MASTER THESIS

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„Electronic Bill of Lading - Legal challenges and potential developments“

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Abstract

This research sets to determine the reasons behind the lack of a functional electronic alternative to the Bill of Lading. Its main objective is to analyze the difficulties of replicating the Bill of Lading in an electronic environment through the prism of it functions i.e. the rights embodied in it. Since these are both contractual and proprietary in nature and based in mercantile customs the regulation of the Electronic Bill of Lading becomes more difficult than a mere statutory recognition of its equivalence through general e-commerce law. This difficulty is highlighted in legal systems that contain no direct statutory provisions relating to its status and functions. The thesis discusses the skepticism of certain legislators on the regulation of the issue and argues that the reasons behind their skepticism are unjustifiable. The analysis shows that the expectation of the industry to create an actual equivalent in order to convince legislators that it is time to regulate is not commercially viable. Therefore a shift in paradigm is deemed essential. Finally, the solution offered by the Rotterdam Rules where the traditional rights under the Bill of Lading are transformed into transferable contractual rights under the Contract of Carriage is discussed. The thesis concludes that such approach eliminates the identified issues and supports its implementation as a potential solution.

Zusammenfassung

Diese Arbeit soll die Gründe für das Fehlen einer funktionierenden elektronischen Alternative zum Konnossement ermitteln. Ihr Hauptziel besteht darin, die Schwierigkeiten bei der Replikation des Konnossements in einer elektronischen Umgebung durch das Prisma seiner Funktionen, d. H. die darin enthaltenen Rechte, zu analysieren. Da diese sowohl Vertragsrechte als auch Eigentumsrechte sind und auf Handelsbrauch beruhen, wird die Regelung des elektronischen Konnossements schwieriger als die bloße gesetzliche Anerkennung seiner Gleichwertigkeit durch das allgemeine E-Commerce-Recht. Diese Schwierigkeit wird in Rechtssystemen hervorgehoben, die keine direkten gesetzlichen Bestimmungen in Bezug auf seine Status und seine Funktionen enthalten. Die Arbeit

diskutiert die Skepsis bestimmter Gesetzgeber gegenüber der Regulierung der Frage und argumentiert, dass die Gründe für ihre Skepsis nicht zu rechtfertigen sind. Die Analyse zeigt, dass die Erwartung der Idnustrie, ein tatsächliches Äquivalent zu schaffen, um den Gesetzgeber davon zu überzeugen, dass es Zeit für eine Regulierung ist, wirtschaftlich nicht tragbar ist. Ein Paradigmenwechsel wird daher als wesentlich erachtet. Abschließend wird die in den Rotterdamer Regeln angebotene Lösung erörtert, bei der die traditionellen Rechte aus dem Konnossement in übertragbare vertragliche Rechte aus dem Beförderungsvertrag umgewandelt werden. Die Arbeit kommt zu dem Schluss, dass ein solcher Ansatz die identifizierten Probleme beseitigt und seine Implementierung als mögliche Lösung unterstützt.

List of abbreviations

BoL – Bill of Lading

EBoL – Electronic bill of lading

CoC – Contract of carriage

LoI – Letter of indemnity

P&I – Protection and indemnity

COGSA – Carriage of Goods by Sea Act

HGB - Handelsgesetzbuch

UCC - Uniform Commercial Code

ETR – Electronic transport record

HR – Hamburg Rules

HVR – Hague-Visby Rules

RR – Rotterdam Rules

MLEC – Model Law on Electronic Commerce

UNCITRAL - United Nations Commission on International Trade Law

CMI - Comité Maritime International

1. Introduction

1.1 Background

Carriage of goods by sea is an important industry in the global trade with around 90% of all transport being performed by sea. With that big of an importance it is understandable that the maritime industry is as diverse as it can get. Within it there is a list of participants that make for the whole image including carriers, salvage companies, shipbuilders, insurers and many more. Consequently, maritime law covers variety of aspects related to different industry operations. The industry is constantly evolving and the need for the law to be adapted accordingly is always present. The need for additional regulation is especially noticeable in carriage of goods. Multimodality, freight integration and digitalization are some of the areas where the law has been identified as lagging behind the needs of the industry.

It is surprising that paperless trade is a challenge in a time where internet based services are widely available, especially to an industry technologically advanced enough to build enormous ships or raise the Titanic. On the face of it, there is no issue at hand. Most documents used in carriage of goods such as shipping notes, export cargo shipping instructions, sea waybills and even the contract of carriage itself have been digitalized. The Bill of Lading (BoL) however, continues to stand the test of time and keep its paper form besides its value to the industry. It is often given the title of "*the single most important document in international trade*".

The question of how such an important document has been left to its paper form despite attempts from the early 1990s is a reasonable one to ask. The answer however, is not a simple one to give. A starting point to the search for the answer is to be sought in the complexity of the BoL. Namely, it is not a document intended to solely convey certain information whose authenticity is guaranteed by way of signature or stamp. Were that the case, there would have been no issues to place the EBoL under existing legislation regulating electronic equivalents to signature or writing. The use of the EBoL remains an unregulated issue which is certainly undesirable for the industry. It is not just a practical issue but a one that creates great amount of legal uncertainty which gives this thesis its foundation for research.

1.2. Purpose and research questions

The subject matter of the thesis is a highly discussed one. For the most part the literature focuses on the manner in which the handling of the BoL can be translated into an electronic environment. These contributions focus mostly on the existing EBoL platforms and analyze them from a practical point of view and offer detailed analyses of the legal institutes used to facilitate an electronic equivalent to the BoL. Other contributions analyze the provisions of potential or existing legislation such as the US Uniform Commercial Code, the Rotterdam Rules and of other work of UNCITRAL which are of technical nature and provide a minimal technical requirements to guarantee the use of an EBoL.

This thesis will touch upon those issues as they are inevitable when discussing this subject matter but will not go into detail since such issues have been the subject of many texts. Instead, the thesis will try to add a different perspective to the issue at hand by analyzing the nature of the rights and obligations traditionally embodied in the BoL and why they have represented the biggest hurdle so far in achieving a fully functional EBoL.

For these purpose the thesis will aim to answer the following questions:

1. What are the functions of the BoL?
2. Why is there a need for a functional EBoL?
3. What are the reasons behind lack of legislation and are such reasons justifiable?
4. How do the Rotterdam Rules approach the issue?

1.3. Structure

The thesis is structured in 6 chapters the first of which is this one and is aimed to present an introduction to the thesis and its purpose. The remaining chapters are divided in the 4 chapters that contain the analysis of the research questions and the final 6th conclusionary chapter.

Chapter 2 aims to provide the justification of the research. It is aimed towards pinpointing the commercial importance of the BoL as a document. The chapter provides an outline of the identified legal issues arising out of the use of the paper BoL thus highlighting the pressing need for a well established legal environment in which an EBoL can be issued and subsequently used.

The 3rd chapter analyzes the current legal status of the EBoL. By way of analyzing the preparatory works of current legislation the chapter tries to summarize the reasons for the lack of widespread legislation.

Chapter 4 argues against the reasoning against introduction of legislation given by legislators. The chapter is also aimed at analyzing the relative success at existing solutions from a legal perspective.

Chapter 5 examines the EBoL provisions contained in the Rotterdam Rules. It examines not just the technical but also the substantive provisions contained therein as to analyze whether the Rules offer a comprehensive legal basis for the use of an EBoL.

2. Establishing the need for an EBoL

2.1 Introduction

To better understand the need for the introduction of a well established and universally recognized system for the use of EBoL the functions of the BoL must be understood. The aim of this chapter is to provide an overview of the functions of a BoL in order to pinpoint its importance to the maritime industry and discuss the issues the industry is facing in using its paper form as to establish the need for dematerialization in this area.

2.2. Functions of the BoL

The modern BoL is a result of years of mercantile custom transposed into law through case law and codification[1]. Its functions have developed as an answer to the needs of the industry. The modern BoL serves as a receipt of goods loaded, evidence of the contract of carriage and as a document of title. For the purposes of the thesis, this part will provide a brief overview of the these functions in order to provide an understanding of what the EBoL needs to replicate in order to acquire universal acceptance.

2.2.1. Receipt of goods

The receipt of goods function is the original function of the BoL[2]. The need for the issuance of such a document arose when shippers were no longer able to accompany the goods on board the ship[3]. In such situation the shipper was in need of proof of the receipt of goods and their condition upon loading[4].

