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**The Customs Supply Chain Security Paradigm  
and 9/11: Ten Years On and Beyond**

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***Robert Ireland***

## **Abstract**

Following the 9/11 attacks ten years ago, a *customs supply chain security paradigm* emerged consisting of new national customs policies and World Customs Organization (WCO) standards intended to deter international trade transport from becoming a conduit for the delivery of violent extremism. This paper describes the paradigm's characteristics and logical inferences that can be drawn from it, especially related to its major policy themes of advance cargo information submission requirements, customs risk management, non-intrusive cargo scanning equipment, and security-oriented Authorized Economic Operator (AEO) programmes.

## **Key words**

Customs Supply Chain Security Paradigm, WCO, violent extremism

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## 1. INTRODUCTION

The September 11, 2001 paroxysm induced policymakers in some nation-states to formulate and implement national security policies to, among other things, augment domestic protection<sup>1</sup> and reduce fear from the threat of violent extremism. As part of this new strategy, these governments added and prioritized national security to the existing portfolio of policy objectives for their customs services. This paper thus narrows *national security* to *civil defense and homeland security policy* (Ripberger 2010), and then narrows further to *customs supply chain security policy*.<sup>2</sup>

As participants in this wide-ranging security strategy, some customs administrations introduced new customs policies considered more effective in protecting against perceived existential security threats. In addition, the World Customs Organization (WCO) developed international standards that encapsulated these national customs security policies. The emergence of such policies can be understood as the construction of a *customs supply chain security paradigm* (CSCSP).<sup>3</sup> This paper will discuss the thematic characteristics<sup>4</sup> of the CSCSP ten years after it began and several dynamics relevant for its future.

On a macro basis, the customs security policy layer was added but did not displace the pre-9/11 customs policy priorities of *revenue collection*, *conventional anti-smuggling*, and *trade facilitation*. The revenue policy layer was and is the reality prevalent in many developing countries where the principal role of customs is to raise money to pay for government operations by taxing imports. The anti-smuggling policy layer, which has the most similarity with the CSCSP, has the objective of deterring the border crossing of bad things: items such as narcotics and counterfeit goods. The trade facilitation policy layer was and is the notion that customs controls should have the overriding objective of efficiency so that the flows of legitimate goods are not unnecessarily constrained. The level of emphasis of these different customs policy priorities varies country to country. Thus, for some countries the CSCSP became preeminent, while for others it had predominantly indirect implications.

The CSCSP's policies broadly consist of expanded trade data submission requirements for economic operators<sup>5</sup> early in the supply chain; enhanced risk management methods geared to security; increased use of non-intrusive container cargo scanning; and the introduction of security-oriented compliant and validated trader benefits policies called Authorized Economic Operator (AEO) programmes.

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<sup>1</sup> Like Mueller (2010), this paper discusses *protection* policies, not *policing* or *resilience*.

<sup>2</sup> While customs is not the only government function (e.g. transport, intelligence, police) with a role in supply chain security and the WCO was not the only intergovernmental agency developing new security policies (e.g. the International Maritime Organization developed the International Ship and Port Facility Security Code or ISPS), this paper restricts itself to customs and the WCO.

<sup>3</sup> Customs supply chain security policy is also known as *border protection* or *border security*.

<sup>4</sup> For details on the different national and international supply chain security policies, see Donner and Kruk (2009).

<sup>5</sup> As defined in the WCO SAFE Framework of Standards, the term "economic operators" is broader than "traders" and can include exporters, importers, carriers, manufacturers, brokers, consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehouses, and distributors.

## 2. THE CUSTOMS SUPPLY CHAIN SECURITY PARADIGM

Although al-Qaeda's 9/11 attacks did not use international trade transport as a delivery mechanism, U.S. policymakers in particular feared that they might in the future. The ensuing U.S. policy initiatives, described by some with the slogan 'push the border outward' (Bowman 2007), are based on the contention that border controls should take place closer to the point of export instead of the traditional import focus. A highly visible symbol of this approach was the placement of U.S. Customs officers at large non-U.S. seaports to assist with the pre-shipment risk analysis of ocean-going cargo headed towards the U.S. This reflected both a philosophical shift to data submission requirements earlier in supply chain flows and the principle that any violent threat delivered by cargo container should be handled as far as possible from home shores. A customs supply chain security paradigm thus emerged.

