

## THE PROBLEMS AND POSSIBILITIES FOR USING ELECTRONIC BILLS OF LADING AS COLLATERAL

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### I. INTRODUCTION

Many efforts have been made to bring into existence negotiable electronic bills of lading that would replicate all the functions of their paper counterparts and that would be acceptable for traders, bankers, secured lenders, carriers, and freight forwarders. The main obstacles in the utilization of paperless bills of lading and other transportation documents include the law's insistence on paper based documentation, written signatures, and obsolete transport and secured transactions laws. Ocean bills of lading have an intrinsic value as security to banks that finance the sale of the underlying goods or the documents themselves, and they entitle their legitimate holders to sell the goods while in transit by transfer of the document. Negotiability is the unique feature of bills of lading, which allows merchants to trade them and lenders to use them as collateral. Nonnegotiable transport documents such as air, sea, rail, and truck waybills lack this feature and cannot be pledged to banks as collateral for loans or letters of credit; hence they are susceptible to electronic replication. To the contrary, the negotiable bill of lading has long been regarded as the symbol of the right to delivery of the goods embodied in it, and by the custom of merchants it is transferable by endorsement and delivery so as to vest in the transferee the title to the goods.<sup>1</sup>

Recent developments pose an important question: do we still need the negotiable electronic bill of lading, and if so, how should it be created? In this article, I argue that nonnegotiable transport documents, such as sea waybills, cannot entirely displace the negotiable bill of lading, and therefore, enactment of electronic bills of lading laws is desirable. Previous attempts to create an electronic bill of lading posed many issues, such as the questionable status of secured creditors, acceptability under letters of credit, transparency, and high costs

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1. While the transfer of the bill of lading serves as a symbolic transfer of the possession of the goods, it does not necessarily transfer the property in the goods, because such property passes to the buyer as stipulated in the contract of sale. U.N. Conference on Trade and Development, July 31, 2001, *Electronic Commerce and International Transport Services*, ¶ 32, U.N. Doc. TD/B/COM.3/EM.12/2. See also *Minturn v. Alexandre*, 5 F. 117, 118 (S.D.N.Y. 1880).

for users. Recent developments in the area of secured transactions may, however, inspire confidence of merchants in this type of electronic document.

This Article is organized around the functions of bills of lading and their replication in the electronic environment. First, I will explain the functions of these documents and point out the significant features that set them apart from nonnegotiable documents, such as sea waybills. Second, I will summarize previous projects that unsuccessfully attempted to dematerialize documents of title and provide my assessment of the reasons for their failure. This section will conclude with an overall comparison of those systems and the lessons that may be learned from them for structuring future systems. Third, I will indicate that the process of dematerialization should begin by drafting efficient laws on secured transactions that would provide modern rules on the creation of a security interest in electronic bills of lading. The rules incorporated in the Uniform Commercial Code (UCC) and the proposed Guatemalan law on secured transactions will be described in detail. Finally, I will offer my view on the future of electronic bills of lading and their status as valuable collateral in secured lending and letter of credit transactions.

## II. DOCUMENTS IN INTERNATIONAL TRADE

International commerce requires a “fine net of procedures and documentation”<sup>2</sup> involving buyers, sellers, forwarders, carriers, bankers, lenders, insurers, and various regulatory authorities. In fact, it has been estimated that up to fifty different parties may be involved in a cross border transaction.<sup>3</sup> All these parties to international commercial transactions deal with various documents that evidence transport, insurance, or banking contracts and various independent promises. The merchants’ practices and usages are constantly evolving and so are the documents. A significant shift towards modern documents has been detected in the last decade because of the increasing use of electronic means of communication and the Internet.

One of the most important documents in a typical cross border transaction is a transport document, whether in the form of a nonnegotiable air waybill or in the form of negotiable ocean bill of lading. The transport documents usually follow sales contracts. Once the seller and buyer have agreed upon terms and conditions of the contract, they proceed with other important steps in the transaction, such as transportation, insurance, import and export clearances, certifications of origin, quality, etc. An essential difference between sales and transport contracts lies in the terms of liability and documentation. In sales contracts these terms may be voluntarily agreed upon by the buyers and sellers,

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2. Hans B. Thomsen & Bernard S. Wheble, *Trade Facilitation and Legal Problems of Trade Date Interchange*, 13 INT’L. BUS. L. 313, 313 (1985).

3. *Id.*

whereas in transport contracts<sup>4</sup> the liability and documentation terms are subject to mandatory control by statutes or international conventions.<sup>5</sup> Thus, transport documents are subject to more stringent regulations than their counterpart sales documents. International conventions governing ocean transport do not permit carriers to avoid their liability for damaged and lost goods. This protection becomes extremely important in dealing with documents that represent the transported cargo, such as bills of lading, as the holder of the bill of lading will know what recourse he may have against the carrier. As a consequence of binding international rules, the marketability of the bill of lading has been enhanced.

Traditionally, the document constituting the contract of carriage is either a charter party or a bill of lading,<sup>6</sup> depending on the manner in which the ship has been employed.<sup>7</sup> These two types of contracts are clearly distinguishable. A bill of lading is a contract in relation to the goods, whereas a charter party is a contract in relation to the ship. The bill of lading is the more widely used document by shippers, carriers, and banks, and therefore is a necessary part of the set of documents required in documenting the transaction. Usually the “transaction documents” consist of, *inter alia*, the bill of lading, the marine insurance policy, and the commercial invoice, each of which represents elements of the contracts of carriage, insurance, and sale. The bill of lading seems to be the most important document of the set. The importance of maritime documents is demonstrated by the fact that some eighty percent of total goods transported internationally are by sea.<sup>8</sup>

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4. It should be noted that under transport contracts various sea-carriage documents may be issued, such as bills of lading (where the Hague, the Hague-Visby or the Hamburg Rules apply) or sea waybills. For sea waybills it seems that the liability provisions in the U.S. Carriage of Goods by Sea Act, 46 U.S.C. app. §§ 1300-1315 (2000), do not apply if the waybill is expressly stated to be “non-negotiable.” William Tetley, *Waybills: The Modern Contract for Carriage of Goods By Sea* (pt. 1), 14 J. MAR. L. & COM. 465, 480 (1983).

5. See International Convention for the Unification of Certain Rules Relating to Bills of Lading art. 3(8), Aug. 25, 1924, 51 Stat. 233, 120 L.N.T.S. 155 [hereinafter Hague Rules] (ocean transportation); Convention for the Unification of Certain Rules Relating to International Transportation by Air art. 23, Oct. 12, 1929, 49 Stat. 3000, 137 L.N.T.S. 11 (air transportation).

6. Other documents in the form of a multimodal/combined bill of lading may be issued as well. See, e.g., Kurt Grunfors, Professor of Maritime and Transport Law, University of Gothenburg, Container Bills of Lading and Multimodal Transport Documents, Paper Presented to the UNCTAD Seminar on Ocean Transport Documentation and its Simplification (1980), reprinted in PAUL TODD, CASES AND MATERIALS ON INTERNATIONAL TRADE LAW 762 (2002).

7. THOMAS EDWARD SCRUTTON, SCRUTTON ON CHARTER PARTIES AND BILLS OF LADING I (18th ed. 1974).

8. Robert Caplehorn, *The Bolero System*, in CROSS-BORDER ELECTRONIC BANKING: CHALLENGES AND OPPORTUNITIES 91, 91-92 (2d ed. 2000).

### **A. Bills of Lading**

A bill of lading is a document issued by, or on behalf of, a carrier or master to a sender, known as the shipper or consignor, which covers the carriage of goods destined to an ultimate receiver, known as the consignee. The bill of lading evidences the seller's delivery of goods to an independent entity (the carrier) which takes over, *inter alia*, responsibility for the delivery to an ultimate buyer.<sup>9</sup> Currently, there are three separate international legal regimes governing the carriage of goods by sea and the relevant documents issued with respect to that transport. The original two international conventions, the Hague<sup>10</sup> and the Hague–Visby Rules,<sup>11</sup> promote the “carrier-prone” system, whereas the third regime is represented in the “shipper-prone” system of the Hamburg Rules.<sup>12</sup> For shipments to and out of the United States, the bill of lading is issued under the Carriage of Goods by Sea Act (COGSA),<sup>13</sup> which is the United States' adaptation of the Hague Rules.<sup>14</sup> The Hague and the Hague–Visby Rules tie their application exclusively to the transport documents that represent the goods,<sup>15</sup> while the scope of application of the Hamburg rules also covers nonnegotiable sea waybills.<sup>16</sup> Both regimes differ in several aspects, which is one of the reasons why the United Nations Commission on International Trade Law (UNCITRAL) has commissioned a working group to draft a new set of rules to unify maritime law.<sup>17</sup> The object of the new convention is to replace existing rules on the carriage of goods by sea with a new regime that would also incorporate rules on multimodal transport and electronic documents not found in the previous regimes.<sup>18</sup>

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9. *Atlantic Mut. Ins. Co. v. CSX Lines, L.L.C.*, 432 F.3d 428, 433 (2d Cir. 2005).

10. Hague Rules, *supra* note 5.

11. Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Feb. 23, 1968, 1412 U.N.T.S. 128 [hereinafter Hague–Visby Rules].

12. *See generally* United Nations Convention on the Carriage of Goods by Sea, Mar. 31, 1978, 17 I.L.M. 608, 1695 U.N.T.S. 3 [hereinafter Hamburg Rules].

13. Carriage of Goods by Sea Act, 46 U.S.C. app. §§ 1300-1315 (2000).

14. *See* Hague Rules, *supra* note 5; *see also* 46 U.S.C. app. §§ 1300, 1303(3).

