CHAPTER 5

Strengthening the Core Customs Processes through Integrated Risk Management

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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

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1 The WTO’s Trade Facilitation Agreement (WCO 2013), the ISO 31000:2009 (ISO 2019), the WCO’s Revised Kyoto Convention (WCO 2002), 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**

**MYTH:** The definition, development, and implementation of an IRM strategy is the sole responsibility of an administrative unit within the organization.

**REALITY:** 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.

**MYTH:** Risk management starts when the customs declaration is submitted.

**REALITY:** 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.

**MYTH:** The selectivity module of the customs IT systems should be the central element of IRM.

**REALITY:** 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.

**MYTH:** The more physical inspections performed at the point of entry, the better the results.

**REALITY:** 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.

**MYTH:** The private sector cannot and should not participate in customs IRM.

**REALITY:** 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.

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
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.

“The adoption of an IRM approach has the potential to significantly strengthen core customs processes, thus improving trade facilitation and voluntary compliance.”
• 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>
</thead>
<tbody>
<tr>
<td>Legal framework</td>
<td>Transparency and integrity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Governance and organization</td>
<td>Resources and capacity</td>
<td></td>
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</tr>
<tr>
<td>Information and Technology</td>
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</tr>
<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>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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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 . . .

- Greater trade facilitation
- Further guidance
- Physical controls
- Documentary controls
- Nonintrusive controls
- Post-clearance audit
- Suspension/cancellation
- Prosecution

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\textsuperscript{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 digitalization and customs automation and incorporating new technologies. Box 5.3 provides an overview of some common initiatives.

\textsuperscript{3} Cost, insurance, and freight.
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."
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 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

#### Definition

**Legal framework.** 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.

**Information.** It should be standardized, reliable, timely, and preferably received and disseminated in electronic format, thus enabling large-scale processing and analysis.

**Processes.** 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.

**IT systems.** 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.

#### Assessment

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?

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?

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?

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?
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.

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 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?

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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3 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” modalities 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
Chapter 5  Strengthening the Core Customs Processes through Integrated Risk Management

- 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

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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

- Advanced economies
- Emerging markets
- Low-income countries

<table>
<thead>
<tr>
<th>Mode</th>
<th>Advanced Economies</th>
<th>Emerging Markets</th>
<th>Low-income Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea</td>
<td>57%</td>
<td>46%</td>
<td>75%</td>
</tr>
<tr>
<td>Air</td>
<td>50%</td>
<td>61%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: International Survey on Customs Administration (ISOSA) 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.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 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.

10 The WCO’s Risk Management Compendium (WCO 2012b) provides detailed guidelines on cargo targeting.

“Manifest information is an essential link in the supply chain for cargo traceability, targeting, and customs clearance.”
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>
<thead>
<tr>
<th>TABLE 5.1. 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)
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 profiles12
- 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:*

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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.
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.

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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. Theses 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—14—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

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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**

![Chart showing data from tax administrations by economic groups](chart.png)

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\(^\text{15}\) 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.

\(^{15}\) 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) administrating sanctions in line with current trade transactions and designed to promote compliance; (3) reassessing 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.
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\(^\text{16}\) is a good example of a

\(^{16}\) 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 (UNTDED) 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. Operators’ Segmentation and Assessment**

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

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 Segment</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></td>
<td>Large</td>
<td>High #</td>
<td>TIN 1</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Med #</td>
<td>TIN 4</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low #</td>
<td>TIN 7</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td>NNNN.NN1</td>
<td></td>
<td>Med #</td>
<td>TIN 10</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Med #</td>
<td>TIN 13</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low #</td>
<td>TIN 16</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Med #</td>
<td>Med #</td>
<td>TIN 19</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Med #</td>
<td>TIN 22</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low #</td>
<td>TIN 25</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small</td>
<td>High #</td>
<td>TIN 2</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Med #</td>
<td>TIN 10</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low #</td>
<td>TIN 16</td>
<td>GRI</td>
<td></td>
</tr>
<tr>
<td>Source: Authors.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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

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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.”

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Source: Authors.

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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.

**REFERENCES**


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