaction in accounting records) or the manipulation of the good’s classification, value, and quantity. Other transactions are simply conducted by concealing prohibited or restricted goods in apparently normal shipments. Customs must invest financial, technological, and human resources to enhance their export controls, and the best way to do so without disrupting the flow of legitimate exports is by enhancing their risk management capabilities.

In general, the same principles and elements applied to imports can be applied to exports (that is, developing and assessing the risk profile of exporters and other operators involved in the export transactions and cross-checking data from different sources to identify discrepancies or unusual behavior). Also, it is necessary to have in place a selectivity system with the same components utilized for risk management in imports as well as to gradually introduce technological tools to record, analyze, and verify export transactions, including technologies applied to identify and examine shipments at the ports of exit (that is, RFID to identify the shipment, OCR to identify the truck and the box/container, nonintrusive equipment to examine the content/goods). Sampling and expert examination of certain
goods (that is, minerals) is essential to ensure compliance as the exportation of such goods is generally subject to special requirements and taxation. In many countries, such goods account for a significant portion of their exports; therefore, having a well-equipped laboratory and experienced examiners is key.

Furthermore, PCA results and information provided by the investigation and intelligence units, including information gathered through cooperation with the customs administrations of the importing countries, are key to identify the scope of the fraudulent transactions and determine appropriate actions to address each case and sanction violations accordingly.

Additionally, the cooperation between customs and the Financial Intelligence Unit (FIU) is a fundamental element to facilitate the identification, disruption, and dismantling of criminal organizations that use international trade as their channel to conduct their illegal activities. In this regard, the WCO and the Egmont Group developed a Customs Financial Intelligence Cooperation Handbook (WCO and Egmont Group 2020), where they highlight the most common challenges in money laundering, including trade-based money laundering. The handbook includes specific recommendations for both customs administrations and FIUs regarding the following topics: (1) smuggling and concealment of currency, currency equivalents, gems, and precious metals; (2) trade-based money laundering; and (3) money or value transfer systems and alternative remittance systems.

At the same time, customs administrations must work closely with tax administrations to ensure that, among others, (1) VAT refunds are issued accordingly only to those exporters that have actually exported their declared shipments, (2) the export value declared at customs coincides with the declared value of sales for income tax purposes, (3) there is consistency in the values of the exporter’s activities (costs, inputs, sales, exports), and (4) profit shifting among related parties is detected.

Finally, regarding exports from extractive industries (EI), customs’ role is usually sidelined because such exports do not lead to direct customs revenues as most EI exports are usually exempted from VAT and customs duties. Likewise, the responsibility for determining the minerals and hydrocarbon molecular composition and their quantities, quality, and prices typically resides with the respective sector ministries. However, for effective EI export controls, customs needs to play its role as with any other goods, including establishing and enforcing controls to validate mineral and hydrocarbon classification, quantities, quality, and price and collecting and providing accurate data on physical flows to tax and other government agencies to facilitate the correct assessment of EI revenues and statistical purposes.

**Post-Clearance Audit (PCA)**

A modern customs administration must foresee a considerable investment in developing PCA as a means of promoting compliance and strengthening risk management. This is particularly relevant in countries where customs revenue
represents a significant percentage of total revenue collections. Despite several internationally available tools that promote PCA development as a means for enhancing voluntary compliance, streamlining goods clearance, and reducing time release, many customs administrations have yet to achieve full implementation. PCA is also referenced in Chapters 2, 4, and 6.

PCA is the most exhaustive and complete review of traders’ customs transactions. Reviews are conducted in the post-release customs environment, thus contributing to voluntary compliance and the facilitation of trade. The overall objective of PCA is to ensure that customs declarations have been completed in compliance with customs legal obligations, as well as requirements under any other law or regulation applicable to imports or exports, via examination of a trader’s systems, accounting and other business records, and premises (WCO 2012). The main strength of PCA is that it allows customs administrations to address complex issues that cannot—and should not—be examined in depth during the clearance of goods, such as valuation or special customs regimes, while also serving as an important deterrent tool and a means to educate traders and promote compliance. For example, PCA can do the following:

- Identify inconsistencies in quantities and values of transactions by reviewing books, records, and physical inventories as well as cross-checking information with the tax administration and third-party stakeholders (public and private enterprises).
- Request contracts, invoices, and other documents, including transport and storage documents, that may affect the customs value declared.
- Address proprietorships, related parties, and transfer pricing issues, and detect, in conjunction with tax administrations, fake export schemes of goods zero-rated for VAT purposes and other import or export schemes to avoid tax regulations.
- Verify compliance with exemption and waiver programs, obligations, or special regimes, to detect the abuse of the benefits granted under such programs.
- Review previous years when detecting that a good has been imported using an incorrect tariff classification or certificate of origin, thereby avoiding a higher customs duty or tax, or compliance with a non-tariff regulation.

Conducting these procedures within the operator’s premises allows customs officers to access the complete information related to the transactions and supply chain; raises awareness with customs requirements; and pushes traders to change their behavior and comply correctly, increasing revenue collection. Some customs administrations periodically publish aggregate results of their PCA actions, thus increasing risk perception amongst other operators.

Frequently, the review process is limited to the selection of transactions or declarations after the goods have been released. While these transactional reviews may prove useful to redress some specific instances of noncompliance, they do not
necessarily stem from a comprehensive analysis that identifies the main risks, economic sectors, goods, operators, and their interactions and linkages. These reviews are insufficient to improve compliance levels of economic operators and should evolve into comprehensive audits.

In general, there are five obstacles that may prevent customs administrations from implementing an effective PCA: (1) lack of an up-to-date legal framework, including the necessary powers to enforce the law in the post-release environment; (2) absence of audit standard operating procedures (SOPs); (3) no rigorous oversight over the consistent application of these SOPs; (4) shortage of staff with the appropriate technical skills and training; and (5) constraints to collect timely and reliable data that can be analyzed by electronic means—particularly from third parties.

PCA should be based on a comprehensive analysis of economic operators’ profiles and compliance records with the aim of identifying and carrying out comprehensive control actions that are corrective in nature and contribute to improved voluntary compliance. Procedures are broadly similar to those used in tax administrations, and ensuring their correct implementation generally requires a considerable long-term investment in technical training as well as strengthening regulations to allow for adequate audit powers and consistent policy application.

An effective PCA function requires a dedicated critical mass of resources to ensure a sustainable presence to verify compliance levels and to ensure that a reasonable deterrent exists. It needs a resource base commensurate to the size of the importing population to facilitate reasonable audit coverage. It also requires well-developed internal procedures to deliver a consistent, complete, accurate, and timely audit program. This helps to protect revenue and generates a level playing field for all traders while supporting a framework that enhances facilitation.

The audit process should begin with the development of an annual plan. Such a plan should consider the identification and analysis of the main compliance risks. Subsequently, the number of cases that will compose the actual plan and its prioritization must be determined on the basis of (1) studies and analyses on sensitive sectors, customs regimes or goods, and cross-verification of data; (2) segmentation of the operators by size and risk level— including compliance records; (3) complexity of the cases to be executed; and (4) the number of auditors available and their technical capabilities.

Likewise, key elements on which the annual audit plan heavily relies are the diversity, quality, and timeliness of third-party information, particularly from the tax

14 Having a methodology for determining a global risk indicator is very useful, and further details are provided in the data usage section of this chapter and its appendixes.
administration and other customs administrations. Figure 5.5, taken from the ISOCA survey and classified by economic groups, presents some examples of key information that tax administrations usually share with customs for PCA purposes as part of their tax-customs cooperation. It also shows, for each item, the proportion of customs administrations that responded that they receive it on a regular basis.

**Figure 5.5. Electronic Data from Tax Administrations by Economic Groups**

<table>
<thead>
<tr>
<th>Economic Group</th>
<th>Advanced economies</th>
<th>Emerging markets</th>
<th>Low-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk level</td>
<td>26%</td>
<td>32%</td>
<td>45%</td>
</tr>
<tr>
<td>Total VAT paid</td>
<td>45%</td>
<td>43%</td>
<td>55%</td>
</tr>
<tr>
<td>Foreign sales</td>
<td>43%</td>
<td>43%</td>
<td>55%</td>
</tr>
<tr>
<td>Total income</td>
<td>39%</td>
<td>45%</td>
<td>54%</td>
</tr>
<tr>
<td>Representatives’ names</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxpayer address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxpayer number</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*“YES rate” responses*

Source: IMF and WCO (2019–2020)’s International Survey on Customs Administration (ISOCA).

PCA policies should be flexible enough to introduce innovations in all steps of the process in order to adapt to the evolving environment and to improve its results. This continuous improvement process leverages the annual environmental scans and the audit results. The areas in charge of risk analysis, investigation, and intelligence functions, as well as the legal department, must be involved in this process.

Improving operational performance also requires the identification of key indicators to evaluate (1) the execution time (time standards); (2) the risk management process effectiveness; (3) the audit coverage level; (4) the audit results achieved; (5) the amount of taxes actually collected over the total taxes owed determined through PCA cases; and (6) the changes in the compliance levels\(^{15}\) of the operators linked to the risk hypothesis, within a customs regime, sensitive sectors, commodities, HS codes, or origin of goods on which the audits were focused. These indicators represent the basis for decision-making to improve the selection and execution of future audits. Attention to these points leads to an effective PCA program, allowing customs administrations to reasonably feel confident about reducing their selectivity percentages at the points of entry/exit, and, in doing so, improving time release and trade facilitation.

Box 5.13 presents good practices that can strengthen PCA and can serve as a reference to identify potential weaknesses to be addressed.

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\(^{15}\) This indicator requires a measurement program, whereas a statistically valid sample of importers would be randomly selected for audit and comparative purposes.
Audit planning should be supported by sectoral studies, studies on HS codes, customs regimes, and operator analysis, encompassing the following:

- An assessment of traders’ compliance records from customs and other government agencies
- The incorporation of information from related third parties
- A cross-checking verification between customs declarations and domestic tax returns (consistency assessment)

Sectoral studies should include the following:

- Full understanding of business activity through supply and demand analysis
- The supply chain
- Price structure and evolution analysis
- Price comparison analysis with others importing identical or very similar goods (for reference purposes)

The outcome of these studies should contribute to the following:

- A broad perspective on the behavior of different sectors of importers
- Greater specialization to identify atypical risk patterns
- The identification of those operators who represent higher risks—looking at their relative importance or materiality based on their volume of transactions and/or CIF value

The customs IT system for audit management, follow-up, and assessment should meet, at the minimum, the following criteria:

- Electronic inspection record of audit, and names of involved staff
- Dates for notification and/or initiation of the audit
- Record of all reports generated as a consequence of each intervention
- Sequence and status of the stages of the audit process
- The outcome of every act linked to the transaction so as to build future rules
- Agreements reached and payments
- Status of any administrative recourses and appeals
- Details on any adjudication of goods
- Performance indicators

All this should be supported by the following:

- An audit team trained in valuation, tariff classification, rules of origin, accounting, and domestic taxes
- Legal powers for (1) conducting desk and/or field audits; (2) administering sanctions in line with current trade transactions and designed to promote compliance; (3) re-assessing the value for duty; (4) determining adjustments required to duties, VAT, and excises related to customs transactions; and (5) enforcing a self-assessment and correction regime
- Usable information from different agencies and third parties, particularly tax administrations shared systematically and under a legally based mechanism
- Policies and procedures manuals for the PCA cycle—planning, selection of cases, preparatory actions, execution, evaluation, and follow-up—fully documented and regularly updated
- Protocols for procedures oversight, quality control, and results evaluation

Source: Authors.

Box 5.13. Good Practices for Effective Post-Clearance Audit

While most of the previous guidance relates to control of imports for domestic consumption, PCA can be adapted to all customs regimes. An example, due to its materiality and complexity in many countries, is the management of duty/tax exemptions on imports. Customs administrations often face difficulties in

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administering and monitoring exemptions, under which the revenue foregone can represent half of the total revenue collected by customs. However, clearly defined procedures under such programs simplify compliance, strengthening the audit process and ensuring its consistent application.

As there is a high risk of significant revenue loss from negligence or deliberate fraud, all exemptions require close attention. The main weaknesses to properly exercise this function are (1) limited knowledge of the beneficiaries of these regimes, (2) lack of awareness of the volume of exemptions granted, (3) open-ended exemptions privileges, (4) absence of monitoring or verification of the bona fides of beneficiaries, and (5) limited automated processes.

Customs should also have legal powers to ensure that benefits are not abused. Therefore, customs must have special units or at least minimum staff assigned formally to the compliance work focused on the exemption and waiver regimes. Detailed reports should be produced where statistics on beneficiaries and trends of imported quantities by HS code, origin, value of goods, and revenue forgone are noted. Box 5.14 lists a combination of good practices that need to be implemented at different stages to mitigate the risk of revenue leakage due to the abuse of exemption programs.

**Box 5.14. Good Practices for Monitoring Exemptions**

- Review and strengthen procedures for the granting of concessions in coordination with relevant ministries—including impact assessments.
- Certify and grant authorizations by electronic means as well as identify goods using HS codes.
- Maintain detailed electronic records of projects, inventories, and beneficiaries and validate declarations.
- Establish the minimum requirements and standards that an electronic inventory must contain to enable monitoring and auditing.
- Devote adequate resources to monitoring and follow-up.
- Develop an exemption compliance program and provide training to officers.
- Have a modern and updated legal framework and a penalty policy in place.
- Develop close cooperation and information exchange mechanisms (such as MOUs) with government agencies, particularly with the tax administration, Ministries of Tourism, Economy or Trade, Health, and Agriculture, and any other agency involved in regulating foreign trade.
- Have up-to-date knowledge of businesses and sectors benefiting from exemptions.
- Scrutinize import documentation and exemption certificates—and cross-check to verify authenticity, entitlement, and expiration.
- Conduct periodic unannounced verifications at the enterprise premises receiving the exemptions to physically check whether the end-use conditions are being met.
- Take robust enforcement action when fraud or misuse is detected.
- Senior management takes interest in the compliance work area, request and review regular detailed reports.

Source: Authors.
USING DATA TO DEVELOP TREATMENT STRATEGIES

As discussed throughout this chapter, there are several risks that customs administrations have to face across core processes; thus suitable treatments become crucial and necessary. They should be implemented at different times and consist of a mix of actions that should consider (1) monitoring operator compliance, (2) providing training and information on customs requirements and procedures to help economic operators to comply voluntarily, (3) encouraging operators to comply through enforcement actions, and (4) strengthening judicial and/or criminal processes to deter further breaches in the future.

The assignment of these treatments defines and determines a control strategy. This means that more parameters will be available to guide control decisions. It should start by analyzing the entire set of economic operators followed by an understanding of their distribution across the trader spectrum—size, trade of sensitive goods, compliance history, and so on—and the linkages between size and risk level. For example, control during clearance can focus primarily on new and occasional economic operators, the informal or underground sectors, and/or infrequent operators at risk of disappearing. Formal economic operators, whose imports might require a more in-depth study, ought to be treated at a later stage through a post-clearance audit. The latter offers better conditions, enables the allocation of more time, and can be extended to a representative number of declarations. However, if targeting produces a security concern, the control actions must be executed immediately and in accordance with established protocols.

The strategy must consider the available resources and the strengths of the organization to execute control and preventive actions during the different stages in which it interacts with an operator. Some customs administrations tend to concentrate their control decisions on physical and documentary controls during the release of goods, which reflects the lack of a comprehensive strategy. The absence of a comprehensive treatment strategy aligned by risk type and based on the segmentation of operators by size and risk level, leads to a weakening in the effectiveness of controls and preventive measures, which in turns ends up hampering customs facilitation.

In order to identify the proper treatment strategy, customs administrations need to collect and process data. This becomes a relevant input to get information and enables the organization to identify, analyze, assess, and treat risks efficiently. All this depends on the available capacity within the administration as well as the identification of those weaknesses present in customs core processes.

DATA USAGE OPTIMIZATION

A proper and extensive use of information should be considered a critical element to support and reinforce both strategic and tactical decision-making in order to achieve an effective management of customs processes. The optimization of data usage enables customs administrations to achieve a sound understanding of their
trading environment in a cost-efficient manner by making an appropriate allocation of resources. In turn, it is also a powerful element to bolster legitimate trade by identifying compliant operators and customs transactions. Accordingly, this section provides a discussion of data optimization as fundamental input to support risk management.

The first challenge to customs administration is to manage and organize available high volumes of data in a rational and meaningful manner in order to convert it into useful information. In this regard, the most relevant bottlenecks related to data need to be avoided. Box 5.15 shows some of the most common examples.

Box 5.15. Customs Data Bottlenecks

- Incomplete data. Sometimes the regulations do not require the transmission of data.
- Absence of data. The lack of electronic information exchange agreements between government agencies and key stakeholders prevents access to relevant data.
- Poor quality of data. The validation of certain data cannot be done automatically enabling misspelled data fields.
- Data not parametrical or customizable. The information is in hard copy and/or is a free text, which requires manual interpretation by a customs official.
- Untimely data. The data does not allow targeting risky transactions in a timely manner.

Source: Authors.

After addressing data bottlenecks, the next challenge is to perform a data cleansing process. For instance, “container number” and “supplier” are data fields that are not usually confirmed and/or validated, potentially containing multiple versions of spelling in customs declarations. These are by no means the only elements that could derive multiple “versions” of the same concept or person, and we must therefore consider, for example, (1) keying errors, (2) homonyms, (3) synonyms, (4) translation errors, (5) font variations, (6) incomplete words, and (7) abbreviations, among others.

The cleansing process aims to validate and reconcile the data, which can be further found in different systems or information sources. In addition, some customs administrations have developed their own data code that makes it possible to avoid the previously mentioned challenges and reinforces the exchange of information. The data model promoted by the WCO\textsuperscript{16} is a good example of a

\textsuperscript{16} The WCO’s data model is a set of combined data requirements. It is consistent with other international standards such as the United Nations Trade Data Elements Directory (UNTDDED) and includes not only data sets for different customs procedures but also information needed by other cross-border regulatory agencies for goods release at borders. It helps improve data quality by using standard international codes and allows to build better quality risk profiles. For further information see http://www.wcoomd.org/DataModel.
useful tool to prevent and address data issues. The way in which data are combined and interconnected may pose new obstacles, as Box 5.16 shows, enabling information weaknesses.

**Box 5.16. Customs Information Weaknesses**

- Disconnected information. The data are scattered across several satellite systems, and/or there are no data analysis tools that can link them.
- Information of general scope. The data are aggregated or consolidated for a period of time and/or by operator, making it impossible to perform validations at the operations level or to analyze each transaction.
- Information is compartmentalized or isolated. The access is limited or restricted, and/or units do not share information.
- Information is not generated due to low analytical capabilities. If customs officers are not trained in analysis techniques and/or there is an absence of analytical tools, it is not possible to analyze the goods, the operation, and/or the records of the operators involved.
- External information cannot be linked with internal data. Customs data are not able to be cross-referenced with national and international alerts and/or intelligence information.

Source: Authors.

At this stage, data linkage is key and becomes a new goal for customs administrations. The data may be organized and structured according to a specific good, operator, and/or customs regime. For purposes of this section, these last three terms are defined as “analysis variables.” They define both the type and characteristics of each customs transaction and the possible root cause and/or triggers of identified risks. The nature of goods, the profile of operators, and/or the opportunities offered by a specific regime encompass the full range of common threats that customs must continuously monitor and analyze as part of an IRM approach.

This section proposes a set of tools aimed at gradually optimizing the use of data. In this regard, some measures are shared in Appendix D as the foundation of these tools. The first tool seeks to summarize customs and compliance data based on one of the analysis variables: the operator’s profile. Although many administrations have information about their operators, it is often not exploited through a summary tool that could provide in a timely and comprehensive manner core information for analysis—without requiring special extraction processes.

The development of a methodology to segment and assess each operator’s risk level is the second tool discussed which aims to introduce analysis techniques. By developing different indicators and identifying those with relative importance within the group of operators showing irregularities, the customs fraud profile is modeled and applied to the importers’ and/or exporters’ population.

Subsequently, the last two tools seek to delve into each operator’s risk profile by linking their compliance level or risk with a second analysis variable: sensitive goods. While the first method introduces a technique to identify threats and risk
sequences from the development of decision trees, the second proposal aims to discover risk clusters or main recurring conditions in transactions with offenses.

This toolkit is a guide to optimize data in order to support risk management and assist customs decision-making in at least the following functions: (1) greater facilitation measures, (2) physical control at the borders, (3) non-intrusive container inspection, (4) post-clearance audit plan, and/or (5) AEO approval procedures.

**Compliance History**

A compliance history is a descriptive tool that consolidates general data and compliance information of all operators from customs and, when possible, other government agencies. Accordingly, an initial comprehensive profile of the operator would be created to facilitate further analysis. This tool allows customs officers to easily understand the operator’s profile and to perform comparative analyses to identify outliers that may pose a risk.

The proposed structure is built around the design of several summary windows, considering at least the following recorded information: (1) general profile, (2) customs data, (3) fiscal information (when available from the tax administration’s records), (4) compliance records, and (5) value analysis. Appendix E describes in more detail the required data or data fields.

**Economic Operators’ Segmentation and Assessment Methodology**

The development of this analysis allows for segmentation of operators according to their size—CIF value—and risk level of economic operators in relation to the goods they trade. This facilitates understanding of not only the profile of economic operators and the goods they trade but also their evolution. Moreover, it allows the identification of those who are most relevant in terms of value and volume of transactions as well as the links between these two dimensions. Similar to the previously discussed tool, its development may start from a simple version using only customs information. Ideally, this would gradually be bolstered by data analytics tools and/or with additional information from tax administrations as well as other government agencies and the private sector.

Information exchange across tax and customs administrations is key to strengthening this methodology and understanding economic operators’ behavioral patterns. Appendix F explains step-by-step how it can be developed, seeking to serve as an aspirational guide for customs to build their own methodology—adaptable to their context.

Through the steps established by this methodology, it is possible to prepare the data and develop a set of measures that obtain relevant and meaningful information from each operator. During its development, a number of analyses and techniques will identify the empirical conditions that could help explain different forms of fraud, highlighting the operators who are susceptible to fit into this profile. Knowing their size according to their performance in foreign trade...
operations, will make it possible to determine the level of risk, or Global Risk Index (GRI), assigned from the experience of fraud and the noncompliance levels detected by customs—and other agencies when possible. This approach allows for the importer and exporter population to be divided into more manageable groups based on common characteristics and potential risks. Table 5.2 summarizes the methodology’s outcomes. A further analysis, combined with the use of business intelligence software, would be very useful to drill down on each segment and the operator’s risk level.

### TABLE 5.2.

<table>
<thead>
<tr>
<th>Operators’ GRI Level</th>
<th>Number of Operators</th>
<th>% of Total Operators</th>
<th>Value Transactions ($ USD)</th>
<th>% of Total Value of Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Small</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
</tbody>
</table>

Source: Authors.

Based on Table 5.2, customs can get a better overview of their total population of importers and exporters, allowing them to apply better-targeted treatments supported by the use of data. In addition, the GRI assigned to each trader can be very useful as (1) a new condition in the selectivity module, (2) one criterion of the risk profile in the AEO certification process, (3) a key input for annual PCA planning, and (4) a component in the study of fraud links and networks. It should be noted that this methodology has already been implemented in several customs administrations, proving to be useful to improve information management, guiding the development of measures to strengthen risk prevention and mitigation. Among other countries, Chile, Costa Rica, Ecuador, Dominican Republic, Honduras, Paraguay, and Peru have used it as a basis, obtaining significant results. For example, according to the Ecuadorian authorities, the implementation of the methodology in early 2019 helped eliminate discretionary decisions in its selectivity system, reducing physical examinations from 38 percent in 2019 to 19 percent in 2021, while the effectiveness of examinations increased by 8 percent, and all this without compromising customs revenue.

Through the GRI, it will be possible to continue the analysis toward a second variable of study: goods. After defining the criteria leading to sensitive goods (see
Appendix G), the network analysis or the study of the linkages between operators—importers, customs brokers, suppliers, and so on—and goods is recommended for its development. Table 5.3 summarizes the methodology’s outcomes.

**TABLE 5.3.**

<table>
<thead>
<tr>
<th>Sensitive Tariff Code</th>
<th>Size Segmentation</th>
<th>GRI Level</th>
<th>Number of Importers</th>
<th>TIN</th>
<th>GRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNNN.NN1</td>
<td>Large</td>
<td>High</td>
<td>#</td>
<td>TIN 1</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 2</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td></td>
<td>TIN 4</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 5</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td></td>
<td>TIN 7</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 8</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>High</td>
<td>#</td>
<td>TIN 10</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 11</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td></td>
<td>TIN 13</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 14</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td></td>
<td>TIN 16</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 17</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Small</td>
<td>High</td>
<td>#</td>
<td>TIN 19</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 20</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td></td>
<td>TIN 22</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 23</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td></td>
<td>TIN 25</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 26</td>
<td>GRI</td>
</tr>
</tbody>
</table>

Source: Authors.

**Indicator-Based Decision Tree**

The *decision tree* introduces a methodology that links the goods and operators’ analysis with the supplier and unit price of the transaction. By assessing each customs declaration through a set of indicators and metrics, this tool defines whether a control action is required or not via inductive logic. The complete methodology is found in Appendix H.

As the name of the tool suggests, the control is built according to branches and nodes. Each branch represents a set of measures of one variable—good, operator, supplier and price—and the node determines if the variable is risky. When all the nodes are risky, then the transaction is selected for customs control.

In terms of the transaction, it is possible to incorporate new selectivity criteria based on defined decision trees. Additionally, other studies and analyses may derive from the same data set, and in all cases, it will be possible to adopt treatment policies to be applied before, during, or after clearance of the goods.

**Risk Cluster Identification**

The proposed methodology identifies rules of interconnected combinations of fraud. This means that the position and values of different variables—customs
brokers, goods, country of origin, and so on—will express or define a certain set of characteristics of those importers that commit fraud.

The first step is to identify the customs declarations that register offenses during a period of time in the same customs process, that is, during customs clearance. Likewise, the identification of the root cause of the fraud or detected risk can further enrich the analysis, categorizing by (1) undervaluation, (2) misclassification, and (3) undeclared goods, among others. The methodology is detailed in Appendix I.

When the combination and values of data fields are defined, the risk cluster or fraud is developed, and it is ready to identify operators and/or transactions that match with the cluster. Additionally, a rule should be submitted as a new risk criterion to determine the level of control assigned to each identified cluster. A simple scheme of this methodology is described in Figure 5.6.