15. *See* Hague Rules, *supra* note 5, at art. 1(b); Hague–Visby Rules, *supra* note 11, at art. I(b).

16. *See* Hamburg Rules, *supra* note 12, at art. 1(6).

17. *See* United Nations Commission on International Trade Law, Working Group III: 2002 to Present: Transport Law, [http://www.uncitral.org/uncitral/en/commission/working\\_groups/3Transport.html](http://www.uncitral.org/uncitral/en/commission/working_groups/3Transport.html) (last visited Apr. 12, 2006); United Nations Commission on International Trade Law, Working Group III, Draft Convention on the Carriage of Goods [Wholly or Partly] [by Sea] (Sept. 8, 2005), *available at* <http://daccessdds.un.org/doc/UNDOC/LTD/V05/870/82/PDF/V0587082.pdf?OpenElement> [hereinafter Draft Convention].

18. Chapter 1 takes account of recent e-commerce developments by including definitions of electronic communication, electronic record, and negotiable and

The bill of lading generally performs three functions. First, it certifies that the goods as described on the bill have been received (received for shipment bill of lading),<sup>19</sup> or actually shipped by the carrier (shipped bill of lading).<sup>20</sup> Second, it is evidence of a contract of carriage. Finally, it functions as a transferable document of title. The nonnegotiable bill of lading performs only the former two functions.

The bill of lading as a receipt evidences the apparent order and condition of the goods, thus reiterating the carrier's obligation to deliver the cargo to the consignee as stated on the face of the document. International conventions are based on the principle that the bill of lading is conclusive evidence if it has been transferred to a third party acting in good faith. Proof to the contrary is not permitted.<sup>21</sup> As a result of this rule, the bill of lading becomes a marketable document that may be transferred without any concerns that the carrier would subsequently raise defenses and reservations as to the information listed on the face of the bill itself. The bill of lading evidences not only the apparent condition of goods, but also their quantity, weight, identification and leading marks, number of packages, and the date of receipt in the case of received bills of lading, or date of shipment, in the case of shipped bills of lading.

In regard to the second function, authorities and courts have expressed different opinions as to whether the bill of lading is the contract of carriage<sup>22</sup> or mere evidence<sup>23</sup> of the contract. In either capacity, the bill of lading anchors contractual liabilities, obligations of the parties, and confers contractual rights and remedies. Third parties, issuing or negotiating banks, and secured lenders do not question whether the bill is a contract or mere evidence thereof. They buy, pay,

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nonnegotiable electronic records. Draft Convention, *supra* note 17, at art. 1. Chapter 2 is devoted in its entirety to electronic communications and sets out the details of electronic transportation records. *Id.* at arts. 4-7. Finally, Chapter 9 is titled "Transport Documents and Electronic Transport Records" and contains provisions dealing with the issuance, contract particulars, signatures, description of the goods, dates or identification of carriers in electronic transport documents. *Id.* at arts. 37-45.

19. Received for shipment bills of lading give no evidence of actual shipment. *See* CLIVE MACMILLAN SCHMITTHOFF, SCHMITTHOFF'S EXPORT TRADE: THE LAW AND PRACTICE OF INTERNATIONAL TRADE 277 (10th ed. 2000).

20. Shipped bills of lading are credible collateral for banks financing an international commercial transaction because they indicate that the goods have been loaded on board the vessel. INT'L CHAMBER OF COM., ICC UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS art. 23(a)(ii) (1993) [hereinafter UCP 500].

21. *See* Hague-Visby Rules, *supra* note 11, at art. III(4).

22. *See, e.g.,* George F. Chandler, III, *Maritime Electronic Commerce for the Twenty-First Century*, 22 TUL. MAR. L.J. 463, 470 (1998); GRANT GILMORE & CHARLES L. BLACK, JR., *THE LAW OF ADMIRALTY* 93 (2d ed. 1975); *Yang Ming Marine Transp. Corp. v. Okamoto Freighters Ltd.*, 259 F.3d 1086, 1092 (9th Cir. 2001); *Metro. Wholesale Supply v. The M/V Royal Rainbow*, 12 F.3d 58, 61 (5th Cir. 1994).

23. *See, e.g.,* BENJAMIN'S SALE OF GOODS ¶ 1467 (A.G. Guest ed., 2d ed. 1981); *Ace Bag & Burlap Co. v. Sea-Land Serv., Inc.*, 40 F. Supp. 2d 233, 236 (D.N.J. 1999).

and extend credit only if the bill meets the buyer's expectations, the requirements stipulated in the letter of credit, and the applicable rules. They will buy, pay, or extend credit if the bill satisfies the lender that he would have access to the goods represented by the bill of lading in the case of the borrower's default. Generally, external features, such the title of the document and its form, are disregarded because what matters most is the intrinsic value that the bill of lading carries.<sup>24</sup>

The most important function of the bill of lading, and also the most difficult one to replicate in electronic form, is its function as the document of title. It is this function which directs the carrier to deliver the goods to the original holder, to the consignee, or to the transferee. The carrier's obligation to deliver is tied to the possession and presentation of the bill of lading.<sup>25</sup> In the context of a document of title, the bill of lading should be regarded as a "cheque for goods," because everything that a check is to money, a bill of lading is to goods.<sup>26</sup> While the transfer of the bill of lading serves as a symbolic transfer of the possession of the goods, it does not necessarily transfer the property in the goods. Property in the goods passes to the buyer as stipulated in the contract of sale and can be made conditional, for example upon payment of full price. Therefore, the transfer of possession may precede the transfer of property. The bill of lading only ceases to be a document of title when the goods are delivered to its legitimate holder who is entitled to possession of the goods.<sup>27</sup> One of the few exceptions from this general rule is the case in which the goods arrive at the final destination before the documents, including the bill of lading. As a result of missing or delayed documents, carriers usually deliver goods against the letter of indemnity procured by the consignee from his bank. The bill of lading, however, does not become a worthless piece of paper, as it must be presented to the carrier to relieve the consignee and his bank of their liabilities under the letter of indemnity. Thus, the bill of lading transforms from the document that evidences contractual and property rights to the document that embodies liabilities.

Traditionally, bills of lading are issued in sets of three or more originals, each of which is a document of title controlling the goods described in the bill. All originals must be marked as such. It is certainly not for the benefit or convenience of the ship owner and the master that there are three parts of the bill of lading.<sup>28</sup> If the various parts of the bill of lading are in the hands of different persons, the ship owner must deliver the cargo to the first person presenting a bill

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24. UCP 500, *supra* note 20, at art. 23(a).

25. The carrier may be held liable for conversion of goods if it delivers the goods without requiring the presentation of the bill of lading, as required by the contract of carriage. *Cf.* *Allied Chem. Int'l Corp. v. Companhia de Navegacao Lloyd Brasileiro*, 775 F.2d 476, 482 (2d Cir. 1985).

26. P & O NEDLLOYD, *THE MERCHANT'S GUIDE 15* (2003), available at [http://www.ponl.com/external\\_media/pdf\\_files/media.1018.0.pdf](http://www.ponl.com/external_media/pdf_files/media.1018.0.pdf).

27. *BENJAMIN'S SALE OF GOODS*, *supra* note 23, ¶ 1469.

28. *TODD*, *supra* note 6, at 259.

on condition that he has no notice of any other claims to the goods.<sup>29</sup> The banks obligated or nominated to honor the complying presentation of documents under a letter of credit protect themselves by requiring that the full set of documents be presented.<sup>30</sup> Had the bank paid or incurred a deferred payment obligation based on the presentation of a non-complete set, it would severely compromise its security in the underlying goods and the right to reimbursement. One of the legal functions of transport documents in transactions financed by the documentary letter of credit, particularly of a negotiable bill of lading, is to provide collateral for banks. The negotiable bill of lading, along with letters of credit, has been developed as the prime means for financing international commercial transactions. The practical value of the bill of lading lies in the customary combination of its negotiable character and its function as a document of title upon which banks may rely.<sup>31</sup> These are the functions that must be preserved in electronic form; otherwise, the bill of lading will not survive.

### **B. Negotiability of Bills of Lading**

Bills of lading may either be made out in a negotiable or a nonnegotiable form. A nonnegotiable bill of lading provides for delivery to a named consignee without the need to present the bill itself, while a negotiable bill of lading provides that the carrier must deliver the goods to the named consignee or his order upon the presentation of the bill. This means that the space for “consignee or order” on the face of the bill of lading may be completed in one of three ways: (1) “with the name of the consignee to order,”<sup>32</sup> in this case the shipper is also the consignee; (2) “to the order of,” in this case it is the named party who instructs the carrier; and (3) “to the bearer,” this is equivalent to an order bill blank endorsed.<sup>33</sup>

Negotiable or transferable documents include bills of lading, warehouse receipts, checks, stocks, bonds, deeds, or anything that can be used to transfer rights and/or title. The “law of negotiability permits a piece of paper to embody rights in a separate commercial asset, such as a right to receive payment or ownership of goods in the possession of a bailee.”<sup>34</sup> There are two characteristic features of negotiable instruments. First, that the rights embodied in the instrument are transferable by delivery if payable to the bearer, or by endorsement

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29. SCHMITTHOFF, *supra* note 19, at 253-57.

30. UCP 500, *supra* note 20, at art. 23(a)(iv).

31. See SCHMITTHOFF, *supra* note 19, at 275-77.

32. This type of bill of lading is commonly referred to as the straight bill of lading. James L. Chapman, IV & Shawn A. Voyles, *Cargo Litigation: A Primer on Cargo Claims and Review of Recent Developments*, 16 U.S.F. MAR. L.J. 1, 17 (2003-2004).

