

# Assessment of Legal Instruments and Applicability to the Use of Electronic Bills of Lading

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## Abstract

**Purpose** – This study mainly investigates two potential legal regimes expected to govern the use of electronic bills of lading: the Rotterdam Rules (2009) and the UNCITRAL Model Law on Electronic Transferable Records (2017). Widespread use of electronic bills of lading has been unsuccessful partly due to the absence of a uniform legal regime and protracted uncertainties. This paper aims to carry out an assessment of the possibilities where either of two potential legal regimes could provide certainty to the effect and validity of the use of electronic bills of lading, and contribute to the facilitation of electronically transferring the rights to goods carried by sea.

**Design/methodology** – This paper first introduces two legal instruments and the relevance to electronic bills of lading. Since neither of these legal instruments has yet entered into force, the following section looks into the ratification or enactment possibilities based on a literature review and track records of the past legal regimes of the same kind. Assessment of the different adoption possibilities further requires comparative work of the two legal instruments, which will be based on an analysis of relevant provisions and a literature review. The literature review on the Rotterdam Rules delves into various studies and data produced since the UNCITRAL's adoption in 2009. The literature review on the UNCITRAL Model Law on Electronic Transferable Records heavily relies on UNCITRAL working group documents from 2011 to 2017 together with the final explanatory note.

**Findings** – The main findings can be summarized as follows. Application of the Rotterdam Rules would negate the role of the UNCITRAL Model Law on Electronic Transferable Records assisting in the implementation of the Rotterdam Rules due to some conflicting issues. Enactment of the UNCITRAL Model Law alone can sufficiently provide a higher level of certainty in the use and effect of electronic bills of lading so long as lawmakers and parties are aware of some issues with the application. What concerns potential users most is the extension of the status quo, where neither of the legal instruments have any effect. It is necessary to take a number of alternatives into consideration, such as promotion of standard clauses and confirmation by a court ruling.

**Originality/value** – Existing studies focus either on the Rotterdam Rules or on the UNCITRAL Model Law, but not both. Not many papers have yet dealt with the Model Law, which was adopted by UNCITRAL only 2 years ago, particularly in the context of a potential legal regime for electronic bills of lading. This paper attempts to introduce the differences between the two legal instruments in regulating the use of electronic bills of lading while providing an assessment of the various possibilities for which parties involved in international trade can be better prepared for the changing legal environment.

**Keywords:** Electronic Bills of Lading, Negotiable Electronic Transport Records, Rotterdam Rules, UNCITRAL Model Law on Electronic Transferable Records

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## 1. Introduction

Electronic Bill of Lading (B/L) is an old, but still developing, relevant topic in international trade. Despite prolonged trial and error, electronic B/L systems like Bolero and essDOCS have successfully attracted numerous users.<sup>1</sup> They usually provide users with a communication platform, security software and hardware, multilateral agreements, and so on to replace the practice of paper-based B/Ls. Among others, a contractual arrangement is the key element that binds system users to a common set of rules, and to the effect of obtaining and transferring certain rights to the goods in the process of sea transport. This is related to the legal functionalities of a paper-based B/L as a transferable document of title.

A contractual arrangement for the use of an electronic B/L aims to give the same legal consequence in the relationship between the shipper, carrier, and consignee as in the case of a paper B/L. However, this does not necessarily mean that such a contractual relationship is recognized or legally effective in any jurisdiction, which may be left to the function of legislation. In fact, uncertainty as to whether electronic B/Ls can actually be used and be legally recognized the same as B/Ls without any potential risks has been one of the main causes of the lack of confidence in international businesses and a prolonged failure in widespread use. Parties involved in international trade want to be assured of a greater certainty that no legal dispute may arise as to the validity and legal effect of using electronic B/Ls.

The answer might be simple. Legislation that provides clear requirements and effects of transferring rights by means of electronic records will be able to raise the certainty level. Based on such legislation, parties form trust that their rights will be transferred effectively as long as certain conditions are met. This can expedite the process of establishing a practice of using electronic B/Ls, while saving time for a transition to digitalized documentation for international trade.

A number of international legal instruments have been developed in relation to the use of electronic B/Ls. Among others, the (i) UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (Rotterdam Rules, 2009) and the (ii) UNCITRAL Model Law on Electronic Transferable Records 2017 (hereinafter, UNCITRAL Model Law) include the electronic B/L within the scope of their applications, while establishing the legal effect of, and thus contributing to the broader use of, electronic B/Ls. However, their effectiveness remains uncertain in that the legal status of the two legal instruments has not been determined. Further, it is uncertain whether or how these instruments can work together so as to act as an effective catalyst for the increased use of electronic B/Ls. The existence of different legal instruments applicable to the same subject matter can give rise to a number of questions or uncertainties as follows. How will they influence parties' commercial activities in the electronic transfer of the rights in the international sale of goods? What actions should be taken by the parties to a contract of carriage, by electronic B/L system providers, and by legislators? What alternatives should be considered if neither of the legal instruments can facilitate the use of electronic B/Ls? These are all questions that should be answered, and that this paper thus seeks to address.

The paper will (1) introduce two international legal instruments as applicable to the use of electronic B/Ls, (2) examine the prospect that each of the instruments has of being ratified or

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<sup>1</sup> For example, essDOCS shows a growing number of users from less than 1,000 in 2012 to more than 46,000 customers in 2019, which accounts for 15% of the global container line feet, 41 banking groups, and traders and shippers, particularly in the sectors of agriculture, energy, metals, and others (essDOCS, n.d.). Bolero shows successful case studies on the use of Bolero system by major global corporates such as Cargill, ABB, Cameron, Baosteel, Bank of China, and others (Bolero, n.d.).

enacted, and (3) project different scenarios of applicability depending on the success or failure of the ratification and enactment of the two legal instruments.

## 2. Potential Legal Regimes for Electronic B/Ls

Ironically, the development of international legal regimes, other than contractual rules, for the use of electronic B/Ls emerged from outside the regimes for carriage of goods by sea. This may be considered less complicated than revising pre-existing international conventions for the carriage of goods by sea, or creating a new regime just for the legal recognition of electronic B/Ls. Articles 16 and 17 of the UNCITRAL Model Law on Electronic Commerce (MLEC, 1996) were written to provide effects to the transfer of rights via electronic transport documents. While the MLEC was widely adopted for the use of electronic documents in general, the two provisions on electronic transport documents failed to receive wide adoption,<sup>2</sup> among others, due to the requirement of uniqueness that is a concept merely imported from the practice of using physical documents. After the MLEC's publication, UNCITRAL requested its Secretariat "to study further the issues related to transfer of rights...by electronic means" (UNCITRAL Working Group IV, 2001), concluding that a better mechanism would be necessary to ensure the singularity of the claim to demand delivery of the goods based on an electronic B/L (UNCITRAL Secretariat, 2007). It was also premature for a suitable legal framework to play a role; technologies were not settled, and more importantly, business sectors were not prepared to accept a change.

### 2.1. Rotterdam Rules

A change in the regime for the carriage of goods by sea was eventually made in 2009. The Rotterdam Rules were the very first attempt to modernize the pre-existing legal regimes on international contracts for the carriage of goods by sea. Article 8(b) of the Rotterdam Rules provides that "[t]he issuance, exclusive control, or transfer of an electronic transport record has the same effect as the issuance, possession, or transfer of a transport document." This provision suggests that "exclusive control" of electronic records is equivalent to the possession of transport documents. An electronic transport record must be subject to exclusive control from its creation until it ceases to have any effect or validity (Rotterdam Rules, Article 1(21)). In order to ensure this, an electronic transport record must meet substantive and procedural requirements under Article 9. Article 9(1) of the Rotterdam Rules requires an electronic transport record to be subjected to procedures in which: (a) a transferor can transfer the record to an intended holder; (b) integrity of the record can be retained; (c) the holder can demonstrate that it is the genuine holder; and (d) the carrier can provide confirmation on the validity of the record (substantive requirements). These conditions may be operated by a particular method or manner in an electronic B/L system, which must be referred to in that record, and readily ascertainable (procedural requirements).