The cluster will be able to identify a set of importers that match with the fraud syntax. Based on this subgroup, it will be interesting to know the level of control applied by customs and its result. As importers are the main linkage in this combination, those without customs controls should be contrasted against their compliance history and GRI value. It is possible that several of these operators could be the subjects of a new control strategy to be applied by customs, that is, through PCA.

When customs administrations have the knowledge and experience in developing at least these tools and/or similar methodologies, information becomes a great input of risk management. Their implementation may start on a pilot basis using simple spreadsheets and evolve through the support of scientific techniques and use of

“The degree of success in developing tools to optimize data usage will depend on the timeliness, quality, and diversity of the data as well as the organization's capacity to update, extract, and exploit the data.”

Source: Authors.

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Figure 5.6. Example of Risk Cluster Identification
tools and software for data analysis and business intelligence. It is worth mentioning that artificial intelligence (AI) is a new technology that is beginning to position itself as a basis for this purpose. This is explored in further detail in Chapter 7. Analysts should be able to adapt software to the requirements and context and ensure the principles of transparency, predictability, and timeliness of the information.

SUMMARY

Reform priorities to improve customs compliance differ across countries and regions, reflecting variations in stages of development and administrative capacity. One size does not fit all; thus, reforms need to be tailored to each country’s context and circumstances. However, in any case, improving compliance requires medium- to long-term reform efforts.

To achieve greater operators’ voluntary compliance, efficiency for both traders and customs, and organizational effectiveness of risk-based controls, an IRM strategy is essential. An IRM approach encompasses much more than just targeting cargo, setting selectivity criteria, implementing nonintrusive equipment, or acquiring analytical software; it involves the entire customs administration and its functions. IRM should consider a wide range of key interrelated aspects, such as governance arrangements, operational strengthening, and the implementation and monitoring of measures and/or projects to address and mitigate the main risks. It must therefore be part of the customs administration’s strategic and operational plans, and clearly reflected through institutional policy. IRM is also a mechanism to increase the trade community’s awareness of compliance activities and their confidence in the customs administration.

Finally, as with any modernization reform, the implementation and success of IRM will largely depend on the commitment of senior management to make structural changes—often the most difficult obstacle to overcome—thus involving the entire customs administration and ensuring the continuity of key reforms.

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International Monetary Fund (IMF) and World Customs Organization (WCO). 2019–2020. “International Survey on Customs Administration (ISOCA).” IMF and WCO.
World Customs Organization (WCO). 2012d. Guidelines for Post Clearance Audit (PCA), Volume II. Brussels, Belgium: WCO.
CHAPTER 6

Customs Enforcement and Cooperation with Other Administrations

János Nagy and William LeDrew

Enforcement is a critical element of all customs administrations. The effectiveness of an administration’s enforcement and compliance efforts impacts the economic and social well-being of a country and contributes to its competitiveness in the world economy. Therefore, administrations need to assign top priority to the design, development, and implementation of enforcement and compliance strategies, policies, and programs.

This chapter provides advice on how customs administrations can strengthen their enforcement/antismuggling programs. It looks at the environment in which customs enforcement operates, including a discussion of current and emerging challenges and risks. It sets out a number of basic principles underlying effective customs enforcement and compliance programs and then provides a roadmap for their implementation and operation.

More specifically, this chapter (1) offers guidance on how to define and implement antifraud and antismuggling strategies based on assessments of current and emerging threats and of existing capacities and performance; (2) addresses the role of risk management from an enforcement perspective, including intelligence gathering and analysis; (3) outlines how important fraud investigations and preventive (interdiction) services are; and (4) emphasizes the critical need for cooperation and information exchange between customs and other border control agencies and with law enforcement agencies both domestic and international. The exchange of information and cooperation with tax administrations is particularly important from a revenue collection perspective.

CHALLENGES: THE NEW ENVIRONMENT

Increasing volumes of international trade and regional trade agreements, as well as continued dependence of governments on revenue collected at the borders, place heavy demands on customs administrations to make cross-border trade easier and still address cases of noncompliance. (See also Chapter 1 on challenges customs administrations face and Chapter 4 on trade facilitation for more detail.)

Customs administrations face an ever-increasing and complex world of illegal cross-border activities. They are expected to have in place effective strategies to
combat these growing threats. The Secretary General of the WCO states in his Foreword to the WCO 2018 Illicit Trade Report: “Illicit trafficking of different commodities continues to affect global peace and security, destabilizing economies and threatening the health and safety of populations. Disrupting illicit trade flows is a very complex, multi-stakeholder process, involving many law enforcement and other government agencies” (WCO 2019).

To meet these often-competing priorities, customs administrations must devise ways to detect and suppress illegal activities, while at the same time providing efficient clearance of legitimate goods and fostering voluntary compliance. This chapter offers advice to achieve these objectives and to address some of the threats and risks.

**ELEVEN PRINCIPLES OF CUSTOMS ENFORCEMENT AND COMPLIANCE**

The underlying principles of successful customs enforcement and compliance strategies have been developed based on experiences in a number of administrations that have undertaken modernization and reform of their enforcement programs and these reflect what is considered good practice as set out in international standards.1

These principles must be compatible with and support the corporate objectives, priorities, and policies of the administration and, more broadly, with those of government. They provide guidance for the development of a customs enforcement strategy and its various programs and initiatives and provide a framework against which future potential initiatives and programs can be assessed. The 11 principles are outlined as such:

1. Voluntary compliance and effective enforcement are complementary
2. An organizational culture of risk management
3. Customs legislation—adequate enforcement powers and authorities
4. Interagency cooperation and coordination
5. Cooperation with tax administrations
6. An effective penalty regime
7. Transparent, quick, and objective appeal mechanisms
8. Professional and motivated customs enforcement officers
9. Effective use of modern ICT and contraband detection technologies
10. Recognition that enforcement is everybody’s business
11. International standards and best practice in customs enforcement

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1 Such countries include Cambodia, Laos, Myanmar, and The Bahamas, which have developed enforcement strategies as part of their modernization efforts. A compilation of widely respected international standards and tools can be consulted under the WCO website: http://www.wcoomd.org/en/topics/enforcement-and-compliance/instruments-and-tools.aspx.
Voluntary Compliance and Effective Enforcement Are Complementary

Modern customs administrations place top priority on increasing voluntary compliance and on detecting and treating noncompliance through risk-based verification and enforcement. A high level of voluntary compliance is critical to a successful enforcement strategy as it enables the administration to focus its verification and enforcement efforts and resources on areas of identified high (or unknown) risk. A fundamental principle of voluntary compliance is that most people will comply with the law if they understand it, it is perceived as reasonable and fairly administered, it has an intrinsic value to society, and there are meaningful consequences for noncompliance. With current mounting pressures on customs resources, increasing voluntary compliance is critical to an effective compliance and enforcement strategy.

Voluntary compliance reduces the need for costly, time-consuming, and troublesome interventions by customs and other agencies and tends to be a lasting inclination. On the other hand, enforced compliance likely requires ongoing interventions or the threat of enforcement in order to be sustained. The strategies and approaches to achieving voluntary compliance with regard to post-clearance audits (PCAs) are referenced in Chapter 4 and discussed in detail in Chapter 5. Box 6.1 presents a brief summary of methodologies utilized by customs administrations to increase voluntary compliance.

Box 6.1. Methodologies for Increasing Voluntary Compliance

- Adopting a risk-based approach to customs processing—identifying legitimate, low risk trade and focusing verification activities on high or unknown risks
- Ongoing assessment of the efficiency of the risk-based selection system by systematic feedback from (1) operations (from the physical and/or documentary inspections) and (2) traders, who are key for enhancing the risk management system and further promoting compliance
- Providing information, assistance, and support to help clients understand and comply voluntarily with requirements and obligations (industry outreach)
- Streamlining and simplifying customs processes and procedures to make compliance easier and faster (reducing redundant procedures, strengthening interagency coordination, and implementing modern ICT systems)
- Reducing interventions at the time of clearance by placing greater reliance on pre-arrival processing and postrelease verification
- Strengthening interagency cooperation and coordination among government agencies that have border control responsibilities (coordinated border management) and others that are not forward deployed as well (that is, responsible for licensing of export controlled goods, CITES products, cultural goods, military goods, and so on) to make compliance easier and strengthen synergies in sharing information and undertaking joint or mutually supported control activities
- Establishing service-related performance goals and indicators throughout the administration
- Implementing provisions of the WTO Trade Facilitation Agreement

Source: Authors.
An Organizational Culture of Risk Management

An organizational culture of risk management means that the organization has accepted the importance of and applies the practices of risk management in all decision-making. This includes high-level strategic decisions regarding programs, resource allocation, and new investments as well as operational and tactical decisions on day-to-day matters, such as staff and resource allocation, verification priorities and targets, and enforcement activities. Chapter 5 addresses in more depth the development and application of integrated risk management, including institutional and compliance risks.

The development of such an organizational culture requires commitment from all levels of the organization (particularly senior management) to the principles and application of risk management techniques to all facets of customs operations, including internal management and controls. Longstanding practices that result in commitment of resources to activities irrespective of the actual risks involved need to be abandoned.

Furthermore, customs need to develop a data analytics culture also to better understand the data, business processes, and information system’s limitations. The latter are critical to understand the compliance environment.

This change in culture necessitates refocusing on the identification of low-risk actors in the import/export chain, the implementation of facilitated systems for them, and freeing up resources to focus on medium- to high-risk sectors/transactions.2

This difficult change process will include internal communication and training systems to ensure buy-in by staff. Public relations and client service ensure customs clientele fully understand the risk-based approaches to achieving compliance, the advantages and benefits of voluntary compliance, and the disadvantages and costs of noncompliance. Where an electronic single window for trade is being implemented, the risk management approach may be expanded to include other government agencies (OGAs) involved in the regulation and control of international trade.3

2 The Zambia Revenue Authority has in place a good example of a corporate risk management policy. Based on this policy, the Customs Division has implemented a risk-based compliance strategy that facilitates legitimate, low-risk trade; focuses control efforts on high or unknown risks; facilitates voluntary compliance by recognizing and rewarding highly compliant (low-risk) clients; enforces compliance through risk-based actions to deter, detect, and sanction noncompliance; and places greater reliance on pre-arrival processing and post-clearance verification.

3 Mainly veterinary, phytosanitary, conformity, and standard checks could also be risk based.
Customs Legislation—Adequate Enforcement Powers and Authorities

Customs’ governing legislation must establish the powers and authorities officers need to be effective in carrying out their law enforcement roles, including those needed to carry out their day-to-day duties (power to stop and question people; require presentation of goods; examine goods, conveyances and documentation; board conveyances; seize or detain goods and conveyances; detain, investigate, search, and arrest persons suspected of illegal activities; and disclose respective networks). Ideally, customs legislative power should correspond to but be independent from police legislative power. Customs investigation service should work under or in close cooperation with the prosecutor’s office.

Experience has shown that customs administrations that lack essential legislative powers face major difficulties carrying out their enforcement roles and are susceptible to legal challenges.

Customs officers assigned to specialized enforcement functions, including antismuggling teams, fraud investigation, intelligence operations, and so on, often work in conjunction with other law enforcement officials and require additional authorities. These include the power to carry out patrols in the customs territory including on private property, to enter and search premises, to carry firearms for self-defense, to share information with other agencies, to demand the presentation of books and records (including electronic records), and to detain such material as part of an investigation, to name a few.

In some jurisdictions, customs administrations have extended criminal investigative mandates that require exceptional powers, such as observation of the movement of goods and people; search of people, premises, and residences; wire-tapping; and the use of covert agents and participating in covert activities. Such powers should come with reinforced measures and guarantees protecting citizens against any possible misuse of powers. This may require a longer period of preparation before exercising such powers to ensure adequate training of officers and supply of equipment. Figure 6.1 is a summary of the ISOCA survey (2019–2020) of customs enforcement powers. As can be seen, most administrations possess essential legislative power required to support enforcement operations.
InterAgency Cooperation and Coordination

Customs administrations must pursue all opportunities to work cooperatively with other enforcement agencies. These include police, military, immigration, and other agencies involved in cross-border trade and travel (including foreign agencies contacted through a partner customs administration).

“The success of customs enforcement depends on effective working relationships with partner agencies—both domestic and foreign.”
Enforcement agencies work together to take advantage of specialist expertise, broaden the legal basis for enforcement actions, and ensure the sharing and use of information and intelligence to maximize their effectiveness in fighting criminal activities. Effective cooperation requires clear delineation of roles and responsibilities between the partner organizations to avoid overlaps, loopholes, and uncertainties.

Many customs administrations have established memoranda of understandings (MOUs) with other enforcement agencies to provide a policy framework and operational modalities for working arrangements with the relevant agencies. This includes mechanisms for consultation, cooperation, and exchange of information including real-time electronic exchange; joint contribution and participation in activities to further enhance the usefulness of information; and promotion of cooperation and coordination of border enforcement operations, particularly joint forces operations (JFOs) and task forces. Within the framework of MOUs, customs and other agencies develop specific operational agreements to implement joint forces operations, to provide for the exchange of information, and so on. This interagency cooperation has become even more important as countries address security and terrorism threats. All agencies need to be fully engaged and support these efforts.

**International Cooperation**

International cooperation and information sharing between customs administrations, other law enforcement organizations, and the business community are essential for effective enforcement and control given the expansion of international trade and the continuing risks to the safety, security, and competitiveness of all countries. The most widely applied instrument for customs cooperation at bilateral level is the WCO’s Model Bilateral Agreement on Mutual Assistance in Customs Matters (2004). As an international instrument, there is the WCO’s International Convention on Mutual Administrative Assistance in Customs Matters (known also as the Johannesburg Convention, Brussels—June 27, 2003, but not in force yet). According to this instrument, the contracting parties to the Johannesburg Convention commit to “provide each other with administrative assistance under the terms set out in this Convention, for the proper application of Customs law, for the prevention, investigation and combating of Customs offenses and to ensure the security of the international trade supply chain.”

Other relevant instruments include the following:

- International Convention on mutual administrative assistance for the prevention, investigation and repression of Customs offenses (Nairobi Convention)—entered into force in May 1980

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4 Chapter 3 covers certain aspects of cooperation with other government agencies under coordinated border management, and Chapter 4 deals with coordinated interagency inspection.

5 For a guideline on how to set up important cooperation agreements and/or joint interagency units with the police, refer to the WCO/INTERPOL Customs/Police Cooperation Handbook (CPCH) at https://cites.org/sites/default/files/eng/prog/enforcement/CustomsPoliceCoopHandbook_EN_LR.pdf.

• Regional mutual assistance agreements
• Bilateral mutual assistance agreements (both government level and customs-to-customs)
• WCO recommendations, guidelines, and compendiums on mutual administrative assistance

Increasing consideration is given at land borders to provide a single border post facility at selected or all border crossings where customs and other border agencies can work under the same roof, closer to each other, or together sharing at least a part of their work and responsibility. The objectives of such an arrangement are to save costs of building and running a border post, reduce processing time by providing a one-stop shop opportunity, and facilitate cooperation and sharing of information by the various border control agencies operating at the same border.

Deeper cooperation can result in joint or even unilateral controls where agencies of one country accept the results of controls performed by the agencies of the neighboring country. However, careful consideration should be given to the precise description of the border control arrangements, assessment of gains and limitations, and their exact wording in the highest possible level of bilateral agreement. Such arrangements provide certain immunities and protection to operations by the law enforcement agencies of the neighboring country in the territory of the host country within limits and under circumstances agreed by the parties sacrificing a part of national sovereignty by allowing the enforcement of the laws and regulations of and by the authorities of the neighboring country even against citizens of the host country and in the host country. However, most countries are very prudent in terms of presence of enforcement officials in the foreign territory and their jurisdiction.

**Cooperation with Tax Administrations**

One of customs’ closest partners in fighting fraud is the tax administration. The tax and customs administrations interact with a large part of the population and should share the same database. Policies and rules for the use of and access to this information must be in place to ensure all legal requirements and rights of taxpayers are respected. Typically, all operators involved in international trade are potentially taxpayers. The lack of cooperation and/or coordination between the two administrations would be inevitably exploited by noncompliant traders/taxpayers. Following are several important topics on which the two administrations should work together. The list is not exhaustive.

• First, a shared registry is critical to manage compliance. Customs and tax administration benefit from using a single taxpayer identification number to record transactions in their systems. This allows data cross-matching for risk

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7 Examples of joint border stations can be found in Europe, particularly among current EU members before the abolition of internal border checks in 1995. While this section deals with international cooperation among authorities of neighboring countries, Chapter 3 addresses coordinated border management among authorities of the same country.
management purposes on both sides, including comparing turnover to trade volume, detecting undeclared activities, identifying inconsistencies in quantities and values of transactions, and ultimately combating noncompliance, fraud, and smuggling.

• VAT and excise taxes on goods are necessarily comanaged by tax and customs administrations. As explained by Mann (2004), “The valuation and classification of goods at customs offices represent the key first step in the VAT chain that ultimately impacts total (import and domestic) VAT collections. If these steps are improperly carried out, it becomes difficult to establish an adequate invoicing system up to, and including, the retail level.”

• Customs valuation according to WTO standards and control of transfer pricing are other areas of common interest that should be addressed in a coordinated manner. For excise tax administration, it is critical to reconcile inputs (imported or purchased locally) and outputs to establish the taxable bases.

• Sharing information on exemptions and special regimes helps address possible abuse and inconsistencies on entitlement, scope and duration of these benefits.

• As exported goods are zero-rated for VAT purposes, the exporter is entitled to claim a refund of the full amount of VAT paid on inputs. This is an area where the potential for false refund claims represents a significant risk. Customs should provide assurance to the tax administration that the goods have been actually exported. To that end, customs should carry out physical and documentary verifications using risk assessment techniques to determine the shipments targeted to examine and the level of examinations necessary. The tax administration should provide input into the development of selection criteria for such examinations.

• Exchange of information on enforcement results is critical to update both administrations’ risk register. Sharing of information on offenders, cases, and general data on taxpayer compliance and risks is invaluable to both parties. Sharing the list of offenders may allow the detection of noncompliance on both sides. A fraud committed in a cross-border transaction is likely to have consequences on tax compliance. For example, underreporting of quantity and/or value at customs may reduce tax liabilities. Sharing a taxpayer’s / trader’s compliance track record is key for the selection of audit, inspection and investigation cases. Given the confidential nature of tax information, clear policies and procedures on the exchange and use of such information is essential and should be documented in formal legal agreements.

8 It is important to mention that this is not always the rule. In some instances, undervaluation of imports, which reduces duties and VAT collected at customs, would determine higher profits and/or better market positions upon the sale of the undervalued good. This may make the importer end up paying more taxes provided corporate income tax (CIT) control is effective though the overall revenue impact would likely be negative. Sometimes, foreign exchange restrictions make overvaluation of imports attractive as a way of getting additional foreign exchange out of the country. The point is that fraud mechanisms often change, and compliance control needs to be flexible.
Cooperation can often improve the effectiveness of revenue collection and arrears management. Authorizing customs to detain import or export shipments on behalf of the tax department is a good practice. This very effective collection measure also serves as a general deterrent to other taxpayers. Conversely, the debt collection unit of the tax department has a comparative advantage to carry out complex customs-related duty or penalty collection enforcement, for example, following investigations or antismuggling cases.9

An Effective Penalty Regime to Support Enforcement

The penalty regime should reflect the seriousness of the contravention, take into account past compliance records, and in the most serious offenses provide for criminal prosecution. Although enacting this measure is up to legislative and policy makers, customs should persuade the government to support the necessary legislative change. Once a comprehensive penalty system is in place, it is important to use the whole spectrum of penalties, sanctions, and other measures in a balanced way to maximize their positive impacts and achieve their main objectives: to deter possible future offenders from committing fraud, recuperate lost revenue and educate offenders.

To support this principle, customs administrations require a graduated penalty system that aims to secure compliance through the application of penalties as part of a customs compliance model that ensures penalties are applied uniformly, consistently, and in an equitable manner for offenses of equivalent weight with the overall objective of molding client attitude toward self-regulation. Penalties should take into consideration the compliance history of the offender—a second and subsequent incidences of the same infraction will result in a progressively higher penalty. An example of a graduated penalty/sanctions regime is included in Appendix J.

The application of penalties by customs officers is an area that is particularly vulnerable to corrupt practices. Rules need to be very clear and the application of penalties nearly automatic—there should be minimal personal contact between customs officials and clients, if it is necessary.

Transparent, Quick, and Objective Appeal Mechanisms

A customs penalty and sanctions regime must include a readily accessible and transparent appeal mechanism to facilitate challenges of enforcement actions in a fair, timely, and objective manner with a clear legal basis. The appeal process should be publicized to ensure potential appellants are aware of their rights to

9 Other aspects of tax and customs cooperation including those establishing a revenue authority (RA) are discussed in Chapter 3, Appendix K.
appeal customs’ decisions, understand the procedures to be followed, and believe they can rely on fair and objective decisions. Unfortunately, some customs administrations, particularly in fragile and conflict-affected states, tend to bypass formal appeal mechanisms and rely on less formal processes of settlement, leading to opportunities for corrupt or unprofessional settlement of cases. Such practices undermine the credibility of the customs administration’s commitment to enforcement and transparency.

Typically, the appeal process begins with internal appeals heard by the customs administration. Should the appellant not be satisfied with the administration’s decision, a further appeal to an independent, quasi-judicial external appeal body (such as a customs appeal committee) is available. A final level of appeal is to the courts. The appeal mechanism is also discussed in Chapter 4.

In the case of criminal prosecution actions launched by customs (which in most jurisdictions require approval by the state prosecutor), the rules and procedures related to criminal convictions determine the appeal mechanisms, usually involving appeals to a higher-level appeal court.

Systematic feedback to operations about appealed cases should be implemented in a way that customs operations understand better the main reasons of the appeals and then undertake corrective actions.

**Professional and Motivated Customs Enforcement Officers**

As with all areas of customs administration, successful enforcement operations depend on a workforce of well-trained, highly motivated, and professional customs officers with solid records of high performance and particularly high integrity. They must be adequately remunerated and trained to reduce the temptation to engage in irregular/corrupt practices. A well-constructed, active, and needs-based training program will ensure that staff acquire and maintain the necessary competencies for enforcement duties. This is achieved through a competency-based training needs assessment (TNA). The TNA should be carried out as part of the planning and implementation of the various initiatives in the administration’s enforcement strategy.10

Often the design and delivery of specialized enforcement training require help from external specialists. Development partners are generally prepared to provide such support, as are international organizations such as the IMF, WCO, and World Bank Group.

Enforcement officers should remain in their specialist positions for relatively long periods of time as it can take several years to develop their skills and experience. All too often, an administration’s staff rotation policies see these specialized officers moved frequently, which has a detrimental impact on their performance,

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10 Chapter 2 highlights some of the challenges to customs enforcement raised by new trade patterns. Chapter 3 discusses competency-based training needs assessment.
their morale, and the efficiency of training. While it is difficult to set a minimum time in a position, experience has shown that officers assigned to specialized enforcement teams should spend a minimum of four to five years in their positions.

Effective Use of Modern ICT and Contraband Detection Technologies

In today’s environment where criminals and those who would evade their obligations are becoming ever more sophisticated and use advanced ICT technologies, customs should have the necessary equipment and skills to obtain, secure and use computerized information, including in administrative investigations and criminal proceedings. Modern contraband detection technologies, including nonintrusive inspection devices such as scanner/X-rays, spectrometers, trace detection, and radiation detectors, as well as basic inspection tools, should be deployed to support contraband detection. Their deployment should be based on risk assessments to ensure optimal effectiveness.

Customs relies more and more on advanced ICT systems to aid efforts to detect noncompliance using risk-based approaches. Modern enforcement ICT systems include a case management system and an enforcement database that will compile and store information on past offenses and offenders. Also, an intelligence database that collects, stores, and analyzes intelligence information should support enforcement operations. Such databases should be used by a risk management system that assists customs to analyze data, assess risks/threats, and carry out risk-based operational targeting. The risk management system should interface with the automated customs clearance system to support targeting and selectivity processes.

These systems should be developed as an integrated customs management system allowing an effective and efficient use of scarce resources. Despite heavy investments in detection technologies (in particular, the very expensive scanners), administrations often see minimal results in terms of detections. For effective use, these technologies must be deployed as part of a broader enforcement strategy and plan and based on risk management principles and processes. Often administration of these expensive tools is weak with little or no targeting, incomplete reporting systems, and insufficient management oversight. Chapter 5 delves more deeply into risk management systems.

Recognition That Enforcement Is Everybody’s Business

Operational staff have multiple responsibilities and constantly face pressures to facilitate and expedite trade and travelers, to provide professional and polite service to the public, and to meet internal administrative requirements. They are also
responsible to ensure that the proper revenue is collected, that other government agency requirements are met, and that correct data are submitted, and of course they must be vigilant to detect and deal with noncompliance and with illegal cross-border activities (smuggling, illegal immigration, customs fraud, contraband—drugs, firearms, and so on). In this regard, all officers play a critical role in customs enforcement. Customs management needs to clearly define officers’ roles and responsibilities, ensure proper training is provided, and implement mechanisms to recognize effective performance and manage underperformance issues.

International Standards and Best Practice in Customs Enforcement

While enforcement programs and practices must respond to the conditions in each country, they also need to conform with international good practice and standards, in particular the various instruments issued by the WCO, including the International Convention on the Simplification and Harmonization of Customs Procedures (the Revised Kyoto Convention), the WCO’s Risk Management Guide, Standard Risk Assessments, Customs Risk Management Compendium, Strategic Trade Control Enforcement Implementation Guide, and the Compendium of Customs Operational Practices for Enforcement and Seizures.

In many administrations in fragile and conflict-affected states, this adoption of international good practice requires extensive capacity development, often with the assistance of development partners through their various technical assistance programs.

ORGANIZATION OF CUSTOMS ENFORCEMENT

This section addresses key issues in establishing a customs enforcement organization. The discussion is based on experience and observation of enforcement organizations in both large and small administrations throughout the world. This complements the discussion in Chapter 3 that refers to the entire customs organization structure.

There is no single correct organizational model for customs enforcement. For instance, in developing an enforcement organization, a decision is needed with respect to how much operational activity, if any, will be retained at HQ. Larger administrations with many offices and complex operating environments generally have a decentralized structure with almost all operational enforcement functions delegated to the field and very little operational activity carried out at HQ. Smaller administrations generally retain more operational activities at HQ depending on factors such as geographical area covered and complexity of operations. As a general rule, enforcement operational activity...
should be assigned to operational areas with HQ retaining responsibility for overall policy and program development and direction, planning and program support, and guidance to operations.