33. P & O NEDLLOYD, *supra* note 26, at 48.

34. Jane Kaufman Winn, *Electronic Chattel Paper under Revised Article 9: Updating the Concept of Embodied Rights for Electronic Commerce*, 74 CHI.-KENT L. REV. 1055, 1056 (1999).

and delivery if payable to order.<sup>35</sup> These features are retained at least until the transport of goods is completed by delivery against the presentation of the bill.<sup>36</sup> Second, a bona fide transferee who takes the instrument in good faith and for value acquires a good and complete title to the instrument and the rights it embodies, even if the transferor had a defective title or no title to it at all.<sup>37</sup>

The negotiable bill of lading, as used in international trade, is indispensable to the conduct and financing of businesses involving the sale and transportation of goods between parties located at a distance from one another. Negotiability and the “document of title” feature of bills of lading give banks a document that they could accept as security for payment under a letter of credit or provide loans on a secured basis. A negotiable document of title is valuable collateral, as it allows quick, easy, and inexpensive access to the goods. It should be pointed out that currently, few banks rely primarily on the collateral value of bills of lading when deciding to issue or confirm a letter of credit. They rely more on the applicant’s creditworthiness and cash collateral than on the cargo’s market value.<sup>38</sup> One of the reasons for doing so is questionable clauses introduced by some major shipping lines entitling carriers to delivery without the presentation of the bill of lading.<sup>39</sup> The carrier who delivers without production of a document of title is liable to the person holding the document, whether it is the bank or a third party transferee. As long as the shipper retains possession of the bill of lading, he can direct the carrier to deliver the goods to a new consignee by deleting the name of the original consignee and substituting another. Because possession of the bill of lading is regarded as amounting to possession of the goods, transferring the bill

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35. DENIS V. COWEN, *COWEN ON THE LAW OF NEGOTIABLE INSTRUMENTS IN SOUTH AFRICA* 3 (5th ed. 1985).

36. See SCHMITTHOFF, *supra* note 19, at 275-77.

37. COWEN, *supra* note 35, at 3.

38. Georgios I. Zekos, *The Use of Electronic Technology in Maritime Transport: The Economic Necessity and the Legal Framework in European Union Law*, 3 WEB. J. CURRENT LEGAL ISSUES (1998), <http://webjcli.ncl.ac.uk/1998/issue3/zekos3.html>.

39. See, e.g., Maersk Line, Bill of Lading for Ocean Transport or Multimodal Transport (2003), available at [http://www.maersk.co.jp/msljp/pdf/OBL\\_Front.pdf](http://www.maersk.co.jp/msljp/pdf/OBL_Front.pdf). The Maersk Bill of Lading provides:

Where the bill of lading is negotiable, surrender of an original bill of lading will generally be required before delivery is given, but the Carrier has the option to deliver the Goods to a person whom he reasonably believes to be entitled to take delivery of the Goods without requiring surrender of an original bill of lading . . . . Delivery as aforesaid is authorised and shall constitute due delivery hereunder and the Merchant shall have no claim for loss or non-delivery.

*Id.*



of lading usually has the same legal consequences as delivery of the goods themselves.<sup>40</sup>

Bills of lading are not useful in cases where the goods are not intended to be re-sold during transit or if there are no problems regarding payment, for example, in sales between branches of a single company. However, a bill of lading is necessary when a number of re-sales is contemplated, when payment is by documentary credit, or when the seller needs the security of a document of title. The question of the need for a bill of lading is particularly important in the case where it will not reach the consignee before the goods arrive at their destination. In these cases, merchants frequently resort to letters of indemnity as a temporary substitute for the missing bill of lading. Delays occur as result of the practice of issuing the bill of lading only once the cargo has been loaded on board the ship, making it the last document to be issued in the export transaction, while it is the first document required in the import transaction.<sup>41</sup>

### **C. The Emergence of Sea Waybills**<sup>42</sup>

The sea waybill, the air waybill, and the rail consignment note function as nonnegotiable receipts for goods. These documents lack the document of title function; consequently, they do not have to be presented to the carrier in order to obtain possession of the goods. The sea waybill, being neither a bill of lading nor a document of title, is not expressly regulated by the Hague and the Hague-Visby Rules.<sup>43</sup> Nevertheless, the Hague and the Hague-Visby Rules are often incorporated by reference into the terms and conditions of sea waybills. They are usually issued as short form documents, which refer to the carrier's long forms or to the carrier's terms and conditions of carriage by the incorporation clause.<sup>44</sup>

The sea waybill has emerged as an alternative sea-carriage document to the bill of lading by resolving some of the issues associated with the late arrival of documents and faster container ships.<sup>45</sup> The sea waybill's growing significance has been reflected in the Uniform Customs and Practice for Documentary Credits

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40. EDWARD RICHARD HARDY IVAMY, PAINE AND IVAMY'S CARRIAGE OF GOODS BY SEA 72 (1979).

41. ROYSTON MILES GOODE, PROPRIETARY RIGHTS AND INSOLVENCY IN SALES TRANSACTIONS 65 (1985).

42. A sea waybill is sometimes also called an ocean waybill, liner waybill, data freight receipt, or straight bill in the United States. See, e.g., Georgios I. Zekos, *The Contractual Role of Documents Issued Under the CMI Draft Instrument on Transport Law 2001*, 35 J. MAR. L. & COM. 99, 108-09 (2004).

43. See Hague Rules, *supra* note 5, at art. 1(b); Hague-Visby Rules, *supra* note 11, at art. I(b).

44. See Baltic and International Maritime Council, Non-Negotiable Liner Sea Waybill (1997), available at <http://www.bimco.dk/upload/linewaybill.pdf>.

45. See SCHMITTHOFF, *supra* note 19, at 281-82.

Revision Number 500 (UCP 500), which provides that shipped on board sea waybills may be used in documentary credit transactions,<sup>46</sup> if the letter of credit provides for such a waybill and the shipper has given up his right of stoppage in transit. Accordingly, sea waybills are acceptable for documentary letter of credit transactions but may require the shipper's endorsement that he waives his right to alter the consignee while cargo is en route and that the banks are made out as consignees on the sea waybills. The right of stoppage, also known as the disposal right, is the crucial element in the acceptability of this document by banks issuing letters of credit or negotiating documents. Curiously, the UCP 500 does not list this element as one of the conditions that a checker must look for. This non-regulation is inconsistent with the UCP 500 articles governing other nonnegotiable receipts, such as air waybills, which specifically mandate that only the original document carrying the disposal right will be accepted.<sup>47</sup> The next revision of the UCP does not take this factor into account either.

Unlike the bill of lading, the sea waybill is much easier to replicate in electronic form. A waybill is not negotiable and does not have to be an original; thus, it can be reproduced in electronic form. As the sea waybill is not a document of title, it may be carried on board the ship itself, or the information it contains may be reproduced and transmitted electronically, thus avoiding the delays associated with the movement of paper documents. In addition, the sea waybill's lack of negotiability makes it a safer commercial document which is less likely to be lost, stolen, or subject to fraud.<sup>48</sup>

Section 4 of the 1996 Sea-Carriage Documents Act, applicable in Australia, provides for its application to electronic and computerized sea-carriage documents.<sup>49</sup> Since electronic sea waybills are valid and effective under Australian law and electronic evidence is admissible, the receipt and evidentiary functions of the sea waybill may be performable electronically.<sup>50</sup> Efforts to ease electronic bills of lading into the legal arena in other countries have been occurring in various forums. One of the most important instruments paving the way for the dematerialization of negotiable documents is the Model Law on Electronic Commerce (Model Law) adopted by UNCITRAL in 1996.<sup>51</sup> The Model Law does not have the force of an international convention, so it is up to

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46. See UCP 500, *supra* note 20, at art. 24.

47. The air waybill must appear to be the original for the consignor/shipper, even if the credit stipulates a full set of originals, or a similar expression. *Id.* at art. 27(a)(v).

48. Boris Kozolchyk, *Evolution and Present State of the Ocean Bill of Lading from a Banking Law Perspective*, 23 J. MAR. L. & COM. 161, 216 (1992).

49. Emmanuel T. Laryea, *Paperless Shipping Documents: An Australian Perspective*, 25 TUL. MAR. L.J. 255, 265 (2000). For further information, see Sea-Carriage Documents Act, 1996, § 6 (Austl.), available at <http://www.legislation.qld.gov.au/LEGISLTN/ACTS/1996/96AC073.pdf>.

50. Laryea, *supra* note 49, at 265.

51. U.N. Comm'n on Int'l Trade Law, UNCITRAL Model Law on Electronic Commerce with Guide to Enactment, U.N. Doc. A/RES/51/162 (June 12, 1996).

states to implement it, either as a statute or in several legal instruments. Article 17 of the Model Law anchors basic legal requirements for transferability of rights in the e-commerce environment. It enables merchants to use data messages instead of paper documents, whether there is a legal requirement for paper documents or there are legal consequences set out for not having paper documents. It is specified that in cases where there is a need to transfer a paper document in order to convey rights or obligations, the requirement is met if the right or obligation is conveyed by using data messages. Article 17(3) of the Model Law establishes uniqueness and reliability of the method used as requirements to transfer rights and obligations by means of data messages.