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[1] Stephens F. *The bill of lading holder, rights and liabilities*, London: Routledge, 1st ed., 2018, p. 7

[2] Murray, D. E. *History and development of the bill of lading*, University of Miami Law Review, Vol. 37, No. 3, 1983, p. 689-732.

[3] Girvin S. *Carriage of goods by sea*, Oxford: Oxford University Press, 2nd ed., 2011, p. 36

[4] Ibid

The BoL contains information on the quantity, weight, apparent order and the condition of the goods shipped and is prima facie evidence of the statements made by the shipper regarding these particulars. This function is recognized in the legislation of all of major maritime trading countries in Europe.

For instance, the COGSA 1992 recognizes this function in section 4 where it is stipulated:

"A bill of lading which—
(a)represents goods to have been shipped on board a vessel or to have been received for shipment on board a vessel; and
(b)has been signed by the master of the vessel or by a person who was not the master but had the express, implied or apparent authority of the carrier to sign bills of lading, shall, in favour of a person who has become the lawful holder of the bill, be conclusive evidence against the carrier of the shipment of the goods or, as the case may be, of their receipt for shipment".

German law also recognizes the evidentiary function of the BoL in Section 517 of the HGB:

"1) A bill of lading shall give rise to the presumption that the carrier has taken over the goods in the state described pursuant to section 515 subsection (1) numbers 7 and 8"[5] *...*

The evidential value of a BoL is incorporated in Article 414, Book 8, of the Dutch Civil Code:

"1) Evidence contradicting the bill of lading is not admissible when the bill of lading is transferred to a third party acting in good faith".

[5] These refer to:
7. Nature of the goods along with their externally apparent condition and characteristic features;
8. Quantity, number or weight of the goods and their permanent, legible leading marks;

The development of this function was made toward the protection the position of a third-party consignee in good faith i.e. a transferee of the BoL[6]. Such protection is deemed essential for the transferability of the BoL as a document of title, where the commercial interest of a third-party acting in good faith requires that they are entitled to rely on the appearance of those rights as created by the BoL[7]. This gives the receiver of the goods the right to seek delivery of the goods as described in the BoL or to eventually sue for damages in the frame of the description contained therein.

2.2.2. Evidence of the contract of carriage

While the BoL contains certain clauses relating to the terms and conditions of a contract of carriage, the BoL is not a contract of carriage by itself. The contract of carriage is concluded before the issuance of the BoL, that is the BoL is issued in accordance with the contract of carriage[8]. Since the CoC doesn't have a mandatory form of conclusion it can be concluded by telephone or by any other means available[9]. In Common law jurisprudence the BoL is regarded as "receipt of goods which states the terms on which they were delivered to and received by the ship, and therefore *excellent evidence* of those terms, but it is not a contract[10]". The parties to the CoC can challenge the accuracy of the terms contained in the BoL provided they can bring forward sufficient evidence of such claims[11].

2.2.3. Document of title

This function of the BoL is deemed to be the most important and has been so far the most difficult to replicate in an electronic form. The holder of the BoL has the exclusive right to seek delivery of the goods which allows the BoL to function as a document of title i.e. a document that represents the

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[6] Smeele F., *Bill of Lading Contracts Under European National Laws (Civil Law Approaches to Explaining the Legal Position of the Consignee Under Bills of Lading)*, in Thomas D.R. (ed.), Chapter 12, The evolving law and practice of voyage charterparties, Informa Law, 2009, p. 251-280

[7] Ibid

[8] Girvin S. *Carriage of goods by sea*, Oxford: Oxford University Press, 2nd ed., 2011, p. 85

9 Debattista, C. *The bill of lading as the contract of carriage a reassessment of Leduc v. Ward*, Modern Law Review, 45, issue 6, 1982, p. 652-663

[10] *Sewel v Burdick*, (1884) 10 App Cas 74, 105

[11] Girvin S. *Carriage of goods by sea*, Oxford: Oxford University Press, 2nd ed., 2011, p. 85-86

goods described therein[12]. The recognition of the BoL as a document of title that provides its holder with constructive possession of the goods on board and enables their sale while in transit[13]. This function developed as a mercantile custom. The spread of commerce and increased complexity of business constituted a need for goods to be sold before they arrive at their destination[14].

This custom and need was firstly recognized by English courts most notably in the case of *Lickbarrow v Mason* where it was found that it is a custom of merchants that the delivery or transmission of an indorsed BoL to a person transfers the property of the goods stated therein[15]. In *Sanders v Maclean* where LJ Bowen underlined the incapability of physical delivery of the goods while at sea and recognized the indorsement of the BoL as a symbolic delivery of the goods[16]. Today this function of the BoL is especially convenient for bulk cargo such as oil which can be sold more than 20 times until it reaches the discharge port[17].

The transferability of the BoL is not however solely connected to the document of title function. All BoL are documents of title but not all are transferable. If a BoL is issued to a named consignee (straight BoL) it creates the obligation for the carrier to deliver the goods only to the named consignee. Such a BoL is not capable of being transferred to third parties by way of indorsment, but it is still a document of title which is accepted by banks as security and can be used in the documentary

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[12] Stephens F. *The bill of lading holder, rights and liabilities*, London: Routledge, 1st ed., 2018, p. 19

[13] Pejović Č., *Documents of title in carriage of goods by sea under English law: Legal nature and possible future directions,* Poredbeno pomorsko pravo, Vol. 43 No. 158, 2004, p. 43-83.

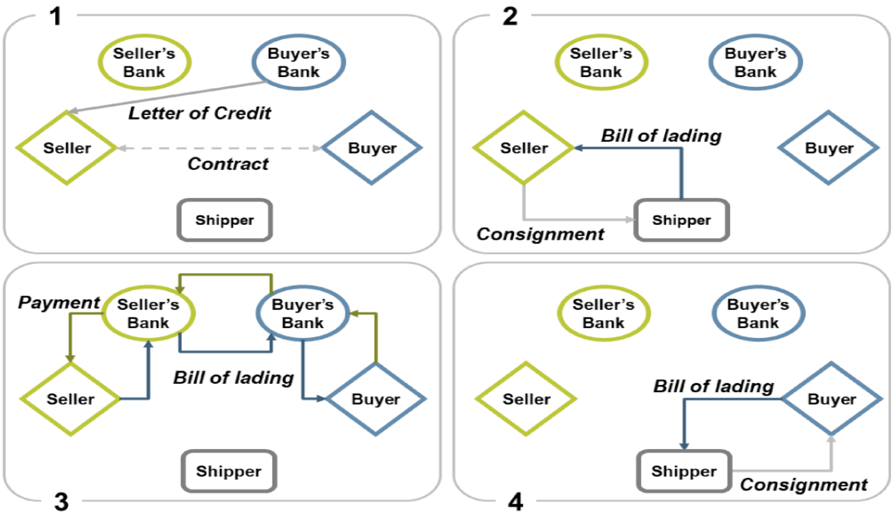
[14] United Nations, *Bills of Lading*, Secretariat of the United Nations Conference on Trade and Development, United Nations, 1971, para. 58.

[15] *Lickbarrow v. Mason* (1794) 5 T. R. 683, 685 - *"By the customs of merchants, **bills of lading, expressing goods or merchandises** to have been shipped by any person or persons to be delivered to order to assigns, have been, and are, at any time after such goods have been shipped, **negotiable and transferable by the shipper or** shippers of such goods to any other person or persons, by such shipper or shippers endorsing such bills of lading with his, her or their name or names, **and delivering or transmitting the same so endorsed,** or causing the same to be so delivered or transmitted to such other person or persons; and by such endorsement and delivery, or transmission, **the property of such goods** hath been, and **is transferred and passed to such other person** or persons."*

[16] *Sanders v. Maclean* (1883) 11 QBD 327, 341 - "*A **cargo at sea** while in the hands of the carrier is necessarily **incapable** of physical delivery. During this period of transit and voyage, the bill of lading by the law merchant is universally recognized as its symbol, and the **indorsement** and delivery of the bill of lading **operates** as a **symbolical delivery of the cargo***."