### 2.2. UNCITRAL Model Law

As a separate set of rules from the unfinished work of the previous UNCITRAL texts such

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<sup>2</sup> The only known States that enacted Article 16 and 17 of the MLEC in national legislation are Columbia (Articles 26 and 27 of Law 257, 1999) and Guatemala (Articles 31 and 32 of Decree No. 47, 2008). However, it has been reported that "those provisions do not seem to find application in practice." (UNCITRAL Secretariat, 2012).

as MELC and the 2005 Electronic Contract Convention (ECC), the UNCITRAL Working Group IV started to prepare a draft law on electronic transferable records as an important niche area of e-commerce (UNCITRAL Secretariat, 2011b). After a 6-year discussion followed by numerous debates and amendments, UNCITRAL adopted in 2017 the Model Law on Electronic Transferable Records, a compilation of nineteen legal provisions plus an Explanatory Note.<sup>3</sup> The primary aim of the UNCITRAL Model Law is to provide a harmonized legal regime for the recognition and enforcement of electronic transferable records, including electronic B/Ls, in cross-border use.

The UNCITRAL Model Law addressed some concerns regarding uniqueness under the MLEC,<sup>4</sup> which had focused merely on how an electronic message was supposed to be managed without linking its concept to possession. It is not accurate to denote a record to be unique in an electronic environment, and there is no guarantee of a record being unique. In fact, the concept of uniqueness has been abandoned in the drafting process of the UNCITRAL Model Law since it poses technical challenges while fostering potential litigation (UNCITRAL Secretariat, 2018).

Instead, Article 10(1)(b)(i) of the UNCITRAL Model Law requires reliable identification of the electronic transferable record. This means that an electronic record must be identified as a record, regardless of being unique, that is relevant to the claim for delivery of the goods, and a reliable method must be used to identify the electronic record as the intended electronic B/L. The Explanatory Note of the UNCITRAL Model Law named it the “singularity requirement”, though “singularity” does not seem to match the definition that an electronic record should be identified as the electronic B/L.<sup>5</sup>

Article 10(1)(b)(ii) the UNCITRAL Model Law further requires that an electronic transferable record be subjected to control (“control requirement”), which is functionally equivalent to the possession of a paper document. Article 11(1)(a) further requires such control be exclusive to the person identified as the person in control of the electronic record. Identifying the person in control of the electronic transferable record serves the function of demonstrating the possession of the B/L, allowing carriers to deliver the goods (and for banks to transfer control) to the right person.

There are two additional requirements for an electronic transferable record. (1) Article

<sup>3</sup> They comprise: (i) general provisions (Article 1-7), which cover the scope, definitions, and legal recognition of electronic transferable records; (ii) provisions on functional equivalence (Article 8-11), which cover the requirement for an electronic transferable record to be functionally equivalent to its paper predecessor; (iii) the use of electronic transferable records (Article 12-18), which is further broken down into three subsections of standards for reliability requirements, determination of a place of business, and functional equivalence in various usage cases like indication of time, endorsement, and amendment; and (iv) cross-border recognition of electronic transferable records (Article 19), which aims to prohibit discrimination when giving a legal effect of a foreign electronic transferable record.

<sup>4</sup> MLEC’s Guide to Enactment provides “[D]ata messages purporting to convey any right... of a person [should] not be used by that... person inconsistently with any other messages by which the right... was conveyed.” (UNCITRAL Secretariat, 1999).

<sup>5</sup> Though some Working Group documents regard ‘singularity’ as the same as ‘uniqueness’, neither ‘singularity’ nor ‘uniqueness’ denote the reliable identification of an electronic transferable record. It seems that the Working Group keeps the expression ‘singularity’ for convenience, as it was used under the MLEC, but this is not accurate. Further, the ‘singularity’ requirement for an electronic record could be confused with the ‘singularity’ of a claim, as was interchangeably used by the UNCITRAL Working Group in the drafting process. The former targets an electronic record, but the latter is to avoid multiple claims, which must be achieved as a consequence of using electronic transferable records (UNCITRAL Working Group IV, 2015). This contradiction exists even in the same document issued by UNCITRAL Secretariat (2011a). ‘Singularity’ is considered almost the same as ‘uniqueness’, but at the same time, ‘uniqueness’ is described as a requirement of ‘singularity’.

10(1)(a) requires an electronic transferable record contain information that is required to be contained in the corresponding transferable document, and (2) Article 10(1)(b)(iii) requires the electronic transferable record retain its integrity. This means that information on the goods as well as the contractual particulars contained in the B/L must be contained in an electronic transferable record, while the information must remain complete and unaltered in the normal course of its communication, storage, and display.

### 3. Prospects of Ratification and Enactment

Examining the possible legal consequences first requires a careful review of the prospect that each legal instrument could enter into force. How likely it is that the Rotterdam Rules can be ratified and that the UNCITRAL Model Law is enacted into domestic legislation are important factors affecting the direction of the transfer of rights by means of electronic B/Ls as well as the decisions of stakeholders and lawmakers.

#### 3.1. Rotterdam Rules

The Rotterdam Rules would enter into force one year after ratification by twenty States.<sup>6</sup> Currently, only 5 States, Spain (2011), The Republic of the Congo (2012), Togo (2014), Cameroon (2017), and Benin (2019), have ratified the Rotterdam Rules. The history of preexisting international regimes relating to the carriage of goods by sea implies an insight into an estimation of the years expected for the Rotterdam Rules. For example, it took approximately 3-9 years for the Hague Rules and the Hague-Visby Rules to enter into force. In the case of the Hamburg Rules it took even longer at 14 years due to a conflict of interests between different stakeholders and States. This timeline is compounded by the fact that a considerably lower number of States were required for the aforementioned international conventions to enter into effect. The Hague-Visby Rules required 10 States, and the Hamburg Rules required 5 States. Extrapolating from this data, the Rotterdam Rules are likely to take much longer to enter into force. According to the UN Economic Commission for Europe (UNECE) Inland Transport Committee (2009), produced by former delegates of governments that attended the drafting process of the Rotterdam Rules, 15 years should elapse before it can be assumed that the Rotterdam Rules have failed to become an international convention, and subsequent preparation for an alternative legal regime may be considered. All the factors and estimations above suggest that the Rotterdam Rules might not enter into force in the near future, and it may still be too early to estimate the success or the failure of the Rotterdam Rules as an international convention governing international contracts for the carriage of goods by sea.

Position papers presented by diverse stakeholders and industries have expressed stances on the Rotterdam Rules. Some industries and non-governmental organizations have expressed

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<sup>6</sup> Compared to the previous international convention, the Hamburg Rules (1978), the Rotterdam Rules require a higher number of ratified States. The reason for this was to prevent an increasing number of international regimes governing the carriage of goods by sea so that the Rotterdam Rules could play a role as a truly global convention with a sufficient number of ratifiers. However, the small number of ratifications (5) was not a main issue for the Hamburg Rules, which has already been ratified by 34 States as of May 2019 (UNCITRAL Secretariat, 2019). The issue is rather that the Hamburg Rules have failed in universal support by major trading countries; the 34 States represent only about five percent of international trade volume. In this regard, it should be considered that, as a condition of entry into force, the Rotterdam Rules require a minimum amount of world trade in its ratification provision (Article 88 of the Rotterdam Rules) (UNCITRAL Working Group III, 2007).

support for the ratification of the Rotterdam Rules since the Rotterdam Rules have been signed.<sup>7</sup> On the other hand, many organizations maintain a negative stance on the prospect of the Rotterdam Rules entering into force in the near future (CLECAT, 2009; ESC, 2009; FIATA, 2009). Most of the reasons presented fall under the two following categories: some provisions are ambiguous or flawed, causing doubts about legal certainty and uniformity;<sup>8</sup> and due to extended coverage and the complexity of application, industry stakeholders or third parties who would be newly subjected to the scope of application will not welcome a replacement of the current legal regimes or practices to the detriment of their interests (Hart and Mathur, 2016; Hooper, 2011; Nikaki and Soyer, 2012; Tetley, 2008). The criticisms presented by stakeholders not in favor of the ratification of the Rotterdam Rules have made States hesitant to ratify the Rotterdam Rules, which has in turn made it difficult for the Rotterdam Rules to gain international recognition as a uniform treaty.