The replacement of bills of lading with nonnegotiable electronic documents is not always possible, as some traders and banks prefer to deal with negotiable documents of title that would give the desired security. Legal problems also arise due to the fact that laws in most jurisdictions remain entirely limited to the paper-based bills of lading. Some authors suggest that electronic documents may become negotiable in the future by customs of merchants.<sup>52</sup> However, it takes time to establish an acceptable commercial practice and this problem would be better addressed by legislation. Legal impediments to electronic bills of lading are not as difficult to remove as practical problems. Practical problems in this context are non-legal hindrances, notably the unwillingness of trade document users to support electronic bills of lading.<sup>53</sup> Practical obstacles can be best expressed by quoting Alan Boylan, a vice president of sea freight technology and global freight management at Exel PLC:

There's a lot of history and suspicion to overcome, we all complain about too much paper. But when it comes to negotiable documents, a lot of people prefer to see the dollars in their hand rather than being told that the money is in the bank and everything is OK. It's an area that is very vulnerable to fraud.<sup>54</sup>

Many barriers to paperless trading exist because of the divergent documentary practices of carriers, bankers, and shippers. In an electronic environment, the challenge is to preserve the marketability of electronic records that replicate paper data, in particular by securing their authentic, unique, and confidential nature so as not to diminish confidence in the electronic system.<sup>55</sup>

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52. EMMANUEL T. LARYEA, *PAPERLESS TRADE, OPPORTUNITIES, CHALLENGES AND SOLUTIONS* 74 (2002).

53. *Id.* at 78.

54. Helen Atkinson, *Electronic Bills of Lading Near; APL Offers Encrypted Service That Nearly Eliminates Paper Documentation*, J. COM., Jan. 14, 2002, at 24.

55. David Frisch & Henry D. Gabriel, *Much Ado about Nothing: Achieving Essential Negotiability in an Electronic Environment*, 31 IDAHO L. REV. 747, 747 (1995).

Users must ensure that unauthorized copies may not be issued and negotiated to innocent third parties. Under the current paper system, three to six original bills of lading are generally issued, even though only one properly endorsed original needs to be surrendered against the delivery of the goods. Solutions to the problem of the authenticity and uniqueness of electronic documents have been found in the simplification and standardization of documents, the use of alternative forms of transport documents, immobilizing documents in a central registry, or speeding up the transmission of the documents by the employment of advanced data processing.<sup>56</sup> Electronic standardized documents would bring additional value to the letter of credit business by removing discrepancies in tendered documents and, as a result, lower the rate of rejected documents in letters of credit transactions. In sum, sea waybills cannot entirely replace bills of lading and authorities must work on replicating functions of bills of lading in electronic form.

#### **D. Which Functions of the Bill of Lading need to be Replicated Electronically?**

The bill of lading performs three functions: it is a contract of carriage, a receipt of goods, and a document of title. All three functions must be replicated in electronic form in order for the electronic bill of lading to be acceptable as a substitute for its paper counterpart. Whether or not the legal functions of a bill of lading can be replicated electronically depends on the law of the country in which the bill of lading is issued because that country's law governs the transaction. For instance, electronic shipping documents are not within the scope of the COGSA's recognized forms of sea-carriage documents in the United States.<sup>57</sup>

The receipt and evidence functions of a contract of carriage may easily be performed by electronic means because they are essentially the transfer of information. COGSA requires the carrier, on demand of the shipper, to furnish a bill of lading which shows "[e]ither the number of packages or pieces, or the quantity or weight, as the case may be, as furnished in writing by the shipper."<sup>58</sup> All of this information has to appear on an electronic bill of lading in order to satisfy the receipt function of the bill of lading.

The document of title function of a bill of lading is the last function that must be replicated in electronic form and denotes three uses of the bill of lading. First, possession of the bill of lading constitutes constructive possession and control over the goods it represents; second, the bill of lading may be used to transfer title to the goods; and finally, the bill of lading is used to provide security

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56. GOODE, *supra* note 41, at 71.

57. *See* Carriage of Goods by Sea Act, 46 U.S.C. app. §§ 1300-1315 (2000).

58. 46 U.S.C. app. § 1303(3)(b) (2000).

in the goods it represents.<sup>59</sup> Little attention has been devoted to the last element of the bill of lading, even though one of the most difficult obstacles for the electronic bill of lading to overcome is to provide acceptable security over the goods it represents. Transportation laws may regulate the first two functions, but the last one falls into the area of secured transactions laws. If the secured transactions laws do not provide sufficient rules that would guide the bank or other prospective lender through the process of creation and perfection of a security interest in an electronic document of title, the electronic replication of paper documents of title would not be possible. If the intent is to replicate the role currently played by the paper bill of lading, it is essential that electronic transport documents fulfill the legal requirements of conventional transport documents, particularly the creation of collateral security for banks.<sup>60</sup> Once it is recognized that the traditional functions of a paper document can be performed by the electronic transmission of information, then the ultimate business function—negotiability—can be undertaken as well.<sup>61</sup>

### III. PREVIOUS ATTEMPTS TO DEMATERIALIZE BILLS OF LADING

This section will discuss previous attempts to move from paper-based bills of lading to a fully electronic system. These systems include SEADOCS, the Comité Maritime International (CMI) Rules, Bolero, @GlobalTrade, and TradeCard.

#### A. The SEADOCS System

The first system for administering an electronic bill of lading was SEADOCS,<sup>62</sup> which used a central registry where original paper bills of lading were deposited. The system was created as a compromise between traditional paper documentation and a fully electronic system. The registry was operated by the Chase Manhattan Bank, through which all parties to the transaction communicated. This system was not a fully automated system since the bank communicated with users by telex after receiving the original paper bill of lading.<sup>63</sup> SEADOCS did not make it through its trial period. However, this was not because of its legal non-feasibility, but for problems of a practical nature.

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59. BENJAMIN'S SALE OF GOODS, *supra* note 23, ¶ 1469.

60. Kozolchik, *supra* note 48, at 242.

61. Chandler, *supra* note 22, at 472.

62. SEADOCS was a joint project of the Chase Manhattan Bank and Intertanko (the International Association of Independent Tanker Owners). Jocelyn Dube, *Canadian Perspectives on the Impact of the CMI Rules for Electronic Bills of Lading on the Liability of the Carrier Towards the Endorsee*, 26 *TRANSP. L.J.* 107, 108 (1998).

63. Chandler, *supra* note 22, at 468.

In brief, the following were the reasons for the failure of SEADOCS:<sup>64</sup> (1) traders were unwilling to record their transactions in a central registry because this subjected them to inspections by tax authorities and other competitors; (2) the ultimate buyer of the cargo resisted acquiring bills of lading from the registry; (3) banks were uncomfortable with the fact that one of their competitors had exclusive access to the registry; (4) the liability of participants was not established, so insurance of the registry operations was relatively expensive; and finally, (5) no provision was made for the transfer of contractual rights and liabilities to transferees of the bill, apart from the original shipper.<sup>65</sup>

The failure of the SEADOCS system demonstrates that it is a mistake to grant monopoly power to a registry that operates a closed system of registration.<sup>66</sup> The registry must be open to anybody in order to allow prospective buyers and lenders to easily find the status of encumbrances fastened on the bill of lading. Whether operated as an independent registry or as a part of a comprehensive registration system, the bill of lading registries should follow the framework of personal property registries, which are accessible to any interested party. Moreover, the monopoly should not be granted to one bank which would be in direct competition with other financiers. A consortium of banks or an independent operator, such as the Society for Worldwide Interbank Financial Telecommunication (SWIFT), might find more supporters among the traders.<sup>67</sup> The major trading companies were also very uneasy about having all of their trades recorded in a central location, and thus readily available to their competitors. Therefore, the records should contain only the minimal information that would lead interested parties to the actual holder of the bill of lading or lenders with a perfected security interest in the document and the goods. Then it would be up to the registered holders to disclose further details about the bill of lading and the goods in which they have an interest.

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64. Another major factor that contributed significantly to the failure of SEADOCS was decreasing oil prices. In August 1985, Saudi Arabia pegged its oil prices to the spot market for crude and by early 1986 increased production from two million barrels per day (MMBPD) to five MMBPD. WTRG Econ., Oil Price History and Analysis, <http://www.wtrg.com/prices.htm> (last visited Apr. 9, 2006). Crude oil prices dropped below ten dollars per barrel by midyear. *Id.*

65. LARYEA, *supra* note 52, at 79-80.

66. TODD, *supra* note 6, at 811.

67. SWIFT supplies highly secure and reliable messaging services to over 7000 financial institutions in almost 200 countries. Society for Worldwide Interbank Financial Telecommunication (SWIFT), About SWIFT, [http://www.swift.com/index.cfm?item\\_id=43232](http://www.swift.com/index.cfm?item_id=43232) (last visited Apr. 15, 2006). A SWIFT message originates from a bank issuing a letter of credit, it is communicated to the nearest SWIFT access point, and then is routed until it finally reaches the recipient. Boris Kozolchuk, *The Paperless Letter of Credit and Related Documents of Title*, 55 LAW & CONTEMP. PROBS. 39, 45-46 (Summer 1992). Most SWIFT messages do more than communicate a promise; the message is the promise itself. *Id.* at 47.

### **B. The CMI Rules for Electronic Bills of Lading**<sup>68</sup>

The CMI Rules for Electronic Bills of Lading (CMI Rules) were adopted in 1990. The CMI Rules do not have the force of law, and parties must contractually agree to use them in conducting their businesses. Unlike the SEADOCs system, the CMI framework is open internationally for any merchant to use. Though carriers, shippers, or purchasers do not need to be members of a club and pay registration fees, they need the technology to transmit messages to each other.