Reorganizing the enforcement program in a formal way presents an opportunity to integrate risk management functions that are part of the overall enforcement program. For example, processes for identification of low-risk traders, based on the record of the various operators in the import/export chain, can be organizationally located with more traditional enforcement functions. In addition, development of facilitated systems such as trusted trader and/or AEO program green channel clearance integrate well with the process of identifying and acting on information related to higher-risk traders.

HQ level enforcement staff generally exercise *functional authority* over line operations in enforcement operations. Functional authority is indirect authority by means of development of policy and procedures, provision of advice, organization of department-wide initiatives, and monitoring results. Line operations exercise *direct or line authority* in the enforcement program. Line authority refers to direct responsibility and accountability for operations. Line managers are obligated to operate within the policy and procedural framework developed by the relevant functional authority and approved by customs senior management.

**Headquarters Functional Organization of Customs Enforcement**

In an effort to better examine customs enforcement organizational structures, we begin with a functional breakdown of enforcement starting with HQ. Key functions carried out at the HQ level include the following.

**Executive Leadership**

The enforcement program is a critical part of a customs administration and supports customs’ key role of safety of society, border security, and the protection of economy of the country. Thus, the official in charge of enforcement should be at a very senior level, reporting directly to the head of the administration, equivalent to other deputy heads, and be a member of the administration’s senior executive committee. This brings an enforcement lens to all program and policy decisions made by the executive committee and ensures they consider verification and enforcement implications. The enforcement executive leads the development of enforcement policies, programs, initiatives, and related resource allocation. Advice is provided to the head of the customs administration and frequently to senior officials of other government agencies, ministers, and other elected officials.

**Policy and Program Development and Planning**

The enforcement organization is responsible for developing clear and well-thought-out enforcement and compliance policies and programs and the strategic and operational plans to implement them. These policies and programs must
support the strategic objectives and plans of the administration as well as broader government strategies and priorities. This is a headquarters function, although input from operational areas is essential to ensure all practicalities and implementation realities are considered. In small administrations, this function can be carried out by a very small team of two or three experienced officers. Policies are needed covering antismuggling, port of entry goods inspection, seizure of goods and conveyances, intelligence and investigations, penalties and sanctions regimes, risk management, and so on.

**Program Management/Coordination and Monitoring**

The HQ enforcement organization is generally responsible for the overall management and coordination of the enforcement program operations throughout the country. This includes antismuggling operations. While generally not taking a hands-on role in operational matters, they will plan and coordinate implementation of national projects involving several regions as well as direct any involvement in international initiatives and projects. It is particularly important in the area of enforcement that the HQ organization works closely with the field offices in planning, monitoring, and evaluating results as well as providing expert advice and guidance to support field operations.

HQ monitors the enforcement operations through the use of operational performance management systems (OPMS)\(^1\) that provide detailed reports on activities and results. This includes both the specialized enforcement operations as well as effectiveness of the verification efforts of checkpoint staff. Areas of weak performance can be addressed by HQ in cooperation with local management. The executive in charge of enforcement is expected to report to the head of the administration on the results achieved, challenges and emerging issues, and the effectiveness of all enforcement operations along with recommendations for changes.

**Risk Management and Intelligence Program Development and Administration**

A robust risk management program is needed to address all areas of risk. The enforcement organization generally takes the lead in developing the needed policies, systems, and procedures in risk management and operation of the risk management program. As is discussed in more detail in Appendix K, the enforcement organization plays a major role in the operation of a risk management committee (RMC) that oversees the development and application of risk management systems and processes (see Chapter 5 for governance roles and the RMC). Often, the head of enforcement takes on the role of “risk management champion” for the customs administration. However, this may be different depending on the context and particularities of each customs administration.

\(^1\) Administrations have various different systems and entities carrying out these functions such as 24/7 operational centers, command centers, and so on.
The customs intelligence HQ unit develops and monitors policies, procedures, and supporting systems needed for an effective intelligence system. Customs intelligence consists of two major elements—strategic intelligence and analysis and intelligence operations. Generally, the HQ intelligence organization is responsible for strategic intelligence development. This entails risk assessments of emerging threats in areas such as contraband smuggling, potential areas of customs fraud and tax evasion, security threats (terrorism/weapons of mass destruction or WMD), intellectual property rights, trade agreement violations, and safety and health. These strategic assessments are provided to senior management for use in setting enforcement priorities, developing new programs and operations, assessing existing operations, and making resource deployment decisions.

Intelligence operations are carried out at both HQ and field levels. The HQ intelligence office generally takes the lead and is the primary contact point for intelligence sharing at the international level. The day-to-day development, analysis, and dissemination of tactical/operational intelligence are for the most part carried out by field intelligence officers. They develop local sources of information, liaise with local enforcement agency counterparts and neighboring customs administrations, and, most importantly, support local operational customs officers through provision of local lookouts and alerts. Customs operational staff are also valuable sources of intelligence information.

**National Targeting Centers**

Many customs administrations have established national risk management and targeting centers that apply a multilayer approach to daily risk management operations. In general, the centers aim to better manage and integrate information, develop a coordinated approach to risk management, coordinate intelligence and operations, and better manage border risks (Aniszewski 2011).12 For the most part, these teams focus on contraband and security risks rather than on revenue matters.

The centers make use of advanced automated systems, strengthened pre-arrival cargo and declaration data reporting requirements (including advanced commercial supply chain data), and more sophisticated and integrated analytical techniques to target high-risk consignments and operations. With the introduction of electronic trade single windows, these units can have access to greater amounts of data from other regulatory agencies and increasingly can address a broader range of risks.

Common functions of centers, as reported in the WCO research paper (Aniszewski 2011), include management of selectivity and targeting criteria, managing risk analysis IT systems, provision of 24/7 tactical analysis and

12 This research paper includes examples of NTCs in Canada, Finland, New Zealand, and the United States. It should be noted that emerging economies such as Brazil and Mexico also have NTCs in operation.
coordination, coordination of risk management information exchange, and providing a platform for stakeholder coordination and better coordinated border management.

The centers require direct access to all relevant data from all internal and external systems, including nonintrusive inspection technology equipment (including scanned images), all CCTV installations, and so on. The centers should be given authority to order risk-based controls and inspections (at land borders, in ports, at airports, and inland) and the collection of results from such activities.

In the past, most national targeting centers were limited to customs officials. However, in recent years, more and more centers include representatives from other agencies with a border control/law enforcement mandate, including regulatory agencies, police, border patrol, coast guard, and so on.

This interagency collaborative effort can produce much improved control and enforcement results by accessing far greater levels of information and intelligence that can be used to identify and target high-risk operations, individuals, and organizations.

**Leading Interagency Risk Management**

International initiatives such as the electronic trade single window and the trade facilitation initiatives called for by the WTO TFA have forced many countries to come to grips with the need to better coordinate and even integrate border control services. Chapter 4 provides more details on the TFA. The efficiency and effectiveness of import and export processing (or lack thereof) by other government agencies have major impacts on trade facilitation, logistics efficiency, and protecting society from harmful or dangerous goods. Streamlined and coordinated clearance systems and procedures based on risk management principles are essential to competitive and attractive environments for investment and international trade. Chapter 5 discusses the importance of strengthening core customs processes through integrated risk management. Often the other involved agencies have far less mature approaches to risk management than customs and tend to operate in isolation with limited coordination, cooperation, or information sharing. Common approaches to risk management are frequently lacking.

In many cases, customs has taken a lead role in the creation and operation of interagency risk management processes, often driven by the implementation of the electronic trade single-window platform. The first step in developing an interagency risk management strategy is issuance of a government policy on “facilitating trade through risk management” that commits (and requires) relevant government ministries and agencies to implement international best practice in the area of risk management, to establish interagency cooperation mechanisms, and to build closer partnerships with the trade community.

Ensuring all relevant agencies participate in implementing the policy statement requires creation of an interagency risk management governance structure. This includes a high-level multi-agency steering committee responsible for overall policy,
strategy, planning, and oversight of the process. At the operational level a risk management coordinating committee provides the forum for operational level bodies to coordinate and manage the ongoing processes. Each participating agency needs to establish its own risk management committee and processes to meet its own needs as well as to support the interagency efforts. This framework ensures that steps are taken to implement a truly integrated (interagency) risk management process. The customs administration typically plays a leading role in bringing about these changes and chairs the interagency structure once operational. Chapter 4 refers to the development of a TFA roadmap and a government-wide approach.

Interagency and International Liaison

Customs enforcement depends on effective cooperation, exchange of information, and coordination with other national agencies with a mandate to control the import and export of certain goods and of people as well as with foreign customs administrations. Establishing formal arrangements with domestic enforcement/regulatory agencies (police, other government organizations, drug control administrations, military and so on) is critical to effective border enforcement. As customs is generally the lead agency in border management, it is in a unique position to initiate formal agreements and arrangements (often through MOUs) setting out policies and means of joint operations and coordination, information exchange, and so on. These MOUs are negotiated and signed off at the headquarters level, sometimes at the ministerial level, and are binding on all parties.

This interagency cooperation requires that all the participating agencies commit to adopting the principles of risk management in identifying goods that require verification. An earlier section of this chapter deals with principal aspects of interagency cooperation.

Contraband Detection Technology Development and Management

It is well recognized that contraband detection technologies (for example, nonintrusive inspection technologies), when properly deployed and utilized based on risk assessments, can be very effective tools for detection of undeclared and illegal products. Customs administrations need to carefully consider the deployment of these technologies based on risk assessments and priorities. All too often these costly tools are not deployed or used effectively resulting in costs to both the administration and traders with little return. The enforcement organization at HQ is generally responsible for preparing plans and strategies for acquiring and deploying these technologies, putting in place sound management information systems, and monitoring results.

ICT Systems Development, Implementation, and Operation

Customs enforcement requires extensive information technology systems to support operations. These systems are the responsibility of the headquarters organization working in collaboration with the ICT department and other branches of
the administration. Of critical importance to customs enforcement is a functioning and effective IT-based risk management system. Other systems include an enforcement database (to record all enforcement actions), an intelligence system (to record and analyze intelligence information), a case management system (to facilitate better management of investigations cases and operational projects), and an operational performance reporting system (to gather and analyze performance data on enforcement operations).

Fraud Investigation

Many developed country customs administrations have an HQ investigations policy and program section with overall power and responsibility for the investigations units in the field (policy, procedures, technical advice and guidance, monitoring, and so on). The HQ investigations sections often include an operational section responsible for carrying out large scale, complex, and highly sensitive investigations and cases covering jurisdictions of several investigation offices that are beyond the scope of local offices, including cases involving national and international cooperation. These senior investigators also play an important role in technical training and development of field investigators.

Customs investigators identify cases of potential past customs fraud, carry out forensic investigations to establish the facts, and, in cases where improper activities are uncovered, assess revenue owing and penalties according to the nature and seriousness of the offenses. Potentially large amounts of revenue that may have been evaded in past transactions are identified as part of customs investigations. In cases of serious misrepresentation or fraud, investigators will initiate criminal prosecution processes.

An important and often overlooked practice is customs investigations collaboration with the court system/prosecutor’s office. In many cases judges and prosecutors do not have the technical knowledge or the understanding of customs matters, so they need help that is provided through training or information sessions.

Antismuggling Teams

Many small to medium-sized administrations deploy operational antismuggling teams from HQ. These teams have a broad mandate to carry out operations at both the national and local levels to address major risks and to assist local teams with specific projects. These centralized teams also provide useful information on the risks and effectiveness of local operations and resource deployment. In larger, more advanced administrations such teams are almost exclusively deployed from operational field sections. To combine efforts and to optimize results in special crime areas, these teams often include other governmental agency officers (for example, joint drugs and anti–money laundering teams).

Post-clearance Audit

While PCA is not part of the enforcement organizational structure, it does contribute to the enforcement program. It is an essential element of a risk-based
verification process. Its role is to carry out audits of importers’ books, records, and systems to verify past compliance with customs requirements. PCA entails two principal activities: desk audits (reviews carried out in the PCA office of a trader’s transaction records) and site/field visits (audits carried out at the importer’s premises involving a detailed audit of accounting records and systems as well as individual transactions). Audits generate additional revenue through reassessment of transactions and, in cases of suspected fraud, referrals to the investigations team for fraud investigations.

PCA supports the goal of expedited clearance of goods with less intervention by customs at the time of release while maintaining appropriate levels of compliance verification. To that end, PCA typically conducts pre-approval and periodic audits of participants in trusted trader programs (based on the WCO’s AEO program developed as part of the WCO’s Framework of Standards), whose results are included in the assessment of the AEO application, and on the provisions of the WTO TFA. Strictly speaking, these audits are not enforcement/verification focused. They are aimed at assisting applicants for AEO designation in meeting the stringent record-keeping and internal control systems required. They periodically audit the AEOs to ensure that they continue to meet the program requirements, to identify weaknesses in their systems, and to provide advice. Specific suggestions on implementation of an effective PCA program are contained in Chapter 5.

Field Operations

Most enforcement operations are carried out in the field where goods clearance takes place. However, field operations must work in close contact with HQ to ensure consistency of operations, compliance with legal and policy requirements and cooperation with other areas and agencies. The following paragraphs describe these field operations and summarize their mandates and roles. Specific advice on the establishment and operation of these operational enforcement units is contained in Appendix K.

Mobile Antismuggling Teams

Most customs administrations deploy mobile antismuggling teams whose activities are focused on both contraband interdiction and revenue evasion. These teams have proven very effective as their priority is on enforcement and antismuggling activities. Team members are selected based on their performance records and professionalism and generally receive specialized training. They work in tandem with operational line staff at ports of entry as well as with other law enforcement agencies. Depending on the scope of the customs administration’s mandate they may participate in border patrol operations and inland interdiction of smuggled or otherwise clandestine goods. Such operations should be carefully planned and, where available, based on risk assessments, specific intelligence, or requests from operational areas or other agencies (in accordance with agreements) or on the basis of deterrence.
Joint Forces Operations

Typically, formal agreements are in place setting out the arrangements for customs mobile teams to work with other law enforcement agencies (task forces, ongoing joint operations including joint intelligence units). These MOUs set out the terms and conditions of these joint operations, including roles, responsibilities, authorities, management structures, reporting processes, and related administrative procedures. These agreements include specific joint forces operation (JFO) projects and the exchange of information.

Marine Patrols

The maritime environment presents customs with numerous challenges in its efforts to protect revenue and to detect smuggling and other illegal activities. To address these challenges, many customs administrations with marine borders set up marine patrol operations. A marine patrol capability requires appropriate equipment in terms of vessels and related technologies, properly trained staff to both operate the vessels and carry out the customs enforcement duties, and sufficient financial resources. Customs-governing legislation must include provisions that provide authority for such a program.

Before a marine unit is established, the administration should conduct a feasibility study. This will include an assessment of the marine threat (often carried out in consultation with other law enforcement agencies such as marine police, coast guard, and the military) as well as a financial cost/benefit analysis.

Field Intelligence Operations

The operation of the HQ intelligence function was outlined previously. Effective customs intelligence requires on-the-ground intelligence officers throughout the country. These field officers play a critical role in the collection, evaluation, and analysis of information and serve as the contact point between the intelligence organization and operating customs officers. In this regard, they provide intelligence to the line officers in terms of lookouts, risk assessments, and briefings of both a local and national nature. In addition to collecting intelligence from external sources, including other law enforcement agencies, informants, and confidential sources as well as open sources, a considerable amount of useful intelligence information can be obtained from customs officers. They can provide information based on their experience, observations, and knowledge of local risks obtained through their day-to-day work, which often can be used along with other intelligence sources to help identify general and specific risks. The intelligence officers provide regular reports to HQ that can be used to update risk assessments and to initiate specific actions such as investigations, antismuggling initiatives, audit priorities, and so on. Local intelligence officers are critical to maintaining this connection with field staff and local enforcement agencies.
DEVELOPING AN ENFORCEMENT STRATEGY

This section discusses the steps customs administrations take to develop or strengthen customs enforcement programs and operations and provides an example from one administration. The focus is on effective border controls (at customs entry points), antismuggling operations (including marine patrols and mobile teams), fraud investigation, customs intelligence and analysis, and post-clearance verification. We will examine how these programs are developed and the critical part played by risk management techniques and processes in their development and operation. The enforcement strategy is one element of the customs strategic and operational planning process. As such, it must be consistent with and support the strategic objectives and priorities of the administration typically defined for a period of three to five years and be integrated into the planning process.

The Challenge

While customs has many responsibilities in terms of trade facilitation and service provision, its key function, particularly in fragile and conflict-affected states, is to provide effective and efficient border controls and revenue collection. The challenge for customs is to apply these controls in a manner that minimizes impacts on legitimate traders and allows the smooth flow of cross-border trade while reducing the extent and impacts of illegal operations. These controls are not applied by customs in isolation. While generally the leading agency at the border, customs works in close cooperation with numerous other agencies with control mandates.

Customs controls have evolved over the years, moving from transactional controls applied at the time of entry of the goods to the use of pre-arrival risk assessments, analysis, and post-clearance verification to provide assurance of compliance. This approach has enabled customs to greatly speed up release times for the vast majority of traders and allowed customs to reassign staff away from routine processing activities to higher value-added functions, such as risk analysis and targeting, PCA, antismuggling, fraud investigations, and client services to support and facilitate voluntary compliance. All these aspects of customs control must work in harmony as part of a risk-based framework and be included in an administration’s enforcement strategy.

Why an Enforcement Strategy Matters

Experience has shown that a well-thought-out enforcement strategy outlining the objectives, priorities, and action plans for the enforcement area is essential for developing or strengthening a customs enforcement organization and achieving improved results. The objective of the strategy should be to improve the efficiency and effectiveness of customs enforcement through developing professional
capacity, applying a risk-based approach, providing modern tools and equipment including IT systems, and strengthening operational effectiveness.

**Scope and Priorities**

Decisions are required on the scope and coverage of the strategy. Ideally it should cover all enforcement and compliance verification activities in the customs administration. This includes responsibilities for antismuggling, intelligence and analysis, interagency and international cooperation, and marine patrol as well as other compliance verification functions (risk management, PCA, customs investigations, contraband detection equipment, IT systems).

A great deal has been written about risk management theories and practices in the customs world. This discussion centers on how administrations have used the principles and practices of risk management to develop enforcement strategies to maximize the return on investment of customs resources by focusing control activities on the areas of highest risk. In order to do this, customs administrations need to carry out threat assessments to identify the nature, extent, and impacts of illegal activities.

The customs administration needs to respond to priorities and areas of focus of the administration and government as a whole. Some countries will want to focus on threats to security, safety, and health, whereas others will place greater priority on revenue-related threats such as goods smuggling, undervaluation, misclassification, and false origin declarations. In most cases a combination of these threats will need to be addressed. Customs must take these government priorities into consideration in developing the strategy.

**Operational Considerations**

An enforcement strategy is not developed solely to guide the enforcement operations and organization of the administration: it influences all aspects of the operations from pre-arrival processing, border controls applied by line staff, and postrelease verification. It also contributes to the development of trade facilitation initiatives designed to ensure that highly reliable traders are identified and recognized through expedited services with minimal customs intervention. An enforcement strategy works in tandem with and supports such facilitation initiatives. Thus, in developing an enforcement strategy, all areas of the administration should be involved. Once an executive decision is taken to develop an enforcement strategy, following the approach outlined in Box 6.2 will contribute to a successful outcome.

“A customs enforcement strategy is brought to life through development and implementation of a variety of operational programs and initiatives.”

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13 See the WCO compilation of risk management papers.
Box 6.2. Steps to Develop an Enforcement Strategy

Step 1. Create a task force/working group led by a senior enforcement official to lead the development of the strategy. Members should come from all areas of the administration (operations, technical offices, like tariff, valuation, origin, and so on).

Step 2. Develop the enforcement strategy objectives, outcomes, and scope. An outline of the contents of the strategy should be prepared and approved by senior management at this point.

Step 3. Prepare a threat assessment to establish the perceived areas of risk to guide development of the strategy. Typically as part of this process administrations carry out an environmental scan that examines the external and internal environments within which the customs administration is operating and identifies strengths, weaknesses, challenges, and opportunities.

  Internal factors include issues such as the following:
  • Resource constraints
  • Adequacy of customs legislation
  • Effectiveness of systems and procedures (in particular ICT systems)
  • The extent of a risk management culture throughout the organization
  • Levels of competency and professionalism of staff

  External factors include issues such as the following:
  • Government expectations and priorities (for example, revenue collection, trade facilitation)
  • Business demands for improvement in service delivery
  • Regional and bilateral trade agreements
  • International commitments (for example, the WTO Trade Facilitation Agreement) to facilitate trade
  • New compliance challenges in preferential rules of origin and the related risk of fraud
  • Supply chain security issues

The task force gathers information from a variety of sources about past illegal activities, analyzes and assesses customs enforcement and compliance data to identify results of enforcement efforts, identifies emerging trends, and assesses the impacts of smuggling and fraud. In addition to local information, international sources are drawn upon such as neighboring countries, the WCO Customs Enforcement Network (CEN) and Regional Intelligence Liaison Offices (RILO) operations pooling operational information from all cooperating customs administrations worldwide or on a regional basis respectively, the United Nations Office on Drugs and Crime (UNODC), and regional organizations such as the Association of Southeast Asian Nations (ASEAN), European Union, and so on.

Once this data has been compiled and analyzed the next step is to build on this information and to identify future trends and emerging risks. It is useful at this point to identify the specific commodities involved. If we use drug smuggling as an example, the analysis would look at all drug seizures (both at the border and internally); trends and patterns in domestic drug consumption; international reports and analyses on drug trafficking trends, patterns, routes, and results; and so on.

The preliminary analysis is then shared with a representative team from customs (and perhaps other cooperating agencies) at a series of workshops to test and validate the conclusions. The impacts of smuggling in terms of lost revenue and the entry of dangerous and illegal goods can also be determined or estimated at this time.

Step 4. Submit the threat assessment to senior management for approval. The threat assessment, including recommended priorities and suggested strategies, is then presented to customs senior management for review and approval. Direction on the overall priorities,
strategies and initiatives should be provided (for example, need to strengthen data sources and systems and analytical capabilities; more antismuggling teams to certain areas of the border to address emerging contraband smuggling risks; need for a risk management committee; and so on).

**Step 5. Develop the strategy and action plan with resources.** Following the guidance provided by senior management, the task force now refines the strategy and develops supporting action plans to address the identified threats, both existing and emerging. It will also include actions to strengthen human resources and the organization, undertake budget reallocations or realignment of resources, update automation support systems, and so on.

**Step 6. Approval of the strategy by senior management and implementation.** The final strategy with supporting action plans and goals is presented to senior management for review and final approval. Decisions will be made on matters such as recommended changes to the organization or realignment of responsibilities and resource allocations, specific enforcement initiatives and so on. The strategy also should include performance indicators—both quantitative and qualitative—that are critical to assess the success of the strategy in meeting its goals. The strategy is now ready for implementation.

Source: Authors.

Appendix L includes an outline of an enforcement strategy prepared by a developing country’s customs administration. Appendix K provides specific advice and guidance on the creation and operation of a number of critical enforcement programs described earlier, including customs mobile antismuggling teams, customs investigations, customs intelligence, PCA, customs marine patrols, deployment of contraband detection technologies, and a penalty and sanctions regime.

**MANAGING CUSTOMS ENFORCEMENT**

Customs enforcement programs and operations require effective management oversight in order to assess the extent to which goals and objectives are achieved and the effectiveness of resource deployment and to ensure they are functioning in accordance with their terms of reference and legal authorities. To achieve this, customs management puts in place operational performance management systems (OPMS) that collect and report information on critical measures of the efficiency and effectiveness of enforcement. Much of the data required is available from the various automated systems that in some cases can be linked directly to the OPMS. In addition to regular reporting of achievements against operational plans and goals, the OPMS provides quantitative and qualitative data on results achieved within each of the program areas (antismuggling, investigations, intelligence, border enforcement, PCA, and use of detection technology). Box 6.3 displays a sample of operational enforcement performance indicators in use in a number of customs administrations and is presented for illustrative purposes. Higher numbers and percentages do not necessarily indicate the intended and right change in performance.
## Box 6.3. Sample of Operational Performance Indicators

<table>
<thead>
<tr>
<th>Area</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| Physical cargo inspections (import and export) | - Number of inspections  
- Percentage of shipments inspected  
- Percentage resultant (hit rate)  
- Number of offenses detected  
- Revenue assessed (duty, tax, penalties)  
- Number of cases referred for investigation follow-up  
- Comments/observations on program  
- Number of containers/shipments scanned  
- Percentage of containers/shipments scanned  
- Number and percentage of scans resultant  
- Revenue assessed (duty, tax, penalties)  
- Number and value of seizures (illicit drugs and so on)  
- Number of cases referred for investigations follow-up  
- Comments/observations on program |
| Cargo scanner activity                    | - Number of enforcement actions (seizures, charges filed)  
- Revenue assessed (tax, duty, penalties)  
- Number and value of seizures (illicit drugs and so on)  
- Number of cases referred for prosecution  
- Number of cases concluded (by type)  
- Revenue assessed (duty, tax, penalties)  
- Additional revenue actually collected  
- Number of cases referred for prosecution  
- Number of convictions  
- Number of appeals and their outcome  
- Joint investigations undertaken (by agency—for example, tax department)  
- Comments/observations on program |
| Antismuggling teams                       | - Number of enforcement actions (seizures, charges filed)  
- Revenue assessed (tax, duty, penalties)  
- Number and value of seizures (illicit drugs and so on)  
- Number of cases referred for prosecution  |
| Investigations                            | - Number of intelligence cases concluded  
- Number of intelligence alerts/bulletins issued, referrals made  
- Number of enforcement actions as a result of intelligence  
- Value of enforcement actions  
- Revenue (duty tax, penalties)  
- Contraband (number and value)  
- Comments/observations on program |
| Intelligence                              | - Number of international cases, by country  
- Desk audits:  
  - Number conducted  
  - Revenue assessed (duty, tax, penalties)  
- On-site audits:  
  - Audits completed with positive results / total number of audits conducted  
  - Revenue assessed (duty, tax, penalties)  
  - Number of cases referred to investigations  
  - Comments/observations on program |
| Source: Authors.                          |                                                                                                                                                                                                           |
Further examples of key performance indicators for enforcement are provided in Appendix A to Chapter 3.