In general, the role of major shipping countries has been influential in ratification by other States. However, the ratification prospects of the Rotterdam Rules in each region have not been bright. In the US, the Rotterdam Rules are listed as an international convention for which ratification is under consideration with some unofficial indication of the government's position,<sup>9</sup> but the President has not sent any requests for Senate advice or consent, a key to the ratification process. The uncertainty has rather increased with the change of administrations. China had been actively involved in the drafting process from early development under the guidance of the Comité Maritime International (CMI) to the intergovernmental forum and unofficial consultation sessions, while making substantial contributions of written submissions and discussion. However, China itself has not even signed the Rotterdam Rules, and like many other countries, it has been taking a 'wait and see' approach (Hjalmarsson and Zhang, 2016; Hu and Sun, 2017; Yuzhuo and Jinlei, 2012), while different views have been expressed with respect to the revision of domestic law for the carriage of goods by sea.<sup>10</sup> In Europe, even though the European Parliament in its resolution from May 5, 2010 called on "Member States speedily to sign, ratify and implement" the Rotterdam Rules (European Parliament, 2011), individual EU member States have shown no clear sign of supporting the

<sup>7</sup> Shipowner organizations such as the European Community Shipowners' Association (ECSA), the Baltic and International Maritime Council (BIMCO), the World's Shipping Council (WSC), and the International Chamber of Shipping (ICS) took a position that the Rotterdam Rules are broadly acceptable from a carrier's perspective, while encouraging administrations to ratify the Rotterdam Rules through members or member country associations (ICS, ECSA, BIMCO and WSC, 2009). For the US, the Maritime Law Association of the US and American Bar Association House of Delegates urged the US Senate to ratify the Rotterdam Rules. (ABA, 2010).

<sup>8</sup> The Rotterdam Rules contain some provisions regarding the scope of application and liability that are "vague and rather likely to generate a certain degree of ambiguity, contrary to their stated objective of achieving legal certainty." It is also pointed out that the non-mandatory application of jurisdiction and arbitration provisions is not likely to promote legal harmonization (Nikaki and Soyer, 2012).

<sup>9</sup> "A representative of the US Department of State, Mr. Steve Miller, indicated that the US government Executive Branch is in favor of ratifying the Rotterdam Rules, and the State Department is exploring avenues for how to move forward to obtain Senate consent." This public remark was made during the CMI/MLA Conference in New York on May 4, 2016 (Hart and Mathur, 2016). On one hand, there is a view that the most business-friendly administration may well support the Rotterdam Rules backed by support from international and domestic chambers of commerce, some carriers, and cargo interests. On the other hand, ratification could put at risk potential maritime performing parties such as port authorities and terminal operators, and thus it may not be able to protect their business interests (Hooper and Nolan, 2017).

<sup>10</sup> According to Hu and Sun (2017), the Chinese academic circle is divided mainly into three views: one is in favor of the ratification; another is against the ratification for complex and untested rules; and the other supports that only mature and advanced rules should be partially adopted for the interests of Chinese stakeholders and maritime industries.

ratification of the Rotterdam Rules, except Spain. For example, Germany, the most powerful EU member State, is not likely to ratify the Rotterdam Rules after the recent reform of domestic maritime law.<sup>11</sup> Ratification by one of the world's major shipping nations might trigger a domino effect of future ratifications by other States, but the current attitudes of these various governments do not seem optimistic for ratification in the near future.

Provisions on electronic transport records are not a determinant for the delayed ratification of the Rotterdam Rules. Rather, international communities like CMI stress the significance of the Rotterdam Rules in the context of electronic commerce, encouraging member States to ratify (CMI, 2018). Some SMEs and technologically underdeveloped countries may be concerned about practical difficulties such as a lack of resources, cost, and other factors, but parties incapable of using electronic B/Ls can rely on the replacement provision under the Rotterdam Rules, which will allow them to switch mediums between paper and electronic B/Ls. The transition from paper to paperless trade is an inevitable change that will and should be accepted, and the Rotterdam Rules are expected to spur many passive parties on to the adoption of electronic B/Ls. Therefore, the introduction of electronic B/Ls in the Rotterdam Rules should not be regarded as a valid reason to be hesitant in ratification.

### 3.2. UNCITRAL Model Law

The UNCITRAL Model Law was adopted in July, 2017. What remains uncertain now is whether the model law is going to be enacted into legislation at the national level of each State. In general, a model law tends to be more widely enacted in a shorter period of time compared to when an international convention is ratified. A good example is the evident gap between the adoption rate of the MLEC or the 2001 Model Law on Electronic Signatures (MLES) and the ratification rate of the ECC,<sup>12</sup> which suggests that a model law has been a more effective way of achieving legal harmonization, at least in the field of e-commerce. This is mainly because the natures of the two types of legal instruments are different. While an international convention strictly binds States under international law with limited reservation permitted under the convention, a model law is merely a recommended form for legal framework for lawmakers to consider adopting as a part of domestic legislation. The UNCITRAL Model Law is designed to take a flexible form as long as it achieves the primary goal to give the same legal effect to electronic alternatives as paper transferable documents, but the Rotterdam Rules deal with the numerous rights and duties of the parties involved in the carriage of goods by sea. Therefore, it is possible to construe that the UNCITRAL Model Law can be fast tracked, advancing its contribution to legal certainty in the use of electronic B/Ls.

Adoption of the UNCITRAL Model Law is hopeful, considering the successful adoption of the UNCITRAL model laws on commerce and signatures in many domestic legal systems. This may be disputed by the fact that the subject matter, electronic transferable records, is

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<sup>11</sup> The Dutch Minister reported to the Parliament in 2013 answers received from the governments of Belgium, France, Germany, and the UK on its inquiry about their intentions to ratify the Rotterdam Rules. According to the report, Germany responded that it did not have any specific plans to ratify the Rotterdam Rules, mainly due to the fact that it recently reformed its maritime law based on the Hague-Visby Rules. Belgium expressed that it was not near the ratification process, and France was not also engaged in work on ratification, mainly due to controversies between parties involved (House of Representatives of the Netherlands, 2013).

<sup>12</sup> According to UNCITRAL's data on the status of model laws, MLEC took about 4 years until more than 10 States (47 jurisdictions) enacted the model law, and 8 years until MLEC was enacted by two-thirds of the currently enacted countries (or jurisdictions) (UNCITRAL, n.d.). MLEC and MLES have been adopted by 72 States and 33 States, respectively, whereas the ECC has been ratified by 11 States (UNCITRAL Secretariat, 2019).

different from that of the model laws established in the past, so the adoption progress might not move at the same speed. However, key factors depend on user demand and each respective jurisdiction's need for establishing a rule for the use of electronic transferable records. Electronic transferable records have already been used in practice for many years,<sup>13</sup> while some types are already regulated by domestic laws.<sup>14</sup> For electronic B/Ls, there have been a number of attempts to create systems and legal frameworks for decades, while some countries have amended legislation to give a legal effect. Developing laws and businesses for the use of electronic B/Ls demonstrate that there is demand for a legal regime. The urgency for updating the outdated legal frameworks in the light of practical and legal developments supports the prospect of a smooth enactment. The fact that a large number of State members attended the UNCITRAL working group meetings for the UNCITRAL Model Law<sup>15</sup> implies a high level of interest and a high likelihood of enactment. It is also encouraging that major shipping countries like the US and China are part of the working group meetings. Before too many legal frameworks that are different in scope and approach are developed, which may constitute a serious obstacle to cross-border transactions, the UNCITRAL Model Law should be broadly adopted as soon as possible. This sentiment is felt, at least by the State members participating in the drafting process, as repeatedly emphasized in the Working Group sessions, and thus enactment progress is not likely to be postponed for too long.