Some regulators now require economic operators to supply customs with cargo information in electronic form well before arrival at the place of importation and in some instances before loading at the foreign port. Customs administrations have expanded the list of obligatory data to be supplied for each consignment as a basis for the identification and handling of "high-risk" cargo. Advanced, but not a panacea, technology such as non-intrusive inspection (NII) equipment is more widely used for scanning cargo. These new requirements are sweetened by the use of risk management selectivity (dividing cargo into high security risk and low security risk) and by AEO programmes that promise trade facilitation benefits to validated economic operators.

### 2.1 The CSCSP and Trade Facilitation

*Trade facilitation* has been a constant discussion element since inception of the customs supply chain security paradigm (Mikuriya 2007; Raven 2001 and 2008) and concerns the simplification and predictability of customs formalities by requiring less manifest and declaration information, lowering physical inspection rates, and reducing customs clearance times.

Businesses desire trade facilitation regardless of whether the customs policy objective is revenue collection, countering narcotics trafficking, or deterring violent extremism. In designing and applying effective and efficient customs controls, policymakers and administrators must acknowledge and manage the unavoidable tension between government mandates and the commercial desire for rapid, predictable, and reliable clearance and release formalities. Customs administrations must apply national laws while traders seek to minimize operational costs to raise competitiveness and increase profits. Customs regulations, well or badly applied, are cost and time impositions.

The security-facilitation coupling occurred because governments and intergovernmental organizations such as the WCO contended that supply chain security could be pursued by adding only *de minimis* burdens and inefficiencies to international trade flows. Moreover, without at least the tacit acquiescence of business, perhaps convinced of trader benefits or wanting to be 'good corporate citizens,' trade security regimes likely would have faced more political opposition.

### **3. FEATURES OF THE CUSTOMS SUPPLY CHAIN SECURITY PARADIGM**

As noted previously, the central regulatory features of the customs supply chain security paradigm are advance cargo information, risk management, cargo scanning, and AEOs. These features primarily emerged from U.S. initiatives, including its AEO programme C-TPAT (2001), CSI (2002), the 24 hour rule (2003), and 10+2 (2006). These policies draw from older precedents which will be described later in this paper.

While the collapse of the twin towers and the ensuing U.S. security policies sparked the customs supply chain security paradigm, several other governments have also introduced supply chain security regulations. For instance, the European Commission has its own advance cargo information regulation called Pre-arrival / Pre-departure (2011) and the EU Authorized Economic Operator programme (2008). Japan's Advance Filing Rules on Cargo, Crew and Passenger Information (2007) covers cargo arriving by sea or air in Japan. China has a 24-hour Advance Manifest Rule (2009) which mandates that for all export, import, and transshipped cargo to any Chinese port, ocean carriers must provide the manifest or the bill of lading to Chinese Customs 24 hours before loading. Japan (2006) and China (2008) also have AEO programmes (Donner and Kruk 2009; Polner 2011).

In 2005, the World Customs Organization (WCO) adopted an international customs instrument for supply chain security called the *WCO SAFE Framework of Standards to Secure and Facilitate Global Trade* (WCO SAFE Framework) which consists of standards contained within twin pillars. Pillar 1 (customs-customs network arrangements) is based on CSI and Pillar 2 (customs-business partnerships) is based on C-TPAT (Ireland 2009).

The WCO SAFE Framework embodies the notion that the "new mission of security has shifted the focus of customs from its traditional 'place of import' to encompass the entire trade supply chain that covers the movement of goods from origin to destination" (Mikuriya 2007, p. 51).

#### **3.1 Advance Cargo Information**

Pre-arrival or advance cargo information is not a new concept. Modern customs principles embrace the notion that consignment information can be provided to customs before arrival at the place of import to accelerate release and clearance. The WCO's *International Convention on the Simplification and Harmonization of Customs Procedures* (Revised Kyoto Convention) states in Standard 3.25 that "national legislation shall make provision for the lodging and registering or checking of the Goods declaration and supporting documents prior to the arrival of the goods" (WCO 1999).