**USE OF INNOVTIVE TECHNOLOGIES FOR INTELLIGENCE AND ENFORCEMENT**

Some developed customs administrations are taking advantage of innovative technologies like blockchain, cloud computing, big data analysis, and artificial intelligence to pilot their use for customs purposes. As discussed in Chapter 7, these technologies represent a potential for customs to use in enhanced risk assessment, security of supply chain, data analysis and data capture, nonintrusive customs control, and so on.\(^{14}\)

**SUMMARY**

This chapter presents some basic principles that underpin customs enforcement and provides practical advice and guidance on the development and implementation of a number of enforcement programs, initiatives, and potential organizational options. As the environment and challenges facing customs administrations continue to change, they must adapt and evolve to respond to these developments. This is a continuous process of renewal and growth. A sound legal basis, effective organization, and clear strategy that ensures that appropriate principles, policies, and programs are in place and risk-based deployment of resources are critical factors to a successful enforcement program.

The need for interagency and international cooperation and coordination has intensified, given the risks and threats nations face to security, safety, and economic well-being from international crime and terrorism. Successful implementation of specific enforcement initiatives and programs to address existing and anticipated risks and threats requires careful planning and development, adequate financial resources, and the assignment of sufficient numbers of qualified staff. Effective performance management systems are needed to ensure management is able to monitor performance results and make adjustments as required.

**REFERENCES**


CHAPTER 7

Customs Administration and Digitalization

Tadatsugu Matsudaira and Jonathan Koh

This chapter discusses opportunities and challenges presented to customs administrations by information and communication technologies (ICT) and other modern technologies. It examines why some customs administrations struggle with low performance despite having implemented modern ICT for operations. It then discusses some potential causes of low performance, including persistent as well as newly created manual procedures in declaration processing, incomplete exploitation of ICT declaration processing systems’ functions, inadequate ICT support to enterprise-level management or back-end operations, and the inability to process and analyze data. Considering the root causes of low performance while technologies are available, the chapter also reviews the potential customs application of various disruptive technologies, such as data analytics, artificial intelligence, and scanned image analytics.

OPPORTUNITIES AND CHALLENGES PROVIDED BY ICT IN CUSTOMS ADMINISTRATIONS

The COVID-19 outbreak in 2020 reconfirmed for the world the benefits of ICT. Thanks to ICT use in customs procedures, customs administrations can be resilient against a raging pandemic like COVID-19 and secure supply chains without compromising social distancing, trade facilitation, or levels of compliance. ICT are ever-evolving technologies, and customs administrations should continue to exploit the opportunities presented for reform and modernization. This should not be limited to customs procedures but also include the critical supports to the organization’s decision-making, including

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1 Today, 99 percent of customs administrations have some form of ICT customs clearance system according to the author’s calculation based on the data in “WCO Members’ Profiles—Automated Clearance System” (WCO 2020).
resource mobilization planning, institutional risk management, and enterprise performance assessment.

In some countries, customs administrations have implemented ICT for several years but did so in a perfunctory manner that did not derive much real benefit. There is a need for mitigation measures to identify the cost incurred by continuing the obsolete business process, conduct business process reengineering, and ensure effective change management among customs managers and staff. These mitigation measures may add more time and delay in ICT implementation but are worthy to reduce conflict cost and to maximize benefits of ICT use in the future.

Evolution of Digitization to Digitalization

In the 20th century, the early ICT adopters, particularly the “communication” part, were mainly developed countries. As trade volume rose and with limited increases in human resources, these customs administrations turned to ICT automation as a means to clear goods efficiently with effective control. Progress in several other areas continued—for example, harmonizing the implementation of legislation, reducing face-to-face contact, keeping track of operations to fight corruption, transforming paper-based processes toward increasingly paperless customs, removing discretionary human intervention, and increasing accountability for decisions. Entering the 21st century, developing countries also started adopting ICT in their customs operations.

Early ICT initiatives by customs administrations were “digitization” efforts, rendering paper to digital artifacts first, while the transformative “digitalization” undertakings took longer. Early “digitization” efforts culminated in standalone systems with no interface to each other (see “Silo Mentality” in this chapter). Similarly, as the public became accustomed to the use of ICT, many trade-related other government agencies (OGAs) followed suit. Members of the trading community found themselves having to use a myriad of such systems, for example, import certificate application systems. These OGAs’ systems deal with the same goods consignment as customs while there is often no interface among these systems, creating redundant manual data entries and repetitious data residing in these systems.

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As manual data input is not resource-efficient and has a high risk of input errors and data manipulation with corrupt motives, the silo systems are gradually being connected to each other and with customs clearance systems for electronic data exchange. Electronic data exchanges save resources in inputting, checking, and correcting data entry; they prevent data manipulation and secure data integrity and consistency by comparing and reconciling the systems’ data, which significantly enhances customs operations, for example, cargo traceability. In the 21st century, the internet became more ubiquitous, and customs clearance systems in developing countries were gradually upgraded to be web-based with increased interoperability with other ICT systems.\(^4\) Customs administrations seek better and wider connectivity in three ways: within the customs administration (for example, customs clearance systems and other silo systems and electronic devices, such as cargo tracking devices); between the customs ICT system and other national parties’ ICT systems (for example, tax-customs data exchange, trade single windows, port community systems); and between the customs administration and foreign partners (for example, foreign customs administrations, chamber of commerce, quarantine). Standardization of data models, such as the WCO data model,\(^5\) facilitates interface and interoperability across different ICT systems through a standard vocabulary, definition, format, and quality standards for exchanged data.

Several models capture such evolving stages of ICT use in organizations. This section introduces a model specifically designed for the customs area, the Digital Customs Maturity Model (DCMM),\(^6\) the concepts of which are summarized in Figure 7.1.

As indicated in the DCMM, the progress in a customs administration’s ICT adoption is guided by a three-staged “vision”: smart clearance, efficient risk management, and effective controls. It is also supported by two-staged policy instruments: data security and protection and business continuity plan. It is important to understand that ICT implementation is a continual journey based on the national priorities, policy considerations, and resource availability of each customs administration. The DCMM identified six stages of ICT maturity in customs administration, and many low-income countries struggling within the first two stages, “initiate” and “implement,” may consider DCMM as a benchmark for their everlasting journey to better use of ICT.

\(^4\) For example, this is the main purpose of migration from ASYCUDA++ to ASYCUDA World. The biggest difference is in the electronic message’s structure: fixed-length data elements with electronic message syntax were used before the internet while variable-length with tags for data elements were used with internet. Since all the data elements have tags, electronic data message syntax that is unique to each electronic message template is no longer used, significantly facilitating electronic message exchange.

\(^5\) WCO Homepage (http://www.wcoomd.org/DataModel), living contents and kept updating.

\(^6\) DCMM was proposed by the World Customs Organization (WCO) in 2017. More general models are, for example, the Software Engineering Institute’s Capability Maturity Model Integration (CMMI) and Google’s Digital Maturity Model.
DCMM may appear to have ICT maturity centered on a workstream of customs clearance processes. Many customs administrations have worked on another workstream, customs back-end operations, including risk management profiling, databases supporting valuation, cargo inspection, post-clearance audits, tariff management, guarantees and bonds, warehouses, authorized economic operators’ schemes, and so on. Some countries call such systems “customs management systems” (CMS). Many customs administrations in developed and some developing countries have worked on another workstream, enterprise resource planning (ERP). ERP is for organizational management support, notably, assessing the current situation and supporting corporate-level decision-making, for example, investment planning and associated human resource reallocation. (Details are discussed in “Weak Enterprise-Level Management Support” in this chapter.) The interlinked ICT systems for the three workstreams help customs reform and modernize the “administration,” not only “procedures.”

### Challenges, Pitfalls, and Mitigation Strategies

ICT has been adopted in customs administrations since the 1980s. There has been notable progress, but there are still many aspects of customs management that have not fully harnessed ICT technologies. For example, ICT systems have often been applied in limited scope, primarily to automate the customs clearance processing. Outside customs clearance processing, ICT can and should be applied to support management decision-making—the raison d’être of ICT investment.
for institutional modernization—but few developing countries’ customs administrations have used ICT in this area. The following paragraphs discuss major challenges and pitfalls in the use of ICT and also mitigation strategies against these.

**Persistent Manual Procedures**

Unlike decades ago, fewer customs administrations today face reluctance and deliberate sabotage of the introduction of ICT customs clearance systems. Nevertheless, several customs administrations are still hesitant to fully exploit the functionality of ICT systems; worse still, some introduce new manual processes that undermine the merits of ICT. The situation persistently creates vulnerability in control and corruption.

**Face-Vetting**

Several customs administrations persist in requiring traders to submit the hard copy of the declaration with a handwritten signature, along with hard copies of supporting documents to the customs office for processing the declaration. Until this is done and formally accepted by customs officers, customs does not start processing the declaration even if all the declared data are stored in the clearance processing ICT system. This practice, dubbed *face-vetting*, is obsolete and was vividly exposed through social distancing requirements in the COVID-19 pandemic. Accepting electronic copies while allowing for deferred physical submission can mitigate such practice. Where proper risk assessment is done, a substantive portion of consignments can be accorded the green channel (no control) treatment; thus, customs does not need the supporting documentation. Face-vetting at the outset of the declaration process is unnecessary.

**Cargo Management**

Through the use of customs clearance systems, declaration processing in many countries is automated, albeit to varying degrees. However, some developing countries do not activate the ICT modules for cargo management areas, notably those relating to manifest, transit, bonded warehousing, and temporary admission. For example, if the manifest is not well managed, customs controls supported by ICT are only on declared cargo while many cargoes may have arrived in the country but may not be declared (possibly smuggling). Cargo management is not related to goods’ value but the lack of it exposes the customs administration to other issues, such as the inability to trace and reconcile data, and vulnerability to revenue and other control leakage (for example, illicit drugs, explosives). It is also closely linked with physical release of the cargo.

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8 Submission of documents can be within a certain number of days after the start of the declaration.
Some customs administrations have introduced new manual procedures that undermine customs clearance automation. One example is “customs valuation pre-declaration,” in which traders are obliged to submit the value of their goods for customs verification prior to the goods’ arrival. Customs valuation pre-declarations may be a good trade facilitation practice as pre-arrival data processing on the condition that it is similarly automated and supported by the ICT system’s selectivity and that there is no duplication with selectivity on the same shipment before the import clearance. In some countries, this condition is not met where overall time required to release the imports may be reduced but traders’ time and cost to deal with customs would increase (because of 100 percent documentary verification at the customs valuation pre-declaration stage). Figure 7.2 compares ordinary import declaration, customs valuation pre-declaration, and pre-arrival declaration.

**Silo Mentality**

The divergent goals of customs, in terms of revenue collection, trade facilitation, border security, and so on, can induce a “silo mentality,” also known as “departmentalization,” in which there is a reluctance to share information outside one’s division and across the organization and there can be a tendency to increase one division’s output at the cost of other divisions’ results or the administration’s results. This has a negative impact on the corporate culture of customs and the efficiency and effectiveness of the administration. Divisions within customs administrations often do not want to lose their authority or influence within the administration, resulting in a fear of integration efforts or changes to existing applications and silo systems9 that do not interface with each other. These

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9 Such silo systems may include valuation support databases, offense databases, anti smuggling support databases, trader compliance record databases, dispute settlement tracking databases, exemption regime management databases, passenger management, licensing management, document management, human resource databases, payroll, and intranet for the dissemination of internal and administrative information.
standalone systems often hold the same data as elsewhere, causing duplication and possible data inconsistencies.

The silo systems are often developed within divisions without considering customs-wide IT policies or the IT division’s support. These divisional systems may not comply with customs administration-wide IT policies, such as procurement, hardware/software licensing, after-service contracts, anti-virus software, standard data modeling and coding, data accessibility controls, and data protections. Under such circumstances, the interoperability between the silo systems or with the customs clearance system is difficult. Creation of an inclusive ICT strategy covering the entire customs administration’s departments/divisions, operations, and services is a mitigation measure and will open a path to further reform and modernization.10

**Weak Enterprise-Level Management Support**

Customs administrations worldwide face the daunting challenge of modernization. For many administrations, technology has emerged as the platform for modernization and is a catalyst for various services to converge. To keep abreast with modernization, customs administrations are expected to go beyond automating customs procedures to leveraging existing and new technologies to transform into high-performance organizations, harnessing digitalization and improving service quality for stakeholders as well as contributing to a positive business climate that is conducive to national economic progress. There are indeed many corporate issues beyond procedures, for example, enterprise resource planning (ERP), institutional risk management, human resource management, organizational performance and productivity management, and training and development.

A commonly observed phenomenon in low-performing customs administrations is that ICT investment in corporate-level issues is marginalized. Some customs administrations have only focused on digitizing customs clearance procedures and not digitalizing the institution per se (WCO 2016). This approach may be a result of the nature of customs ICT projects, which is predominantly for thematic issues, such as trade facilitation, but it is myopic: failure in revenue collection, trade facilitation and enforcement, or any other problems of poor performing customs administrations are rooted in a lack of accurate management information. The result is that decisions on investment and resource allocation do not address root problems and poor performance can persist or be exacerbated.

Therefore, customs administrations should prioritize ICT investment for organizational reform and modernization in order to ensure management efficiency and to appropriately assess the performance of its operations. In addition,

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10 For example, the time stamp data for control and the ID of the officer who did the control are stored in the customs clearance system and can be shared with the HR management system for performance assessment (for example, Cameroon).

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a focus on human resources development, the allocation of appropriate resources, and the implementation of appropriate training for customs officers is necessary for effective customs operations. Since customs officers require highly technical knowledge and practical expertise, these training programs must be aligned with actual policies and operations.

Many ICT initiatives and projects have shown that public sector organizations generally have different organizational structures and management cultures than their private sector counterparts. Nevertheless, private-sector management approaches present some good practices worth examining. Examples include comprehensive ERP, strategic planning, human resource management, and breaking down silo-oriented structures to integrate key planning and management functions and structures to one enterprise-level process.

In recognizing the tremendous benefits gained from ERP, several public sector organizations have, in recent decades, taken a significant step by implementing ERP systems in an effort to integrate structures and to provide better governance and transparency. An ERP system covers, among others, the following common functional areas:

- **Financial accounting:** For example, general ledger, fixed assets, payables, receivables and collections, reconciliation, cash management, financial consolidation
- **Management accounting:** For example, budgeting, costing, cost management, activity-based costing
- **Human resources:** For example, recruiting, training, rostering, career record, payroll, benefits, retirement and pension plans, diversity management, sanction record
- **Project management:** For example, project planning, resource planning, project costing, work breakdown structure, billing, time and expense, performance units, activity management
- **Data services:** For example, various “self-service” interfaces for staff and external stakeholders

The ERP system often incorporates best practices. An ERP adapted for the public sector is often dubbed as government resource planning (GRP) where the software structure, modularization, core algorithms, and main interfaces are specifically adapted for government agencies.

All the preceding functional areas are lacking in the majority of ICTs in low-performing customs administrations, and these areas are often the underperforming functions within the customs administration. One of the key benefits for customs administrations to adopt an ERP approach is that it helps in coordinating the disconnected and uncoordinated data, information, resources, and assets within the administration while helping to integrate the various computing systems to provide a seamless overview to enable strategic planning and decision-making. With ERP, customs management can have timely and accurate data.
collection to assess both the surrounding operating environment and customs performance, all of which can be used to make timely and reliable decisions at the corporate level.

**Disconnect between the Customs Clearance Processes and Back-End Operations**

Although most administrations have customs clearance systems, they often find it difficult to implement other complementary components, such as customs back-end operations, as a coherent use of ICT within the customs administration. Digitalization progress has been patchy, as the lion’s share of efforts has been on automating the customs declaration procedure. Quite often, information silos are built within the customs administration, where the declaration processing system is detached from other customs back-end operations, such as risk management, ERP, revenue accounting, or human resource planning. There has been less effort and investment in applying ICT to automate the back-end processing, improve front- and back-end coordination, and enhance organizational performance.

**Selectivity**

As described in detail in Chapter 5, customs clearance systems have selectivity modules of various effectiveness that filter declarations by predetermined selectivity criteria. If the selectivity criteria are poorly determined, the results will be poor targeting and excessive control with little results. “Silo Mentality” in this chapter explains that without proper management at the customs administration level, each division/unit may add its selectivity criteria and the selectivity may end up with more controls, which is contrary to the original objective of more targeting. Therefore, a cross-departmental risk management support ICT system, which is different from the customs clearance system but mutually interfaced, is necessary to improve the selectivity criteria management, including weighting by prioritization. Such risk management support systems can only function with quality information, notably control result reports, intelligence information, and data analysis, which many low-performing customs administrations lack.

**Data Reconciliation**

Another disjointed area is the poor data reconciliation during customs clearance processing. In reality, most customs clearance systems have this functionality, but some customs administrations do not activate it. Manifest and declaration data must be reconciled to ensure that all discharged cargo is covered by a customs regime. If there is a discrepancy in the reconciliation, it indicates a high risk of diversion (smuggling). Similarly, discrepancies

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11 For example, under-value, under-quantity, tariff slippage, origin fraud, eligibility fraud, intellectual property infringement, explosives, firearms, illicit drugs, and so on.

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between transit departure data and arrival data, warehousing in/out and inventory data, and temporary admission entry and exit data are all illustrative of the necessity for data reconciliation. Very interestingly, (1) these areas often belong to one of either the law enforcement division, cargo control division, or a division responsible for monitoring the physical state and movement of cargo and not to the import procedure division; (2) these areas are the most vulnerable to smuggling (entering without declaration) and diversion, and there is little information about the situational reality or control results; and (3) the lower the performance of customs, the greater the likelihood that these functions have not been activated.

**Tax–Customs Data Exchange**

Many developing countries have launched trade single-window projects through which trade and declarations data are exchanged between customs ICT systems and OGAs’ systems, but several of them have not yet realized data exchange between tax administration systems and customs systems. These two administrations are very often under the same ministry, and tax–customs data exchange is a promising practice. Chapters 3, 5, and 6 deal with the advantages of customs–tax cooperation in revenue collection in more detail.

There are several options for realizing tax–customs data exchange. The keys to success are (1) using transactional data and not aggregate data and (2) data protection and privacy policies and practices in place to protect proprietary business data. Some countries (for example, Benin) create a common electronic platform in the Ministry of Finance through which one administration’s staff, duly authorized, can share and access data from the other administration’s system. Other countries like Cambodia have developed direct interfaces between the two systems. If budget is a concern, a quicker fix is to allow system access rights to members of the other administration’s staff (for example, customs risk management staff have access rights to the tax administration database).

**Compliance with Data Privacy and Protection Legislation**

Customs administrations handling confidential business information need to take appropriate measures to conserve the privacy and protection of the data, as required by legislation. Import declaration data contain businesses’ confidential information, which competitors may want to obtain—for example, the name, address, telephone number, and so on of the exporter and the manufacturer, the imported goods’ description, prices, and the quantity.13

In recent years, there has been a spate of new legislation in many countries regarding the protection of data and privacy rights—for example, the EU’s General Data Protection Regulation (GDPR) and the Personal Data Protection

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12 Transactional data are data linked to individual trade transactions, in other words, individual customs declarations. They are not publicly available because of trade secrecy.

13 Corruption cases were reported in Central Africa region, stating that customs officers sold confidential business data to the importer’s competitors.
Act (PDPA). These laws have reshaped how public administrations approach data privacy and the protection of information. Under GDPR/PDPA, customs administrations are defined as “controllers and processors of personal data” and must have in place technical and organizational measures to ensure an appropriate level of security to ensure that there is no misuse, loss, unauthorized access, undesirable disclosure, and unauthorized alteration of data to prevent any risk of litigation. When assessing the appropriate level of security, customs administrations must consider the risks that data processing presents, particularly from accidental or unlawful destruction of, loss of, access to, or disclosure of personal data.

Due to the multiple challenges and opportunities that the GDPR/PDPA brings, customs must be proactive to prepare to meet these challenges, as compliance requires considerable effort in reforming how customs store, use, share, maintain, and record personal and other sensitive data, which requires significant changes to current processes and systems.

For this reason, customs administrations must ensure that all their ICT systems are well protected against both unauthorized internal usage, external attacks, and data leaks. To be GDPR/ PDPA compliant, the mechanism for treating personal data should integrate appropriate data protection principles and safeguards (for example, using pseudonymization or full anonymization where appropriate). Customs administrations must deploy their ICT systems with privacy in mind, for instance, using the highest-possible privacy settings by default, so that data sets are not automatically publicly available and cannot be used to identify an entity, natural, or legal person. No personal data may be processed unless this processing is done under one of six lawful bases: consent, contract, public task, vital interest, legitimate interest, or legal requirement. When the processing is based on consent, customs must have a provision so that the data owner has the right to revoke the consent at any time. Data exchanges are to be restricted to legitimate data receivers with the equivalent level of compliance with GDPR/PDPA.

In addition, the structure of employees’ and contractors’ legal agreements under which they access or use data on the customs systems must protect the privacy of taxpayers and traders. Customs administrations must put in necessary measures to prevent data leaks and to quickly mitigate the negative impacts of such leaks in the event of an occurrence. All staff should understand the sensitivity of customs and trade data. Data protection and loss cannot be the responsibility of an individual unit or individual staff; it must be institutionally owned by senior management leading a cross-functional effort covering all stakeholders.

**Inability to Process and Analyze Big Data**

Customs administrations are accorded wide legislative powers to require economic operators to submit data which are mostly in structured form (manifest, declaration). In addition, semi-structured or unstructured data in form of X-ray and photo images, scans of supporting documents, video recordings, data from devices...
such as weighbridges, cargo tracking Global Positioning System (GPS), data from e-commerce parcels, and more add to the tsunami of data collected by customs administrations. The reality is customs administrations are ill equipped to leverage all these data. Furthermore, most data are not adequately shared but remain sequestered within the customs clearance system or other silo-systems until they are deleted to make way for new data. The lack of storage capacity, data mining, and analytical expertise creates a situation where customs is unable to make productive use of these data for improvements or refinements to customs processes.

The importance of leveraging customs data should be recognized not only by customs or its parent ministry but by the government as well. The range of trade-related data that customs holds places it in a unique position to leverage these data through data science in multiple varied ways beyond just the confines of customs. Through data anonymization, other parties including the public and private sectors can utilize such data to forecast emerging patterns and do better planning.

Customs administrations should seek more investments from their governments to derive the full benefit and even explore new revenue channels by monetizing the massive data they collect.

**Poor Design and Management of ICT Projects**

There have been many examples of failures in customs ICT projects, which were exacerbated by inadequate planning, inexperienced project teams, and poor design and implementation. There have been customs clearance ICT installation projects suspended due to a shortage of budget. Such overspending was often attributed to delays in project progress—for example, delays due to failure of equipment tendering or a government procurement agency’s scrutiny while external experts’ cost augments as they are idling for the next phase. Also, when there was no shortage of funding for the project, the lack of the prerequisite business process reengineering (BPR), the appropriate organizational restructuring, legal reform, and change management process resulted in a customs clearance ICT system in place but with little change in customs performance.

Often, ICT projects were left to the technical staff to direct, which led to unsuccessful results as there was an overemphasis on the technical aspects while neglecting the business and managerial needs. Instead of business improvement, these endeavors automated obsolete procedures and risk became irrelevant—digitization but not digitalization.14 Anecdotal experience indicates that digitization of obsolete procedures can block further customs reform and modernization. For example, often heard is “This business process is obsolete, but we invested a substantive amount in its digitization, and we do not want to be criticized for wasting this investment; thus,

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14 Hammer (1990) has accused managers of having focused on the wrong issues, that is, technology in general—and, more specifically, information technology—has been used primarily for automating existing processes rather than using it as an enabler for making non-value-adding work obsolete.
we need to continue using this business process” and “Changing the digitized business process is costly; thus, although we know the benefits of the new business process, we will keep using the current business process.”

**Governance and Financing of Customs Clearance ICT Systems**

Governance of customs clearance ICT systems is often left aside while it is key to success or failure and sets the characteristics of the system through spending and investment decisions. In many countries, the customs clearance ICT system is not only for customs revenue collection but also for cargo management and other purposes. There are many diverse system users.\(^\text{15}\) Each of them may request to improve the system for their own interest, but there should be a longer-term agenda, such as enhancing security (access control, cyber security), improving resilience against system interruption, business continuity planning (BCP), and disaster recovery planning. The question is how to coordinate and prioritize these requests. The governance models observed in the world are Ministry of Finance (MOF); special board (options: board members are composed of only MOF directors, mixture of ministries, mixture of representatives of both public-sector and private-sector users); special purposed company set up by law (options: fully owned by MOF, owned by shareholders including private sector); and outsourced private sector.

Financing decisions are often linked with governance (for example, the case of special purpose vehicles [SPVs])\(^\text{16}\) and are also important for sustainability of the system. For system installation, two funding sources are popular: government self-funding and donor funding. Except those in fragile countries that lack project management capacity, donor-funded projects are usually “recipient-executing projects” where tendering and procurement responsibility belongs to the country subject to prior consent of the donor.\(^\text{17}\) Therefore, these two financing models are de facto similar.

Recently, a third option of financing has emerged: the build-operate-transfer type of public-private partnership (BTO-PPP), where the government does not pay for system installation. The company will build and operate the system at its own cost and recuperate its investment (and return) through collecting a user fee from the private-sector users until the contract expires, when the system, infrastructure, and equipment are transferred to the beneficiary country.\(^\text{18}\) Since this is a bilateral contract between the government and the service provider, the contract’s contents are often not disclosed. A cautious approach is necessary before signing the contract, and attention should be paid to whether the user fee rate is reasonable, the agreed service levels (including upgrade) and how to assess if the

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\(^{15}\) For example, cargo owners, warehouse operators, road transport operators, customs brokers, banks, freight forwarders, maritime transport agencies, airline companies, guarantors, and OGAs.

\(^{16}\) An SPV is an entity created only for the purpose of execution of the project, which is different from the government agency or the private company while it/they may sponsor the SPV.

\(^{17}\) Thresholds are set by type of procurement whether explicit consent is required, or non-objection is obtained automatically after the certain period of time.

\(^{18}\) For example, Nigeria customs clearance ICT system and single-window systems in Benin and Côte d’Ivoire.
service levels are met, how the knowledge and assets necessary to continue operating the system after the contract expiration are transferred to the customs administration, and how to define the detailed status of the expiration of the contract. The contracts often contain capacity development articles which however lack details, and general training, such as the customs valuation method, is provided but not much on knowledge transfer of management and maintenance of the ICT system in question. Customs clearance ICT is a country’s critical soft infrastructure and monopoly; tying the custom clearance system contract with other services (for example, transit management, X-ray scanning services, and so on) requires careful examination. There can be a risk that a country relies too much on the use of this company’s services. In other words, if these terms are clear and the money value meets the services, this can be an option.