A model law would allow legislators to partially adopt or add extra rules according to the unique circumstances of a country or jurisdiction. A model law gives legislators flexibility, allowing them to process legislation work and achieve the goal of legislation more easily. On the other hand, legislators may be put in a position where they should clarify the applicability to a particular subject matter. For instance, B/Ls should be specified to fall under the application scope of an enacted version of the UNCITRAL Model Law – otherwise, legislators should consider incorporating the UNCITRAL Model Law provisions into preexisting legislation on the carriage of goods by sea. This provides electronic B/L users with the assurance that the UNCITRAL Model Law is applicable to the use of electronic B/Ls.

#### 4. Four Legal Scenarios: Assessments and Suggestions

Depending on the success or failure of the two legal instruments in being ratified and enacted, four possibilities are conceivable. (1) The Rotterdam Rules enter into force and the UNCITRAL Model Law is successfully enacted in a substantial number of countries. (2) The Rotterdam Rules enter into force while the UNCITRAL Model Law fails to be enacted.<sup>16</sup> (3)

<sup>13</sup> For example, electronic warehouse receipts provided by EWR Inc., and electronic asset management by means of negotiable instruments provided by eOriginal Inc.

<sup>14</sup> The Electronically Recorded Monetary Claims Act (Act No. 45 of 2017) of Japan, Issuance and Negotiation of Electronic Bills Act (Act No. 15022, 31 October 2017) of Korea, Article 7 (Documents of Title) and Article 9 (Secured Transactions) of the Uniform Commercial Code of the US, Section 16 of the Uniform Electronic Transactions Act (UETA) of the US, and the Administrative Rules for the Operation of Electronic Commercial Bill of Exchange as well as Administrative Rules for Electronic Commercial Draft System of China adopted in 2009.

<sup>15</sup> The UNCITRAL Working Group IV consists of all States' members, and representatives of about 30 States' members by average participated in every working group session from 2011 to 2017. Other countries and international organizations observed the progress by attending working group sessions.

<sup>16</sup> This scenario does not necessarily mean that the Rotterdam Rules would achieve universal application, which is not likely to happen considering the ratification prospects of the Rotterdam Rules as examined above. It will be more likely that the Rotterdam Rules are applicable in a limited number of ratified States. Still, the Rotterdam Rules may enter into force in the case it is ratified substantially by a certain



The Rotterdam Rules fail to enter into force but the UNCITRAL Model Law is enacted as a domestic law. (4) Neither succeed in ratification or enactment.

In any of the possibilities contemplated above, parties to a contract of carriage have to be cognizant that choosing the correct jurisdiction is crucial; not all countries or jurisdictions may make the same decision of ratifying or enacting the legal instruments, and parties in international trade may be subject to any of the situations listed in (1), (2), (3), or (4) depending on the applicable law. This is why it is important to examine the legal effect of each possibility. Each possibility will carry different implications, not only for parties involved in the international carriage of goods by sea like traders and carriers but also for third-party system providers and legislators, and it is crucial for all stakeholders to consider what actions they should take in these hypothetical legal circumstances.

#### 4.1. Scenario 1: If Both the Rotterdam Rules and the UNCITRAL Model Law Are in Effect

Where parties to a contract of carriage have chosen the governing law of a jurisdiction which has ratified the Rotterdam Rules and enacted the UNCITRAL Model Law, using electronic B/Ls would be subject to both the Rotterdam Rules and the UNCITRAL Model Law. In this scenario, the relation between the two legal instruments may be defined in the following respects.

First, the UNCITRAL Model Law is supposed to serve a complementary role, assisting in the implementation of the provisions related to the use of electronic B/Ls under the Rotterdam Rules (UNCITRAL Secretariat, 2011a). The complementary role of the UNCITRAL Model Law will be clear, especially when there are technical issues that are either unclear or insufficient in the Rotterdam Rules. Second, the two legal instruments can possibly have a conflicting relationship. Parties cannot agree on to what extent the UNCITRAL Model Law could play a complementary role. In such a case, not every rule of the UNCITRAL Model Law may be compatible with the Rotterdam Rules provisions regarding the same aspects of electronic B/Ls, which may result in different consequences. Third, the Rotterdam Rules are substantive laws for contracts in the international carriage of goods by sea, while the UNCITRAL Model Law is not. The UNCITRAL Model Law aims to fulfill the functions of paper-based documents for electronic versions without affecting existing substantive laws applicable to paper transferable documents. This co-existence, however, collapses if the substantive law is medium-neutral and applicable to electronic transferable records, like in the case of the Rotterdam Rules (UNCITRAL, 2018). Thus, electronic B/Ls falling under the application scope of the Rotterdam Rules should be excluded from the scope of the UNCITRAL Model Law. Parties do not have a choice if the Rotterdam Rules are the law governing their contract of carriage and electronic B/L. The following discussion will thus be for a purely theoretical purpose.

Some provisions of the UNCITRAL Model Law can effectively clarify or support some of the Rotterdam Rules provisions. For example, Article 10(2)(b) of the Rotterdam Rules leaves a possibility where a holder can abuse the time for replacement so that both the replacing and the replaced records become effective at the same time.<sup>17</sup> This could result in two holders

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region, considering the example of the Hamburg Rules.

<sup>17</sup> In switching from an electronic B/L to a corresponding B/L, Article 10(2)(b) is interpreted to allow an electronic B/L to cease to have any effect only after a replacing paper B/L is issued. This gives rise to a duration of time when both of the records are operative. This means that the Rotterdam Rules would actually allow a situation where the previous holder's control over the electronic B/L is still effective while the new holder is in possession of the corresponding B/L. In practice, this could easily happen if,

claiming the right to control the goods. The UNCITRAL Model Law (Articles 17 and 18) can rectify this issue since the B/L or an electronic B/L to be replaced is required to become inoperative upon the issuance of a new replacement record.

Also, the reliability standards suggested in the UNCITRAL Model Law (Article 12) can address electronic B/L procedures under the Rotterdam Rules. Parties may consider reliability standards for these situations under Article 9(1) of the Rotterdam Rules. Parties should ensure whether the reliability standards are mandatory or left to party autonomy, which depends on the jurisdiction's enactment of the UNCITRAL Model Law wherein certain reliability standards could be made mandatory. In addition, the provision for the place of business in the UNCITRAL Model Law may set forth guidelines for the use of electronic B/Ls under the Rotterdam Rules.