In the late 1990s customs and the trade sector faced a common acute problem in providing or processing the enormous volumes of information associated with overnight and other finely-timed express consignments. They found an approach, through discussions in the WCO, in arrangements for routine provision of intention to release in return for the electronic submission of specified data items at a prescribed period before the goods' arrival. Guidelines on this subject, which were broadened to incorporate all types of urgent consignments which met the same conditions, were formally published in 2003 as the WCO's *Guidelines for the Immediate Release of Consignments by Customs*.

The guidelines, which are better known as the *WCO Immediate Release Guidelines*, underline that:

the Customs will generally grant immediate release/clearance to all consignments, provided that the conditions laid down by Customs are met and that the necessary information required by national legislation is communicated at a stipulated time before the consignments arrive. The advance communication of that information is facilitated, in particular, through exchange of data electronically (WCO 2003, p. 1).

While the immediate release concept does not require that all consignment information be provided, it does provide that a minimal list of data elements specified by the customs of the country of import be provided. The determination of data requirements is based on what each government deems necessary for risk management. The guidelines built upon the foundation of the *Revised Kyoto Convention* by listing data elements for four categories of consignments: (1) correspondence and documents; (2) low-value consignments for which no duties and taxes are collected; (3) low-value dutiable consignments; and (4) high-value consignments.

While the formal linkage of pre-arrival information with rapid release of consignments was developed as a trade facilitation concept, its use was extended and intensified by post-9/11 customs security policies. Under U.S.-led supply chain security regulations, advance electronic information is required for all consignments and regulators have been at pains to integrate trade facilitation elements into such new policies to aid in securing private sector support.

Several countries have thus adopted advance electronic information requirements for their national customs security controls and the WCO developed global standards in the WCO SAFE Framework. The use of standards for advance supply of control data aims to assist customs to make the best use of an improved timeframe to carry out risk assessment routines well ahead of the arrival of consignments.

Discussions continue on what and how many data elements are justifiable by customs for effective supply chain security analysis. Global businesses use an enormous range and volume of operational data but there is a patent advantage to both traders and customs if procedural processing can be limited to just the minimum necessary for applying national security controls.

### **3.2 Customs Risk Management**

Assessing and managing risk entails estimating the probability of an event occurring and the tangible consequences of that event (Bichou 2008). Even before 9/11, *risk management* had become by default the preferred approach for customs procedures in modern times regardless of the public policy objective, and this was further emphasized when focus for some turned to preventing events perpetrated by violent extremism. In addition, risk management is a demand of the private sector, which seeks predictable, simple, and fast formalities for economic operators who are generally compliant with international trade norms and regulations.

Customs assessing risks by selectivity, profiling, and targeting can reduce the volume of consignments requiring intervention and thus reduce the time needed for customs clearance by assignment of goods and consignments to high-risk (red lane) and low-risk (green lane) categories. Selectivity is of course unnecessary if compliance nears 100% or inadequate if compliance nears 0%.

Risk management is strengthened by the quality and relevance of available historical data. Measurement is desirable in the supply chain security context especially because adjustments to risk management should depend on reliable knowledge that can only be provided by objective data. Collecting and analyzing international trade data to estimate the risk of violent extremists exploiting containerized cargo is challenging because of the infrequency of relevant detections or seizures (OECD 2009; Widdowson and Holloway 2010). The more common events of conventional smuggling, stowaways, and nuclear proliferation networks may have contributory relevance. Unknown shippers or unusual data submissions can also be indications of threats. Under the customs supply chain security paradigm, customs policymakers have devised a list of trade data elements intended for risk assessment purposes, and these are contained in the WCO SAFE Framework.

While risk management can be seen as a necessary foundation for customs procedures considering the massive amount of cargo crossing borders, it should be fuelled not just from data gleaned from manifest and customs declarations, but also human intelligence. The identification of non-compliant activity by human observation or contact can greatly enhance proactive deterrence and the effectiveness of any risk management system.