The CMI Rules are built upon a system of "Private Keys," which replace bills of lading. The Private Key is defined in Article 2 of the CMI Rules as "any technically appropriate form, such as a combination of numbers and/or letters, which the parties may agree for securing the authenticity and integrity of a transmission."<sup>69</sup> To date, however, it is doubtful whether the Private Key qualifies as a legitimate substitute for the bill of lading under the laws of many jurisdictions.<sup>70</sup> The holder of the Private Key is the only party with the right to name a consignee or substitute a new consignee if one had been previously named. Under the CMI Rules, the Private Key, unlike a paper bill of lading, is unique to each successive holder and is not transferable, as only the carrier is authorized to issue it. The carrier therefore is involved in the negotiation process every time a bill is transferred. Thus he is informed of the identity of the successive holders who have the right to delivery of the cargo. Once the electronic bill of lading is negotiated, it is extremely important that the carrier be informed of the identity of the ultimate consignee, to whom he is under an obligation to deliver. The significant feature that distinguishes the CMI model from the typical paper-based communications of the bill of lading is the fact that the conventional bill of lading passes from trader to trader, retaining its identity as a single document, and not returning to the carrier until the goods are discharged. By contrast, the CMI electronic bill of lading returns to the carrier every time it is negotiated, and effectively each successive trader is issued a new document transmitted from the ship.<sup>71</sup>

The CMI Rules turned out to be unpopular in the trading world, and similar to SEADOCs, did not resolve the issues inherent in creating a negotiable electronic bill of lading. The CMI Rules have not attracted wider acceptance from merchants for the following reasons: (1) the CMI Rules make no provision for contractual rights and liabilities to be transferred along with the documentation;

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68. RULES FOR ELEC. BILL OF LADING (Comite Maritime Int'l 1990), available at <http://www.comitemaritime.org/cmidoocs/rulesebla.html>.

69. *Id.* at 2(f).

70. Laryea, *supra* note 49, at 286.

71. Paul Todd, Dematerialisation of Shipping Documents, available at <http://ourworld.compuserve.com/homepages/pntodd/intr/publns/demat.htm> (last visited Apr. 27, 2006).

(2) it is not clear what happens if a holder who has accepted the right of control and transfer defaults; (3) they make no provision for the passing of property in the goods; (4) there was a failure to establish a comprehensive system or body to administer it; and finally, (5) the CMI model was not secure because the secret code was not encrypted.<sup>72</sup>

### **C. The Bolero System**

The Bolero system was created in April 1998 by SWIFT and Through Transport Club (TT Club). This system also was not successful, as it failed to attract support from the banking industry. The objective of Bolero was to achieve interoperability between various businesses and industries involved in international commerce. Bolero claimed that its electronic documents were fully compatible with the Supplement to the Uniform Customs and Practice for Documentary Credits for Electronic Presentation (eUCP)<sup>73</sup> and the SWIFT standards. Bolero operated the Title Registry, which was an application that allowed for the creation and transfer of obligations related to an electronic bill of lading. It was set up to be the only system that would enable the use of negotiable electronic bills of lading, which would perform all the functions of the paper bill of lading. The system did not create a single electronic document performing the functions of a paper-based bill of lading, but replicated it by a series of electronic messages and data records in the Title Registry. The Bolero bill of lading (BBL), whether it was transferable or non-transferable, was not recognized by law and therefore could not be transferred like the paper-based bill of lading.

With the advent of modern technology it is necessary to create an electronic bill of lading that is recognized not only by merchants but also by courts as having the same legal effects as its paper predecessor.<sup>74</sup> Under the laws that give full legal effect to electronic bills of lading, the principles of novation and attornment employed by Bolero to transfer title under a BBL may not be necessary.<sup>75</sup> It is questionable whether Bolero's secure central database, the Title

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72. TODD, *supra* note 6, at 826.

73. INT'L CHAMBER OF COMMERCE, PUBLICATION NO. 500/3, SUPPLEMENT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS FOR ELECTRONIC PRESENTATION (EUCP) (2002) [hereinafter EUCP], *reprinted in* JAMES E. BYRNE & DAN TAYLOR, ICC GUIDE TO THE EUCP, UNDERSTANDING THE ELECTRONIC SUPPLEMENT TO THE UCP 500 (2002). The eUCP was approved at the ICC Banking Commission Meeting in Frankfurt, Germany on 7 November 2001. Institute of Int'l Banking Law & Practice, ISBP, ISP98 & eUCP, [http://www.iiblp.org/isbp\\_isp.asp](http://www.iiblp.org/isbp_isp.asp) (last visited Apr. 8, 2006).

74. See Paul Mallon & Antony Tomlinson, *Bolero: Electronic "Bills of Lading" and Electronic Contracts of Sale*, 1 INT'L TRADE L.Q. 257, 257-58 (1998).

75. LARYEA, *supra* note 52, at 84. It should be noted, however, that "[i]n a majority of countries a document of title can only be created by custom, the law merchant or statute, but not through the agreement of the parties." U.N Conference on Trade and Development,



Registry, which kept a record of each instrument and the identity of the person who had title in it at any point in time, is sufficient to legalize transfers of rights and obligations embodied in a negotiable bill of lading. Since the transfer of the BBL was paperless, it was neither governed by national or international legal rules that regulate the transfer of paper bills of lading.<sup>76</sup> The BBL is not a document of title because it is not a paper document and most national laws only ascribe the character of “document of title” to a written physical document.<sup>77</sup> Consequently, transferability of the BBL could not be achieved under the Bolero system.

The questionable nature of the negotiability of a BBL and the Bolero Title Registry raised further questions with respect to the security function of the document of title. Lenders and letters of credit banks will not accept documents that do not provide them with a direct link to the goods. Most jurisdictions require that a security interest be publicized in public registration or filing systems, enabling the records to be inspected by third parties. The Bolero system was closed and not aligned with the existing personal property registries. As a consequence, banks financing Bolero transactions were uncertain about the status of their rights and their priority against a local creditor or transferee who might have invariably defeated the Bolero creditor or transferee.<sup>78</sup>

#### **D. The @GlobalTrade System**

Some practitioners have suggested that the need for a paper bill of lading has evaporated with the coming of the electronic era. For instance, J.W. Richardson has theorized about replacing bills of lading by stating: “The time has clearly arrived when the bill of lading must go. It has served us well and earned a place of honor in the museum of international trade (to whence it should be consigned), but with what will it be replaced?”<sup>79</sup>

Many ship owners would prefer to see the replacement of bills of lading with nonnegotiable waybills, precisely because of liability problems. Carriers

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June 25, 2001, *Implementation of Multimodal Transport Rules*, ¶ 39 n.22, UNCTAD/SDTE/TLB/2, available at <http://www.unctad.org/en/docs/posdtetlbd2.en.pdf>. “This seems to be the case in German law, where a system of so-called Typenzwang—numerous clauses—excludes from the statutes of negotiable transport document any document not enumerated in the relevant commercial code . . .” *Id.* It also excludes from the document of title any document not expressly recognized as such by statute. *Id.*

76. See Hague Rules, *supra* note 5, at art. 1(b); Hague-Visby Rules, *supra* note 11, at art. I(b).

77. ALLEN & OVERY & RICHARDS BUTLER, BOLERO: INTERNATIONAL LEGAL FEASIBILITY REPORT 61 (2d ed. 1999) (on file with author).

78. Symposium, *Meeting of OAS-CICIP-VI Drafting Committee on Secured Transactions*, 18 ARIZ. J. INT’L & COMP. L. 311, 341 (2001).

79. John W. Richardson, *Key to International E-commerce*, L/C MONITOR, Jan. 2000, available at <http://www.globaltradecorp.com/archives/lcmkeyto.htm>.

prefer to deliver goods upon arrival of the ship in the port of final destination without the unnecessary delays that are frequently caused by missing bills of lading. Thus, Richardson's prophecy is well-grounded in the preferences of practitioners. Indeed, there may come a time when commerce is so secure, trustworthy, and universal that businesses feel comfortable in discarding negotiable transfers. According to at least one practitioner, however, that day is not yet here, because there are a significant number of transactions requiring negotiable transfers.<sup>80</sup>

If we are to address Richardson's concern, we must first identify the functions that customers want the transport document to perform and recognize who exactly are those customers. In converting paper bills of lading to an electronic format, problems arise when attempts are made to replicate the document of title function. Some authors advocate the idea that instead of trying to replicate the document of title function, more thought should be given to why this function is necessary, and whether the same effect can be achieved using an Electronic Data Interchange (EDI)-friendly system.<sup>81</sup> Consequently, the first step would be to identify those who need the negotiability and title functions in a bill of lading to survive. Merchants that transact with cargo which is being sold in transit frequently still employ negotiable documents.<sup>82</sup> Some letter of credit banks and lenders also prefer to finance underlying transactions on the security of a document of title, which provides them with a resort to valuable collateral in case of default. Consequently, there is still a need for negotiable bills of lading, and they cannot be consigned to a museum, as Richardson has suggested. The current trend seems to be quite the opposite, as countries adopt rules in secured transactions laws on security interests in electronic documents of title.

With respect to shipping documents, the @GlobalTrade system employed a nonnegotiable waybill with particular clauses that functionally replaced the negotiable bill of lading. The clause in the waybill reads as follows: "Upon acceptance of this waybill by a bank against a letter of credit transaction (which acceptance the bank confirms to the carrier) the shipper irrevocably renounces any right to vary the identity of the consignee of these goods during transit."<sup>83</sup>

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80. Chandler, *supra* note 22, at 470.