However, some other provisions of the UNCITRAL Model Law may not be able to take effect if the Rotterdam Rules do not provide the same aspect for B/Ls. This is because the UNCITRAL Model Law's functional equivalence is based on the condition that a substantive law deals with the same aspects for the use of paper transferable documents. For example, the Rotterdam Rules do not provide anything related to the indication of time and amendment (UNCITRAL Model Law, Articles 13 and 16). Nevertheless, factual information (time) and amendments are important, affecting legal consequences; for example, the recorded time in the use of electronic B/Ls in a legal dispute determines the order of various transfers and the person who is entitled to take the delivery of goods. Parties should ensure that any other substantive law requires the indication of time and allows the amendment of B/Ls. Legislators would also have to make sure to reform the law, or parties will have to insert such clauses into their agreements requiring the indication of time and allowing the amendment of electronic B/Ls.<sup>18</sup>

Other provisions of the UNCITRAL Model Law may establish substantively different rules than the Rotterdam Rules, which would result in confusion. This may take place for matters like consent. While the Rotterdam Rules (Article 8(a)) do not necessarily require a transferee's consent for the use of electronic B/Ls, the UNCITRAL Model Law (Article 7(2)) is interpreted to essentially require a transferee's consent. If there is no transferee's conduct that can be inferred to be consent, the transfer of an electronic B/L cannot be recognized under the UNCITRAL Model Law, but it would be still valid under the Rotterdam Rules. This is mainly due to the issue of to what extent consent must be required. On the one hand, requiring the transferee's consent may create a barrier to the speedy and seamless use of electronic B/Ls. On the other hand, however, transferee's consent provides the transferor with a greater certainty in the success or failure of the transfer, while preventing the transferor from transferring the electronic B/L to more than one person. Preventing multiple transfers of electronic B/Ls is the key principle to be prioritized over any potential delay that may be caused by a transferee's consent. Electronic B/L systems should be accordingly designed to require a transferee's consent, whether inferred from its conduct or not. Also, the requirement of consent can be used for a transferee to control the transferor's capability of transferring or amending the electronic B/L that has already been transferred. This is not a complicated requirement in practice – a transferee may simply click an approval button for the transfer or

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for example, a system provider and a carrier failed to properly communicate in the switching process, or if a carrier sought the convenience of issuing a paper B/L first, assuming that the electronic B/L would cease to have any effect soon thereafter.

<sup>18</sup> More specifically, when an electronic B/L is issued (Article 8 and Article 9(1)(a)), transferred or demonstrated (Article 9(1)(c), Article 47(1)(a)(ii), Article 51(4)(c), and Article 57(2)), confirmed (Article 9(1)(d)), or replaced (Article 10) under the Rotterdam Rules.

notify the carrier (or the system provider) of the transfer, either of which is sufficient to be considered consent to use an electronic B/L. Establishing a confirmation mechanism for a transferee's consent will facilitate the effective and reliable use of electronic B/Ls.

Another potential inconsistency might arise in understanding the requirement of control or singularity. The UNCITRAL Model Law introduces the requirement of singularity, which is not found in the Rotterdam Rules, for the identification of a specific record that is considered equivalent to the corresponding transferable document. The question is then whether electronic B/Ls used in accordance with the Rotterdam Rules could be recognized invalid in accordance with the UNCITRAL Model Law for failing to meet the singularity requirement. This issue may be interpreted in two ways. On one hand, providing an electronic equivalent to the concept of a 'single' or/and 'original' B/L is not the task of a substantive law for the carriage of goods by sea. In the same respect, the other international carriage conventions never define what constitutes an *original* or *unique* B/L. The Rotterdam Rules rely entirely on exclusive control to assure that only one person is entitled to take the delivery of goods, while the subject matter of an electronic B/L subject to control is presumed to be the one that entitles its holder to the delivery of goods. This may be understood to mean that the Rotterdam Rules do not have to provide requirements related to the features of an electronic record. On the other hand, it is possible to say that the Rotterdam Rules should have not omitted the singularity requirement. The identification of a record may be a technical requirement, but Article 9(1)(b) requires assurance that the electronic B/L retains its integrity. It is hard to find a reason why the requirement of integrity remains while the requirement of singularity (or identifiability) is left out in the Rotterdam Rules, especially if identifiability is an element, in parallel with integrity, that defines the functional equivalent to a single, original B/L. This even raises a question that if the two legal instruments share the same view as to the concept of control; the Rotterdam Rules may have aimed to replace uniqueness with control alone, whereas the UNCITRAL Model Law recognizes the need of both requirements of singularity and control. This question is supported by the fact that the uniqueness or identifiability of electronic records was not discussed much in the draft process of the Rotterdam Rules. If this is true, the functional aspect of 'control' might have different connotations. In the Rotterdam Rules, control is understood to identify both the electronic record and the person in control, but in the UNCITRAL Model Law, it is used merely to identify the person in control while leaving the identification of an electronic record to a different concept named 'singularity'. For this reason, legislators should beware of stipulating control in an inconsistent manner.<sup>19</sup> In any case, establishing a uniform and combined notion of control will help keep parties clear, rather than confused, when it comes to understanding and applying relevant legal instruments more widely. This will contribute to facilitating the use of electronic B/Ls as well.

#### 4.2. Scenario 2: If the Rotterdam Rules Alone Are in Effect

Considering the adoption prospects discussed in Section 3, it is unlikely for there to be a scenario where the Rotterdam Rules enter into force while the UNCITRAL Model Law fails

<sup>19</sup> In practice, an electronic record is made identifiable by means of encryption. Cryptography is designed to link an electronic record to the identity of the person in control while retaining the integrity of the record. This applies regardless of technologies used. For example, even a token-based system containing a specific electronic record therein is designed to identify a user equipped with a matching system. This suggests that the concept of control may be used to identify both the person and record. Identification of the record and of the person seems like two sides of a coin; a system wants to identify the real user, while a user wants to identify the real record.

to achieve a broad adoption. However, a contract of carriage can be governed by the Rotterdam Rules, either by party autonomy or by a jurisdiction that has independently incorporated the Rotterdam Rules into its domestic legal system, even before the Rotterdam Rules enter into force officially. This possibility is more likely to take place regardless of whether the country in question has enacted the UNCITRAL Model Law into its legislation, considering the use of electronic B/Ls falls exclusively under the scope of the application of the Rotterdam Rules.

A positive aspect of this scenario certainly exists. The effect of approving an international treaty improves the legal certainty and status of electronic B/Ls, increasing the number of potential users. However, it brings about some concerns regarding the potential flaws and the lack of clarity under the Rotterdam Rules regarding consent (Article 8), use procedures (Article 9), and replacement (Article 10) in the use of electronic B/Ls, as discussed in the previous scenario. This scenario thus focuses on how to clarify, reinforce, or even replace the Rotterdam Rules provisions in question with relevant proposals.

The rationale for the requirement of a transferee's consent has already been discussed. The transferor's risk of mistakenly believing the success or failure of transfer of exclusive control would lead to uncertainties on both sides of a transfer. Consent has to be required regardless of the system used; a token-based system may not necessarily share the information as to the success or failure of transfer, but the uncertainties equally remain if there is no consent or confirmation by the transferee. Consent should be sufficiently inferred from the transferee's conduct. In this case, a system provider needs to clarify which actions of transferee's conduct can be deemed consent or confirmation, or to design its electronic system to require certain actions that can be sufficiently interpreted as consent, whether it is required before or after the transfer. Consent also needs to identify its purpose, to request or permit the transfer of the exclusive control at hand and to distinguish itself from consent required for various communication purposes in the course of carriage by sea. If it is difficult to amend the consent requirement in the Rotterdam Rules, a transferee's confirmation should be required in the operational rules or electronic B/L user agreements.