### **3.3 Cargo Scanning**

Use of non-intrusive inspection (NII) equipment or scanners for cargo is a prominent component of the customs supply chain security paradigm. The most commonly used scanners are x-ray and gamma-ray imaging type equipment. Scanners can also include nuclear and other radioactive material detection equipment including radiation portal monitors, and radioactive and special nuclear material detectors, but these are currently less common. The ostensible reason for using scanners in the trade security context is to identify nuclear, radiological, biological, or chemical weapons (or WMD precursors) concealed in cargo containers.

In considering scanner purchases, policymakers need to understand their uses and abuses. Scanning equipment is expensive to acquire and maintain. Effective application requires expert trained staff. Moreover, unless compliance is pitifully low, scanning should only be used to complement an existing risk management system that includes selectivity (WCO 2009). There are several examples of where 100% scanning is being used not for purposes of security or trade facilitation, but as a revenue generator for the state or for destination inspection companies where in some instances a fee is paid by the economic operator for every scanned container, even if it does not contain any cargo (WCO 2007).

To successfully use a scanner there should be a comprehensive understanding of its meaning, and its relationship with screening and physical inspection. Commentators often interchange or confuse screening, scanning, and physical

inspection. In the maritime context, Martonosi et al. (2006) have defined *screening* as “the initial assessment of the risk of [containerized cargo] based on the manifest, shipper, carrier, consignee and other information associated with the shipment;” *scanning* as “the radiographical scanning of a container via an X-ray or a gamma-ray scanner to identify its contents;” and *physical inspection* as “the hand inspection of the contents of a container” by customs officers (Martonosi et al. 2006, p. 220). The WCO uses similar definitions.

The scanning aspect of the customs supply chain security paradigm contributed to the evolution from pre-shipment inspection to destination inspection. Traditionally, many developing countries, especially in Africa, have employed companies from developed countries to do pre-shipment inspection of imports to Africa, primarily for classification and valuation purposes. The pressure to consider exports as well as imports, and for national security, contributed to the emergence of destination inspection companies, where the customs controls are conducted in the African country. This reduced the internal costs of such service companies and increased their incomes but has done little to reduce checks at the border of import.

A U.S. law known as the *Implementing Recommendations of the 9/11 Commission Act of 2007* (U.S. Public Law 110-53, 2007) requires, among other things, 100 percent scanning of all U.S. bound ocean-going containerized cargo before loading the transport vessel starting in 2012.<sup>6</sup> This policy is incompatible with the principle of selectivity in customs security controls and is inapposite to balancing security and trade facilitation. 100 percent maritime cargo scanning is a distraction from policy utility and a purblind opinion that “ultimate security” (Schneier 2003, p. 274) is attainable.

The WCO, U.S. Customs, customs practitioners, policy analysts, and economic operators have raised multiple concerns about the U.S. 100 percent maritime trade scanning requirement (Ireland 2009). Governments, particularly in developing countries, have expressed apprehension about the cost implications. Other concerns include maintaining the operational functioning of scanners in difficult weather conditions and logistical or spacing difficulties in certain port environments; data privacy concerns; and possible retaliation by U.S. trading partners requiring scanning of exports from the U.S. The regulation is an unfunded mandate in that no budget is allocated to compensate foreign governments and port authorities for the heavy expense of purchasing, operating, and maintaining the scanners or the private sector for the heavy costs they will suffer from the increased controls. Such impediments make it highly likely that implementation of the legislation will be indefinitely deferred, selectively enforced, or repealed.

### **3.4 Security-Oriented Authorized Economic Operator Programmes**

Customs administrations have established Authorized Economic Operator programmes where they validate or accredit ostensibly compliant and low-risk economic operators who have met special requirements in respect of physical security of premises, hidden camera surveillance, and selective staffing and recruitment polices. This security-oriented AEO model is contained in the WCO SAFE Framework. In return AEOs are promised benefits, such as faster clearance of goods and fewer physical

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<sup>6</sup> The U.S. Department of Homeland Security is expected to postpone implementation to at least 2014.



inspections. The AEO concept is thus a deal struck between government and the trade. Under such a scheme, if a business convinces customs that it normally complies with customs regulations, it expects to undergo predictable and rapid processing.