81. Richardson, *supra* note 79.

82. A United Nations Conference on Trade and Development Report indicated that eighty-eight percent of respondents use negotiable bills of lading. U.N. Conference on Trade and Development, Nov. 26, 2003, *The Use of Transport Documents in International Trade*, ¶ 45 tbl. 3, UNCTAD/SDTE/TLB/2003/3, available at [http://www.unctad.org/en/docs/sdtetlb20033\\_en.pdf](http://www.unctad.org/en/docs/sdtetlb20033_en.pdf). Of those, seventy percent state that they mainly use negotiable bills of lading. *Id.* ¶ 46. Eighteen percent of respondents indicated that they use or issue only negotiable bills of lading. *Id.*

83. P & O NEDLLOYD, *supra* note 26, at 41.

The waybills were made subject to the CMI Rules for Sea Waybills.<sup>84</sup> Thus, in terms of legality, the rights and obligations of parties were regulated in a similar way to bills of lading. If a consignee wanted to trade the goods being delivered under such a waybill, he needed to identify himself to the carrier and request the carrier's delivery order for the goods. He could then use that delivery order like a warrant for the goods and give authority to a subsequent buyer to collect the goods by endorsing the delivery order over to him.<sup>85</sup> This trading was restricted to the delivery destination of the cargo, however, and did not allow the document holder to utilize the full value of the goods, which would be possible under a bill of lading.

The key infrastructure of the @GlobalTrade system was the Documentary Clearance Center (DCC), which oversaw and centralized all types of trade, transport, insurance, and financial documents and effectively took on part of the role of the bank that issued a letter of credit.<sup>86</sup> All letters of credit issued were payable at the DCC and could be downloaded through the secure data center. DCC performed not only the issuing and advising functions but also authenticated the letter of credit itself. The DCC checked documents tendered for compliance and completed the transaction by honoring the presentation of documents. The checking procedure was expeditious, taking twenty-four hours or less.<sup>87</sup> Document management services were billed on a transactional basis and there were no membership fees. DCC functioned like a trade finance department of a major international bank, processing all transactions relating to documentary credits. It provided various trade processing services to the merchants, including documentary letter of credit issuance and advising, transfers and assignments of proceeds, checking documents presented by the beneficiary for compliance, providing payment to the beneficiary, and electronic and/or paper delivery of documents.<sup>88</sup>

The @GlobalTrade system was flexible and allowed export letters of credit to be advised by fax or by courier to the beneficiary. In this aspect, the required documents were very likely being prepared on paper. The credits issued by DCC incorporated the UCP 500 and the eUCP. If the credit was issued only incorporating eUCP, the UCP 500 would be incorporated automatically.<sup>89</sup> To avoid confusion between the UCP 500 articles and the eUCP, all of the eUCP articles begin with an 'e.' The @GlobalTrade system has been recently reformed

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84. UNIFORM RULES FOR SEA WAYBILLS (Comite Maritime Int'l 1990), available at <http://www.comitemaritime.org/cmidsocs/rulesaway.html>.

85. P & O NEDLLOYD, *supra* note 26, at 41-42.

86. Philip Damas, *E-shippers Kick the Paper Habit*, AM. SHIPPER J. INT'L LOGISTICS, Feb. 2001, available at <http://www.ccweb.com/amshipfeb2001.htm>.

87. CCEWeb, Frequently Asked Questions (FAQ) about @GlobalTrade, <http://www.ccweb.com/faq.asp> (last visited Apr. 8, 2006).

88. *Id.*

89. EUCP, *supra* note 73, at art. e2, reprinted in BYRNE & TAYLOR, *supra* note 73, at 36.

in order to meet commercial expectations of merchants, bankers, and carriers. Even though the system as described in this section does not function as such anymore, important lessons may be learned from it for any future endeavors into the area of electronic financing.

### **E. The TradeCard System**

The World Trade Centers Association founded TradeCard in 1994. Unlike the previous systems, it has established its position in the framework of international systems utilizing paperless documents and alternative modes of payment. It is an Internet-based, electronic commerce system, which enables users, sellers, and service providers to complete purchases and sales of goods, to settle payment for those purchases, and to obtain services in connection with the purchase and sale of goods electronically over the Internet. Its main purpose is to replace the letter of credit, performing all of its functions without paper.

To make a transaction using TradeCard, the buyer must create an electronic purchase order that is logged in the system. TradeCard then notifies the seller that the purchase order has been placed. The seller then negotiates it online with the buyer and when they agree on terms, they sign the order with digital signatures. Once the goods are shipped and the required documents are electronically submitted, an assurance of payment is attached to the purchase order, ensuring that the seller will receive payment upon receipt of goods if the terms of the purchase order are met. Documents such as proof of delivery, insurance certificates, and other documents are presented electronically to TradeCard, which compares them with the original purchase order. If discrepancies are identified, the buyer and seller can negotiate them online.<sup>90</sup> Once compliance is met, funds are electronically transferred from the buyer's account to the seller's account. The financial institution responsible for wiring the funds, for example JP Morgan Chase, functions merely as a paymaster and bears no responsibilities to check for compliance of the tendered electronic documents and is not responsible to TradeCard.

The TradeCard system allows users to negotiate and agree upon insurance coverage in accordance with the International Commercial Terms (INCOTERMS).<sup>91</sup> INCOTERMS allow the seller and buyer to communicate electronically if they have so agreed. Therefore, documents involved in international commercial transactions<sup>92</sup> may be replaced by an equivalent electronic data interchange message using INCOTERMS.<sup>93</sup> Depending on the

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90. Typical discrepancies occur in the quantity, unit price, or shipping dates.

91. JAN RAMBERG, *ICC GUIDE TO INCOTERMS 2000*, at 10 (1999).

92. These documents include a negotiable bill of lading, a nonnegotiable sea waybill, and an inland waterway document. *See id.* at 56-59.

93. *See id.* at 56.

agreed-upon INCOTERMS and the underwriting criteria, the system offers users the option of purchasing cargo insurance.<sup>94</sup> As well, paperless insurance documents are part of the set of documents presented to banks upon demand for payment. TradeCard thus offers its members complex services, from contracting for goods, to insurance coverage, to payment, all without having used any paper documents.

#### IV. ADVANTAGES AND DISADVANTAGES OF THESE SYSTEMS

In the previous sections, basic functioning, rules, and pitfalls of the abandoned as well as currently existing systems were outlined. All systems offered similar benefits to their users in the form of standardization of shipping and other commercial documents.<sup>95</sup> Standardization of commercial documentation is a vital step towards achieving paperless trading. The collapse of the previously existing systems, however, has proved that formalized electronic documents of title may not be accepted by the trading community.

It is clear that each system functioned on different bases. For instance, Bolero and SEADOCs utilized negotiable bills of lading, whereas the other systems used nonnegotiable receipts. What is common for the negotiable bill of lading systems is the fact that they no longer exist. The reasons for their collapse lie in the failure to adequately replicate the negotiability function and to address the collateral security aspects of the paper documents. Any form of electronic negotiability will require some form of a registry that is an "honest" middleman.<sup>96</sup> The Bolero registry was operated on a members-only basis and therefore could not be accessed by the public, nor was it interconnected with existing personal property registries. In order to speed up the documentation process, there is no reason why the transport contract terms and the bill of lading itself may not be made known to all parties likely to be interested.

All of these systems required applicants to sign application materials, which varied in length from a 600-page document (Bolero) to a 1-page agreement (@GlobalTrade). Therefore, all systems were more or less confined to registered users and lacked the necessary transparency component. Another distinguishing feature was that Bolero itself did not provide the financing of commercial transactions, like TradeCard or @GlobalTrade did. It only offered a secure basis for banks providing financial services. On the other hand, @GlobalTrade and TradeCard functioned as the trade finance department of a bank and integrated trade, transport, and other documents. TradeCard differs in that it has an

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94. Cost, Insurance, and Freight (CIF) terms and Carriage and Insurance Paid to (CIP) terms require a seller to contract for insurance. *Id.* at 119, 133.

95. Other commercial documents include purchase orders, waybills, certificates of origin, insurance certificates, export license applications, etc.

96. Chandler, *supra* note 22, at 472.

automated compliance engine and its financial settlement does not use letters of credit. Unlike TradeCard, @GlobalTrade was not an automatic compliance engine, but a DCC with people manually checking documents for compliance.<sup>97</sup> Manual checking of documents is only an intermediate step in the process of evolution leading towards automated compliance checking systems.<sup>98</sup> Any future system should be based on automated compliance checking of documents and aligned with the eUCP, which would check electronic records against the information required by the electronic letter of credit.

The notion of what constitutes a “document” has also been supplemented by the “electronic record” in eUCP.<sup>99</sup> There is a presumption that a document received in a format indicated in the eUCP credit is an electronic record under the eUCP.<sup>100</sup> The electronic record presented to a bank is also deemed to be an original.<sup>101</sup> Originals remain at the heart of both the paper and paperless systems. The eUCP, however, does not provide any guidance whatsoever on the creation and submission of electronic documents to banks. As a consequence of that, the eUCP has become a stale document that does not promote electronic letters of credit in any way.

There are no legal and technical barriers to electronically communicating letters of credit and related documentation to beneficiaries. Banks that have agreed with their customers on secure channels of communication through electronic systems regularly advise credits electronically. These secure systems may transmit documents between the banks and their customers, but what about the documents with intrinsic value, whose corruption may compromise the holder’s rights or a security interest of lenders? To what extent can we rely on these systems if documents with intrinsic value have to be delivered to the bank for checking or to a lender as a security?

None of the systems to date have attracted the vast majority of banks, carriers, and traders as users, although TradeCard seems to be the most successful in doing so. Two obvious advantages to using TradeCard are its system reliability and the fact that it is a relatively low-cost alternative to the letter of credit. It is important to note that most users are well known to each other and are looking for a low cost and low risk alternative to the letter of credit. TradeCard provides a reliable forum for that purpose. The system operated by TradeCard, however,

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97. The idea of a Documentary Clearance Center was used in the first trial period but is not used in the second phase. The examination of documents presented electronically will eventually be carried out using centralized utilities, removing any of the subjectivity inherent in today’s checking processes. See Neil Chantry, *The Future of the eUCP*, DCINSIGHT, Apr.–June 2002, <http://focus.dcpprofessional.com>.