Secured financing for the running and maintenance costs is critically important for sustainability of the system, for example, running the operation, maintenance of tariff tables, modifications based on new legal provisions, system debugs, improvements in useability, and system upgrades. Most low-income countries and some other countries (for example, Japan) collect a user fee that may be kept in a public–private trust fund or directly finance the system operator. Different countries have different fee types, rates, and fee mixes (for example, registration fee, annual subscription fee, data volume usage fee, and so on). Donors such as the World Bank, seeing the sustainability of the system as imperative, usually request the creation of a user fee schedule with collection methods, for which technical assistance is also provided. A “customs clearance fee” has a long history and has been accepted by GATT/WTO for decades. From the perspective of sustainability of the system, attention is needed to certain trade agreements that waive the user fees on goods originating in certain countries. In addition, although it is debatable whether the government can or should collect a user fee for compulsory use for taxation, this concept is very common in tax administration ICT system projects. Here, again, the characterization of the customs clearance ICT system and its governance model becomes important.

**Going beyond Digitization, Opportunities for Digitalization in Organizational Reform and Modernization**

As explained earlier, some customs administrations seem stuck in digitization and unable to achieve digitalization, which is the leveraged use of ICT technologies and digitized data to create the real digital transformation. Digitization has played

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19 Sometimes called customs processing fee. General Agreement on Tariffs and Trade (GATT)/WTO accepts this provided that it is published, nondiscriminatory, and service-rendered.

20 A GATT panel interpreted that the exemption from the user fee granted to imports from certain countries increased the burden to the goods from the other countries (GATT 1987). Also, it was reported as inconsistent with the MFN obligation while this interpretation was not the disputed issue and the consistency with GATT Article XXIV (other regulations of commerce) is not clear.
a key role in customs reform and modernization. As seen in Chapter 1, the customs administration is a multifaceted government agency, and the application of digitalization, done in a coherent and well-planned manner, is now a priority.

The first step is for customs administrations to undertake a comprehensive review of their ICT applications to manage the shift to where the leveraged use of innovative technologies is applied in a holistic and integrated manner. In this regard, publicly available literature provides examples of successful ICT practice in the customs context.\(^{21}\) Recognizing the transformational importance of ICT, it is useful for customs administrations to align their ICT investments with organization and national goals as well as the priority in a structured manner. This practice, commonly known as enterprise architecture (EA), supports digital transformation, ICT growth, and the modernization of ICT. EA provides a template for defining the objectives, standardizing business operations, and incorporating systems in different layers, and applying proper governance rules. The EA approach helps customs administrations design and build an integrated ICT environment to achieve desired benefits.

In this way, the linkage between organizational goals and priorities and ICT efforts becomes very clear and provides the necessary context in which management can exercise effective decision-making to leverage ICT. It enables a balanced and clear decision-making process, where the different levels—strategic, tactical, and operational—can be aligned. This avoids the pitfalls where the implementation of ICT is skewed toward operational and tactical aspects yet is underused in strategic planning, decision-making, performance management, and resource utilization.

Digitalization or digital technologies can be used to enhance customs administrations in the following manner:

- **Increased automated processing:** Many customs administrations deploy a significant number of staff to process manifests and declarations lodged online, for example, to reconcile the information, verify the data with supporting documents, validate the goods’ classifications and valuation, and so on. There can be increased use of automated processing to reduce the manual processing. The lodged data can be digitally analyzed with increased accuracy using disruptive technologies described in the next section.

- **Changing the nature of declarations:** With technological advancements, the amount of data required to be lodged by the declarant can be lessened by customs collecting the supporting document information from the sources instead of from the declarant.\(^{22}\) For example, the issuance of permits and licenses from other government agencies can be easily verified by customs, which only needs a reference number and not the license itself. This can eliminate the need for the declarant to enclose the permit or license with the declaration, thereby saving time and effort. The same can apply to certificates of origin (C/O). Through such source data verification (SDV), verification of authenticity that consumes customs resources can be reduced.

\(^{21}\) For example, see WCO 2018a.

\(^{22}\) The WCO also advocates such a practice (WCO 2012).
along with the volume of submissions. Going beyond this, the importer can simply send a message to customs that all the information is ready for customs clearance processing, and it invites customs to remotely visit the trader’s ICT server to audit the necessary documents. In this case, the nature of the process changes from “submission” to “declaration of the start of customs audit and control.”

- **Changing the location of processing:** Technologies enable customs officers to operate remotely (for example, valuation and back-office functions). With modern ICT, such functions can be centralized in centers of excellence, which would solve persistent problems of inconsistent rulings and shortage of skilled staff for all the border posts.

- **Growing use of behavioral insights as a compliance tool:** To continue leveraging the vast volume of data amassed by customs, growing numbers of customs administrations have reported the increased use of data mining and analytics to gain improved behavioral insights into trade and supply chain processes. Through “open data initiatives,” customs can share data and insights with other departments and ministries (for example, planning to design more practical economic policies and interventions).

- **Smarter compliance and risk management:** Customs administrations have to take an increasingly proactive approach to compliance management and risk management and where possible seek to intervene proactively and at earlier stages in the import process rather than at the point where a declaration has been filed.

- **Introduction of governance by design:** The increased availability and sharing of data now allow governance by design approaches to cover a variety of data sources, including use of blockchain technologies to secure trust in chains of information.

### DISRUPTIVE TECHNOLOGIES: FEATURES, OPPORTUNITIES FOR CUSTOMS, AND CHALLENGES

#### Common Features of Disruptive Technologies and Implications for Customs Administrations

The term *disruptive technology* can be defined as one that displaces an established technology and “disrupts” the industry or a groundbreaking product that creates a completely new industry (Christensen et al. 2016). The principles of disruptive innovation create an opportunity for customs administrations and stakeholders to take a step back, analyze their current situations, and identify what areas can be

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23 Open data initiatives is an emerging trend among governments acknowledging that government data have many intrinsic values and that when they are made accessible to individuals, organizations, and even other government agencies, they can be promoted in new ways, innovations, and collaborations to realize their full potential.
improved and where opportunities exist that can benefit from innovative solutions and more.

The pace of technology in the private sector is always faster than in the public sector to advance its thirst for higher profits. Customs should recognize where disruptive technology can be used to keep pace with the private sector. Adapting and leveraging these technologies to tackle the evolving risks and threats is critical to customs’ future success. Table 7.1 indicates where and how disruptive technologies can contribute to mitigating the major risk and threats in customs operations.

**TABLE 7.1.**

<table>
<thead>
<tr>
<th>External Driver Leading to Risks and Threats</th>
<th>Opportunities for Use of Disruptive Technologies</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Increased volumes and complexities of international trade:</em> For example, proliferation of free trade agreements (FTA); complex preferential rules of origin</td>
<td>Large</td>
<td>Web-enabled trusted exchange of electronic C/O between FTA partners</td>
</tr>
<tr>
<td><em>New business models and requirements:</em> E-commerce and small parcels; innovative methods of moving goods across borders and trade financing; crypto currency; tax base-erosion and profit-shifting</td>
<td>Large</td>
<td>Use of tokenization,24 for example, unpaid invoices as tokens, to open more financing options for small and medium-sized enterprises (SMEs), besides the traditional banks</td>
</tr>
<tr>
<td><em>Increased security threats and organized crime:</em> Terrorism; pandemics; illicit activities; financing terrorists and organized crimes through evasion and avoidance of duties and taxes; cross-border fiscal fraud; smuggling of drugs, prohibited goods; money laundering; and counterfeit goods</td>
<td>Large</td>
<td>Applying machine learning (ML) / artificial intelligence (AI), for example, enabling digital ID, for improved profiling and targeting, interception of content and traffic data, forensic analysis, detection, tracing and disrupting crimeware</td>
</tr>
<tr>
<td><em>A new approach to the “border”:</em> New measures for border control; authorized economic operation (AEO) initiatives; biosecurity</td>
<td>Large</td>
<td>Use of nonintrusive inspection (NII) technologies, Internet-of-Things (IOT) devices (drones, sensors, GPS) and biometrics for enhanced coordinated border management</td>
</tr>
<tr>
<td><em>Diversified demands for control from society:</em> Anti-corruption, equality, public health, biosecurity, fauna and flora, environmental concerns</td>
<td>Moderate to large</td>
<td>Use of paperless trade platforms (single window, port community systems) and social media, chatbots, to meet demands and expectations</td>
</tr>
<tr>
<td><em>New trading patterns:</em> Increased number of connected parties; trust; 3D printing</td>
<td>Large</td>
<td>Cloud computing, Federated Architecture (FA), 5G networks enhance connectivity</td>
</tr>
<tr>
<td><em>Increase in revenue fraud:</em> Threats related to duty and tax evasion and avoidance</td>
<td>Moderate to large</td>
<td>Leverage data mining, big data, AI for accurate classification and valuation, and fraud detection</td>
</tr>
</tbody>
</table>

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24 Tokenization uses a database, called a token vault, which links the sensitive value with the token (a random set of characters). The sensitive data in the vault are often via encrypted and secured.
Considerations in Applying Disruptive Technologies in Customs Administration

Disruptive technologies are very attractive, but there are four common considerations that apply to customs administration:

- Customs have to discern between hype and the actual usefulness of these technologies. It is important that customs leaders be fully abreast of the promise and usefulness of such technologies as well as any pitfalls.
- Cost-benefit or return on investment analysis should be carefully conducted and alternative options examined. Newer technologies may cost more than traditional ones, with the possibility of hidden costs. Hence, it is important for customs administrations to be clear-minded about the desired outcomes and how these technologies can deliver these in the most cost-beneficial manner. Customs also should be aware that the cost may be incurred not by it but by traders. Also, not taking newer technologies may be costly as non-productive legacy technology continues and new opportunity misses.
- Many of these disruptive technologies inherently bring forth data streams from new sources. This generates even more data. Rich data are always useful provided that customs builds the associated capabilities to harness the increased data. Failing that, customs would be swarmed in seas of data without gaining any benefits.
- Lastly, technologies are tools and not the objectives. They are ever-evolving, and today’s disruptive technologies will become obsolete in the future. People are innovative: fraudsters can be beneficiaries of disruptive technologies; it is easily imagined that fraudsters will run artificial intelligence (AI) to find out how they can smuggle goods without being detected by customs.

Possible Implication of Disruptive Technologies to Fragile States

While the customs clearance ICT system is not a disruptive technology, it may be the most critical element for fragile states (FS) customs administrations to properly collect revenue, do fiscal reporting, control commercial fraud, produce trade statistics, and fight against smuggling of firearms, illicit drugs, and other antisocial items. Nevertheless, FS have tremendous difficulty installing and running such ICT systems for several reasons—for example, budget constraints to build data center buildings and procure processing and network servers and other necessary equipment and recruit or outsource IT operators for hardware, data entry screen design, coding, and table and data maintenance; local customs staff do not have experience in working with ICT; and so on.

Disruptive technologies may provide possible support to FS customs administrations in several ways. Cloud computing would reduce the needs for a local data

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25 See more discussion on customs administration in fragile states in Chapter 1.
center, a full set of equipment, and IT operators by using a foreign server and IT operators—mitigating the constraints of infrastructure and budget. Table and data management, selectivity criteria management, and document verification can be jointly conducted with an outsourced company (as on-the-job-training [OJT]), where tariff classification would be supported by artificial intelligence with natural language processing. Physical inspection is supported by contracted foreign experts situated outside the country through real-time compressed video communication and augmented reality technology (as OJT). An X-scanner is provided by donors for security control and its operation, including assessment of the scanned image, and is supported by real-time compressed video communication and scanned image analytics with automated threat detection. Certainly, there are prerequisites to realize this, particularly the development of high-speed and secure telecommunication networks enabling cloud computing and other data exchange with foreign servers. If fiber optic communication is not available or not reliable, satellite data communication can be considered. Although cloud computing and satellite data communication incur costs, they may be cheaper and more reliable than building a local data center and procuring a processing server and equipment. In using outsourced services, a transparent and accountable service contract with clear service level agreements is desired; otherwise such a contract should be a term contract with clear exiting clauses including transfer of knowledge and facilities.

Data Analytics

As mentioned previously, customs administrations are voracious collectors of data. Three vectors—volume, variety, and velocity—are useful to understand how “big data” is very different from old school data management. “Volume” is commonly associated with big data because the volume of data handled by the customs administration becomes unprecedentedly large. With the advent of cross-border e-commerce (see Chapter 2) and the shift from “containerization to parcelization,” the volume of data submitted to customs will soar exponentially.26 “Velocity” is the measure of how fast the data are coming in. For example, a cross-border e-commerce operator has geared up its operations to process 16,000 packages per hour in China. The “variety” of data that customs can obtain reaches almost staggering and incomprehensible proportions, such as unstructured and semistructured scanned documents, X-ray images, video feeds, and GPS readings.

The ever-improving ability to mine big data by utilizing data analytics tools represents the big driver in trade today. Customs administrations have to

26 For example, in 2017, China Customs handled 1.89 billion parcels, inward and outward, and only on November 11, which is a popular shopping day in China (known as “Bachelors’ Day”), the country’s customs offices processed more than 16 million cross-border e-commerce shipments (WCO 2018b).
rethink how they will use data to gain new insights or experiment by looking proactively into new questions. Data analytics is the process of examining raw data in order to identify patterns and draw conclusions. It is to obtain, cleanse, review, analyze, and pull insights from raw data for more effective operations and to provide support for better strategic decision-making.

Although there are different approaches and outcomes of data analytics based on the objectives, data availability, and resource availability, data analytics methods can be broadly grouped into the following four stages (Gartner analytics ascendancy model [Laney and Kart 2012]) (indicating an order of maturity assessed by difficulty and value gained):

- **Descriptive analysis**: What happened and/or what is happening now based on historical and incoming data
- **Diagnostic analysis**: Reviewing past performance to determine causes
- **Predictive analysis**: An analysis of likely scenarios. The deliverables are usually a predictive forecast.
- **Prescriptive analysis**: Reveals what should be done. This is the most valuable kind of analysis and usually results in recommendations for next steps.

In exploiting data analytics, there are a few major constraints that customs needs to consider and address the following:

- **Data storage and quality**: Firstly the ability to store and archive the tsunami of data is a prerequisite. Not all data had been stored in the past, and storage of data incurs a cost, although storage has become increasingly affordable. With a better appreciation of its great intrinsic value, customs needs to invest in more data storage. Data quality is the next challenge where great attention is needed. Obtaining quality data can be achieved by data cleaning of the original source and correcting data issues during the extraction, transforming, and loading (ETL) phase.

- **Knowledgeable staff**: As referenced in Chapter 3, this is an area where competency gaps particularly exist. Customs administrations need to create a conducive environment to advance data analytics by establishing multidisciplinary teams of trained data scientists. One approach currently being pursued by some customs administrations is the establishment of data analytics centers of excellence, staffed with data scientists skilled in data mining, algorithms, predictive analysis, probability models, and other techniques. They may report directly to the customs senior management in handling sensitive information. The recruitment of such qualified staff who are in high demand can be daunting; therefore, special employment schemes might be needed to attract them into customs work.

27 For example, WCO launches BACUDA (BAnd of CUstoms Data Analysts), a collaborative research project aiming to develop data analytics algorithms for customs administration.
• Adequacy of ICT systems: Additional investments in ICT equipment and software are needed for data analytics. These include large data storage and warehouses and software programming languages (such as R, which is open source). Customs should explore the possibility of using cloud-computing models to service its data analytics needs (see “Cloud Computing” later in this chapter).

Artificial Intelligence (AI)

Artificial intelligence (AI) traditionally refers to an artificial creation of humanlike intelligence that can learn, reason, plan, perceive, or process natural language. Machine learning (ML) is a particular approach to AI that makes use of learning algorithms to make inferences from data to learn new tasks, identify patterns, and make decisions with minimal human intervention. ML can be regarded as a method of data analytics that automates predictive analysis. The more data, the better the ML and logical output. Figure 7.3 depicts the relationship between big data analytics, machine learning, and AI.

ML can be conducted as supervised or unsupervised by humans. In supervised ML, “labeled data” are used—meaning these data are already tagged with the correct answer. Supervised ML learns from labeled training data and predicts outcomes for unforeseen data. Supervised ML from historical data will be very helpful for effective risk assessments and accurate targeting decisions. Unsupervised learning, on the other hand, does not have labeled outputs, so its goal is to allow the model to infer within a set of data points. An unsupervised ML approach has been tested in work on fraud detection, misclassification and underreporting declarations (de Roux et al. 2018).28 The obtained results apparently demonstrate that the model doesn’t miss on marking declarations as suspicious and labels previously undetected tax declarations as suspicious, increasing the operational efficiency in the tax supervision process without needing historical labeled data.

Use of AI presents a tremendous opportunity given the big data collection in customs. AI provides the ability to make sense of the vast, ever-increasing data to detect and predict patterns accurately and at greater speed than humans. AI’s potential contribution to customs is vast, including the following:

• Modeling duties and taxes collection patterns to ensure the appropriate duties and taxes are collected at the border

• Realizing auto-classification of HS code of commodities based on natural language processing, ensuring improved classification, and applying the right tariff rates29

28 Brazil customs, for example, applies AI in import declaration processing. It has had the AI learning the different types of irregularities in the declarations, for example, tariff classification, country of origin, eligibility of imports (licensing), eligibility of preferential duty rate, and exemption.

29 Pilots have started in China (UN/CEFACT 2020).
Figure 7.3. Relationship among the Fields of Big Data Analytics, Machine Learning, and Artificial Intelligence

- Identifying anomalies more quickly and thereby enabling customs staff to focus on areas of noncompliance
- Improving cargo selectivity and targeting using predictive analysis
- Enhancing scanned image analysis to improve detection efficiency and augment operator effectiveness
- Deploying chatbots with an intelligent knowledge base for better customer service

As mentioned earlier, data accuracy is critical for data analytics, and that applies for AI as well; as the IT adage goes, “garbage in, garbage out.” This critical weakness can sometimes be exploited by miscreants who wish to influence AI’s logical reasoning for their own nefarious reasons. One common example is the spoofing of AI-enabled facial recognition. The introduction of fake or inaccurate data to customs could create faulty logical reasoning leading to wrong conclusions and a distrust of the accuracy of AI. Therefore, robust security policies and transparent redress mechanisms should be put in place to ensure the data integrity and ongoing improvement of AI processes.

“Data accuracy in machine reading is important; AI without it can become “garbage in, garbage out.”
The fact that AI logical reasoning is superior to humans in some ways will create significant fear of change in some customs staff. Certain staff positions could be replaced by AI. Therefore, the administration needs to guard against risks to implement such analysis and against possible sabotage. Robust change management and optimal resource reallocation plans should be well prepared.

**Scanned Image Analytics**

The advent of shipping containerization and the birth of “inter-modalism” gave rise to the use of nonintrusive inspection (NII), particularly X-ray container scanners, in customs. The terrorist attacks in New York and the Pentagon on September 11, 2001, brought to the fore the urgent need to protect borders more stringently, and yet facilitate legitimate trade. A subsequent WCO resolution highlighted the critical role of NII in border security (WCO 2005). Moreover, the rise of cross-border e-commerce brings about new challenges: how to detect contraband in the voluminous parcels and curb revenue leakages and other breaches.

A typical X-ray container scanner can scan between 35 to 50 containers per hour,31 while a high-speed parcel scanner can screen 2,500 parcels per hour. The analysis of scanner images is a challenging visual task, even for trained image analysts. The scanned images tend to be cluttered, often with other objects that can closely resemble the targets of interest. In containers in which a variety of goods is present, the imaged objects are in varying and overlapping shades, complicating their interpretation. As such, human error, compounded by eye fatigue, increases the risk for undetected illicit cargo.

Automated image identification is a promising technology that can significantly aid the need for rapid and accurate analysis of scanned images. Current efforts to develop automated image identification and risk assessments with artificial intelligence (AI) are mainly in developmental or pilot stages, and widespread common use has not yet been realized.32 The major scanning technology providers are working on algorithms that will enable machines to recognize the catalogue of objects. Automated image analysis can be separated into image preprocessing and image understanding:

- **Image preprocessing** is a broad category including any treatment made to an image in order to help understand it by either humans or algorithms. Image preprocessing includes image manipulation; image correction, quality improvement, and denoising; material discrimination segmentation; and threat image projection (TIP).

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30 A concept that one transportation contract encompasses different modes of transport and transshipments—for example, ship, train, and road vehicles.

31 Thanks to a combination of radiography and computed tomography (CT), three-dimensional images are possible.

32 For example, the Netherlands and Japan respectively apply AI for image analytics in X-ray inspections while few results are obtained.
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• **Image understanding** concerns decisions that are made based on the image contents. It is split into automated threat detection (ATD)\(^{33}\) and automated contents verification (ACV).

By leveraging advanced data analytics and machine learning, ATD/ACV algorithms can be developed to achieve automated image analysis and identification. There are three steps for automated image analysis: collection of the images, the learning process for recognizing characteristics of images and automatic identification, and auto-detecting and flagging suspicious characteristics as inspection targets. Figure 7.4 shows a model process diagram for the X-ray cargo inspection process and possible uses of automated image analysis: assisted selection and assisted inspection (depending on the timing of scanning).

With ACV, the classification of the goods (HS code) can be automatically assessed from scanned images. Through this, ML-enabled ACV can help flag irregularities between the detected goods and the description in the customs declaration and riskier goods. For the ML, a critical constraint plaguing the wider use of automated image analysis is the lack of historical data sets of images of sizable volume for accurate ACV. Customs has often regarded X-ray scanned images as single use, and they are not stored or archived due to limited storage capacity. Today, customs’ inability to store can be easily overcome, as advanced image compression technology and much cheaper data storage ease cost concerns.

Another constraint with ML occurs in certain contracts where X-ray scanning is outsourced to private service providers and the scanned images are contractually their property. In such cases, customs administrations have no image database unless it is obtained from the provider, which might incur additional costs. Such contracts should be revised to ensure that all data belong to customs administrations.

\(^{33}\) It is also known as automatic threat recognition (ATR).
Recently, customs administrations have been considering a central image analysis center so that all scanned images from border sites are centralized and experienced image analysts are pooled together. For this purpose, a unified file format (UFF) for X-ray images has been developed and adopted by all major scanner equipment manufacturers. The UFF aids the buildup of a nationwide centralized scanned image database where ML tools can run through images in sufficient quantities (usually millions) to build fairly accurate ATD algorithms.

While images of non-threat cargoes are abundant, images of threat cargoes are fewer, thereby forcing the reliance on staged threat images. This is a common problem in the application of supervised ML for image analysis, whereby the lack of reference images to “train” the algorithms affects the accuracy of the ATD. Recently, researchers have begun to test ML where staged threat images are projected into an innocuous stream of images while adding realistic variations to bring balance between the threat and non-threat algorithms. Through international cooperation of customs administrations, the buildup of a sufficiently large data set (containing anonymized data elements like cargo description and HS codes) is accelerated. This would further enhance the wider usage of this technology among customs administrations.

In the near future, it is anticipated that the use of “deep learning” methods, where feature extraction, representation, and classification are learned simultaneously, will show great promise. These types of methods have shown to achieve superior performance in visual tasks, including image categorization. It is perfectly reasonable to believe that these methods can and will outperform humans at visual inspections of X-ray images.

**Tracking Devices**

Tracking devices using a combination of “radio-frequency identification” (RFID) and satellite navigation systems (for example, GPS) enable accurate identification of geographical location. Satellite-enabled GPS is now much more accurate, possibly pinpointing to within 30 centimeters. The GPS tracking technology allows customs to monitor transit cargo movement in real time and deter cargo diversion as an integral part of the electronic cargo tracking system (ECTS). Use of GPS devices has been incorporated as electronic locks or smart seals, which secure the cargo container, as well as provide tracking and monitoring functionalities. In the event of attempts to break the lock/seal or divert from the route, an alert is automatically triggered to customs.

The use of an RFID device with antenna and associated reader facilitates near-distance communication and data exchange with a more reasonable cost. The identifiable distance can be up to 100 meters. RFID devices or tags attached to cargo or pallets are very useful for inventory monitoring in customs bonded warehouses. Use of such RFID tags helps compile inventory logs automatically and

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34 Examples of ECTS implementations include Benin, Kenya, Mozambique, Nepal, Thailand, Togo, and Uganda.
prevent the theft of goods with high excise taxes, such as tobacco products. Also, an RFID device can be attached to the temporary admission signboard or regional transit signboard. By using this technology, verification of carnet and vehicle registration can be done more accurately and quickly without visually reading the signboard or scanning the bar codes.

There are two issues in the use of tracking devices, particularly transit tracking. First is the cost involved both in terms of capital outlay as well as in operating costs. Customs administrations often consider whether cargo tracking costs should be covered by themselves or by the economic operators. In a sense, cargo tracking (vehicle tracking) is a social infrastructure: the beneficiary should not be limited to customs but also include cargo owners (whereabouts of their cargoes), truck owners (tracking of their vehicles and drivers), insurance companies (monitoring driving behavior), and police (speed control). Good system governance, similar to customs clearance ICT system governance including possible BTO-PPP (see “Governance and Financing of Customs Clearance ICT Systems”), would solve the issue of cost burden.

Second, transit movement may be through multiple companies if cargo tracking services are preferably on a regional basis. If it is only national, a cumbersome switching from one company’s service and device to the other company’s ones may be needed at the land border posts of two countries, which will cause delay and a queue at the border.

**Robotic Process Automation**

Robotic process automation (RPA) is a newer form of business process automation, which leverages the ability of a machine or software to perform a preprogrammed task repetitively but with much greater efficiency than humans. RPA evolved along with AI/ML, such that a software robot or “bot” can be programmed to mimic most human–computer interactions to carry out error-free tasks at high volume and speed. RPA bots can log into applications; handle high-volume, repetitious tasks that include queries, calculations, and maintenance of records and transactions; and then log out. RPA can free up staff from doing menial repetitive work to be deployed to other value-added work such as analysis, operational controls, post-clearance audits, and stakeholders’ engagements.

What distinguishes RPA from traditional business process automation is the ability to be aware of and adapt to changing circumstances, exceptions, and new

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35 For example, car insurance bargains based on the GPS tracking record is very common in the US.
36 In West African countries, a single-window operating company monopolizes peripheral logistic ICT infrastructure and services, including transit and X-ray scanning. There is a discussion that such a monopoly may increase efficiency but also increase the country’s dependency on one company and reduce contestability.
37 ECTS regional approach attempts are observed in the East African Community.
38 To date, there are three broad categories of bots in place: probots (simple, repeatable rules to process data); knowbots (bots that search the internet to gather and store user-specified information); and chatbots (virtual agents who can respond to customer queries in real time).
situations. Once RPA software has been trained to capture and interpret the actions of specific processes, it can then manipulate data, trigger responses, initiate new actions, and communicate with other systems autonomously.