The idea is not new and was originally developed to help customs with such responsibilities as conventional anti-smuggling. These early arrangements, which were frequently called “known trader,” or “trusted trader” programmes, were relatively unstructured. The concept’s principles are contained in the “authorized person” provisions in the WCO revised Kyoto Convention, which states that traders “who meet criteria specified by the Customs, including having an appropriate record of compliance with Customs requirements and a satisfactory system for managing their commercial records, the Customs shall provide for” various trade facilitation benefits (WCO 1999).

AEO programmes thus aim to give customs a stronger, more explicit, and easily understood means of channelling premium procedures to the most reliable and compliant traders, shippers, agents, and carriers. The AEO programmes set out a detailed set of security requirements and the trade response to what are still voluntary commitments has been a sustained demand for equally precise benefits. Customs continues to maintain flexibility, however, as a fully defined and rigid obligation/benefit menu would be a constraint on the vital exercise of customs core discretion.

The sustainability of AEO programmes faces some risks. Logic suggests that building and keeping mutual trust between customs and trade is essential in the application and sustainability of AEO programmes. Trust is a requisite ingredient for collective action in any inter-sectoral relationship (Judt 2010) and for finding mutual solutions to divergent interests; this is especially true and important at the operational interface between governments and traders at national borders. Because these AEO programmes are a bargain struck between customs and traders (if traders apply for and receive validation, they will receive benefits), both sides must be perceived to be living up to the bargain if it is to continue. Thus, if validations are not viewed by government auditors as being rigorously applied, the bargain will break down. If the promised benefits are not perceived to be provided (especially is it profitable to become an AEO, or is being a non-AEO just as profitable?), the bargain will also break down.

Michael and Moore (2010) worry that AEO programmes are at risk of contracting the traditional customs corruption malady. Just as there is competition to be green lane rather than red lane, there may be competition to be AEO rather than non-AEO. And just as corruption can at times determine green lane, corruption could conceivably determine AEO status. These fears may be overwrought however; logically, corruption may be more efficient by influencing at the time of clearance or demand of duty payment.

Mutual recognition of AEO programmes by two or more countries is an important objective of many customs administrations and economic operators. There is, however, a lack of consensus on what AEO mutual recognition means in practice. Aigner (2010, p. 48) states:

Generally (and in line with the WCO approach), mutual recognition of AEO is perceived as an arrangement or agreement between two or more customs administrations (or governments) that recognise each other’s audits, controls and authorisations as equivalent and therefore provide reciprocal benefits to AEOs. In

practice, this means that AEOs authorised by the partner country are recognised as being as secure and reliable as AEOs authorised by their own administration and will, therefore, receive benefits such as a reduced risk score and reduced controls when importing into the customs territory.

Some advocate a more expansive interpretation by asserting that an economic operator accredited as an AEO by one mutual recognition arrangement (MRA) party should have exactly the same status (recognized as an AEO by the other MRA party or parties), and thus need not apply to become an AEO in the country of the other MRA party (Aigner 2010; Buzdugan 2005; Irish 2009). Critics contend that economic operators would thus need to apply for AEO status in every country where they trade and that has an AEO programme. International trade, however, is dominated by small and medium size enterprises (SMEs) whose geographic range of trade is limited compared to multinationals. It is thus unclear whether this interpretation of AEO mutual recognition is particularly significant or necessary when considering the limited number of businesses it would benefit.

The eventual outcome of security-oriented AEO programmes will probably depend, over time, on evaluations of their perceived successes and failures, and ultimately the strength of political and public concerns with conventional international trade operations as a likely target and instrument for violent extremism.

#### **4. CONCLUSION**

This paper has described the broad thematic characteristics of the customs supply chain security paradigm that began ten years ago in the 9/11 aftermath and the enduring fears that international trade transport could be used as a delivery mechanism for violent extremism. A number of countries launched new customs supply chain security policies. Subsequently, the WCO adopted an instrument of standards that mirrored these national policies. Ten years on, the paradigm's validity is likely to continue for the foreseeable future in global customs policies

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