[17] Schaffer R., Earle B. and Agusti F., *International Business Law and its Environment*, Ohio: West/Thomson Learning, 10th ed., 2018, p. 127-128.

credit transactions in order to facilitate the sale of goods[18]. This use of the BoL is one of the main reasons for the widespread use of the BoL. In documentary credit transactions the buyers bank issues a letter of credit to the seller by which it undertakes to pay the purchase price to the seller upon presentation of the BoL[19]. In these transactions the Bank has an interest in the BoL's character as a document of title because in cases of non-payment or credit defaulting, the bank, as the holder of the BoL, has the right to take control of the goods and recover any losses[20]. This manner of completing transactions tends to the concerns of the seller and buyer in the international sale of goods where payment and delivery are to be made simultaneously in which the transfer of the BoL serves as a proof of delivery of the goods purchased[21]. A typical long distance sale of goods would typically follow the steps presented in graph 1 below.



Grapgh 1[22]

[18] Leng Sun Chan, *Holder of a Bill of Lading* , Singapore Academy of Law Journal, Vol. 7, No. 2, 1995, p. 355-366
[19] David A. Bury, *Electronic Bills of Lading: A Never-Ending Story*, Tulane Maritime Law Journal Vol. 41 No. 1, 2016, p. 179-238
[20] Schmitz, T. *The bill of lading as a document of title*, Journal of International Trade Law and Policy, Vol. 10 No. 3, 2011, p. 255-280
[21] Seok-Beom Choi, *Bill of Lading Problems in Oil Trade and Blockchain Bill of Lading as Electronic Bill of Lading*, The Journal of Internet Electronic Commerce Research, Vol. 18 No. 5, October, 2018, p. 269-288
[22] Image obtained from: https://transportgeography.org/?page_id=7214

2.3. The BoL in International law

The current international regime does not regulate the BoL itself. The scope of application of the existing conventions regulating maritime transport is however closely related to the issuance of a BoL.

The International Convention for the Unification of Certain Rules of Law relating to Bills of Lading as amended by the Brussels Amendments (hereinafter the Hague-Visby Rules) are currently the most used regime regulating carriage of goods by sea. 86 countries which represent 90% of global shipping tonnage are members to this convention[23]. The Hague-Visby Rules do not regulate the BoL but do cover some of it aspects. Article 1 paragraph b defines its scope as to be applicable *"only to contracts of carriage covered by a bill of lading or any similar document of title, in so far as such document relates to the carriage of goods by water,…"*. The original intention of the drafters of the Hague-Visby Rules was to provide for a standard regime regulating the CoC under which a BoL is issued. The introduction of such a regime was thought to be of great importance to the international trade in goods and should result in enhanced predictability in the use of a BoL as a document of title[24]. It can be inferred from the discussions in the preparatory meetings for the adoption of the Hague-Visby Rules that the functions of the BoL were at that time universally recognized and the adoption of a universally accepted regime of the CoC by sea was essential to facilitate the use of the BoL in the sale of goods and financing of international trade. Therefore a universal liability regime would give rise to higher certainty to a third party holder of a BoL.

Another convention regulating international maritime transport is the United Nations International Convention on the Carriage of Goods by Sea (hereinafter the Hamburg Rules). The Hamburg Rules define the BoL as a "*document which evidences a contract of carriage by sea and the taking over or loading of the goods by the carrier, and by which the carrier undertakes to deliver the*

[23] http://maritime-connector.com/wiki/hague-rules/

[24] *Travaux Préparatoires of the Hague Rules and of the Hague-Visby Rules*, CMI, Antwerp, 1997, p. 95-98

goods against surrender of the document"[25]. Unlike the Hague-Visby Rules, its scope of application is not exclusively tied with the issuance of a BoL thus creating the possibility for the use of other internationally regulated transport documents[26]. Amongst other grounds, the Hamburg Rules apply if "*the BoL or other document evidencing the contract of carriage is issued in a Contracting State*"[27].

2.4. Issues with the use of a paper BoL

As can be seen from graph 1 that a sale of goods transaction involving only two parties sees the BoL being transferred 3 times before it reaches the buyer who is entitled to delivery of the goods. As noted earlier, goods can be resold multiple times during their transit. This means that the process presented in graph 1 can be repeated as many times as the cargo on board is sold. Such a process is inherent to the modern day international sale of goods and the ability of the BoL to facilitate this process is what makes it so valuable to international trade.

However, the documentary credit process is not without transactional costs[28]. There is no guarantee that the bank will be satisfied with the presented BoL thus delaying its movement in the documentary chain. The paper form of the BoL makes its movement difficult to keep up with the movement of the cargo[29]. Ships have become much faster, new and faster routes have been established and effective freight management systems have been created. These developments have led to a situation where the ship carrying the cargo arrives earlier than the corresponding BoL[30]. This situation has a number of negative implications. The carrier is obliged by law to deliver the cargo to the rightful holder of the BoL otherwise he is liable for misdelivery. Because of such delay the carrier is unable to identify the

[25] UN General Assembly, *United Nations Convention on the Carriage of Goods by Sea*, 1978 (Hamburg Rules), Article 1 p 7
[26] *Report of Group 5 Scope of application and co-existence ith the Hague and Hague Visby Rules Articles 2, 23 (Iii), 25 And 31*, Colloquium on the Hamburg Rules, CMI, Vienna 1979, p. 52
[27] UN General Assembly, *United Nations Convention on the Carriage of Goods by Sea*, 1978 (Hamburg Rules), Article 2 p 1 s (d)
[28] David A. Bury, *Electronic Bills of Lading: A Never-Ending Story*, Tulane Maritime Law Journal Vol. 41 No. 1, 2016, p. 179-238
[29] Rowe, M., *Bills of lading must move fast,* International Financial Law Review Vol. 2 No. 4 1983, p. 32-34.
[30] Seok-Beom Choi, *Bill of Lading Problems in Oil Trade and Blockchain Bill of Lading as Electronic Bill of Lading*, The Journal of Internet Electronic Commerce Research, Vol. 18 No. 5, October, 2018, p. 269-288

holder of the BoL, the reasons behind it and obviously he cannot make an assessment on the time needed as to reduce the period his ship is kept in port limits[31]. It can occur in these situations that the cargo remains loaded provided that no warehousing space is available until the BoLs arrival which could result in charterer's liability for demurrage or detention fees while the ship-owner runs the risk to lose the next charter should it contain a cancelation clause[32]. In *A/S Hansen-Tangens Rederi III v Total Transport Corp* the Master of the "Sagona" stated that in his 14 years of commanding ships has never seen the original BoL[33].

This situation has led the industry to develop a practice to deliver cargo without presentation of the original BoL but upon issuance of a Letter of indemnity (LoI). The LoI is a guarantee from the person claiming to be the rightful holder of the BoL to the carrier that he will indemnify the carrier for any losses incurred by the carrier in case of misdelivery. The International group of P&I clubs[34] has released a circular warning members against this practice noting that any liabilities arising out of the delivery without presentation of the BoL shall not be covered by P&I insurance[35]. A carrier cannot be certain that the terms of the LoI are broad enough to cover any potential liability. In cases of misdelivery the carrier is not only liable for breach of contract but also in tort. LoIs are usually drafted to indemnify the carrier of his contractual liability. In such a case the carrier can be found liable in tort for misdelivery[36] and thus left without indemnity. Even when the LoI is drafted to cover liability in tort, they are issued for a certain period of time which may not correspond to the statute of limitations in tort[37] which differs from jurisdiction to jurisdiction and is longer than the one year time bar envisaged under the Hague-Visby Rules[38] or the two year one in the Hamburg Rules[39]. The carrier can

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[31] Aristotelis B. A., Nikolaos K. and Anthi Z. V. *Managing problems in sea transport related to the delivery of the cargo: Letters of indemnity vs. Bills of lading*, in Konstantopoulos N., and D. E. Sakas (ed.) Proccedings of International Conference on Management and Marketing Sciences, Singapore: Imperial College Press, 2010, p. 243-244

[32] Ibid

[33] *A/S Hansen-Tangens Rederi III v Total Transport Corpi (The Sagona)*, (1984) 1 Lloyd's Rep 194, 201.

[34] https://www.igpandi.org/, P&I (protection and indemnity) clubs are ship-owners associations which provide a special type of insurance to members based on a mutual (solidarity) basis.