The biggest drawback of RPA is that it cannot make decisions on its own. For example, it cannot decide what is correct; that intelligence needs to come from a human or an AI. Another constraint is its limited ability to deal with dynamic or unexpected changes. RPA works best in steady environments, where the business processes do not change, and interfaces and data formats remain static. Because of this, RPA is best exploited within a narrow set of customs operations, such as the following:

- Enabling better customer client service (for example, telephone help desk, complaints, corruption telephone hotline);
- Performing rapid and accurate data entry (for example, Optical Code Reader [OCR] bot reading commercial invoices which have multiple diverse templates);
- Ensuring business processes comply with regulations and standards (for example, declared value checked against the value on the commercial invoice, detecting major errors, and checking that necessary supporting documents are all submitted);
- Allowing processes to be completed more rapidly (for example, producing regular reports);
- Providing improved efficiency by digitizing and auditing process data (for example, mining useful data from the accounting books and records)

With the emerging development of cognitive robotic process automation (CRPA) software bots, RPA platforms can automate perceptual and judgment-based tasks through the integration of multiple cognitive capabilities, including natural language processing, ML, and speech recognition. The integration of cognitive technologies is extending RPA to new areas and can help customs administrations to become more efficient and agile in their digital transformation journey. While promising, CRPA is still in its early days and the relationship between RPA and AI is still not fully mature.

**Cloud Computing**

Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. Cloud computing has effectively solved the financial and infrastructural problems associated with operating and maintaining software applications, as it eases the total cost of ownership previously required. Advantages of using cloud computing services (such as software as a service [SaaS], platform as a service [PaaS], and infrastructure as a service [IaaS]) go beyond costs. The time to develop specific software applications that often take months can be drastically reduced in a cloud computing environment, and the development tools and environment are centralized in the cloud.
Another benefit is the improved efficiency of IT resources via cloud virtualization. The services approach/pay-per-use model of cloud computing services affords clients greater flexibility based on their budget and need. Also, cloud computing services allow access to systems and application via multiple devices.

One of the chief concerns in customs’ use of cloud computing is the legal framework linked to sovereignty, security, and privacy. Customs administrations are custodians of sensitive trade and citizen data under the national legal framework and keeping the public trust in its security, privacy and confidentiality is paramount. If there is any data loss, theft or manipulation in the cloud infrastructure located in a foreign country, there are concerns as to how customs can enforce cross-border control and seek legal redress. The legal framework has not caught up with the technology evolution and its use. Work needs to be done to sufficiently protect the government’s ability to enforce their laws over foreign cloud service providers and transgressors.

There have been various efforts to address these concerns, albeit partially. Some governments have stipulated that any organization wanting to utilize cloud computing either must use cloud services that have data centers located within the country or must keep local copies of all records. More governments have found that adopting private and hybrid clouds helps alleviate some of these constraints, such as government private cloud facilities. At the same time, the COVID-19 pandemic has amplified the usefulness of cloud computing technology for the public sector.

Data privacy concerns, especially in the light of more stringent GDPR/PDPA, present another potential constraint. The legal definition of “personal data” can be much broader in some countries and jurisdictions, and therefore hosting such data in a foreign country server is problematic. This situation surfaced in the case of advance passenger information data when one economic bloc refused to share the passenger’s name record with the other foreign authorities because this economic bloc considers the foreign private data protection to be inferior.

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39 Attempt to reduce the risk by limiting the client(s): “private cloud” is the only client while “community cloud” is designated parties, for example, registered traders and customs.
40 As in the case of New Zealand.
41 EU refuses to exchange PNR (passenger’s data of the air ticket purchase) with other countries while such exchange is recommended by the WCO and UN bodies. Several EU members authorities request PNR from the foreign countries while they do not allow parties to submit the data outside the EU. EU’s law covers all the data server located in the EU territory, including those for cross-border cloud computing.
Blockchain

Blockchain (BC), popularized by cryptocurrency, has been hailed as a technology with significant potential for disruptive innovations in international trade. BC enables many parties to collectively work on transactions and share information securely as any log records of modification/processing of information are easily verifiable by comparing the log information of all parties. BC-based technology is best used for a transaction with many uses through distributed ledger technologies (DLT), which allows customs, other government agencies, and the trading community to share data over a distributed ledger secured through cryptography. All parties keep the same ledger of records and activities, and any change to the ledger is automatically updated in the ledger of all parties. By doing so, the authenticity and trust of information is secured. Any attempts of forgery are easily detected. This also eliminates a single point of failure and inherently protects sensitive data.

BC can be applied to any authenticated documentation process and induce a significant impact not only on the regulatory process but also on trade financing (see Chapter 2). The parties involved will benefit from secure and trusted data exchange that is immutable, auditable, and tamper-proof. Several customs administrations have joined in BC pilots or have initiated their own projects: some explore a BC-enabled cross-border platform in which customs takes part for the exchange of e-certificates of origin or AEO certificates, while others examine how trade data, such as declaration information, can be exchanged securely using DLT.

One likely concern in BC, similar to third-party assurance and e-signature, is that while BC secures the information’s authenticity, it does not guarantee that information is correct. This can happen, for example, when both exporter and importer connive together to circumvent customs and tax authorities. It is not rare that authentic certificates of origin were delivered by the exporting country’s chamber of commerce based on forged information—the same can happen in BC. Another constraint of BC is that, theoretically, the information can still be forged, and the

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42 Examples are avocado shipments from Kenya to Netherlands (led by TradeLens [IBM/Maersk]) and trade financing (seven Indian commercial banks). Asia-Pacific Economic Cooperation (APEC) also reports some pilots.

43 For example, Inter-American Development Bank (IADB) supported international exchange of AEO certificates through CADENA project.

44 For example, some customs administrations complain that a certain country’s chamber of commerce’s certificates of origin are not reliable and contain many errors. Such inaccurate information can be encrypted by BC and treated as the authentic information. This problem was reported when e-certificate of origin backed up by e-signature was discussed. (Because of this problem, this project did not continue.)
fraudulent information is maintained in the block if the majority of participating parties are colluding together.

BC is set to revolutionize international trade in the years to come. Going forward, many issues need to be discussed to resolve the challenges in bringing BC technology into widespread practice in customs administrations. These issues will need to be reviewed in light of the many ongoing pilot programs which are all at the “proof of concept” stage.

Augmented Reality and Virtual Reality

Augmented reality (AR) is an “interactive experience” of a real-world environment which is enhanced by computer-generated perceptual sensory information—for example visual, auditory, haptic, somatosensory, and/or olfactory. AR comprises data, graphics, audio, and other sensory interaction to form computer-generated images that are superimposed on a user’s view of the real world, thus providing a composite view. Virtual reality (VR), on the other hand, is a “simulated experience” that places the user in a created, virtual world that can be similar to or completely different from the real world.

AR and VR are edging their way into key areas of the public sector with the potential to transform the use of data, increase staff performance, and improve the efficiency of public services. Only recently, the core AR software and, most importantly, the devices that will deliver the AR experiences have begun to mature and find practical usage. These include handhelds and mobile devices, primarily smartphones and tablets, and built-for-purpose mobile workforce devices; head-up displays (HUDs) for windshields, screens, and visors; head-mounted displays (HMDs); glasses, goggles, visors, and helmets; contact lenses; virtual retina displays; and spatial displays.

Some possible applications for AR/VR in the customs environment include the following:

- Remote inspection: Physical cargo inspection is usually conducted by customs in the presence of the trader for better transparency and accountability. AR/VR would enable customs remote inspection via the trader using AR devices. Similarly, joint inspection at border posts can be done using AR, controlled remotely by experienced inspectors from different agencies, or located elsewhere.

- Interactive with data: Using AR/VR to access and visualize data (including images and videos) in real time during the inspection or audit will save time for customs as well as the public user.

- Simulation training: Training in mock environments (for example, imitations of an airport customs counter and a ship structure for search) has been conducted in several countries. This can be replaced with AR/VR, which

45 For example, airport counter in Uzbek customs, ship structure in Japan customs.
can create realistic and immersive experiential situations in a controlled simulated environment to support training.46

**SUMMARY**

Customs administrations can improve their performance by fully exploiting the potential of existing and new ICT systems to support not only declaration processing but also internal operations and management decision-making. In doing so, the leadership of customs administrations should be aware that ICT are enablers, so it is imperative to address ICT plans in a holistic manner that supports the overarching strategic plan, as well as to leverage the vast store of data and information collected by customs. Thus, data analytics capacity needs to be further expanded to better design and parametrize the entire customs operations. This should be in tandem with protecting privacy and preventing data breaches so as to maintain trust in the customs administration.

The same issues apply to disruptive technologies, such as AI and scanned image analytics. These offer significant opportunities to improve customs’ performance if, and only if, the benefits and outputs from these technologies and the use of the technologies themselves are clearly defined, agreed, and monitored. If not, the investments produce limited outcomes and become an exercise of acquiring very expensive gadgets that are not useful.

Hence, senior management of customs administrations play a critical role to drive the digital transformation of their complex organizations. Senior management needs to own and organize the proper structures, put in place the necessary supervisory mechanism to ensure that ICT and digitalization efforts are aligned with strategic directions, provide the requisite budget and legal support, assign the right persons responsibility for this work, and ultimately be accountable for the outcomes attained.

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46 It has been reported that Dutch customs has incorporated virtual reality as a tool for training its officers.
REFERENCES


APPENDIX A  EXAMPLES OF CUSTOMS ADMINISTRATION KEY PERFORMANCE INDICATORS

Measuring performance is essential to determine the effectiveness of strategies and operations, identify shortfalls, and adopt corrective solutions. Performance is measured through key performance indicators (KPIs), which should be associated with measurable activities for which data from a defined and credible source are available. As a rule, the KPIs originate from strategic objectives that clearly prescribe targets to be achieved over a certain period.

Commensurate with the administration’s capacities, the approach to performance measurement can be incremental, starting with an introduction of the basic KPIs, which will help management to focus initially on the assessment of customs’ fundamental responsibilities and the ones that are most critical to organizational success. Later, more sophisticated KPIs can be introduced to measure specific functions, processes, policies, and outcomes.¹ There is no one-solution-fits-all for the KPIs as different customs administrations have different priorities; some are more law enforcement-oriented, others are more revenue-collection oriented, and others are more focused on trade facilitation.

On the other hand, developing a dashboard for easy monitoring on a daily basis, for both corporate and operational KPIs, is always recommended.

The following KPI examples link milestones and indicators as both are important to ensure successful outcomes. In fact, achievement of the milestones often is a prerequisite to moving forward with the steps in the administration’s strategies. The milestones and indicators shown here are frequently used in customs administrations mainly in relation to core processing. The list is not exhaustive.

Revenue Collection

Milestones

- The baseline performance information to support the effectiveness of collection monitoring is developed.
- An electronic payment system of customs duties, taxes, fees, or charges imposed is implemented as the only payment method.

¹ As part of its enlargement policy, the European Union has adopted a set of standards called Customs Blueprints as a practical guideline based on EU best practice for candidate customs administrations to measure their performance toward achieving EU standards. The blueprints provide goals, objectives, and KPIs for 19 functionalities in customs plus four standards about excise duties. https://op.europa.eu/en/publication-detail/-/publication/ad5f6272-7687-11e5-86db-01aa75ed71a1.
**Indicators**

- Rate of revenue target achievement
- Number of activities for which the electronic payment system is available
- Number of electronic payment transactions made during customs clearance
- Variation (increase or decrease) of customs collection over time as percentage of GDP by type of tax (customs duties, VAT, excise duties, and so on)
- Proportion of customs collection of total revenue collected (in monetary value and as a percentage of GDP)
- Variation (increase or decrease) of the imports’ CIF value for home consumption relative to total customs collection
- Level of customs collection relative to the variation (growth or reduction) of international trade
- Proportion of customs collection over time by type of procedures (goods clearance, PCA, arrears collection, litigation, and so on)
- Amount of revenue recovered and related penalties collected by area because of customs intervention (valuation liftings, origin correction, tariff classification, suspensive regimes misuse, exemptions, unreported goods in ports, smuggled goods)
- Proportion of import exemptions’ value relative to customs collection

**Customs Clearance**

**Milestones**

- Customs laws, regulations, and guidelines are simplified and easily accessible.
- The customs administration monitors ongoing release times of goods applying a solid and systematic methodology.
- A paperless customs clearance process is available in all customs offices.
- An electronic single-window system is implemented to facilitate non-tariff permits.
- Customs–trade–other government agencies’ coordination committee is in place and meets regularly to improve border processes.
- An Authorized Economic Operator (AEO) or a trusted trader program is in place.
- Stakeholder surveys are undertaken to measure client satisfaction.
Indicators

- Number of customs procedures publicly available and easily accessible on the customs website
- Number of customs advance rulings issued per type/coverage in percentage of all declarations
- Percentage of cargo released based on pre-arrival information/advanced electronic information
- Number of hard copies needed to import or export goods
- Release time in hours for imports that do not undergo physical inspection (by each mode of transport)
- Release time in hours for exports that do not undergo physical inspection (by each mode of transport)
- Release time in hours for imports that do undergo physical inspection (by each mode of transport)
- Release time in hours for exports that do undergo physical inspection (by each mode of transport)
- Number of regulatory agencies that are fully participating in the single window
- Number of non-tariff authorizations approved through the single window system
- Number of private-sector and other government agencies that participate in a coordinated border management committee
- Number of improved customs procedures developed in consultation with traders
- Total value of cross-border imports executed by AEO- or TTP-accredited traders
- Total value of cross-border exports executed by AEO-accredited traders
- Improvement in the traders’ perception of cross-border facilitation

Risk Management and Compliance

Milestones

- A compliance improvement program based on risk management has been developed.
- A systematic and transparent methodology to assess and improve selectivity criteria is in place.
- Feedback mechanisms are available upon completion of an examination, ensuring that data can be exploited and analyzed in a timely and appropriate manner.
• A system is in place for the monitoring and verification of exemptions, concessions, and duty waivers, including for enforcement action and loss recovery.

**Indicators**

• A Risk Management Committee, with clearly defined roles and functions has been established.
• A matrix identifying and prioritizing the main risks, including a plan with specific actions for their mitigation is in place.
• A clear methodology for the categorization and risk assessment of the entire population of traders is in place.
• Trends in percentage of import declarations processed through each selectivity channel
• Offense (hit) rate on import declarations: Physical and documentary inspection
• Offense (hit) rate on import declarations: Documentary inspection
• Offense (hit) rate on import declarations: Supported by nonintrusive inspection (NII)
• Offense (hit) rate on export declarations: Physical and documentary inspection
• Offense (hit) rate on export declarations: Documentary inspection
• Offense (hit) rate on export declarations: Supported by NII
• Proportion of examinations that result in seizures
• Proportion of the total offenses detected by type of irregularity (number of cases and amount of duty and tax reassessed, if applicable): Misclassification, undervaluation, origin, undeclared goods, noncompliance with non-tariff regulations, and so on
• Assertiveness Rate Indicator: Increase in the percentage of positive targeting (hits/shipments inspected) divided by the reduction in the number of shipments inspected over time (shipments inspected/total shipments)
• Number of exemptions, concessions, and duty waivers subject to verification and audit
• Ratio of the number of detected irregularities during PCAs divided by the number of PCAs
• Ratio of the number of PCA audits conducted on AEO applicants divided by the number of AEO applications
• Number of audits of bonded warehouses, duty-free shops and SEZ operators (if applicable), number of detected irregularities, and amount of recovered revenues including penalties and fines
**Enforcement**

*Milestone*

- An enforcement strategy is in place.

*Indicators*

- Rate of violations detected by contraband detection technology (for example, x-ray, endoscopes)
- Number, value, and type of prohibited goods seized
- Number, value, and type of undeclared cash, banking negotiable instruments, and gems/precious metals seized
- Rate of criminal investigations conducted resulting in charges raised
- Rate of successful court prosecutions in terms of additional revenue collected and jail sentences
- Number of enforcement operations where special investigative techniques are used
- Number of suspended clearances because of infringement of intellectual property rights
- Number of violations detected by intelligence-led controls
- Number of MOUs concluded with OGA and private sector
- Number of Customs Mutual Assistance Agreements concluded

**Human Resource Management**

*Milestones*

- Competency-based recruitment and human resource management is implemented.
- Wages and other benefits to all staff are competitive and equitable.
- Equal career opportunities and paths to all staff (both women and men) are provided.
- Policy, systems, and processes are adopted for leave and flexible work arrangements.
- Equitable health insurance is available to all employees that includes the particular needs of women.
- Policies to prevent and address incidents of workplace harassment and violence are adopted.
Indicators

- Percentage of job descriptions that include competency profiles.
- Percentage of job descriptions that are reviewed annually to ensure that the required competencies and qualifications are aligned to the organization’s needs and gender equality.
- Pay levels (including pay gaps) and attrition rates for both men and women.
- Proportion of women in each function or business area and at each level of management.
- Ratio of women promoted to those eligible for promotion.
- Percentage of staff using flexible work arrangements.
- Specific mentoring and coaching programs are available for women and other categories of staff as needed.
- Managers and staff are trained on how to effectively discourage, report, and address workplace harassment including sexual harassment cases.
- Basic and specialized training programs adapted to organizational needs are made available to all staff and are identified as prerequisite to career advancement.
- Private health insurance arrangements are available for staff enrollment in complement of universal/compulsory insurance schemes.
- Ratio of managers and staff trained on workplace harassment prevention and management, including sexual harassment.
- Ratio of managers and staff who obtained a promotion following a formal review, appeal or grievance.

Integrity

Milestones

- Integrity action plan is in place.
- Internal controls cover all key functions.
- Processes and mechanisms to ensure staff integrity are instituted.
- Public perception of integrity is improved.

Indicators

- Proportion of key customs functions and processes that have a risk map.
- Number of measures implemented to reduce officers’ discretion.
- Variation in number of officer conduct complaints.
- Proportion of staff that submit an assets declaration in a timely manner.
- Variation of the perception of corruption by the trade community.
APPENDIX B  ISSUES IN COOPERATION AND INTEGRATION OF CUSTOMS AND TAX ADMINISTRATIONS

While integrating the tax and customs administration into a single agency can bring significant benefits, this must be analyzed in detail in terms of expected results and potential risks. Having a single management team and merging support functions are not enough by themselves to modernize tax and customs administrations; the process must be accompanied by a comprehensive plan to improve the effectiveness of their core processes.

Crandall and Kidd (2010) concluded that the integration of tax and customs administrations in a semi-autonomous “revenue authority” (RA) would not by itself increase revenue. Partly because of the lack of a performance management framework and operational data, it has often been difficult to demonstrate the benefits of the RAs for revenue mobilization or at least their relative share in revenue increase.

Merging or separating the tax and customs administrations is a decision that governments must make in each case, considering their own context. In some countries that have chosen to implement structural changes of this nature, the Fiscal Affairs Department has provided technical assistance and advice to authorities to help them mitigate risks during the transition period. This technical assistance is focused on ensuring that the governance and management model of the new agency (or agencies) and the new organizational structure are clear, that the core business functions are well defined in accordance with good international practices, and that there are suitable institutional mechanisms for cooperation between the agencies in charge of tax and customs services and control.

Once a decision has been made to bring the tax and customs administration “under one roof,” it is important to retain the function-based approach of HQ structures and the highest level of expertise in each technical area. This can be achieved by integrating common functions such as research, design, planning, and monitoring, making sure that existing tax and customs specialization within each structure is preserved. Internal audit could also be integrated into one unit, provided specialists from each original administration remain primarily involved in their respective core areas; the same approach would work for an integrated legal department.

Other key support functions (human resources, budget, and communications) can be integrated. However, a number of technical issues, including the development of policies that are generally specific to tax or customs, require specialists from both sides. The best example is probably IT development and maintenance, since tax and customs transactions cycles are markedly different and require the use of two distinct systems for their core functions. Another example is the definition of competencies for specialized tax and customs staff; these will differ because many core functions are unique to either tax or customs.
Operations that are part of the regular tax or customs processes should be kept separate and left under the oversight of the heads of tax or customs, respectively. For tax, this includes taxpayer services, assistance and education, audits, appeals, and collection enforcement. For customs, this includes service and assistance to stakeholders, cargo reporting, clearance of goods, post-clearance audit, and partnership programs with stakeholders such as the AEO programs.

Intelligence functions for both areas of business are typically operational and part of the respective processes; hence, they are separated but require close coordination and systematic exchange of information (or access to a common database, including the taxpayer profile). Criminal investigations should preferably be assigned to a single integrated unit, making sure that it is composed of tax and customs specialists.

Some specialized technical functions like debt collection (involving seizure and/or sale of immovable or third-party liabilities) should be positioned in either customs or tax where the expertise and a comparative advantage to carry out such functions exist.

Regarding risk management, if a decision to integrate is made, it would be necessary to develop a common institutional policy aiming at standardizing how risks will be assessed and managed from a strategic perspective, defining how to optimize the usage of data from both agencies, and identifying common points that could help strengthen the core processes of both. However, it is essential to ensure that both agencies have enough room to define their own model to address their own risks, taking into account the particularities of each business, particularly moments and time frames for interventions.

One risk is that the merger could lead to an excessive or even exclusive focus on revenue collection, neglecting the important non-tax functions of customs, as these might not be considered a strategic priority for the new agency. This is especially true for border protection and security as well as for trade integrity, consumer protection, trade facilitation, implementation of trade policy measures, and regional integration. A merged revenue authority must also have the mandate and, most importantly, be given the resources to address these non-revenue areas effectively. This approach should be reflected in the organization chart, strategic and operational objectives, resource allocation, and performance indicators.

Finally, regarding the institutional name of a merged administration, it would always be more convenient that it reflect both the tax and customs functions of the agency for taxpayers and operators to understand that they are dealing with the government entity mandated to enforce both the tax and customs laws of the land.
APPENDIX C  ORGANIZATION STRUCTURE OF A CUSTOMS ADMINISTRATION

The organization structure in any particular country will need to address its national reality, the needs of its government, and its service model to citizens; as such, varied models are to be expected. Two simplified examples are shown for how a customs administration may be organized, one more typical for medium/large organizations and one for smaller administrations.

Example of How a Customs Administration May Be Organized: Small Administration

Source: Authors.
Example of How a Customs Administration May Be Organized: Medium to Large Administrations

Source: Authors.
Note: AEO = authorized economic operator; IT = information technology; TTP = trusted trader program.
APPENDIX D  MEASURES FOR OPTIMAL DATA USAGE

Data Validation and verification

Automatic data validation allows determining if certain information falls within the acceptable range of values for a given field, while data verification consists of ensuring its accuracy and consistency. Through validations, it is possible to cross-check data against existing values in a database. Some examples include verifying (1) taxpayer number as registered in the corresponding agency; (2) container number according to BIC code; (3) registered address by the corresponding agency and/or georeferencing; (4) license number as registered in the corresponding agency; (5) number of unloaded containers versus containers manifested; (6) in transloading, reported unloaded weight cargo versus uploaded weight cargo; (7) commercial quantities declared versus inventoried cargo; (8) a single container linked to various simultaneous declarations; (9) manifest that actually arrived versus declared manifests; and (10) incoming cargo versus cargo associated with each customs transaction.

Metrics

Metrics are a set of measures used for statistical analysis, comprising quantitative and qualitative variables. Examples of quantitative variables include (1) volume of transactions; (2) total value of transactions; (3) taxes paid relative to declared customs value; (4) customs value under trade agreements relative to total value, for each economic operator; and (5) total number of trade units. With qualitative variables, it’s useful to focus on binary variables, such as (1) Is it a first-time transaction? (2) Is it the first time this good is imported from the declared origin? (3) Is the trader an individual? (4) Is it the first transaction for this good on this mode of transportation? (5) Is it a high-risk operator for internal taxes?

Indicators

Indicators constitute complex statistical summaries because their construction requires the development of catalogs and the definition of thresholds. For example, (1) economic operator that deals with high-risk customs brokers; (2) operator that imports from high-risk origins; (3) operator that deals with high-risk shippers or carriers; (4) operator importing sensitive cargo; (5) operator declaring a majority of its cargo as residual; (6) cargo with record of heightened selectivity controls; (7) cargo commercialized by high-risk suppliers; (8) cargo subject to special regulations; and (9) noticeable inter-annual variations in the value of an operator’s imports/exports. For each case, it is necessary to previously define a catalog to determine what is considered risky, sensitive, or high.

2 A container’s code is made up of 11 alphanumeric digits. The first three letters correspond to the owner, usually followed by the letter U, followed by a six-digit serial number and a verification digit.

3 “Residual” cargo is a category used to classify cargo that does not fall under any specific category.
Indices

An index is defined as a weighted arithmetic expression, with the goal of providing a summarized measurement. Some of the various indices that can be built are (1) an operator’s global risk index, (2) a unit price index, and (3) an index of container cargo volume.

Models

Unlike indices, models introduce linear, logistic, or probabilistic regressions through the use of analytical software. Among the most common models are those that are (1) predictive, (2) tree-based, (3) clustering, (4) networking, and (5) neural networks.

Artificial Intelligence

Artificial intelligence can introduce image and text recognition through the use of sophisticated algorithms. A few examples applied to customs include the use of data derived from (1) document-reading—invoices, certificates, and others; (2) scanned images; (3) facial recognition of passengers; (4) vehicle tag recognition; and (5) e-signatures.

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4 The aim of the unit price index is the distribution of unit prices of each product and recognizing which operators or transactions lie outside the confidence interval.