98. BYRNE & TAYLOR, *supra* note 73, at 14.

99. EUCP, *supra* note 73, at art. e3(a)(ii), reprinted in BYRNE & TAYLOR, *supra* note 73, at 44.

100. BYRNE & TAYLOR, *supra* note 73, at 62.

101. EUCP, *supra* note 73, at art. e8, reprinted in BYRNE & TAYLOR, *supra* note 73, at 121.

does not solve the problem of electronic documents of title and other transport documents. Without having a widely accepted set of electronic transport and other commercial documents, electronic letters of credit remain in an idealistic utopia. The economic development of agricultural and exporting countries is also closely connected to the utilization of electronic documents of title as collateral. Consequently, the question "*Quo Vadis Bill of Lading?*" is the right question, and it must be answered rather than avoided by resorting to nonnegotiable types of documents.

## V. BILLS OF LADING AS COLLATERAL

Since the Middle Ages, secured lenders have traditionally utilized a pledge of documents and title as a consensual method of securing obligations for the payment of debt.<sup>102</sup> In the possessory pledge, the creditor's security interest attaches and becomes perfected when the debtor hands over the bill of lading with any necessary endorsements. This documentary dispossession of the debtor is transparent enough to alert third parties as to the encumbrance fastened on the document of title. Since the negotiable document of title represents the goods, a security interest in the goods becomes perfected by perfecting a security interest in the document. However, in the case of electronic bills of lading, a possessory pledge is not a suitable negotiation and perfection mechanism because bills of lading in electronic format are intangible and thus cannot be physically possessed and transferred.

From a lender's perspective, the main concern is the ability to control the goods represented by the document of title, dispose of them upon default, and then to use the proceeds to repay the loan. Unlike negotiable bills of lading, nonnegotiable transport receipts, such as air waybills, do not grant their holders the power to dispose of the goods and may not be pledged as collateral, because they do not represent the goods. Physical transfer of the document of title provides a direct link between the creditor's rights and his collateral. With respect

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102. The Uniform Commercial Code defines "document of title" to include a

bill of lading, dock warrant, dock receipt, warehouse receipt, or order for the delivery of goods, and also as any other document which in the regular course of business or financing is treated as adequately evidencing that the person in possession or control of the record is entitled to receive, hold, and dispose of the document and the goods it covers. To be a document of title a document must purport to be issued by or addressed to a bailee and purport to cover goods in the bailee's possession which are either identified or are fungible portions of an identified mass.

U.C.C. § 1-201(b)(16) (2001).

to electronic documents of title,<sup>103</sup> a question arises as to how this link is preserved in an electronic environment.

UNCITRAL, Working Group VI on Security Interests, is currently drafting a set of recommendations (UNCITRAL Guide) that should serve as a manual in the modernization process of secured transactions laws. The main objectives of the UNCITRAL Guide are to promote secured credit, validate non-possessory security rights, establish clear and predictable priority rules, and recognize party autonomy.<sup>104</sup> The UNCITRAL Guide covers a broad range of obligations that may be secured by a variety of assets, including, *inter alia*, negotiable instruments, letter of credit rights, and negotiable documents such as bills of lading.<sup>105</sup> Unfortunately, the current version of the UNCITRAL Guide does not mention electronic documents of title whatsoever and thus excludes this type of asset from its scope.

## VI. THE UNIFORM COMMERCIAL CODE AND DOCUMENTS OF TITLE

Until now, efforts to reform transport law and shipping practice did not take into account the modernization of personal property security laws that reflect the title function of electronic bills of lading in secured lending. Pioneers in this respect are the Uniform Commercial Code (UCC) Article 9 and the draft legislation for Guatemala, which utilize the concept of a security interest in negotiable and nonnegotiable electronic documents and thus broaden the category of collateral that may be used, particularly in countries that rely on agricultural credit and export financing.<sup>106</sup>

A security interest in electronic documents may be perfected by control of the collateral according to UCC § 9-314.<sup>107</sup> In 1994, a revised UCC Article 8 (Investment Securities) was accompanied by conforming amendments to UCC Article 9 that introduced control as a new method of perfection with respect to dematerialized securities. This concept sufficiently replaced the requirement of possession for certificated securities that are not capable of being possessed and physically transferred. A similar solution has been incorporated into the latest revision of UCC Article 7 (Documents of Title), which added electronic

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103. Electronic documents of title are documents that are stored in an electronic medium instead of in tangible form; whereas a tangible document of title means a document of title evidenced by a record consisting of information that is inscribed on a tangible medium. U.C.C. art. 7 app. I, Alternative A (2003).

104. See U.N. Comm'n on Int'l Trade Law, Working Group VI, *Security Interests: Recommendations of the Draft Legislative Guide on Secured Transactions*, U.N. Doc. A/CN.9/WG.VI/WP.16 (Dec. 1, 2004).

105. *Id.*

106. For a thorough discussion of the Guatemalan draft legislation, see *infra* Part VII.

107. U.C.C. § 9-314(a) (2000).



documents of title to the group of intangible assets that may be perfected by control.<sup>108</sup> The concept of control replaces possession, delivery, and endorsements, and allows a person “controlling” a negotiable electronic document of title to negotiate the electronic document through the voluntary transfer of control.<sup>109</sup> The requirements to achieve control with respect to electronic documents of title are set out in UCC § 7-106, which, in subsection (a), states that a person has control of an electronic document of title if a system employed for evidencing the transfer of interests in the electronic document reliably establishes that person as the person to which the electronic document was issued or transferred. It further requires that the system employed for evidencing the transfer of interests in the electronic document must reliably establish that person as the person to whom the electronic document was issued or transferred. Consequently, the identity of the person to whom the electronic bill of lading, in the form of an electronic record, was issued or transferred must be reliably established.<sup>110</sup>

The UCC Article 9 governs both negotiable and nonnegotiable documents,<sup>111</sup> which is a distinct feature of the U.S. system (with the exception of Guatemala, other countries do not expressly govern nonnegotiable documents). The UCC enables the secured creditor to perfect its security interest in a document of title by either possession or by filing against the document.<sup>112</sup> A security interest perfected in the document has priority over any other security interest in the goods perfected by another method.<sup>113</sup> In contrast, a secured creditor may not perfect a security interest in goods covered by a nonnegotiable document by perfecting his interest in the document, because in that case the goods are not regarded as being locked up in the document.

## VII. PROPOSED GUATEMALAN LAW ON SECURED TRANSACTIONS

One of the latest legal reforms proposed in the area of secured transactions regimes is the Proposed Law on Secured Transactions for Guatemala (Guatemalan draft),<sup>114</sup> which strongly supports filing in addition to control as an

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108. *See* U.C.C. § 7-106 (2003).

109. *See* U.C.C. § 7-106 cmt. 2; U.C.C. § 7-501 cmt. 1 (2003).

110. The UCC defines “Record” as “information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form.” *Id.* § 7-102(a)(10).

111. *See id.* § 9-312.

112. *Id.*

113. *Id.* § 9-312(c).

114. GUATEMALAN LAW ON SECURED TRANSACTIONS (Proposed Draft 2005) (on file with author) [hereinafter GUATEMALAN DRAFT]. The GUATEMALAN DRAFT was prepared by the National Law Center for Inter-American Free Trade [hereinafter National Law Center], a 501(c)(3) non-profit institution affiliated with the University of Arizona, James

effective method of perfection, even with respect to paper-based and electronic bills of lading and other documents of title. The Guatemalan draft builds on the provisions of the Organization of American States Model Law on Secured Transactions (OAS Model Law).<sup>115</sup> Article 27 of the OAS Model Law provides for the traditional possessory pledge as a security device with respect to negotiable documents of title, such as bills of lading and warehouse receipts,<sup>116</sup> whereas Article 28 is an innovative provision that opens up the door to the utilization of electronic documents of title in secured transactions.<sup>117</sup> It provides that “[w]hen the transfer or pledge of a document of title has taken place in an electronic format, or its transfer or pledge has been effectuated in an electronic registry, the special rules governing such electronic registry shall apply.”<sup>118</sup> This provision does not specify what the rules governing such registration in the electronic registry are, as detailed information on electronic filings is left to national implementation of the OAS Model Law. Guatemala has opted to implement that provision, and a set of rules was prepared to usher electronic documents of title into the modern era of secured financing.

Article 30, subsections B and C, of the Guatemalan draft regulates negotiable electronic documents of title,<sup>119</sup> and Article 31 contains provisions on nonnegotiable receipts.<sup>120</sup> A specific rule for the transition from one format to another (from paper-based to electronic and vice-versa) has been worked out in order to accommodate current practice.<sup>121</sup> The Guatemalan draft deals with this situation as follows: an original paper-based document of title must be deposited at the Registry of Security Interests, which then issues a unique electronic number that will identify the consignor or bailor.<sup>122</sup> The reason for requiring the parties to deposit the document with an independent registry is to avoid problems that plagued previous models, where the depository was a competitor (the Chase Manhattan Bank administering the SEADOCS project) and where the bill was open to visual scrutiny only to the registered members (the Bolero system). A

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E. Rogers College of Law. Nat'l Law Ctr. for Inter-Am. Free Trade, <http://www.natlaw.com/> (last visited Apr. 19, 2006). The GUATEMALAN DRAFT is available upon request from the National Law Center, which is located at 440 N. Bonita Ave., Tucson, Arizona, 85745-2747. The National Law Center may also be reached by telephone at 1-800-LAW-FIND, or online at <http://www.natlaw.com>.