[35] https://standard-club.com/media/101979/Standard-Bermuda-circular-International-Group-Standard-Form-Letters-of-Indemnity-20-October-2010.pdf

[36] Møllmann A., *Delivery of goods under Bills of lading*, London: Routledge, 1st ed., 2016, p. 58, 60-63

[37] Ibid p. 66

[38] Art 3 p. 6 HVR

demand a LoI issued for a corresponding period of time but there is no guarantee that the issuer of the LoI will retain his solvency for that long period of time thus rendering the LoI useless[40]. In *Sze Hai Tong Bank Ltd v Rambler Cycle Co Ltd* Lord Denning noted that "*It is perfectly clear law that a shipowner who delivers without production of the bill of lading does so at his peril*"[41].

2.5. Conclusion

The use of the traditional paper BoL is set in a well established legal and mercantile environment which has been slowly developed over centuries. It is an internationally recognized instrument by all stakeholders it the global commodity trade and plays a crucial role in it. The use of the BoL has been put under scrutiny in the last decades. Apart from obvious reasons such as cost and environmental impact of paper documents, the calls for dematerialization of this document have different grounds. As explained above, the use of the paper BoL can have actual legal implications. Its persistent use however, is an indicator that the current models of the EBoL haven't been able to satisfy all of the players in the maritime industry. The reasons behind this will be discussed in the next two chapters, first by analyzing the reasons behind the current legal status of the EBoL and second by discussing the current models that exist in practice.

[39] Art 20 p 1 Hamburg rules

[40] Paul T., *Principles of the Carriage of goods by sea*, London: Routledge, 1st ed., 2016, p. 361

[41] *Sze Hai Tong Bank Ltd v Rambler Cycle Co Ltd* (1959) AC 576, PC, 120

3. The legal status of the EBoL

3.1 Introduction

The spread of the use of the BoL can be attributed to its simplicity and convenience to use in commercial transactions[42]. As discussed previously its origins lie in mercantile customs and not law. The legal system was forced to play catch-up with its development. This has been recognized in 1861 by Dutch author J.G. Kist who described the legal status of the BoL in the following way:

"The bill of lading, like the bill of exchange, is a commercial instrument created by practice, little aided in its development by legislation and very imperfectly explained by the lawyers. Here also, the customs of the trade conflicted with the opinions of the legal scholars. Here also, incorrect interpretations have caused much confusion. The merchant understood very well what a bill of lading is and which obligations arise from it; the lawyer couldn't find a place for it in his system and tried to explain the nature of the bill of lading in different ways[43]."

This statement can be also applied to the EBoL as well. The business community understands the need for such an instrument and has already made steps in order to mitigate problems arising out of the use of the paper BoL. Model rules[44] and EBoL platforms have been created in the last 30 years but without notable success in this area so far. The industry has become more welcoming to the EBoL over the years. For instance some of the current systems have been endorsed by the international group of P&I clubs thus increasing certainty in using certain EBoL systems.

On the other side of the story is the law, which hasn't been as welcoming to this new practice. Attempts have been made but no real progress has been achieved. Any success in regulation requires a strong guarantee of legal certainty. It is imperative that all players in the industry must agree on a

[42] Bury, D.A., *Electronic Bills of Lading: A Never-Ending Story*, Tulane Maritime Law Journal Vol. 41, no. 1, 2016 p. 197-238

[43] Kist J.G., Het Handelspapier, Part 2. Het cognossement, Amsterdam, J.H. Gebhard & Comp., 1861, at p. 3 as cited in Stephens F. *The bill of lading holder, rights and liabilities*, London: Routledge, 1st ed., 2018, p. 7

[44] Committee Maritime International (*CMI*) *Rules* for *Electronic Bills of Lading*, 1990

uniform and universal legal regime regarding the EBoL. The same issue was brought up in the preparatory discussion regarding the scope of application of the Hague-Visby Rules. Sir Norman Hill had then stated:

"The merchants, the bankers, the underwriters have come to us shipowners and have said: Give us a document with which we can deal with the same confidence and the same certainty as we deal with a bill of exchange"[45]

In the same manner, a reliable electronic substitute for the BoL is sought after today. The search for uniformity is still on at the moment. This chapter aims to analyze the current legal status of the EBoL, both in international and in national law, and examine the reasons behind the decisions to adopt such legislation.

3.2 The EBoL in international context

Of the two conventions in force at the moment only the Hamburg Rules contain provisions on electronic procedures in the issuance of a transport document.

The scope of application of the Hague-Visby Rules is limited to contracts of carriage covered by a bill of lading or *any similar document of title*. The Rules do not deal with the form of the BoL nor define the term writing. While there is no express writing requirement contained in the Hague-Visby Rules one can be in Article 3 paragraph 3 in relation to the contents of the BoL. In that way subparagraphs (a) and (b) stipulate:

"(a) The leading marks necessary for identification of the goods as the same are furnished in ***writing*** *by the shipper before the loading of such goods starts….*

[45] *Travaux Préparatoires of the Hague Rules and of the Hague-Visby Rules*, CMI, Antwerp, 1997, p. 96

(b) Either the number of packages or pieces, or the quantity, or weight, as the case may be, as furnished in ***writing*** *by the shipper"…*

This wording could be interpreted as a strict written form requirement. If interpreted in this manner the EBoL would not fall within the scope of the Hague-Visby Rules. One has to take into consideration the time of the drafting of the Hague-Visby Riles when making an argument for a strict writing requirement[46]. An extensive interpretation could be structured in a way to refer to national law writing requirements. If certain national law contains rules on electronic documents, such an interpretation would allow for the statutory application of the Hague-Visby Rules on an EBoL. The recognition of an EBoL as a document of title under national law could trigger the application of the Hague-Visby Rules as it could be considered as a similar document of title[47].

The Hamburg Rules on the other hand have directly dealt with the definition of writing on the BoL. Namely, Article 14 paragraph 3 of the Hamburg Rules provides that:

"The signature on the bill of lading may be in handwriting, printed in facsimile, perforated, stamped, in symbols, or made by any other mechanical or electronic means, if not inconsistent with the law of the country where the bill of lading is issued."

The introduction of this provision was made in the last session of the working group where it was argued that the draft provision which included only facsimile as an alternative to a handwritten signature was too restrictive and could act as a bar to potential technological progress in this field[48]. It is argued that this introduction of electronic procedures in transport operations is somewhat premature and is not a result of the awareness of the problems arising out of the use of a paper BoL but is

[46] Herd J., *Blocks of Lading: Distributed Ledger Technology and the Disruption of Sea Carriage Regulation*, QUT Law Review Vol. 18, no. 2, 2018, p. 306-317
[47] Albrecht C., *Blockchain Bills of Lading: The End of History: Overcoming Paper-Based Transport Documents in Sea Carriage through New Technologies*, Tulane Maritime Law Journal Vol. 43, No. 2, 2019 p. 251-288
[48] A/CN.9/105 - Report of the Working Group on International Legislation on Shipping on the work of its eighth session p. 204

introduced as a statement of openness to new technologies[49]. This provision is however not a giant leap from the provisions contained in the Hague-Visby Rules as it leaves it to contracting states to allow for such signature. It does however expressly support the extensive interpretation approach discussed above. These provisions are a first step toward the dematerialization of the BoL, but so far the Hamburg Rules haven't been able to replace the Hague-Visby Rules as the primary source of law for international carriage of goods by sea.

3.3. The EBoL in national law

The current international regime for carriage of goods by sea is not intended to directly regulate the form and issuance procedures of the BoL. Instead these conventions regulate the rights and liabilities of the parties to a CoC for which a BoL is issued with the intent to create uniformity and provide legal certainty to a third party BoL holder in good faith. The drafters of the transport conventions worked around and not on the BoL as a universally accepted document of title. Therefore, it can be said that these instruments are not fit to regulate the EBoL and in want of an International instrument regulating it, the availability of the EBoL should be sought in national laws[50].