Regarding the replacement procedure, an electronic B/L system must ensure that the termination of a record to be replaced and the issuance of a new record are synchronized. In switching from a paper B/L to electronic, all originals should be surrendered to the carrier or the system provider. The system provider can issue a corresponding electronic B/L only after confirming that all originals are surrendered so that both paper and electronic B/Ls are not put into circulation. Similarly, when switching from an electronic B/L to a corresponding paper, the former should be made inoperative at the same time the latter is issued. In this case, the system provider should be in charge of approving the issuance of the new B/L for an effective medium switch. If the issuance of a B/L is left merely to the carrier that does not control the system, as interpreted by the Rotterdam Rules, there is no assurance as to whether the B/L will be issued at the same time when the electronic B/L is made inoperative. Since the switching procedure ends with the issuance of a B/L, the system provider should be responsible for the procedure by approving when the carrier can sign and issue a B/L. Consent for replacement is also relevant. When the holder transfers a B/L that has been newly issued by the carrier, the new transferee will see a statement that indicates a change of medium, as required by the Rotterdam Rules. However, since the transferee was not involved in the electronic B/L system, he cannot be assured of whether the former electronic B/L has been legitimately replaced by that B/L, or whether the effect of the electronic B/L has been properly terminated at the time he receives the B/L. Again, the system provider should be actively involved in the issuance process. To provide reliability in replacement, the system provider may have to affix a signature to authorize the statement guaranteeing a successful change of

medium.<sup>20</sup>

An absence of reliability standards has a serious impact on potential users and system providers for electronic B/Ls. Potential users have to figure out the reliability of electronic B/L systems on their own, which may give rise to various assessment metrics. It will take time until potential users reach an agreement on essential factors and establish a shared baseline to decide which system is considered reliable. This partly explains the reason why many international business communities have been taking a wait-and-see approach in adopting new technologies and methods used for transferring rights via electronic records. The absence of reliability standards also influences future system providers as well. Without a guideline for establishing a reliable electronic B/L system, it will have to depend upon success of the existing electronic B/L systems. For this reason, it is important that electronic B/L systems should continue to prove the adequacy and soundness of their systems.

Furthermore, major electronic B/L systems like Bolero and esDOCS should consider providing a new set of rules that work with the Rotterdam Rules, in addition to the current contractual framework based on English law.<sup>21</sup> The new set of rules can benefit users from jurisdictions that ratified the Rotterdam Rules, or users that are unfamiliar with English law or with transfer mechanisms such as novation and attornment. Having the Rotterdam Rules as the law applicable to electronic B/L systems makes it unnecessary to rely on old English legal concepts to electronically transfer rights, and instead introduces the legal recognition that electronic B/Ls serve the same functions as B/Ls under the Rotterdam Rules. This can promote legal certainty in the use of electronic B/L systems while helping system providers appeal to a wider range of users, who then have an option to choose an operational rule that is compatible with a preferable governing law.

### 4.3. Scenario 3: If the UNCITRAL Model Law Alone Is in Effect

The third scenario is where the UNCITRAL Model Law has been enacted by a number of countries while the Rotterdam Rules' ratification continues to be pending. This is more probable considering the ratification and enactment prospects discussed in Section 3. Even if the UNCITRAL Model Law is not enacted, parties would be free to agree to have electronic B/Ls regulated by the UNCITRAL Model Law. Thus, examining this scenario may be the most relevant to addressing real future issues.

Enactment of the UNCITRAL Model Law may take two different formats. One is incorporated into the domestic law on the carriage of goods by sea, and the other is enacted as an independent piece of legislation, which clarifies its applicability to the use of electronic B/Ls. The effective application of the UNCITRAL Model Law requires a substantive law governing the contract of carriage. This substantive law should be limited to the use of traditional B/Ls, as most of the current international and domestic laws are, but at the same time, it should not be interpreted to prohibit electronic alternatives to paper B/Ls. For legislators, this point should be clarified in an enactment process of the UNCITRAL Model Law, unless case law ensures interpretation of the substantive law accepting the use of electronic B/Ls, to improve

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<sup>20</sup> The Bolero Rulebook, for example, requires the issuance of a replacing paper document to contain "a statement to the effect that the document originated as the Bolero B/L", though it does not mention anything about a signature (Bolero Rulebook, Rule 3.7(2)(b)). In order to assure a new holder that the paper B/L is based on the Bolero B/L, it should be required that the B/L include a Bolero's approval/confirmation.

<sup>21</sup> This suggestion will be able to address two different groups: the parties from ratified jurisdictions that prefer newly created rules compatible with the Rotterdam Rules; and the parties from non-ratified jurisdictions that continue to rely on the current rules or agreements governed by English law.

legal certainty. For parties, two separate applicable law clauses may have to be prepared in the contract of carriage. One law will govern the contract of carriage, which provides for the use of B/Ls, and the other for the application of the UNCITRAL Model Law with regards to matters related to the effect of electronic B/Ls.

Where a substantive law for the carriage of goods by sea requires or permits writing, signature, possession, transfer, endorsement, and amendment for paper B/Ls, the corresponding provisions of the UNCITRAL Model Law (Articles 8, 9, 10, 11, 15, and 16) give legal effect to electronic equivalents. Since these provisions can be made inoperative without the corresponding aspects in carriage law, legislators should consider reforming domestic laws to provide rules for subjects that are missing or insufficient. For example, existing carriage law might require the 'date' of issuance or endorsement of a B/L to be written on the document.<sup>22</sup> However, the 'date' on a B/L may not be considered equivalent in indicating the 'time' for electronic B/Ls. These two respective terms have different meanings, and indicating the 'date' alone is not fitting for electronic B/Ls, which can be transferred or amended any number of times on the same date.<sup>23</sup> In this case, domestic law would require a reform from 'date' to 'time', which is inclusive of the date, to ensure that the UNCITRAL Model Law provision on the indication of time can be applicable.

For matters that do not require corresponding provisions in substantive law, the complimentary effect of the UNCITRAL Model Law works similarly as to the first scenario wherein both legal instruments were in effect. In this scenario, however, provisions regarding the replacement and reliability standards of the UNCITRAL Model Law would serve their functions without the issues of conflict, confusion, or application priority.

The control, singularity, and integrity requirements of the UNCITRAL Model Law can be introduced in domestic law to provide functional equivalents to the issuance, endorsement, amendment, and presentation of an original paper B/L, though legislators may still have to avoid using the terminology 'singularity' to prevent any confusion. Regarding the consent requirement, Articles 7(2) and 7(3) of the UNCITRAL Model Law require a transferee's consent, including that inferred from conduct. For more effective application, lawmakers should further discuss what actions will constitute consent by inference, and also ensure that consent is properly notified to the transferor. The possibilities of reform above show that the UNCITRAL Model Law can play a role creating an effective legal environment by addressing most of the carriage laws' outdated qualities.

As the UNCITRAL Model Law becomes widespread, it will be easier and more foreseeable for parties to have the electronic transfer of rights recognized in any court jurisdiction where the UNCITRAL Model Law is enacted. This will be more likely if system providers can also operate electronic B/Ls based on functional equivalence. Such a system will open access to carriage laws for paper B/Ls, giving a higher level of party autonomy when it comes to choosing a law governing a contract of carriage. An increasing number of users from diverse jurisdictions can further promote the use of such electronic B/L systems. Reduced restrictions will provide a good start for an open system.

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<sup>22</sup> For example, UAE maritime law requires a carrier to deliver the goods to the holder of a B/L "bearing the earliest date of endorsement" in case multiple B/Ls were issued (See Article 267(2) of the UAE Maritime Law 1981, Federal Law No. 26 of 1981 on Maritime Commercial Law). Similarly, many B/L forms still include an entry for 'date of endorsement'.

<sup>23</sup> Unfortunately, no electronic B/L system provides a case study which specifies the number of transfers. However, this is likely to happen considering (i) the capabilities of an electronic B/L system and (ii) the B/L practice of resales where some cargo, depending on the kind or/and business needs, may be resold dozens of times. Such practices can gain momentum with electronic B/L systems, which are currently capable of processing a transfer of exclusive control within several minutes.