5 The index of container cargo volume is oriented transactions involving homogenous products or a single product per container to identify cases where its weight per container exceeds the defined confidence intervals.
APPENDIX E  MAIN COMPONENTS OF ECONOMIC OPERATOR COMPLIANCE HISTORY

APPENDIX TABLE E.1
General Profile

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<thead>
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<th>Tax identification number (TIN)</th>
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<tbody>
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<tr>
<td>Business name</td>
<td></td>
</tr>
<tr>
<td>Date of registration</td>
<td></td>
</tr>
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<td>Fiscal address</td>
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</tr>
<tr>
<td>Industry sector</td>
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</tr>
<tr>
<td>Line of business</td>
<td>Wholesale  Retail  Manufacturing Storage Service e-commerce platform Transportation</td>
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<td>Company's legal representative</td>
<td>Natural person</td>
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<td>Type of taxpayer</td>
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<td>Global Risk Index (GRI)</td>
<td>Medium</td>
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</table>

APPENDIX TABLE E.2
Customs Data

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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CIF/FOB</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total taxes paid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Excise</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX TABLE E.3
HS Code Summary

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit measure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIF/FOB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax paid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### APPENDIX TABLE E.4

Selectivity Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical examination</th>
<th>Documentary examination</th>
<th>Nonintrusive examination</th>
<th>No examination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Declarations</td>
<td>%</td>
<td>No. Declarations</td>
<td>%</td>
</tr>
<tr>
<td>Year 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### APPENDIX TABLE E.5

Fiscal information

<table>
<thead>
<tr>
<th>Tax returns</th>
<th>Income Tax</th>
<th>VAT</th>
<th>Excise Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
</tr>
<tr>
<td>Total income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total tax deductions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total income tax paid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAT paid to customs (import related)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total VAT paid to suppliers (goods and services)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total VAT collected from customers and other sources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net VAT paid to the tax administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total excise taxes paid to customs (import related)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net excise taxes paid to the tax administration</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### APPENDIX TABLE E.6

Compliance Record

<table>
<thead>
<tr>
<th>Type of Infraction</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Cases</td>
<td>Penalty Assessed</td>
<td>Number of Cases</td>
</tr>
<tr>
<td>Misclassification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undervaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorrect country of origin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undeclared goods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smuggling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contravention or infringement of a nontariff regulation, restriction, or quota</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX TABLE E.7

Value Analysis

<table>
<thead>
<tr>
<th>Country of origin</th>
<th>Supplier</th>
<th>HS Code</th>
<th>Units</th>
<th>Total value $</th>
<th>Unit price $</th>
<th>Average(^6)</th>
<th>Variance(^7)</th>
</tr>
</thead>
</table>

\(^6\) It is the HS code’s average unit price of goods traded by all operators with the same origin and period.

\(^7\) It is a statistical measurement of the dispersion between numbers that belong to the same data set. Low variance indicates that values do not spread widely.
APPENDIX F  ECONOMIC OPERATORS’ SEGMENTATION AND ASSESSMENT METHODOLOGY

Step 1. Segmentation by size. Economic operators must be segmented according to their relative importance in transactional value (CIF/FOB) levels, resulting in the following criteria: (1) small, (2) medium, and (3) large. Each category can be obtained by distribution analysis via the thresholds’ definition or through frequency levels. In the latter case, it will be necessary to calculate the median (M) and standard deviation (SD) as well as knowing the participation percentages of each economic operator within CIF/FOB in relation to the total to complete the following matrix:

**Segmentation by Size—Criteria**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Calculation Details</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low frequency</td>
<td>% Participation &lt;= (M – 0.75 SD)</td>
<td>Small</td>
</tr>
<tr>
<td>Low frequency</td>
<td>(M – 0.75 SD) &lt; % participation &lt;= (M – 0.25 SD)</td>
<td>Small</td>
</tr>
<tr>
<td>Medium frequency</td>
<td>(M – 0.25 SD) &lt; % participation &lt;= (M + 0.25 SD)</td>
<td>Medium</td>
</tr>
<tr>
<td>High frequency</td>
<td>(M + 0.25 SD) &lt; % participation &lt;= (M + 0.75 SD)</td>
<td>Large</td>
</tr>
<tr>
<td>Very high frequency</td>
<td>% participation &gt; (M + 0.75 SD)</td>
<td>Large</td>
</tr>
</tbody>
</table>

Step 2. Definition of metrics and indicators. Different summary measurements for all economic operators are calculated, many of which have already been defined in Appendix D: Measures for Optimal Data Usage. It is recommended to conduct a distribution analysis of each indicator or metric for the total of economic operators as well as identifying values’ evolution within the period under study. Each value should be included in obtaining the following matrix—which may be useful to identify possible inconsistencies.

---

8 It is worthy to note that segmentation by size may produce different risk profiles for customs than for tax administration. Size inconsistencies between these organizations may introduce additional risks.
## Examples—Metrics and Indicators Evolution

### APPENDIX TABLE F.2

<table>
<thead>
<tr>
<th>Economic Operator’s Name/Number</th>
<th>Inter-Annual Evolution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator/Metric</strong></td>
<td>Calculation Formula</td>
</tr>
<tr>
<td>Customs offenses-compliance record ratio*</td>
<td># Declarations with customs offenses / # Total declarations</td>
</tr>
<tr>
<td>Offenses value ratio</td>
<td>Value of goods in offenses / Value of total goods imported or exported</td>
</tr>
<tr>
<td>Sanctions value ratio</td>
<td>Value of sanctions applied / Value of total goods imported or exported</td>
</tr>
<tr>
<td>Age of the company ratio</td>
<td>If date of the opening or registry date is less than xx years—1</td>
</tr>
<tr>
<td></td>
<td>If date of the opening or registry date is more than xx years—0</td>
</tr>
<tr>
<td>VAT-CIF revenue ratio**</td>
<td>Total VAT paid / Total CIF</td>
</tr>
<tr>
<td>Duty–CIF revenue ratio***</td>
<td>Total duty paid / Total CIF</td>
</tr>
<tr>
<td>CIF–agreements revenue sharing ratio</td>
<td>CIF with agreements / Total CIF</td>
</tr>
<tr>
<td>CIF–exemptions revenue sharing ratio</td>
<td>CIF with VAT exemption / Total CIF</td>
</tr>
<tr>
<td>High-risk country of origin margin ratio</td>
<td>Based on a list of high-risk countries of origin—CIF from high-risk origin country / Total CIF</td>
</tr>
<tr>
<td>Sensitive goods margin ratio</td>
<td>CIF from sensitive goods / Total CIF</td>
</tr>
<tr>
<td>Residual tariffs margin ratio</td>
<td>CIF from residual tariff code / Total CIF</td>
</tr>
<tr>
<td>Tax return non-filers</td>
<td>Non-filing of domestic tax return</td>
</tr>
<tr>
<td>Net profit margin</td>
<td>(Net profit / Total revenue) x 100</td>
</tr>
<tr>
<td>Ratio on equity</td>
<td>(Net income / Average total equity) x 100</td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Calculation formula</td>
</tr>
<tr>
<td>Net margin</td>
<td>Net profit / Sales</td>
</tr>
<tr>
<td>Return on total costs</td>
<td>Operating profit / Total cost</td>
</tr>
<tr>
<td>Inconsistence VAT ratio</td>
<td>Import VAT (customs) / Import VAT (declared in tax return)</td>
</tr>
<tr>
<td>Exports—total income ratio</td>
<td>Total exports / Total income</td>
</tr>
<tr>
<td>Exports—foreign sales</td>
<td>Total exports declared at customs / Foreign sales declared in tax return</td>
</tr>
</tbody>
</table>

Source: Authors.

Note: ROE = ratio on equity.

---

9 The irregularity ratio measures the economic operator’s compliance level. To build it, the set of penalties, customs duties and taxes repayments, contraventions, and administrative and judicial processes generating a reassessment are considered. Its calculation should stem from the following formula:

\[
\text{Irregularity Ratio} = \sum_{i=1}^{J} \frac{\text{Declarations with adjustment}}{\text{Total declarations}}
\]

Where: Customs Regimes: 1, 2, ..., J; Importer: i, i+1, ..., T

Note: When a customs declaration originates more than one irregularity, it should be computed as double both in numerator and denominator. In addition, there are two alternate variants: (1) it is possible to weight the kind of irregularity according to its relative importance. In this case, the formula would be: Irregularity ratio = \sum_{i=1}^{J} \beta \times \frac{\text{Declarations with adjustment}}{\text{Total declarations}}, where \beta is the relative importance while \beta_1 + \beta_2 + ... + \beta_n = 1. (2) The indicator can be assessed by tax repayment amounts; in this case, the formula becomes:

\[
\text{Irregularity Ratio} = \sum_{i=1}^{J} \frac{\text{CIF portion with tax repayment}}{\text{CIF total}}
\]

10 The VAT-CIF ratio needs to consider only goods subject to related tax. A default value needs to be shown in tariff code exempted.

11 Idem.
Step 3. Conversion to binary variables. For each of the measures, distribution is analyzed, and based on the expert judgment from customs, a threshold is determined for each indicator. Importers that go beyond such threshold will be valued with a “1,” which is equivalent to considering them risky in the indicator. For the rest, their value will be “0.”

Step 4. Definition of weights/balance. Weights for each indicator and metric are determined based on a sub-sample of customs operators with irregularities. Following the previous step, the set of indicators is classified as “1” or “0,” whenever it reaches the threshold. Then adding up the subsequent binary variables will identify which metrics and indicators are the most explanatory. The final weight for each indicator will be determined by dividing the sum of the “1s” occurrences for each indicator over the total sum of occurrences.

Step 5. Global Risk Index (GRI) calculation. For each operator, the global risk index is composed by three elements: (1) weights assigned to each indicator and/or metric ($w_i$), (2) values obtained as an answer to each indicator or metric ($R_i$), and (3) the form of the selected algorithm. Concerning the form of the algorithm, customs will have to determine if the GRI chosen will follow a linear, exponential, or any other behavior type that best describes the behavior of the data. In order to facilitate understanding of the other two components, a linear type of GRI will be used for the remainder of this example, irrespective of which, the reasoning will be the same in case of choosing one of the alternates. Therefore, the calculation of the GRI formula would be:

$$GRI = \sum_{i=1}^{n} W_i R_i$$

Where:

- $W_i = \text{Weight assigned to the indicator}$
- $R_i = \text{Response obtained by the indicator}$
- $n = \text{Total number of indicators}$

Step 6. Risk segmentation and assessment. Applying the complete formula for the entirety of operators, that is, calculating the value of each measure with the corresponding balancing yields the GRI of all operators. The next step assumes establishing the cut-off points that define low, medium, and high-risk levels. As an example, in Appendix Figure F.1, they were set at 0.75 and 0.85; however, these values will depend on GRI distribution. When size and GRI are exchanged between customs and tax administration, risk profiling is enhanced and comprehensive control possible.

---

12 An additional analysis of missing values needs to be considered in order to determine their treatment within the sample. This could bias the estimates of the risk index downwards for some operators.
Appendix Figure F.1. Risk Levels

The matrix in Appendix Table F.1, once completed, would summarize all prior steps.

APPENDIX TABLE F.3
Operators’ Segmentation and Assessment

<table>
<thead>
<tr>
<th>Size</th>
<th>Operators GRI Level</th>
<th>No. of Operators</th>
<th>% of Total Operators</th>
<th>Value of Transactions ($)</th>
<th>% of Total Value of Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td></td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Small</td>
<td></td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>#</td>
<td>%</td>
<td>$</td>
<td>%</td>
</tr>
</tbody>
</table>

Source: Authors.
APPENDIX G  SENSITIVE GOODS IDENTIFICATION METHOD

Step 1. Identifying sensitive goods from matrix definitions. Matrix analysis helps us to identify the most sensitive goods based on any combination of two selected conditions. Within each matrix, tariff codes distribution will be presented, this is, each cell contains the number of goods that satisfy the value chosen from each condition.

For example, if we consider the matrix “Customs Duties versus VAT,” the matrix may include many lines as different duties values are registered; and many columns according to VAT rates are declared. Then it could be interesting to the analyst to explore the cell that groups the HS codes that paid 0 percent of duties and 0 percent of VAT. Other matrixes that can be used as reference are (1) customs duties versus specific tax; (2) control level—understood as the number of physical inspections, documental inspections and goods released without control—versus detected infractions; (3) control level versus number of importers;13 and (4) certificates versus dual-use and strategic goods.14

APPENDIX TABLE G.1

<table>
<thead>
<tr>
<th>Tariff Entries Distribution Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customs Duties versus VAT Matrix</td>
</tr>
<tr>
<td>Customs Duties</td>
</tr>
<tr>
<td>0%</td>
</tr>
<tr>
<td>(#)</td>
</tr>
<tr>
<td>(…)</td>
</tr>
<tr>
<td>Y%</td>
</tr>
<tr>
<td>VAT</td>
</tr>
<tr>
<td>0%</td>
</tr>
<tr>
<td>(#)</td>
</tr>
<tr>
<td>(…)</td>
</tr>
<tr>
<td>Y%</td>
</tr>
<tr>
<td>X%</td>
</tr>
</tbody>
</table>

Step 2. Analysis roadmap. Several criteria can be used to select the combination of sensitive or risky goods, for example: (1) choosing tariffs codes that are exempt from paying customs duties and VAT; (2) goods that in the last years have had major value adjustments, misclassification, or other forms of irregularities; (3) tariff codes that are more sensitive from their dual or strategic condition and have not presented certificates; or (4) using a combination of these and other criteria.

Step 3. Goods hierarchy. Once the selection satisfies the analyst, behavior analysis of each tariff code using the defined metrics and indicators can be started. Some examples can be found on the “Measures for Optimal Data Usage” box in Appendix D. This type of analysis would allow discovering, for example, if there is a link between growth and larger trade volumes in tariff codes that pay lower duties and taxes when compared to others which may be similar; this then underlines a potential risk of misclassification. Likewise, it will help analyze trends on

---

13 This will allow us to recognize which are the most concentrated markets and/or which are the goods that tend to be traded by few importers, which can determine, among other things, collusion practices.

14 Dual-use and strategic goods are those considered by the WCO through the Strategic Trade Control Program.
the evolution of CIF values, tax revenue, and number of operators. Appendix Table G.2 outlines how this is presented.

**APPENDIX TABLE G.2**

<table>
<thead>
<tr>
<th>Sub-tariff</th>
<th>Description</th>
<th>CIF Rates</th>
<th>Collection</th>
<th>No. Importers</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNNN.NN1</td>
<td>(. . .)</td>
<td>$ % % %</td>
<td>$ % # %</td>
<td></td>
</tr>
<tr>
<td>NNNN.NN2</td>
<td>(. . .)</td>
<td>$ % % %</td>
<td>$ % # %</td>
<td></td>
</tr>
</tbody>
</table>

Additionally, Appendix Table G.2 can be complemented with an individualized table per tariff code, revealing the behavior of metrics and indicators for each year under study. This summary enables customs to identify relevant goods based on the level and evolution of measures—for example, CIF, number of declarations, and so on. This can be seen in Appendix Table G.3.

**APPENDIX TABLE G.3**

<table>
<thead>
<tr>
<th>NNNN.NN1</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIF NNNN.NN1 / CIF Total</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>CIF NNNN.NN1</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Declarations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Declarations NNNN.NN1 / Total Decl.</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Declarations NNNN.NN1</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Revenue collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue NNNN.NN1 / Total Rec.</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Revenue NNNN.NN1</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control NNNN.NN1 / Total controls</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Importers Concentration—CIF value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operators that concentrate 80% CIF</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Operators that concentrate 50% CIF</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Importers Concentration—Revenue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operators that concentrate 80% of total collection NNNN.NN1</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>Operators that concentrate 50% of total collection NNNN.NN1</td>
<td>#</td>
<td>#</td>
<td>#</td>
</tr>
</tbody>
</table>

**Step 4.** Once the relevant range of goods is reached, the analyst’s next step is determining the interrelation between operators and risk levels.

---

15 Geometric Average Growth Rate (GAGR): \((\text{present value} / \text{previous period value})^{1/n} - 1\), where \(n\) is the number of time intervals in the data set, for example, if the analysis would comprise transactions from 2000 to 2015, then \(n\) would be 15.
## APPENDIX TABLE G.4

### Sensitive Goods Linkage with High-Risk Operators

<table>
<thead>
<tr>
<th>Sensitive Tariff Code</th>
<th>Size Segmentation</th>
<th>GRI Level</th>
<th>No. of Importers</th>
<th>TIN</th>
<th>GRI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Large</td>
<td>High</td>
<td>#</td>
<td>TIN 1</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 2</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>#</td>
<td>TIN 4</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>#</td>
<td>TIN 5</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>High</td>
<td>#</td>
<td>TIN 7</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 8</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>#</td>
<td>TIN 10</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>#</td>
<td>TIN 11</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td>Small</td>
<td>High</td>
<td>#</td>
<td>TIN 13</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 14</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>#</td>
<td>TIN 16</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>#</td>
<td>TIN 17</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 19</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 20</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 22</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 23</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 25</td>
<td>GRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TIN 26</td>
<td>GRI</td>
</tr>
</tbody>
</table>
APPENDIX H  BRANCH MEASURES TO DECISION TREE MODEL

Each declaration will be analyzed per branch/node based on a pre-defined condition, and if it is met, it will continue toward the subsequent node until the end of the tree, where an eventual control decision will become evident.

There are three decision branches: (1) sensitive operator identification, (2) analysis of sensitive tariff codes, and (3) the analysis of suppliers and unit prices. In branches 1 and 2, a set of indicators and metrics are defined. Some examples of measures are included in Appendix Tables H.1 and H.2.

### APPENDIX TABLE H.1

<table>
<thead>
<tr>
<th>Name of the Indicator</th>
<th>Syntax of the Indicator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1. Customs offenses compliance record ratio</td>
<td>Declarations with customs offenses / # Total customs declarations</td>
<td>Identify the level of compliance for each operator</td>
</tr>
<tr>
<td>A.2. GRI</td>
<td>GRI</td>
<td>Recognize the operator’s level of risk according to GRI.</td>
</tr>
<tr>
<td>A.3. Age of the company</td>
<td>Opening or registering date, ≥ N years – Non-new taxpayer&lt;br&gt;Opening or registering date, &lt; N years – New taxpayer</td>
<td>Identify habitual and casual operators.</td>
</tr>
<tr>
<td>A.4. Declared earnings</td>
<td>Sales reported in internal taxes / CIF Total</td>
<td>Identify possible deviations between purchases abroad and local sales</td>
</tr>
<tr>
<td>A.5. Declared taxes</td>
<td>VAT on sales reported in internal taxes / Sales reported in internal taxes</td>
<td>Recognize if there are deviations in taxes paid based on sales in the internal market.</td>
</tr>
<tr>
<td>A.6. (…)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### APPENDIX TABLE H.2

<table>
<thead>
<tr>
<th>Name of the Indicator</th>
<th>Syntax of the Indicator</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.1. Offenses compliance record ratio repaysments</td>
<td>Declarations with customs offenses / # Total declarations</td>
<td>Identify the level of compliance of each tariff code.</td>
</tr>
<tr>
<td>B.2. Does it constitute a residual tariff code?</td>
<td>Residual tariff code according to chosen criteria(^\text{16})</td>
<td>Identify if the attributed generality warrants undervaluation.</td>
</tr>
<tr>
<td>B.3. Is a certificate or permit required?</td>
<td>Certification or permit is required.</td>
<td>Mandatory certification or permit defines these products as higher risk.</td>
</tr>
<tr>
<td>B.4. Was it imported for the first time during the surveyed period?</td>
<td>The good does not appear in customs declarations prior to the surveyed period.</td>
<td>New good can explain access to new industries but might also indicate substitution of national production.</td>
</tr>
<tr>
<td>B.5. Internal taxes paid</td>
<td>Internal taxes paid / Total CIF</td>
<td>Identify the relation tax/imported value.</td>
</tr>
<tr>
<td>B.6. (…)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{16}\) An often-used criteria is to consider a PA residual if, when read from right to left, it counts n zeros, and the second next number is “9.” An example is 6182.90.00.
With respect to the first dimension, the analyst must identify (c.1) if the goods were sent by a supplier with customs offense record, within the same tariff code or a different one; and/or (c.2) if any operator involved—importer or customs broker—already has a prior history with the supplier. The second level of analysis proposes to identify if (c.3) the unit price of goods falls outside the confidence interval; (c.4) goods belong to a market with a high unit price dispersion; and (c.5) the goods belong to a tariff codes group with higher rates of duties and tax repayments. While the set of indicators and metrics in the branch A should be oriented toward operators, the measures in the branch B are applied to goods. Meanwhile, the branch C considers broadening the analysis in two ways: on the one hand, a suppliers’ analysis and, on the other, a unit price study.

Appendix Figure H.1 graphically presents how the inductive decision process is represented. Selecting one or more indicators per branch and when they become activated or confirmed, the tree is completed, and the control decision should be displayed.

**Appendix Figure H.1. Decision Tree Model Graphic Representation: Model I**

Based on these branches, the proper decision tree model must be chosen. Since the customs declaration is submitted, this decision process starts with the first node. If at least one of the four models is activated, then it is possible to move to the second node. The activated condition/s on the first and second nodes start to build the I, II, III, or IV tree model. The most widely used decision tree models are shown in Appendix Table H.3.
APPENDIX TABLE H.3

<table>
<thead>
<tr>
<th>Tree Model</th>
<th>First Node</th>
<th>Second Node</th>
<th>Third Node</th>
<th>Fourth Node</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Operator with prior irregularities</td>
<td>Goods with offenses record</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>“X” indicator for the operator activated</td>
<td>“Y” indicator for goods activated</td>
<td>Supplier with prior irregularities</td>
<td>Unit price with high deviation from average value or outside confidence intervals</td>
</tr>
<tr>
<td>III</td>
<td>Several indicators for the operator activated</td>
<td>Several indicators for goods activated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>High GRI level</td>
<td>Identified as a sensitive good</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX I  CLUSTER ANALYSIS

Description

Historical information for a period of no less than 6 months must be considered, and the percentage of offenses detected over the total import transaction must be analyzed. The methodology can be applied to any customs regime. According to the following steps, this iterative method can be displayed between steps 2 and 6:

Step 1. Importers selection. Through a list of importers, it will be possible to recognize who are the operators with the greatest number of declarations with adjustments and/or customs offenses. This analysis may suggest not considering certain HS chapters that could bias the analysis and insert distortions in the levels of offenses detected, that is, chapters 22 or 87.

<table>
<thead>
<tr>
<th>ADJUSTMENTS AND OFFENSES OPERATORS</th>
<th>FOB value</th>
<th>Declarations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTER</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 1</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 2</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 3</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 4</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>(...)</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 10</td>
<td>$</td>
<td>#</td>
</tr>
</tbody>
</table>

Step 2. Customs agents analysis. Only customs brokers linked with offenses need to be considered under the selected importers. The first alternative that this methodology proposes is starting with customs brokers with a higher number of offenses and then identify importers connected with these cases.

<table>
<thead>
<tr>
<th>FOB value</th>
<th>Declarations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTER 1</td>
<td></td>
</tr>
<tr>
<td>CUSTOMS BROKER 1</td>
<td>$ #</td>
</tr>
<tr>
<td>CUSTOMS BROKER 2</td>
<td>$ #</td>
</tr>
<tr>
<td>CUSTOMS BROKER 4</td>
<td>$ #</td>
</tr>
<tr>
<td>IMPORTER 2</td>
<td></td>
</tr>
<tr>
<td>CUSTOMS BROKER 1</td>
<td>$ #</td>
</tr>
<tr>
<td>CUSTOMS BROKER 8</td>
<td>$ #</td>
</tr>
<tr>
<td>IMPORTER 3</td>
<td></td>
</tr>
<tr>
<td>CUSTOMS BROKER 6</td>
<td>$ #</td>
</tr>
<tr>
<td>CUSTOMS BROKER 7</td>
<td>$ #</td>
</tr>
<tr>
<td>(...)</td>
<td>$ #</td>
</tr>
<tr>
<td>CUSTOMS BROKER 10</td>
<td>$ #</td>
</tr>
</tbody>
</table>

Step 3. Supplier–importer linkage. Even though the next step may choose different courses of action, it is proposed to identify the main suppliers that participated in commercial transactions of the adjusted goods. It is possible that the same
suppliers may be present in more than one selected importer, which are the cases that continue to the next step. A second alternative proposed by the methodology suggests starting with a noncompliant supplier and then identify connected importers. Customs brokers will be incorporated in step 3.

<table>
<thead>
<tr>
<th>SUPPLIER M</th>
<th>Valor FOB</th>
<th>Declarations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTER 1</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>IMPORTER 2</td>
<td>$</td>
<td>#</td>
</tr>
</tbody>
</table>

**Step 4.** Risk origin country connections. When an operator’s noncompliant network is identified, it is possible that only some countries of origin are linked with these offenses. The route may incorporate additional components as the mode of transport and the customs entry point or local office. These conditions can be added to the cluster if there is a strong correlation trend between them.

<table>
<thead>
<tr>
<th>SUPPLIER M</th>
<th>Origin country</th>
<th>FOB Value</th>
<th>Declarations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTER 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>IMPORTER 2</td>
<td>B</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td>C</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
</tbody>
</table>

**Step 5.** Goods analysis. In addition to identifying the HS codes with the greatest participation in these fraudulent events, it may be relevant to complement it with an analysis by (1) type of packaging, (2) technical details of the good, (3) storage conditions, and (4) perishing and/or toxicity requirements.

<table>
<thead>
<tr>
<th>SUPPLIER M</th>
<th>HS CODE</th>
<th>Origin country</th>
<th>FOB Value</th>
<th>Declarations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTER 1</td>
<td>NNNN.NX</td>
<td></td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td></td>
<td>NNNN.NY</td>
<td>B</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td></td>
<td>NNNN.NZ</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNNN.NR</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>IMPORTER 2</td>
<td>NNNN.NX</td>
<td>B</td>
<td>$</td>
<td>#</td>
</tr>
<tr>
<td></td>
<td>NNNN.NM</td>
<td>$</td>
<td>#</td>
<td></td>
</tr>
</tbody>
</table>
Step 6. Cluster definition. When there is a high level of concentration in all or some previous conditions, it is possible to recognize a risk cluster. In this way, each variable—customs broker, supplier, country of origin, mode of transport, customs office, and good—become relevant in the discovered combination. This immediately leads to the identification of a new multivariable profile.

<table>
<thead>
<tr>
<th>SUPPLIER M</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOMS BROKER 1</td>
</tr>
<tr>
<td>NNNN. NX</td>
</tr>
<tr>
<td>ORIGIN COUNTRY B</td>
</tr>
</tbody>
</table>
APPENDIX J  A GRADUATED PENALTY/SANCTIONS REGIME

A strong, fair, and transparent penalty and sanctions regime is an essential part of the customs compliance model. The penalty and sanctions regime ensures penalties are applied uniformly, consistently, and in an equitable manner for offenses of equivalent weight with the overall objective of molding client attitude toward self-regulation. Penalties must be appropriate to the severity of the offenses involved. Should they be too severe, administrations will hesitate to apply them, which can lead to a diminished deterrence impact and open the administration to pressures to settle cases inappropriately.

Customs offenses/breaches can generally be broken down into three categories: the first category includes non-prosecutable breaches or contraventions that are not serious in terms of customs revenue and that are subject to administrative fines with no provision for prosecution.