As seen from Chapter 1, the BoL is internationally recognized to have certain functions that have allowed it to become one of the most important trade instruments. In 2018 the ICC Banking Commission conducted a survey in cooperation with Clyde & Co LLP to research the acceptance and the status of the EBoL in 10 of the major maritime countries[51]. The study showed that one of the difficulties to overcome is the uncertainty over the legal status of the electronic transferable records[52]. It can be seen that the legal status of the BoL and its functions are well established by national laws which are for the better part harmonized, but when it comes to the status of the EBoL legislation starts

[49] Ziakas V., *Challenges regarding the use of Electronic Bill of Lading (Ebol)*, International Journal of Commerce and Finance, Vol. 4, No. 2, 2018, p. 40-45

[50] Ibid

[51] Clyde & Co LLP, The legal status of electronic bills of lading, a report for the ICC Banking Commission, 2018 available at: https://iccwbo.org/publication/legal-status-electronic-bills-lading/

[52] Ibid p. 5

to differ significantly[53]. Some countries such as the Netherlands have besides the general E-Commerce provisions, not adopted any legislation directly applicable to the use of the EBoL. It was reported that the Netherlands were in the process of adopting legislation but such process has been halted pending the development with the Rotterdam Rules[54]. It can be concluded from the study that the countries that decided to legislate have generally chosen two approaches. The following sections will take look at these legislative approaches in national laws and analyze the reasons behind them.

3.3.1. Secondary legislation approach

Some jurisdictions have opted to regulate the EBoL by general provisions in their respective laws, which do allow for an EBoL and equate it to a paper BoL. However, these laws condition the use and recognition of an EBoL with fulfillment of certain technical and legal requirements which are to be perscribed by secondary legislation. This approach is an embodiment of the legislators' recognition of the need for an EBoL but its skepticism of the current technical possibilities to accommodate the use of the EBoL as well. The reasoning behind such solutions can be best seen by analyzing the preparatory process of such legislation. The following paragraphs will take a look into this process in Germany and the UK as to better understand the stance of these two countries since they participate heavily in the global maritime trade.

3.3.1.1 Germany

In 2013 a new text of Book 5 of the German Commercial Code was adopted. While the reform was intended to incorporate the Hague-Visby Rules into domestic regulation, the revised text of Book 5 additionally included provisions on electronic transport documents. The form of the BoL is regulated in Section 516 of the HGB where it's stipulated that:

[53] Ibid p. 7
[54] Ibid p. 40

"(1) The carrier must sign the bill of lading; reproductions of the personal signatures by means of printing or stamp shall be sufficient."

Paragraph 2 of the same section deals with the electronic version of the BoL according to which:

"(2) An electronic record having the same functions as a bill of lading shall be deemed equivalent to a bill of lading, provided that the authenticity and integrity of the record are assured (electronic bill of lading)"[55].

The uses the term electronic record as used by the Rotterdam Rules. This wording was selected to ensure greater medium neutrality. The initial version of the provisions regarding the EBoL as proposed in the final report of the expert group[56] tasked with the reform of Book 5 of the HGB was differently structured. Namely the proposal of the expert group had the following wording:

"The said form in Paragraph 1 can be replaced in an electronic form (electronic bill of lading). Should an electronic bill of lading be issued, it must be assured that it fulfills the same functions as the bill of lading issued in the form prescribed in Paragraph 1"[57].

This initial version was criticized with the view that the mere reference to a certain form would trigger the application of Article 126a[58] of the BGB and the BGB in general and thus reduce the BoL to a

[55] Translation from: http://www.gesetze-im-internet.de/englisch_hgb/

[56] Abschlussbericht der Sachverständigengruppe zur Reform des Seehandelsrechts from 27.08.2009, available at: https://transportrecht.org/publikationen-dokumente/stellungnahmen/

[57] Translation by Damjan Vidovski. Original text:
Die in Absatz 1 genannte Form kann durch die elektronische Form ersetzt werden (elektronisches Konnossement). Wird ein elektronisches Konnossement erstellt, so muss sicher gestellt sein, dass dieses dieselben Funktionen erfüllt wie das in der Form des Absatzes 1 erstellte Konnossement.

[58] *If electronic form is to replace the written form prescribed by law, the issuer of the declaration must add his name to it and provide the electronic document with a qualified electronic signature in accordance with the Electronic Signature Act*

mere declaration of the will of the carrier for which a certain form is required and not a document of title in the sense of securities law[59].

It was further discussed in the explanatory memorandum that the application of Article 126a of the BGB and with it the requirement of a qualified electronic signature is costly and burdensome and could hinder the broad use of an EBoL[60]. It was regarded that the new formulation should guarantee more flexibility[61].

Paragraph 3 of Section 516 HGB empowers the Federal Ministry of Justice and Consumer Protection in agreement with the Federal Ministry of the Interior to adopt secondary legislation which will regulate the details of issuing, presenting, returning and transmitting an electronic bill of lading, as well as the particulars of the process of posting retroactive entries to an electronic bill of lading.

The German society for transport law welcomed this provision as it was thought that the abstract definition of an EBoL as an electronic record having the same functions as a bill of lading sufficed[62]. Any detailed provisions contained in the law could later be in conflict with the later developed practice[63]. In contrasts, the Association for international maritime law found that such authorization is too extensive and unique in the German Legal system[64]. Furthermore it felt that a general introduction of an electronic security is currently still difficult because there is a lack of generally acceptable and

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[59] Rechtsanwalt Dr. Klaus Ramming, *Reform des Seehandelsrechts – eine erste Stellungnahme zum Abschlussbericht der Sachverständigengruppe,* Hamburger Zeitschrift für Schifffahrtsrecht Ausgabe: Oktober/November 2009, 357 – 380; Deutscher Verein für Internationales Seerecht, Stellungnahme zum Abschlussbericht der Sachverständigengruppe zur Reform des Seehandelsrechts paras. 53-56, available at: https://transportrecht.org/publikationen-dokumente/stellungnahmen/

[60] Entwurf eines Gesetzes zur Reform des Seehandelsrechts, Drucksache 17/10309 p. 93, available at: http://dipbt.bundestag.de/extrakt/ba/WP17/452/45247.html

[61] Ibid

[62] Stellungnahme der DGTR zum Abschlussbericht der Sachverständigengruppe vom 29.01.2010 p 9-10, available at: https://transportrecht.org/publikationen-dokumente/stellungnahmen/

[63] Ibid

[64] Deutscher Verein für Internationales Seerecht, Stellungnahme zum Abschlussbericht der Sachverständigengruppe zur Reform des Seehandelsrechts, para. 55

practically manageable technical processes as well as the necessary additional legal framework[65]. Therefore the association was on the view that more detailed statutory provisions were needed.

Prof. Rolf Herber believes that the law is structured with some reservations and that the further regulation of this issue as foreseen in Paragraph 3 of Section 516 HGB is possible when suitable technology has been developed[66]. For him, it is difficult to imagine that the BoL functions can also be performed digitally[67]. Certainly, the functions can be performed by a data transmission program with transmission and securing access, but then it is no longer a BoL that could be awarded the traditional legal effect[68].

For the time being there is no secondary legislation adopted in Germany. This means that the use of an EBoL is not yet possible as authenticity and integrity requirements in Paragraph 2 should be interpreted in the sense of the secondary legislation.

3.3.1.2 UK

Under UK law the BoL is regulated in the Carriage of goods by sea act of 1992 (COGSA 1992). COGSA 1992 uses the term "*a document to which this act applies*" to cover the BoL and other shipping documents. The paper form is not an absolute requirement as it is recognized that a document can be electronically created[69]. Similarly to German legislation, the COGSA 1992 does not regulate the EBoL directly but authorizes the Secretary of State to make provisions for the application of the COGSA 1992 to cases where an electronic communications network or any other information technology is used for effecting transactions corresponding to:

"(a) the issue of a document to which COGSA 1992 applies;

[65] Ibid para. 56
[66] Herber R., *Seehandelsrecht,* Berlin: De Gruyter, 2nd ed., 2015, p. 329.
[67] Ibid p. 330
[68] Ibid
[69] Ziakas V., *Challenges regarding the use of Electronic Bill of Lading (Ebol),* International Journal of Commerce and Finance, Vol. 4, Issue 2, 2018, p. 40-45

(b) the indorsement, delivery or other transfer of such a document; or

(c) the doing of anything else in relation to such a document'[70].

Prior to the enactment of the COGSA 1992 the Law commission recognized in its report of 1991 that at the time formidable technical and legal problems existed that barred paperless transactions to become the norm in international sales[71]. However, the Law Commission was on the thought that the Act should cover electronic documents in order to be able to meet the needs of the shipping industry should further technical developments suffice to overcome the issues detected at that time[72].