System providers' adoptions of the UNCITRAL Model Law has a more significant influence on the creation of an ecosystem for the use of electronic B/Ls. First, the reliability standards of the UNCITRAL Model Law can affect the design of reliable electronic B/L systems in the future. This helps non-users of a particular electronic B/L system determine whether they can rely on the system. Further, parties can freely decide with confidence to use an open electronic B/L system, which may be accompanied with lower costs and far fewer procedures for registration, as long as that system meets reliability standards. Second, principles, legal concepts, requirements, and effects provided in the UNCITRAL Model Law can contribute to a basic legal framework for all electronic B/L systems being developed. Such a foundation makes it easier for new systems to be established, which can spur an increase in the total number of systems. This increased number can affect the cost of both providing and using an electronic B/L system, which is a key factor in influencing non-users' acceptance rates.

#### 4.4. Scenario 4: If Neither Are in Effect

The last conceivable scenario is where neither of the two legal instruments successfully take effect. This means that the legal status quo persists, one in which legal uncertainty remains and looks more conspicuous in the absence of legal regimes. This is an untenable scenario.

##### 4.4.1. *Legal Uncertainties: Why Law Needs Change*

Even though party agreement may generally be respected by most courts, the intention of parties to treat an electronic record like a B/L does not guarantee that courts will take the same view (Goldby, 2011). The role of courts is in line with the application of the existing law as it is written, where the governing law requires writing, document of title, original, and others, and the court is constrained to apply paper-based terms and concepts to the use of electronic records. Also, a new mechanism for transferring electronic records cannot be guaranteed to bind third parties in the same way that the transfer of a normal document of title would (Goldby, 2011). Existing substantive laws may carry a public policy purpose wherein the law should guarantee some protection to third parties, in which case it is difficult to justify usurping substantive law through party agreement (Yiannopoulos, 1995). Scholarly views that the creation of negotiable B/Ls is the prerogative of statutory law or mercantile usage (Goode, 1989; Kozolchik, 1992) also support the assertion that creating a new type of B/L is beyond what party agreement is capable of.

Therefore, legal reform is essential. In this scenario, however, the effects of reform will not be readily visible until a critical mass of domestic laws are reformed to give a legal effect to electronic B/Ls, enough to achieve legal certainty at an international level. It is not likely that current international legal regimes governing the carriage of goods by sea, such as the Hague-Rules, Hague-Visby Rules, and Hamburg Rules, are interpreted beyond the confines of the legal text, which were designed to perfectly fit the paper B/L practice. Only a bold but insightful court decision may help the emerging practice of electronic B/Ls be recognized.

One recent English case may bring general significance to the use of electronic B/Ls. In a recent decision made by the English Court of Appeals, *MSC Mediterranean Shipping Company SA v Glencore International AG* (2017), the court upheld that the electronic release note coupled with pin codes, which was provided in exchange for the negotiable B/L, did not constitute a delivery order. It was not because the release note was electronic, but because the electronic release note with the pin codes contained neither the carrier's undertaking to deliver the goods nor a mechanism that identified the consignee that surrendered the B/L, and thus it failed to comply with the meaning of the ship's delivery order under Section 1(4)

of the UK COGSA 1992. Though this case is not directly related to the legal effects of electronic B/Ls, it highlights the fact that adopting new technologies can result in potential pitfalls without careful consideration on the legal and security implications of using electronic B/Ls. This kind of court decision can make parties more conservative and encourages them to continue taking the so-called wait-and-see approach in the adoption of electronic B/Ls.

Most importantly, legal reform is necessary because the parties involved in international trade actually feel that the lack of legal clarity or adequacy is one of the biggest obstacles (44%) to the use of electronic B/Ls (UNCTAD, 2003). With such legal uncertainty permeating international trade communities, electronic B/Ls are unlikely to achieve widespread use in the near future. A third party transferee of B/Ls, including a consignee, a buyer in the chain of resales, a bank, and others, would be keen to have assurance on whether an electronic B/L securely entitles no one but him to the delivery of goods. In particular, banks have maintained an unwavering stance on the importance of B/Ls as collateral security, and their key interest lies in the uptake of electronic B/Ls as a pledge for goods so that they can still enjoy the right to the effect of a sale of goods. Without addressing the concerns of banks, as well as others' interests, and assuring them that they are entitled to the same rights as the use of paper B/Ls, the widespread use of electronic B/Ls will be difficult to achieve.

So far, contractual arrangements via electronic B/L systems have attempted to substitute for the role of the absent legal regimes. The transfer of rights has been effected via novation and attornment, which address the transfer of contractual rights and constructive possession of the goods to a third-party transferee. However, it is arguably uncertain as to whether these mechanisms provide an effective means as a pledge for goods while satisfying the interest of banks. On one hand, electronic B/L systems explicitly allow records to be pledged, and attornment addresses the issue of transferring constructive possession of goods, which is a fundamental requirement for a valid pledge. Thus, it is assumed that the pledge is available to banks that are registered in electronic B/L systems. On the other hand, no case has been reported from neither Bolero nor essDOCS regarding the use of electronic B/L as collateral security. In English law, a documentary pledge is only of value when recognized by courts as being a document of title (*Inglis v. Robertson*, 1898), and if this is applicable, an electronic B/L cannot serve as a pledge because it has never been recognized as such. Since electronic B/L systems rely on party agreement to give effect to electronic B/Ls, which do not necessarily bind third parties, a buyer (or consignee) has a potential difficulty when it comes to contesting claims against third parties such as a seller's creditor, who may be entitled to seize the goods prior to the buyer. However, this would not happen to the holder of the title document. In contrast, such uncertainty would not be a concern if the Rotterdam Rules or the UNCITRAL Model Law ensured that an electronic B/L has the same legal effect as a document of title by the means of functional equivalence. If an electronic B/L has the same status as a paper B/L in accordance with a governing law, it is more likely that banks would be entitled to enjoy the right to finance the sale of goods using electronic B/Ls (Alba, 2009).

However, legal recognition of the electronic transfer of rights in one jurisdiction does not mean the transfer is recognized in another jurisdiction. A differing legal environment could result in more confusion and disputes over jurisdictions. Without a uniform legal regime for the use of electronic B/Ls (Savković, 2014), outcomes that would have been expected from achieving legal harmonization by widespread enactment of the UNCITRAL Model Law would disappear. The main disadvantages would be a lack of legal certainty, plurality of different rules and laws, higher transaction costs for dealing with diverse rules, and more difficulties in creating party agreements and achieving transactions using electronic B/Ls. More time and burdens would cost system providers in creating and testing own rules and systems. Parties involved in international trade may be confused with the different rules and



procedures furnished by a potentially increasing number of system providers in the future. Realizing such demerits, traders, carriers, system providers, and other stakeholders may become less motivated to engage in the cross-border use of electronic B/Ls.

#### 4.4.2. *If Legislation Fails to Support Electronic B/Ls*

Where no legal regimes are applicable, the priority lies in the established practice or custom which substitutes for a legal regime providing legal certainty in the use of electronic B/Ls. A court's recognition of a practice or custom requires, among others, 'certainty' (*Devonald v. Rosser & Sons*, 1906), and one of the factors that can contribute to 'certainty' is standardized procedures. Courts may also give legal effect to commercial contracts more easily when reasoning is backed by a common practice (*Three Rivers Trading Company Ltd. v. Gwinear and Districit Farmers Ltd.*, 1967) that may be driven by standardization.

Standardized rules and effects in the use of electronic B/L systems promote an environment where all system providers uniformly apply a single rule so that parties in international trade can rely on and transfer rights to anyone, regardless of system. The most critical, potential problem in practice is that different groups of electronic B/L users are divided depending on the system to which they subscribe. With an increase in the number of system providers, the fragmentation of user groups will make it more difficult for users to transfer rights interactively across diverse systems. This impedes free trade rather than facilitates it, a far cry from the current paper B/L practice where parties freely transfer rights by transferring B/Ls to any trade partner they choose. It is imperative that different electronic B/L systems should be interoperable, and this can be more easily achieved with standardized rules. Uniform rules can vitalize the use of electronic B/Ls by allowing interactive transfer between different user groups while enhancing foreseeability and lowering risks in legal disputes. A key effort in establishing a standard rule will be mutual cooperation among system providers. Current and potential system providers should take the initiative to establish a set of standardized rules and procedures that are acceptable to a diverse group of users. Standardized procedures can take advantage of the substance of the legal instruments, which have already been studied and verified in their drafting processes by intergovernmental organizations like UNCITRAL and CMI together with many national governments. Such legal instruments would be more reliable and up-to-date for parties to adopt.