The second category includes breaches, which are more serious and subject to prosecution, but for which the offender can request an administrative settlement by customs (sometimes referred to as a “prosecution avoidance fee” or “offense settlement or compounding”). In some cases, customs may require permission of the prosecutor (often the Director of Public Prosecutions) to assess the administrative penalty and avoid prosecution. There is a risk of lack of transparency if such transactions are carried out without some form of disclosure or involvement of the prosecutor in the decision.

The third category includes the most serious offenses for which customs will pursue criminal prosecution leading to fines and/or imprisonment rather than administrative actions. This includes offenses such as false declarations; fraudulent or counterfeit documents; smuggling and possession of smuggled goods; obstructing, threatening, or assaulting officers; and bribery. A prosecutions policy is required that sets out the conditions under which offenders should be prosecuted and the administrative procedures to follow. An administration’s penalty/sanctions regime should be made public in order to promote transparency.

The following is an illustrative example of a graduated penalty scheme. Of particular importance is the notion that repeated offenses lead to more serious penalties.
### APPENDIX J Table 1

**Sample Graduated Penalty Scheme**

<table>
<thead>
<tr>
<th>Customs Offense</th>
<th>First Offense</th>
<th>Second Offense (within specified time period)</th>
<th>Third Offense (within specified time period)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category A. First-Level Offenses: Minor Offenses/Errors: Little or No Revenue Implications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1. Revenue shortfall due to incorrect or misleading information/advice provided by customs.</td>
<td>No penalty</td>
<td>No penalty</td>
<td>No penalty</td>
<td>Customs corrects information/administrative systems. Traders advised of correction action.</td>
</tr>
<tr>
<td>A3. Voluntary disclosure made before client notified of verification intervention (that is, cargo inspection, audit, investigation).</td>
<td>No penalty</td>
<td>No penalty. Official notice—corrective action identified.</td>
<td>No penalty. Formal warning</td>
<td>Repeated instances indicate weaknesses in client systems and controls—increased monitoring may be needed.</td>
</tr>
<tr>
<td><strong>Category B. Second-Level Offenses: Errors or Omissions That Have Revenue Implications and Are Due to Importer Error or Negligence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1. Incorrect Customs declaration/documentation with revenue impact (incorrect tariff classification/valuation). Failure to provide mandatory information to assess tariff and valuation (and origin). No intent to defraud/falsify documents.</td>
<td>5% of duty paid value (DPV), plus official warning, recorded in enforcement database.</td>
<td>35% of DPV</td>
<td>100–300% of DPV, forfeiture of goods. Possible prosecution.</td>
<td>For repeated offenses forfeiture of goods/conveyance and prosecution are options depending on the case (that is amount of revenue evaded, extenuating circumstances and so on).</td>
</tr>
<tr>
<td>B2. Provision of misleading/incorrect information to Customs (description of goods, quantity, duty and tax calculation and so on)</td>
<td>35% of DPV. Goods forfeiture Prosecution</td>
<td>50% of DPV Goods forfeiture Prosecution</td>
<td>100–300% of DPV. Goods forfeiture Prosecution</td>
<td>Attempt to mislead customs. Does not include provision of false documentation (see C 2 below).</td>
</tr>
</tbody>
</table>
### Category C. Third-Level Offenses: Cases of False Documentation with Intent to Evade/Defraud or Outright Smuggling

<table>
<thead>
<tr>
<th><strong>C1.</strong> Fraud (false invoices, alteration of documents—wilful intent to evade duty/tax)</th>
<th>200% of the DPV or goods forfeiture</th>
<th>300% of the DPV or goods forfeiture</th>
<th>300% of the DPV or goods forfeiture</th>
<th>Prosecution for second and subsequent offenses attract stiffer penalties (fines, prison). Possible seizure and forfeiture of goods and conveyance.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C2. Smuggling</strong></td>
<td>300% of the DPV or goods and conveyance forfeiture</td>
<td>300% of the DPV or goods and conveyance forfeiture</td>
<td>300% of the DPV or goods and conveyance forfeiture</td>
<td>As above.</td>
</tr>
<tr>
<td><strong>C3. Obstructing, threatening or assaulting officers, bribery, use of firearms.</strong></td>
<td>Specific fines as per legislation. Prosecution.</td>
<td>Specific fines as per legislation. Prosecution.</td>
<td>Specific fines as per legislation. Prosecution.</td>
<td>These serious offenses are usually prosecuted in accordance with legislation. Penalties include fines and in the most serious cases incarceration.</td>
</tr>
</tbody>
</table>
APPENDIX K IMPLEMENTING SPECIFIC ENFORCEMENT INITIATIVES

Customs Mobile Antismuggling Teams

Roles and Responsibilities

These specialized teams provide advanced examination capacity to follow up on targets and profiles developed by customs intelligence and/or identified by operational staff and managers. Activities of mobile antismuggling teams that can move to and operate at any location are focused on both contraband interdiction and revenue evasion. Teams work with line staff who should be included in operations where feasible. Team operations should be guided by operational plans and where available based on risk assessments, specific intelligence, requests from operational areas or other agencies (in accordance with agreements), or the basis of deterrence. Teams are expected to pass along any intelligence information they gather to the Intelligence section.

Organization and Deployment

Typically, mobile antismuggling teams are composed of five to seven customs officers and a supervisor. The number of teams deployed is based on identified risks, geographic considerations, and resource availability. To the extent possible, the teams should be available to support customs line operations. Joint operations with other enforcement agencies such as the police, drug enforcement agencies, border patrols, and military are common and can be extremely effective as either individual projects or ongoing joint forces operations.

Selection and Training

Selection of team members should be based on identified interest, experience including a good enforcement record, demonstrated initiative and potential, and professionalism.

Training should include the following:

- Advanced enforcement and examination techniques by mode
- Use of contraband detection equipment including scanners and imaging tools
- Interviewing and report writing
- Safe handling of firearms and if armed the full range of firearms training
- Arrest procedures, rules of evidence, and taking of statements
- Any training identified and deemed applicable by partner enforcement agencies for specific joint operations
Keys to Successful Implementation of Antismuggling Teams

- Sound legal basis for operations
- Clearly established terms of reference and operational responsibilities
- High-caliber, professional staff (training programs)
- Vehicles, equipment, and tools
- Operational performance management systems
- Automated systems available (enforcement database, operating systems, intelligence systems, risk management systems, and so on)
- Effective relationships with operational staff
- Effective interagency working arrangements

Establishing a Customs Fraud Investigations Capacity

Roles and Responsibilities

Customs investigations’ mandate is to uncover and investigate past instances of fraudulent activities by traders and others involved in import/export. Forensic investigation of customs fraud is an essential component of a compliance/enforcement strategy. In addition to detecting and penalizing fraudulent activities, their actions, particularly prosecutions, act as a strong deterrent to those who would violate customs legislation through fraud. Investigators regularly execute search warrants to obtain evidence in support of investigations and develop cases for potential prosecution.

Organization and Deployment

The head of investigations should be a senior level reporting directly to the executive in charge of enforcement (often a deputy head of customs). An investigations unit must consist of dedicated, full-time investigators who are not distracted by other operational work. Investigators should not participate in enforcement operations (antismuggling patrols, examination of goods, and so on) other than in exceptional situations or as part of an investigation.

The size of an investigations unit depends on the workload, which reflects trade volumes as well as other factors such as levels of voluntary compliance, enforcement capacity and results, and the nature and level of development of the trading environment. As a general guideline, in small administrations an investigations unit should consist of a minimum of two to four investigators plus a head and support staff. Larger administrations will have more investigators to cope with higher trade volumes and greater potential for fraud.

Investigators work closely with all customs operational units as these will be the primary sources of case referrals. They also have frequent contact with other agencies such as taxation, other regulatory agencies, and the police regarding
serious cases of fraud and to share information and intelligence. In cases of serious fraud involving other legislation (criminal code, income tax, and so on), investigators may refer cases to the appropriate agency for action.

**Selection and Training**

Investigations is a specialist function that requires staff with professional skills and knowledge. Officers should have a university bachelor’s degree, significant customs experience, good knowledge about its laws, regulations, procedures, and systems and also of criminal procedures (rules of evidence, court procedures and testimony), and strong communication and writing skills. Motivation, reliability, and integrity are vital attributes.

Training should include the following:

- Customs and criminal legal provisions
- Customs penalty structure and policies
- Forensic accounting and audit techniques
- Fraud investigations techniques and procedures
- Rules of evidence (gathering, safekeeping and handling) and court procedures
- Report writing
- Interviewing, interrogation, and special investigative techniques
- Law enforcement operation planning and implementation
- Risk management theory and practice
- Use of automated systems and tools

**Keys to Successful Implementation of an Investigations Function**

- Adequate legal powers and authorities
- Well-trained, experienced, professional investigators
- Transparent investigations procedures and standards
- Appropriate penalties and sanctions
- Provision of ICT systems (intelligence database, enforcement database, file management system, access to all operational systems, access to external databases and systems)
- Effective interagency working relationships (tax department)

**Establishing a Customs Intelligence Capacity**

**Roles and Responsibilities**

Customs intelligence consists of two major elements: strategic intelligence and analysis and operational/tactical intelligence. A headquarters-based strategic intelligence and analysis function provides strategic risk assessments of
emerging threats that are used by senior management in setting enforcement priorities and making high-level resource deployment decisions. Operational/tactical intelligence supports managerial decision-making on deployment of operational resources, project planning for specialized enforcement teams, and interagency projects. It provides actionable intelligence through lookouts, risk assessments, and briefings of both a local and national nature for use in targeting high-risk transactions and parties for enforcement action. It serves as the contact point between the intelligence organization and operating customs officers.

Intelligence comes from a variety of sources and in a variety of formats. Human intelligence is perhaps the most common form of intelligence and is generally related to the more tactical and operational environments. Sources of information include confidential informants, industry sources, other domestic law enforcement agencies, foreign customs administrations and law enforcement agencies, and international agencies such as the WCO, INTERPOL, regional intelligence offices, and so on. Information also comes from open sources such as the internet, publications, and government reports as well as from closed (confidential) sources such as bulletins and notices issued by enforcement and intelligence agencies, both domestic and foreign, internal documents, and signals intelligence provided by intelligence organizations.

**Organization and Deployment**

Customs intelligence organizations must be staffed by full-time dedicated specialists led by professional intelligence experts; this work cannot be undertaken on a part-time basis. The head of headquarters intelligence must report to the executive in charge of enforcement.

Field intelligence operations will vary in size depending on the size of the customs organization and the demands. As a minimum each regional operation should have an intelligence unit. Officers need to develop close working relationships with customs staff and local law enforcement agencies as well as with other sources of intelligence information including confidential sources.

**Selection and Training**

Staff selected for the intelligence unit should be motivated, competent officers with significant experience including in enforcement. They need solid analytical and communication skills and good IT knowledge. Intelligence officers require specialized training in the following:

- Customs intelligence processes and techniques
- Analytical skills (including use of databases and automated analytical tools)
- Interviewing and report writing techniques
- Sound communications skills
- Surveillance techniques
Keys to Successful Implementation of an Intelligence Function

- Adequate legal powers and authorities
- Clearly defined roles, responsibilities, and authorities
- Well-trained, experienced, professional intelligence officers
- Effective interagency working relationships and information sharing agreement
- Access to essential ICT systems (databases, intelligence systems)
- Risk management policies and systems

Strengthening Post clearance Audit

Roles and Responsibilities

Post-clearance audit (PCA) is also discussed in Chapters 4 and 5, in particular its connection to trade facilitation and risk management respectively. This discussion’s focus on PCA is in terms of its contribution to the enforcement program and how to strengthen its effectiveness.

In addition to increasing compliance and generating revenue, PCA plays a key role in the enforcement process as a major source of information for the purpose of risk management and as a valuable source of case referrals for customs investigations. Results of audits need to be provided to the risk management team in order to update risk profiles and criteria and to establish targets for future verification. When an auditor uncovers evidence of potential fraud (for example, duplicate invoices, false records, evidence of unreported payments, and so on), those observations are to be communicated to the investigations team for review. Should the review find insufficient evidence of fraud, the audit would continue. However, if evidence of fraud is uncovered, then the audit is terminated and the case turned over to investigations for action and potential prosecution. When functioning effectively, PCA is a major source of investigations cases.

A critical factor in the success of efforts to reduce customs interventions at the time of goods clearance by refocusing verification efforts on pre- and postclearance processes is the establishment of a well-resourced and effective PCA program. This shift has resulted in significantly increased workload of PCA units, as more and more transactions are referred for postrelease verification. Two elements of this postrelease verification have emerged. The first is the post-clearance review of transactions. This entails reviews of declarations for quality and compliance that are selected for the “blue channel.” Post-clearance assessment units review the tariff classification, valuation, and origin declaration for compliance based on risk assessments and taking into account resource availability. This is not PCA, but a postrelease verification that can be carried out at local offices or at a central

17 The ASYCUDA system has blue channel, and a transaction-based audit is carried out using this channel function.
location. Information on results of reviews must be communicated to PCA for use in identifying potential risks in developing their audit plans, and back to operating areas as feedback on quality.

PCA is the second postrelease verification element and audits traders in accordance with a risk-based audit plan. These audits (which may be desk audits or on-site audits) are time-consuming, and only a limited number of full audits can be carried out in any given year. In many cases, administrations have not devoted sufficient resources to fully implement this critical program. This creates a compliance gap and increased risk of revenue evasion.

**Organization and Deployment**

Often the program suffers from a shortage of staff, weak skill levels due to inadequate training, poor application of risk management in audit selection and planning, and in some cases lack of clear legal authorities. External challenges include general low levels of compliance by traders and in particular with record-keeping requirements.

To succeed, PCA needs to be integrated as a critical element of the customs compliance verification and enforcement program, although it would not directly report to the enforcement organization. While smaller administrations with automated customs processing systems in operation often centralize the PCA function at the headquarters level, most customs administrations create regional PCA units to ensure proximity to importers’ premises for on-site audits. These units generally come under the direction of the national PCA office to ensure consistency and coordinated implementation of audits. Headquarters PCA teams focus on larger importers with operations in a number of locations, or that involve complex audits. All audits are carried out in accordance with the annual audit plan.

**Selection and Training**

Staff assigned to PCA should have significant customs experience and a good knowledge of customs requirements and automated systems as well as of accounting and auditing practices. Strong communication and writing skills are important. PCA officers require training in the following areas:

- Accounting and audit principles and techniques
- Advanced customs theory and practices (tariff, valuation, origin, exemption regimes, and so on)
- Research and report writing
- Interviewing techniques
- Risk management theory and practice
- Use of automated systems and tools
Keys to Successful Implementation of Post-Clearance Audit

- Clearly delineated role and responsibilities of the PCA unit (including position descriptions)
- Appropriate legal requirements and authorities in place (for example, books and records, powers of officers)
- Adequate staffing levels based on workload (audit plan)
- PCA integrated into the risk management and compliance strategies
- Risk-based annual audit plans with performance measurement criteria
- Trusted trader program (AEO) audits included in audit plans
- PCA audit manual in place
- Professional audit training (external resources often required) provided
- Criteria and procedures established for PCA referrals to investigations
- PCA staff have direct access to customs operating systems (including enforcement databases) and automated PCA case management and reporting database in place

Customs Marine Patrol Units

Roles and Responsibilities

To enhance border protection, many customs administrations with marine or inland water borders establish customs marine units to patrol marinas, inland lakes, rivers, and coastal waters. While their primary task is prevention and interception of smuggling and other illegal operations (such as human trafficking, illegal fishing, and so on), they are often used to facilitate remote reporting by pleasure craft and verify their status. They provide customs with the capacity to participate in joint marine operations with other agencies such as the coast guard, marine police, and military in accordance with MOUs with the partner agencies. Generally, customs patrol vessel operations are limited to coastal waters and inland lakes and rivers, although in larger administrations deep water patrol vessels may be deployed.

Operational costs of marine patrol vessels, particularly larger vessels, can be extremely high and for smaller administrations may be prohibitive. Careful feasibility studies including threat assessments need to be undertaken before a decision is made to invest in a marine patrol program. Clear policies and procedures on officer safety and security are essential. Adequate and ongoing budget provisions must be made to ensure the continuing operation and maintenance of these expensive assets.

Deployment and Operational Requirements

Vessels must be “built to purpose” to meet the operating mandate and environment in which they will operate. They must be equipped with all necessary safety
and boarding equipment, searchlights and sirens, and so on. A radio communications system will be required, preferably one that can connect with other agencies. Vessel marking must clearly identify the vessel as customs. Intercepting, boarding and searching vessels on the open water can be a dangerous undertaking and customs officers have to be prepared to respond to threats and possible violence. Great care needs to be taken to manage the risks of these patrols and to ensure staff are properly trained, equipped, and supported by law in their actions.

**Selection and Training**

Selection of marine patrol team members should be based on identified interest, experience including a good enforcement record, demonstrated initiative, and potential. Qualified/licensed persons are required to operate patrol vessels and can be either qualified customs officers or contract mariners.

Marine patrol officers require the following specialized training:

- Professionally recognized training/certification for the operation of the vessel
- Marine safety procedures and policies
- Use of marine related contraband detection equipment
- Vessel boarding and securing
- Vessel rummaging techniques
- Interviewing and report writing

Team members should also be fully trained in the safe handling of firearms; armed officers should have the full range of firearms training (including regular recertification).

**Keys to Successful Implementation of Marine Patrols**

- Sound legal base for operations
- Deployment based on feasibility study (risk assessment, capital and operating costs, operating considerations)
- Appropriately sized and fully equipped vessels for the operating environment/mandate
- Adequate operational funds to ensure continuity (operating, repair and maintenance)
- Professional staff recruited/trained in marine procedures and customs rummage techniques and so on
- Comprehensive operating/safety procedures and policies in place
- Effective working relationships and legal arrangements with other law enforcement agencies
Deployment of Contraband Detection Technologies

Application

Proper deployment of state-of-the-art contraband detection technology (CDT) and equipment is critical to effective customs enforcement. These expensive devices require proper management and utilization to produce results, including the application of risk management. Users need to be adequately trained and equipment needs to be maintained. Systems to record and provide reports on the results of all inspections—both resultant and non-resultant linked to risk management/targeting systems—are required. While a small percentage of consignments should be randomly selected for inspection to gauge overall compliance levels, untargeted random inspections should be the exception to decrease the burden to legitimate trade.

Customs detector dogs (K9 units) are widely deployed throughout the world and have proven to be effective in virtually all modes—passenger processing, cargo inspections, postal and express consignment, and vessel and vehicle searches—and for the detection of various types of goods. Also, one dog can be trained for the detection of more types of goods (explosives, narcotics, currency, and so on). In addition to their operational roles, they provide very effective public relations services. However, detector dog programs are expensive to maintain, require specialized and ongoing training for both the dogs and handlers, and require frequent down time. They require careful management and oversight to ensure that effective levels of performance are maintained.

Customs officers and mobile antismuggling teams require a variety of portable contraband detection kits including digital camera/video recorders, laser range finders, Video Scope (fiber scope), Buster Contraband Detector units (for scanning concealed spaces for potential contraband), flashlights, inspection probes, field drug test kits, extendable mirrors with lights, night vision goggles, drones, and basic inspection tools (screwdrivers, crowbars, wrenches, wire cutters, and so on). These tools make physical inspections faster, more reliable, and less intrusive and enable officers to carry out their inspections in a professional manner.

Risk-Based Deployment

Decisions on the types, numbers, and location of contraband detection technologies require careful consideration given their costs and operational requirements, particularly large container and vehicle scanners, which can cost large sums to purchase and operate. The administration must clearly articulate the nature and extent of risks the technologies are intended to address, the operating environment in which they are to be deployed, and the level of investment to be made. Are they intended to address revenue risks (undeclared or mis-described cargo), illicit contraband (narcotics, illegal firearms, weapons of mass destruction, and so on), environmental threats (endangered species, toxic waste), and/or strategic exports controls? In which modes are they most likely to be effective? Is there a
need for mobile scanners? Are they needed for import or export controls or both? The answers to these questions will inform the decision-making process.

Operations

Scanners, in particular large vehicle and container scanners, should be linked to a targeting system to ensure that inspections are not entirely random or untargeted. There are many targeting systems in operation, and more administrations are establishing direct links between these systems and the scanners. Targets are being sent directly to the scanner operating system, and the outcomes of targeted scans (both resultant and non-resultant) are reported back through the system.

Reporting systems should be in place for all contraband detection technologies to provide information on their use and the results achieved. This information is essential to ensure the equipment is properly utilized, addressing identified risks and producing results. Informed decisions can be made on the deployment (or redeployment) and operation of the technologies and, where problems exist, on corrective measures to take.

Keys to Successful Deployment of Contraband Detection Technologies (CDTs)

- Base deployment of CDTs on assessments of risk/threats (cost/benefit analyses)
- Integrate CDT into enforcement strategy
- Minimize random cargo/container inspections—link directly to risk-based targeting systems
- Provide operating staff with appropriate training in use of the CDT
- Establish reporting systems to record activities and results
- Ensure inspection charges are reasonable
- Provide operating staff with adequate inspection tools and devices
- Establish management oversight and monitoring mechanisms
APPENDIX L   EXAMPLE OF AN OUTLINE OF A DEVELOPING COUNTRY’S CUSTOMS ADMINISTRATION ENFORCEMENT STRATEGY

A. Overview

Objective

Development of a medium-term enforcement strategy (covering three to five years) to improve the effectiveness of enforcement operations through developing professional capacity and strengthening operational effectiveness based on risk management principles and use of customs intelligence.

Scope

The strategy covers all enforcement and compliance verification activities including antismuggling, intelligence and analysis, interagency and international cooperation, investigations, marine patrols, risk management, post-clearance audit, contraband detection equipment, and ICT development.

Outcomes

• Improved capacity of customs staff, improved professionalism
• Increased enforcement results (additional revenue, number of cases, contraband seizures and so on)—note that lower results can signal better compliance
• Improved levels of voluntary compliance (deterrence)
• Provision of essential enforcement tools and equipment (vehicles, vessels, and so on)

B. Strategy Outline

Introduction

• Statement (preface) by the director general
• Purpose and scope of the enforcement strategy
• Current developments in the domestic economy and trade flows
• International context (smuggling, security/antiterrorism, and so on)
• Brief outline of the contents of the strategy and its implementation

Legal and Institutional Framework

• Legal framework (mandate, powers and authorities)
  ◦ Customs legislation–legal authorities for enforcement
• Other relevant national laws and regulations
• International commitments and obligations
• Relevant government policies and programs
  • Economic development, trade policies, and so on
  • Government fiscal plans (for example, revenue mobilization strategies)
  • Drug control policies and programs
  • Other (IPR, CITES, and so on)
• Customs administration’s strategic objectives and reform and modernization strategies

Assessment of Existing Customs Enforcement Programs

A review of current enforcement strategies, programs, capacities, and organization, including identification of strengths and areas in need of improvement in the enforcement operations.
  a. Current enforcement organization and programs
    • Mandate, roles and responsibilities of the enforcement organization
    • Organizational structures (including resources assigned to enforcement (by function and location)
    • Existing action plans/strategies
    • Inventory of tools and equipment (vehicles, equipment, IT capacities, and so on)
    • Interagency/international cooperation
  b. Review and analysis of enforcement results (historical data)
    Analysis of enforcement actions (number of cases, types of goods seized (illicit drugs, contraband, revenue—vehicles and so on) by locations, modes (past three to five years), penalty assessments, revenue generated, prosecutions, and so on.
    c. Assessment of strengths, weaknesses, opportunities, and threats (SWOT analysis)

A SWOT analysis is a planning tool used in the development of a strategic or business plan and is generally carried out in the early stages of the plan development as part of an environmental scan exercise in which an examination is undertaken of the internal and external factors that influence the organization and its plans.

Threat Assessment

This section identifies and analyzes current and emerging smuggling and other enforcement threats (commercial fraud, smuggling, illicit drugs, the Washington Convention on Controlling International Trade in Endangered Species of Wild Flora and Fauna [CITES], Intellectual Property Rights, security/terrorism, WMD, export control of strategically sensitive goods, and so on). It provides a basis upon which to develop the enforcement strategy priorities.
A structured risk analysis process identifies and rates all potential risks and threats faced by customs. It takes into account past results and enforcement data and analysis as well as input from officials based on intelligence, experience, trends and the current situation.

Threats are identified in as much specific detail as possible (specific commodities, locations, sources, modus operandi, groups or individuals involved, estimated revenue losses, and so on).

The threat assessment also includes an assessment of customs’ existing capacities and vulnerabilities in terms of resources, physical tools, and equipment, including IT, staff capacities, weaknesses in control systems—border clearance, post-clearance verification—fraud investigation, and so on (based in part on the preceding SWOT exercise).

**Enforcement Policy and Guiding Principles**

- **Customs Enforcement Policy Statement**

  “The customs administration will manage its operations to do the following:
  
  • Support the goals and objectives of government
  • Protect the revenue and the borders of the country
  • Ensure that revenue collection and enforcement goals are accomplished in a fair, equitable and transparent manner with due regard for the rights of its clients and of the citizens
  • Achieve compliance through a mix of measures to facilitate voluntary compliance and enforcement measures to deter, detect and penalize intentional noncompliance”

  (Specific policies can be included here for antismuggling and so on.)

- **Enforcement Guiding Principles**

  This section outlines the fundamental principles that will guide the development and implementation of the enforcement strategy. They set the ground rules for all initiatives and operations proposed in the strategy as well as providing a framework for assessing any new proposals or initiatives. For example:

  • Voluntary compliance and effective enforcement are complementary
  • Customs legislation that provides adequate enforcement powers and authorities
  • An organizational culture of risk management
  • An effective penalty regime that supports enforcement and sanctions illegal activities
  • Interagency cooperation and coordination
  • Well-trained professional customs enforcement officers
  • An objective, transparent appeal system
  • An effective use of ICT and contraband detection technology
• Enforcement is every customs officer’s business
• Customs enforcement practices comply with international best practice and standards

**Enforcement Objectives and Priorities**

This section includes high-level objectives of the enforcement strategy that respond to the assessed threats and risks identified previously to the assessment of the existing enforcement organization and its performance identified as well as taking into account the priorities and direction of the government. Specific results-oriented and measurable goals and high-level performance indicators are set out in this section.

**Action Plans**

Detailed action plans to implement the strategic objectives, priorities, and goals identified in the strategy are included here. Action plans should include specific actions, time frames for completion, results to be achieved, and performance measurement criteria with assigned responsibilities. A standardized project planning format is used to facilitate monitoring and evaluation of progress.

Regular progress reports are prepared as part of the planning evaluation process and incorporated into the management reports. The strategy and plans are reviewed and updated as needed to reflect changing conditions and threats on an annual basis.
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