The issue was revisited in 2001 and the Law Commission found that no significant progress had been made towards a true electronic equivalent of a paper BoL[73]. According to the Commission the attempts to create an EBoL have resulted in electronic contracts of carriage rather than an EBoL[74]. Such electronic contracts do not constitute a BoL and fall outside of the scope of the COGSA 1992[75]. Taking into consideration the absence of an EBoL in practice, the Commission took the stance that no further legislative action should be taken[76]. This stance seems to be respected by the Secretary of State as no further legislation has been adopted yet, this leaving the UK legal system with practically no regulation of the EBoL.

Some authors are on the opinion that this approach of the Commission is the real reason behind the failure to create a true equivalent[77]. In order to create a true equivalent, legislation should be adopted which would serve as a guideline[78].

[70] COGSA 1992 Section 1 p 5
[71] Rights of Suit in Respect of Carriage of Goods by Sea, Law commission, March 1991, 6.2
[72] Ibid 6.3
[73] Electronic Commerce - Formal Requirements in Commercial Transactions: Advice from the Law Commission, Law Commission, December 2001 4.8
[74] Ibid 4.9
[75] Ibid
[76] Ibid 4.10
[77] Goldby M., *Reforming the law to facilitate the use of electronic bills of lading in the United Kingdom,* Paper prepared for the UNCITRAL Colloquium on Electronic Commerce New York, 14th to 16th February 2011
[78] Ibid

3.3.2. Primary legislation approach

This approach can be seen as a bolder one. An amendment of a law is a much slower process rather than amending a piece of secondary legislation without involvement of Parliament or a respective legislative organ. On the other hand, a detailed primary legislation shows the intent of the legislator to regulate a certain issue and with it instill greater confidence in all stakeholders. This section will discuss the rationale for the adoption of the solution in the USA trough the Uniform Commercial Code (UCC).

3.3.2.1 The EBoL under the UCC

The UCC is a federal model law adopted by the Uniform Law Commission which states can adopt in part or as a whole. Article 7 of the UCC which regulates documents of title including their electronic equivalents is currently adopted by almost all states[79].

The amendments that allowed for electronic documents of title were introduced in 2003 with the intent to provide a framework for their further development and to update the article for modern times in light of state, federal and international developments[80].

This legislation creates a detailed framework in which a system for the use of EBoL should be established. The provisions are based on the principles of general equivalence or non-discrimination, functional equivalence and media neutrality which were developed by the UNCITRAL MLEC. For the purpose of avoiding repetition, a substantial analysis of this approach will be discussed in detail in the final chapter discussing the Rotterdam Rules as this approach served as a base for the EBoL provisions contained therein. This part of the thesis deals with the reasoning behind the regulation of the issue at hand through primary legislation.

[79] https://www.uniformlaws.org/committees/community-home?communitykey=9893636e-0046-498a-8ed9-3d57c192489a&tab=groupdetails

[80] Drafting Committee to revise Uniform Commercial Code Article 7, Proposed Revisions to Uniform Commercial Code, Article 7–Documents Of Title With Prefatory Note wnd Preliminary Comments, 2003, p. 1

The US legislator sought to create a framework legislation which would be technology neutral and recognized the difficulty of regulating without some definitive sense of how the systems for electronic documents of title will be structured[81]. Such approach follows the trend to define the functions the technology should provide for instead of the technology itself[82]. The drafters recognized the fact that at the time of drafting central registry systems where users are parties to a master agreement were developed or in the process of being developed[83]. It was also contemplated that open systems could be developed and were on the opinion that the legislation should be able to accommodate such systems as well[84]. This proactive type of legislation should contribute to the avoidance of a vicious circle situation where the industry is in expectation of a clear legal framework and the legislators are waiting on the creation of truly functional systems[85].

3.4 Conclusion

The current legal status of the EBoL is at the very least uncertain. For the time being there is no international legal instrument in force that deals with this issue, thus leaving the status of the EBoL to national laws which differ significantly. While some countries have made certain steps to adopt legislation, they remain skeptical over the technology to be used. Others, like the USA, have been braver in legislating and have chosen to adopt regulation which is technology neutral in order to accommodate different future developments. However, certain authors have observed that even the adoption of legislation in the USA has not resulted in the desired increase use of EBoL[86]. Such an observation and the laid out above can be used to reach a conclusion that's in line with the skepticism

[81] Ibid
[82] Reed C., *Internet Law: Text and Materials*, Cambridge: Cambridge University Press, , 2nd ed. 2004, p. 194
[83] Drafting Committee to revise Uniform Commercial Code Article 7, Proposed Revisions to Uniform Commercial Code, Article 7–Documents Of Title With Prefatory Note wnd Preliminary Comments, 2003, p. 15
[84] Ibid
[85] Goldby M., *Reforming the law to facilitate the use of electronic bills of lading in the United Kingdom,* Paper prepared for the UNCITRAL Colloquium on Electronic Commerce New York, 14th to 16th February 2011
[86] Albrecht, C., *Blockchain bills of lading: The end of history: Overcoming paper-based transport documents in sea carriage through new technologies,* Tulane Maritime Law Journal, Vol. 43 No. 2, 2019, p. 251-288; Goldby M., *Electronic bills of lading and central registries: What is holding back progress?*, Information & Communications Technology Law, Vol. 17, No. 2, 2008, p. 125-149;

of the technical possibilities to offer a functioning equivalent. The accuracy of this statement will be the subject of discussion of the next chapter, which will make the analysis by examining the functioning of the existing EBoL platforms.

4. Technical or Legal issue?

4.1. Introduction

The previous chapter discussed the current legislation regarding the use ff EBoL and sought to analyze the decision making process behind the adoption of EBoL regulation or lack thereof. The lack of regulation on an international level was found to be due to the period in which international instruments were drafted, while most national legislators were found to be skeptical of the current technical possibilities to facilitate a real paperless equivalent to the BoL. This chapter will argue against such stance of national legislators. Since such reluctance is derived from the analysis of the technical solutions available, this chapter will try to reach the opposite conclusion by having the same subject of analysis but by adopting a different approach. It will be agreed with the opinion of the Law Commission that the current options do not in fact create a functioning EBoL but it will be argued that such result is wrongfully attributed to the technical possibilities of a certain platform. This chapter aims to conclude that such result is due to their legal basis which is contractual and not statutory.

4.2 Legal basis of existing technical solutions

The current solutions operate within the legal framework discussed in the previous chapter. Since for the most part there are no rules on transfer of title in an electronic environment all EBoL solutions try to replicate this function through the use of alternative legal institutes. Some of the 6[87] currently approved solutions by the International group of P&I clubs make use of a title or a similar registry to record the transfers and the latest editions implement blockchain technology. For the time being only Bolero has made details of its functioning publicly available and it is the only EBoL provider whose

[87] Bolero, essDOCS, e-titleTM are based on a registry, edoxOnline, CargoX and Wave use blockchain technology

functioning has been deemed suitable for a detailed academic discussion[88]. An in depth analysis of the Bolero system falls outside the scope of the research but it will be referenced in order to aid with the analysis subject to this chapter. Other reliable information can be accessed through the P&I clubs legal briefings and circulars[89]. It can be concluded from these sources that regardless of the technology implemented all solutions rely on a multiparty agreement between the users and the operator in which the legal nature of the transfer is agreed upon.

As far as the transfer of title is concerned there are two different approaches. E-titleTM and Wave incorporate the UK COGSA 1992 into their multilateral agreements. The parties to these agreements agree that any action undertaken by using the system shall have the same legal effect as if it were made under the COGSA 1992. There is no suitable information on these platform on which an analysis can be made but there is a general argument against such approach. Namely, such practice was contested back in 1995 by N.A Yiannopoulos when discussing the potential applicability of the UNCITRAL Draft model law on EDI to EBoL where he pointed out that compulsory legal regimes cannot be overridden by way of agreement for the sole because they serve a purpose such as the protection of third parties[90]. He further notes that, where a law requires a physical endorsement and delivery of a document of title in order transfer of the ownership of goods to take effect any paperless transactions is without effect[91].

The rest of the solutions make use of the existing common law institutes of attornment and novation to effect the transfer of title. It will be presumed that the legal nature of the transfer remains the same throughout these platforms and the Bolero Rulebook will be referenced to provide a brief explanation on the process.