For cargo interests, counterparts should be equipped with electronic B/L systems to encourage cost reductions and efficiency. One way to facilitate this is for major companies to pass down successful experiences with electronic documentation to small and medium-sized enterprises (SMEs); the continued fragmentation of paperless networks would rather backfire and hold back the advancement of early adopters. This kind of critical mindset should prevail for large companies to support and encourage more SMEs to join electronic B/L systems in order to enjoy the best possible effect from paperless trade. Also, more system providers should establish a business to engage in providing reliable and affordable electronic B/Ls, targeting SMEs or individual traders.

#### 4.4.3. *Alternatives to Electronic B/Ls*

Alternatively, parties may consider transferring rights to the goods in transit without relying on electronic B/Ls. According to Article 51(1)(b) of the Rotterdam Rules, a shipper can transfer the right of control by electronic notification to the carrier, especially when a non-negotiable electronic transport record (e.g. electronic sea waybills) is issued. This method of transferring a right involves no paper document, which makes it a good alternative to achieve truly paperless trade with electronic B/Ls. Parties may incorporate in their contract

of carriage procedures and the effect of the right of control as provided in the Rotterdam Rules.

In order to successfully achieve notification-based transfer, two things must be assured. The first is that the carrier must be capable of receiving and sending notifications while sharing real-time information on whether or not the right of control has been transferred to an intended transferee. From a practical perspective, this saves time and effort which would otherwise be wasted for exchanging numerous messages between the carrier and transferors or transferees for notifying and confirming the respective transfer of the rights. Synchronizing the distribution of information would prevent disputes over multiple conflicting messages, exchanged at different times, from arising. From a security and legal perspective, the carrier's system is supposed to evidence the fact that the right to the goods has been transferred to another person; without it, information on whether or not the right has been transferred, and the timing of the transfer, would be exclusively controlled by the carrier, which exposes the information to potential manipulation. Data integrity would also be better retained through the supervision of all the parties involved in the transfer, including the transferor, the transferee, and the carrier. Another benefit is that the transfer mechanism might be less complicated; parties may be contractually bound to respect the effect of notification-based transfer so long as a provision like Article 51(1) of the Rotterdam Rules is inserted in the contract of carriage.

The second thing to be assured is to establish a secure communication line between carriers and banks. In the case of B/L, carriers and banks do not need to communicate. In notification-based transfer, however, the record itself does not play such a function, and the carrier's management of information on notification and confirmation may have to take the form of a guarantee. Once the transferor instructs the carrier that the right of control is transferred to a buyer's bank, the carrier will send confirmation to the bank involving the transfer of data that evidences the transfer. Unless the bank exercises the right to transfer, the bank should be able to retain the controlling right based on the carrier's contractual guarantee. However, it is uncertain that the carrier would want to take the burden of giving such a guarantee. If the bank's interest lies in obtaining collateral security for a payment made under credit, as is the case with a B/L, the issue is whether the carrier's guarantee could serve such a function, though the bank may be able to rely on information from a carrier that has physical custody of the goods in question. In any case, this would be possible only when communication and mutual trust are established between the bank and the carrier, and when the identity of the parties involved in the transfers could reliably be verified by the carrier. Considering a situation where a number of shipping companies have been improving the quality of shipping service using advanced technologies, carrier's adoption of the notification system is becoming more feasible in the near future. With rapidly modernizing shipping practices and documentation, more support and proactive attempts should be made by international associations representing carriers' interests.

## 5. Conclusion

Electronic B/Ls have never enjoyed widespread use like their paper predecessors. System providers of electronic B/Ls try to attract potential users by raising the reliability and awareness of their solutions, but large growth in the number of users has remained elusive. Most of the current electronic B/L systems require a financial burden while confining the transferability of users' rights to the members of a closed network. Users' low demand fails to incentivize a new system provider to start a business, while potential users keep waiting until

a new system provider enters the market. This has led to a kind of chicken-or-egg situation. A new technology based on an open, distributed ledger could be a breakthrough, but its full commercialization may still be a while away.

Developing and legislating a harmonized legal framework can play a significant role toward the use of electronic B/Ls. Failure to do so for decades has continued the status quo and legal uncertainties, while international trade has been constantly exposed to changes faced by evolving e-commerce and technological innovations. Contractual approaches based on old legal mechanisms may have made it possible to transfer rights in an electronic environment, but they cannot dictate the legal validity of replicating a functionally equivalent setting to the possession of an original B/L. Exclusive control defined in a contractual arrangement might not mean much in law, since it may have no legal validity, or certainty, at least, without a legal regime recognizing it. Further, transferring legal rights to third parties through the use of electronic records may not be determined by a contract, unless a statutory rule or custom supports it. In any case, parties involved in international trade will want to be assured of the uniform legal effect of electronically transferring rights regardless of jurisdictions or business partners. This is why recent legal developments deserve close attention, and there is a need to study how the Rotterdam Rules and the UNCITRAL Model Law will be able to address legal uncertainties and facilitate the use of electronic B/Ls.

The enactment prospect suggests that Scenario 3, the application of the UNCITRAL Model Law alone, is most likely to take place. The UNCITRAL Model Law, combined with carriage law governing a contract of carriage, is meant to play a complementary role by giving legal effect to functional equivalents to paper B/L mechanisms. For law makers, it will be necessary to clarify the scope of the model law's application to cover electronic B/Ls, or integrate the model law into the existing legal regime for the international carriage of goods by sea. For potential users of an electronic B/L system, the control and singularity requirements together with reliability standards under the UNCITRAL Model Law will help to assess the reliability of a system, which can lead to growing attention and participation in the electronic B/L network. System providers of electronic B/Ls do not have to rely on English law any longer; they can make systems available in any jurisdiction that has enacted the UNCITRAL Model Law while providing greater legal certainty. This may involve a change in the operational rules of the existing electronic B/L systems based on the UNCITRAL Model Law so as to be open to diverse substantive laws, which will allow a greater number of potential users to subscribe to their systems. With a growing number of enacted jurisdictions, such a proactive approach can facilitate the use of electronic B/Ls, helping trade communities resolve the issue of a stagnant demand and supply, and ultimately, achieve the widespread use of electronic B/Ls.

The comparative assessment of different legal instruments and applicability does not aim to simply predict or prepare a successful future. The value of this study is also found in delving into the possibilities where things do not go as planned. Despite the weakening prospect of the Rotterdam Rules as a potential international convention, theoretical application of both the Rotterdam Rules and the UNCITRAL Model Law (Scenario 1) hints at some potential risks of conflict between the two, along with latent issues in each instrument. This provides useful insight for a future legal environment where we may have to make adjustments or consensus regarding the procedures for replacement, consent, and control in the use of electronic B/Ls. This is not different from Scenario 2, where parties may have to properly amend by agreement possibly defective or unclear provisions of the Rotterdam Rules (Articles 8 to 10). A real headache that requires extra effort and time would be the continuation of the status quo. Without legislation that facilitates the use of electronic B/Ls, momentum has to rely upon the process of standardization for an electronic B/L form and the formation of jurists' confidence to establish case law, which must work together with users' demands and

technology maturation, which is full of uncertainties. This study hopefully contributes its extended views and legal discussions to the indefinite future of international transport managed by electronic systems.

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