115. MODEL INTER-AM. LAW ON SEC. TRANSACTIONS (Org. Am. States 2002) [hereinafter OAS MODEL LAW]. Title III, chapter VI of the OAS MODEL LAW deals specifically with instruments and documents of title. *Id.* at arts. 27-29.

116. *Id.* at art. 27.

117. *Id.* at art. 28.

118. *Id.*

119. GUATEMALAN DRAFT, *supra* note 114, at art. 30(b)-(c).

120. *Id.* at art. 31.

121. *See id.* at art. 30(b).

122. *Id.* at art. 30(b)(1)-(2).

public electronic registry, such as the one envisaged for Guatemala, should remedy both of these problems.

The unique electronic number provided to the bailor (in the case of warehouse receipts) or to the consignor (in the case of bills of lading) by the registry ensures that only the holder of such number will have access to the document and to the goods covered by the electronic record. Upon the instructions of the depositor, the registrar may transfer the number, and thereby the rights attached to it, to a subsequent transferee, such as a creditor.<sup>123</sup> By virtue of this transfer, the creditor will obtain the right to claim the goods from the bailee and to dispose of them in any other way. Subsequent transferees or secured creditors may use the same procedure to authorize and to transfer their interests to successive holders. Eventually, the registry will hand over the original deposited paper-based document of title to the legitimate holder so he can claim the goods from the carrier or a warehouseman. This procedure preserves the traditional bailee's obligation and the right to deliver the goods only upon a presentation of the document of title. In the future it may be possible that only a mere notification by the registrar to the carrier regarding the identity of the last registered holder, without actual delivery of the paper bill to the carrier, will suffice.

Article 30(C) of the Guatemalan draft regulates documents of title, which do not change their format and exist solely in paperless form.<sup>124</sup> With respect to a security interest in this type of document, the issuer of the bill of lading or warehouse receipt must indicate on the document, among other data, the name and a unique electronic number of the consignor or bailor.<sup>125</sup> Then, if the consignor or bailor intends to grant such document as security for credit, it shall request that the issuer designate the secured creditor as the legitimate holder of the document of title and assign the unique electronic number to such holder.<sup>126</sup> As with the paper document of title that is deposited in the registry, the electronic document never leaves the issuer's database; however, it may be inspected by any interested party without the possibility of making alterations.<sup>127</sup> The only party allowed to make such changes (e.g., regarding the designation of a new holder) is the issuer, upon instruction from the current holder.<sup>128</sup> However, the mere designation of the secured creditor as a holder in the carrier's database is not sufficient to perfect the security interest, as it does not sufficiently put third parties on notice. Consequently, a security interest created in this fashion may be perfected by filing in the public personal property registry.<sup>129</sup> In contrast to UCC provisions on control, where the creditor perfects its security interest by control, the Guatemalan

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123. *See id.* at art. 30(b)(3).

124. *See id.* at art. 30(c).

125. GUATEMALAN DRAFT, *supra* note 114, at art. 30(c)(1).

126. *Id.* at art. 30(c)(3).

127. *Id.* at art. 30(c)(4).

128. *See id.* at art. 30(c)(3).

129. *See id.* at art. 30(c)(5).

draft requires filing as an additional step for perfection.<sup>130</sup> This requirement is very practical in the case of developing countries, where technology cannot sufficiently safeguard the authenticity, inalterability, or uniqueness of electronic documents. In order to expand the category of valuable collateral that would satisfy banks' concerns, it is necessary that both filing and control be adopted as requirements.

To make the registry as transparent as possible, the Guatemalan draft has also devised a similar system for filing security interests in collateral represented by nonnegotiable receipts. Article 31 (Security Interests in Paper-Based or Electronic Non-Negotiable Receipts) provides rules for perfecting a security interest in nonnegotiable receipts.<sup>131</sup> UCC Article 9 and the Guatemalan draft are the only legal regimes that include rules on granting security interests in nonnegotiable documents, such as air and rail waybills.

Nonnegotiable receipts, despite their lack of the negotiability function, should be regulated by secured transactions laws because this would allow the utilization of additional assets as collateral. According to Article 30 of the Guatemalan draft, if a merchant desires to obtain financing secured with paper nonnegotiable receipts such as air, sea, truck, rail, or inland waterway bills, or nonnegotiable warehouse receipts, the carrier or warehouseman that has issued such a document will designate the secured creditor as consignee or legitimate assignee or transferee of the named consignee.<sup>132</sup> This security interest may also be perfected by its registration in a personal property registry.<sup>133</sup> The first method (designation of the secured creditor as consignee) reflects current international practice whereby the banks issuing letters of credit commonly have themselves named as consignees on the presented transport documents. The second method (registration) is innovative and takes into account publicity and transparency concerns. The first method may be used in the transition period until the personal property registry is fully operational; subsequently, the filing method should be used in order to make the registry as comprehensive as possible.

The Guatemalan draft also contains additional provisions that were specifically designed to draw attention to the value inherent in electronic nonnegotiable receipts. Article 31 provides that if the security interest is created in an electronic nonnegotiable document, its perfection will be achieved as follows: (1) the issuer of the document will indicate, among other data, the name and unique electronic number of the consignor or bailor; (2) at the time of the issuance or later, the consignor or bailor of the goods shall request that the carrier or warehouse designate the secured creditor as consignee or legitimate holder, giving him/her an identification number; (3) the consignor or bailor acting as secured debtor, along with the carrier or warehouseman, will request the filing in

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130. *See id.*

131. GUATEMALAN DRAFT, *supra* note 114, at art. 31.

132. *Id.* at art. 30(a).

133. *Id.*

the registry of the name and number of the secured creditor as consignee or legitimate holder of the document; and (4) this filing will perfect the security interest in the nonnegotiable document or receipt.<sup>134</sup> The registration of such security interest will provide an additional layer of transparency.

It is expected that the Guatemalan Congress will pass the draft sometime in the second half of 2006. Then it will be up to the local merchants and lenders to decide which documents and in what formats they would prefer to utilize as collateral. Every law of secured transactions should provide for a variety of financing mechanisms and leave it to the actual users to opt for the one that best suits their needs. In this aspect, the UNCITRAL Guide missed this opportunity. Hopefully, other countries in Central and Latin America will follow the Guatemalan experience and jointly create a viable market for electronic documents of title.

### VIII. CONCLUSION

The interests of shipping companies, customs brokers, and freight forwarders in paperless shipping documents is driven by needs of their customers. The manager for the Customs and Facilitation Institute of the International Federation of Freight Forwarders Associations (FIATA), Sandro Consoli, stated:

The issue is whether customers [shippers] will accept electronic documents. If the customer wants a piece of paper, I will do that, because otherwise I will lose my customer. This system was built in the developed countries and is more likely to happen there. If it works, that's great. But they have to prove it.<sup>135</sup>

As Consoli noted, the acceptance of electronic documents is not a matter of changing transportation law to enable electronic documentation, but is predominantly a matter of gaining the trust and security of the customers who use shipping documents in their trade relations. On the other hand, the trust and security of those customers is strengthened by clear legal rules enacted by state legislators, and not with the confusing legal structure created by the Bolero system. One of the reasons the use of electronic commerce is not developing in line with technological capability is that there is little law governing its use. The exchange of data electronically does not itself pose a problem. However, when the data represents negotiable documents that cover valuable assets, an established legal structure is needed.

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134. *Id.* at art. 31.

135. Aviva Freudmann, *Look, No Paper: Bills of Lading Go Electronic*, J. COM., Aug. 20, 1998, at A1.

Some contend that instruments such as negotiable bills of lading are outmoded and should be discarded as business moves to the Internet. Some say that what the industry needs is a waybill with specific clauses that would satisfy insurers and let banks avoid indemnities. Waybills, however, do not have the same collateral value for lenders as bills of lading do, and it does not appear that predictions that nonnegotiable waybills will consign negotiable documents of title to the history books are correct. As long as the focus is on the signed, original document, the task is very difficult because the substance of a negotiable document is not its signature or its original nature, but its process, that inspires confidence in that piece of paper. A bill of lading is an abstract representation of the material goods it describes, just as paper money is the abstract representation of the monetary unit it describes.<sup>136</sup> Its abstract nature makes it desirable collateral and a marketable piece of paper. If this abstract nature will not be preserved in the electronic era, the bill of lading may not function as a financing vehicle. Its abstract nature may be greatly strengthened by the recognition of the electronic bill of lading as valuable collateral in the regimes of secured transactions laws. The rights embodied in an electronic bill of lading that is registered in a public registry may be a sign of a new era for the abstract promise embodied in these documents. All in all, public registration would add an important tier of marketability to the nature of the electronic bill of lading.

There are a number of reasons the development of the electronic bill of lading has been so slow thus far. Electronic bills of lading have not received the full support and confidence of all the participants in international business, predominantly due to concerns about security and the authenticity of such documents. Legally, it is difficult to develop an electronic document which has the function of negotiability and therefore allows for transfer of ownership from the seller to the buyer by delivery. It is also difficult to develop an electronic document that supports the creation of a security interest in the document itself or the underlying goods. In addition to the problems with the replication of the negotiability function in the electronic environment, the main stumbling block hindering utilization of electronic bills of lading seems to be the lack of modern registries where security interests granted with respect to these documents can be recorded. If electronic negotiability and collateral security are possible, then the other functions of a negotiable bill of lading could be undertaken by the same electronic means.



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136. George F. Chandler III, *It's the Information That's Important, Not the Paper*, L/C MONITOR, Apr. 2000, available at <http://www.globaltradecorp.com/archives/lcminfo.htm>.