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[88] Gaskell N., *Bills of Lading in an Electronic Age*, Lloyds Maritime and Commercial Law Quarterly, Vol 2, 2010 p. 233-284; Todd P., *Electronic bills of lading, blockchains and smart contracts*, International Journal of Law and Information Technology, Vol, 27, 2019, p. 339-371;

[89] For instance: UK P&I Club, Legal Briefing: Electronic Bills of Lading, 13.05.2017 available at: https://www.ukpandi.com/knowledge-publications/article/legal-briefing-electronic-bills-of-lading-138374/; and UK P&I Club, Electronic Bills of Lading – An Update Part I, 26.03.2020 available at: https://www.ukpandi.com/knowledge-publications/publications/article/electronic-bills-of-lading-an-update-part-i-151842/

[90] Yiannopoulos, A N. *Ocean Bills of Lading: Traditional Forms, Substitutes, and Edi Systems*. The Hague: Kluwer Law International, 1995, p. 38

[91] Ibid

Regarding the transfer of title, the Bolero Rulebook makes use of the common law institute of attornment. Attornment is an acknowledgement of a certain legal relationship and an undertaking to act in accordance with it. An example of it occurs in tenant-landlord relationships where the ownership of the property has changed. The tenant recognizes the relationship between the buyer and seller and undertakes to perform his duties under the tenancy agreement to the new owner. In this case the attornment consists of acknowledgement of the fact that a contract of sale has been concluded between the parties and an undertaking by the carrier (in the capacity of bailee[92]) to the new holder that he will deliver the goods to him[93] which in fact creates constructive possession over the goods for the new holder of the EBoL[94].

The Bolero Rulebook prescribes that each time the EBoL is transferred the new consignee acquires his contractual rights against the carrier by novation. This means that the original CoC concluded between the carrier and the shipper is terminated and instead a new contract incorporating the same terms is concluded between the carrier and the consignee[95]. This in practice translates to a substitution of a new party for the current holder of an EBoL by means of a new contract[96]. In this way the rights under the CoC are transferred giving the new holder the right to sue under the CoC as if he is a holder of a paper BoL in good faith[97].

In summary, the transfer of an EBoL under the Bolero system is a two step process which starts with the acknowledgement of the carrier that the goods are being held for the benefit of the transferee. Once this is done a new CoC is concluded between carrier and the new holder to agree the contract particulars which in accordance to the Rulebook is on the same terms as the previous CoC.

[92] A bailee is an individual who temporarily gains possession, but not ownership, of a good or other property. Definition by Investopedia available: at https://www.investopedia.com/terms/b/bailee.asp

[93] Bolero Rulebook, Rule 3.4.1 (2)

[94] Goldby M., *Reforming the law to facilitate the use of electronic bills of lading in the United Kingdom,* Paper prepared for the UNCITRAL Colloquium on Electronic Commerce New York, 14th to 16th February 2011

[95] Bolero Rulebook, Rule 3.5.1(3)

[96] Laryea E. T., *BOLERO Electronic Trade System: An Australian Perspective,* Journal of International Banking Law and Regulation, Vol. 16 No. 1, 2001, p. 4 - 11.

[97] Delmedico A., *EDI Bills of Lading: Beyond Negotiability*, Hertfordshire Law Journal, Vol . 1 no. 1, 2003, p. 95-100

4.2.1. Lack of interoperability – the reason behind relative success?

It is evident that the existing solutions have managed to establish an effective transfer of title. This claim is especially true for the solutions based on attornment and novation but the fact that the solutions incorporating the COGSA 1992 have been approved by the International group of P&I clubs is a sufficient argument to presume that they have as well. The reasons for the dismal success of the existing solutions have been discussed on many occasions especially by authors advocating for the use of blockchain based solutions when discussing their advantage over central registry models[98]. The arguments mainly revolve around the fact that central registry systems are membership based, there is a lack of infrastructure on behalf of the authorities that will process such documents and liability issues on behalf of the operator. However the key argument is based on the membership requirement which makes them noninteroperable, that is members of one platform cannot be involved in transactions where an EBoL is issued using a different one. It is argued that the advent of blockchain technology is a solution to the issue as its nature is suitable for the creation of a decentralized systems which will be in which a blockchain based EBoL can be used by users of different platforms. However, the literature regarding the suitability of a blockchain based EBoL is generally aimed towards the technical capabilities to produce electronic equivalents of possession and indorsment.

While this claim is most likely true and blockchain technology is better suited for this use than the transfer of data from one title registry to another, the lack of interoperability between platforms is not the real issue at hand. In fact the need for interoperability is derived directly from the lack of statutory provisions governing a transfer of rights under a BoL in an electronic environment. It was presented in the previous chapter that the Law Commission was on the stance that the efforts at the time, referring to central registry models, have resulted in the creation of an electronic CoC rather than an

[98] See: Albrecht, C., *Blockchain bills of lading: The end of history: Overcoming paper-based transport documents in sea carriage through new technologies,* Tulane Maritime Law Journal, Vol. 43 No. 2, 2019, p. 251-288; Todd P., *Electronic bills of lading, blockchains and smart contracts*, International Journal of Law and Information Technology, Vol, 27, 2019, p. 339-371; Goldby M., *Electronic bills of lading and central registries: What is holding back progress?*, Information & Communications Technology Law, Vol. 17, No. 2, 2008, p. 125-149; Takahashi K., *Blockchain technology and electronic bills of lading*, Journal of International Maritime Law, Vol. 22, 2016, p. 202 - 211

EBoL. This claim is essentially true, but the reason for such factual situation is the lack of statutory basis. Without it any platform is bound to reach for alternatives such as the use of attornment and novation as to effect the transfer. And while these solutions do provide for a legal transfer of title, in order to have a fully functional EBoL the current legal setting imposes the need for such action to be able to be performed between platforms. Otherwise every party involved in international trade needs to be a member of all platforms or a single global platform needs to be created. These both are highly unlikely scenarios.

The membership requirement of the registry model has been highlighted as an impediment to interoperability of those systems. This is a key factor but it’s not linked to the technical structure of the registry model but to their contractual basis. This analysis aims to establish that any platform regardless of the technology implemented is limited by the same issue because of the nature of the user agreement. For the sake of argument it will be presumed here that all 6 platforms operate based on blockchain technology and use the attornment and novation institutes as a legal basis for legally transferring title.

The user agreement for the EBoL platforms differs significantly from the traditional information services user agreements. Firstly, a classical information services user agreement is a two party agreement where the provider undertakes to make available his infrastructure for the facilitation of certain business activities under the agreed conditions. For instance, in the user agreement for an online shopping platform the Provider undertakes to perform certain activities which will facilitate the sale of the Users products. The Clients of the User use the platform to purchase the products but are not a party to the initial agreement. On the other hand the Users of an EBoL platform (Carrier, Shipper, Consignee, Bank etc.) are all parties to the user agreement by which the manner of the transfer of title will be carried out is agreed on.

Further, the service that the Provider undertakes to facilitate in the online shopping platform scenario is either expressly allowed or not prohibited to be carried out in such a manner by statute. In other words the Provider simply facilitates the Users sale of products but doesn’t create a legal basis for the purchase of those products. In the EBoL platforms the Provider not only facilitates the Users service (the issuance and transfer of an EBoL and subsequent transfers) but creates and maintains a whole legal framework in which by the use of various legal institutes makes possible a legal transfer of title. This means that all Users of the service must agree on the legal grounds of the service since it is not regulated. In the sale of goods scenario described in Graph 1 it could well be the case that all the parties involved are members of a different platform. Provided that there is a technical possibility to transfer the EBoL from platform to platform there will be absence of intention between the parties since they haven't agreed on the manner in which the title will be passed. In order to carry out a transaction like this one would be brought back to the scenario of all parties being members to all platforms.

A potential remedy for this problem could be found in an agreement between the platform operators resembling an interconnection agreement between telecommunication providers. This is possible provided that all platform operators essentially provide the same service. The successful operation of such a system would most likely be conditioned on standardization and technology transfer. While it is not the subject of the thesis to discuss antitrust issues a remark must be made that this solution could in fact trigger the application of antitrust regulation. At this point, it should be concluded that there are way too many hypotheticals in this scenario just to end up with the need for creative interpretation of Block Exemption Regulations.

4.2.2. All platforms are central registries?

By way of the *reductio ad absurdum* in the previous part of this chapter it can be deducted that the reluctance of legislators to regulate the issue of the EBoL is unjustified. It is a false claim that the currently available technology is not adequate to produce a functioning EBoL. While the use of blockchain technology might be more suited to create an EBoL that can be "possessed" and "indorsed", both technical models are in fact capable of it provided the law allows for it. The only difference between them consists in the manner of storing information. In contrast, security and confidentiality concerns do constitute a justification for the reluctance of legislators. These issues however, have not been raised by legislators and are therefore not subject to this thesis. It is the conclusion of this chapter that any platform must be based on statutory law. If legislation is introduced to regulate the transfer of rights and obligations under the BoL in an electronic environment, it is no longer essential for these platforms to be interoperable in order to create a free flowing EBoL. In such a case an EBoL platform would essentially facilitate the issue of an EBoL on behalf of the carrier and administer its transfer for other parties per their needs. Whether the access to the service will be based on membership or on a single use basis is a business model question. Legislation on this issue will also allow bigger shipping companies to administer their own platforms. It is the key to the creation of a free flowing EBoL. Without it all platforms will essentially be central registries regardless of the technology implemented and be subjected to the need of interoperability.

5. The Rotterdam Rules – a potential solution?

The previous chapter concluded that the problem lies in the lack of legislation. In order to have a fully functioning EBoL any legislation should predate a potential solution. That way any platform will have a basis in statutory law and will function under the conditions set therein. As discussed, the USA has developed a set of provisions regulating electronic documents of title including BoL which has been adopted by the working groups of UNCITRAL as the basis for the EBoL provisions in the Rotterdam Rules. This chapter seeks to make an analysis of these provisions as a possible legislative approach to be adopted.

5. 1 Model Law on Electronic Commerce 1996 (MLEC)

As previously mentioned the approach of the RR is based on the US legislation which builds on the adopted principles of the MLEC[99].

The intention of the model law is serve as a guideline in adopting legislation which should maximize the benefits of new technological advances[100]. The MLEC was drafted with the idea that a data message is of a different nature and does not necessarily perform all functions of a paper document[101]. In order to achieve functional equivalence the MLEC sets out general technical/functional criteria that pertain to formal requirements such as writing, signature or originality. While the MLEC sets out general principles it also contains sector specific provisions regulating e-commerce related issues in transport law. In the preparatory work it was concluded that both international and national maritime

[99] Byung-Soo A. and Tae-Ho P., *A Study on the Clause of Uniform Commercial Code for Electronic Bills of Lading*, International Commerce and Information Review, Vol. 2, No. 1, 2009, p. 281-300
[100] Upcroft A., *E-Commerce: Global or Local? An Australia Case Study*, Journal of Law and Information Science, Vol. 10 No. 1, 1999, p. 113 – 141
[101] UNCITRAL MLEC, guide to enactment para. 17

transport law were fragmentary and left significant gaps thus representing an obstacle to the use of electronic transport documents in sea carriage[102].

The document of title function requires originality, physical possession and transferability of the document. Article 8 MLEC contains certain requirements which if met an electronic document can be considered an original[103]. As for the physical possession and transferability of a document the MLEC introduce the concept of "*guarantee of singularity*". Article 17 deals in detail with electronic negotiable transport documents. It is therein prescribed that where the law requires a transfer or use of a paper document for conveyance of a right or obligation, such conveyance can be done by one or more data messages, provided that a reliable method is used to render such data message or messages unique[104]. The drafters of the MLEC found that detailed provisions regarding the term unique were unnecessary as the notions of "uniqueness" or "singularity" of transport documents were known to transport law practitioners and transport documents users[105]. Following such a decision it was included in a different paragraph[106] that the standard of reliability required should be assessed in the light of the purpose for which the right or obligation was conveyed and in the light of all the circumstances, including any relevant agreement[107]. The term reliable method is interpreted as a one that ensures that "*data messages purporting to convey any right or obligation of a person may not be used by or on behalf of that person inconsistently with any other data messages by which the right or obligation was conveyed by or on behalf of that person*"[108].

5.2 Rotterdam Rules 2009

[102] Møllmann A., *Delivery of goods under Bills of lading*, London: Routledge, 1st ed., 2016, p. 114

[103] " *(a) there exists a reliable assurance as to the integrity of the information from the time when it was first generated in its final form, as a data message or otherwise; and*
(b) where it is required that information be presented, that information is capable of being displayed to the person to whom it is to be presented"

[104] Article 17 (3) MLEC

[105] UNCIRAL A/51/17 para. 203

[106] Ibid

[107] Article 17 (4) MLEC

[108] UNCITRAL MLEC, guide to enactment, para. 117

The RR are the latest maritime transport convention. Although they are not yet in force they are a valuable source to analyze as they represent a great effort to remove obstacles for the use of the EBoL. One of the issues identified following the adoption of the MLEC was exactly the e-commerce issues in maritime transport law. Namely, it was reported that "*national laws and international conventions left significant gaps regarding issues such as the functioning of bills of lading... The growing use of electronic means of communication in the carriage of goods further aggravated the consequences of those fragmentary and disparate laws and also created the need for uniform provisions addressing the issues particular to the use of new technologies*"[109].

The RR do not approach the problem as a pure form issue but rather introduce substantial provisions that enable the use of the EBoL. The key features that differentiate the RR form previous legislative efforts are their scope of application, the introduction of provisions that provide for a technical framework and the introduction of the right of control. All these combined make for a complete set of rules regarding the issue of an EBoL and transfer of rights contained therein.

5.2.1 Scope of application

The scope of application of the RR is not coupled with the issuance of a transport document but rather the CoC itself. Such scope of application creates an international mandatory regime which will warrant certainty for all parties involved in a transaction connected with the CoC irrespective any national requirements for certain transport documents. That means that all rights and obligations regulated by the RR are purely contractual arising exclusively from the CoC and exist notwithstanding any property or other rights that may or may not be recognized by national law due to the issuance of a BoL or lack thereof. Under the RR the BoL or any other transport document is issued in service to the performance of the CoC. This allowed the drafters to adopt specific rules on the use and issuance of an EBoL which will be issued under the RR without there being potential conflicts with local law requirements regarding form. While there are references to applicable national law in respect of the negotiability of transport documents, these are references to the wording used to

[109] UNCITRAL, A/CN.9/476 Transport law – possible future work, 2000, p. 2

indicate negotiability but not to form or rights embodied in the transport document. The RR through their scope of application thus remove the obstacle of national form requirements and free the way for an uniform international regulation[110]. This is of great importance for the introduction of the right of control which is the most important introduction that serves to achieve the equivalence of the document of title function in an electronic environment.

5.2.2 Technical framework

A noticeable novelty of the RR is the departure from the traditional legal and commercial terminology regarding transport documentation. Terminology such as BoL, Straight BoL or Sea Waybill is abandoned. One reason for this is the scope of application of the RR and the fact that the convention deals with transport documentation is due to the recognition of the fact that transport documents are being issued in practice. The other reason being the aim of the RR, among others, is to enable the use of electronic alternatives to traditional paper documents including the BoL. This approach led to the introduction of the terms transport document referring to paper documents and electronic transport record (ETR) referring to the electronic version of paper documents both of which are further divided into negotiable and non-negotiable. The ETR is used as a medium neutral expression instead of electronic transport document[111]. The term record is influenced by the provisions of the US UCC[112] which define it 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[113] ".

It is noticeable from this definition that the UCC uses the same term to apply to both paper and electronic documents. However, section 7 of the UCC applies to all negotiable documents including

[110] Zunarelli S. and Alvisi C. "*Rights of the controlling party*". In *The Rotterdam Rules (2008) Commentary to the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea*, von Ziegler A., Schelin J. and Zunarelli S. (eds.), 219–237, Dordrecht: Kluwer Law International, 2010, p. 227
[111] CMI Yearbook 2001 p. 534
[112] Alba M., *Electronic commerce provisions in the uncitral convention on contracts for the international carriage of goods wholly or partly by sea*, Texas International Law Journal, Vol. 44, No. 3, 2009, p. 387-416.
[113] UCC Section 7-102 (a) (10)

the BoL and intends to ensure equality between paper and electronic documents[114]. The RR on the other hand, are a sector specific legislation and aim to create a legal environment in which the use of the ETR can be warranted.

Because negotiable and non-negotiable transport documents are in regular use and are well established instruments the RR do not deal with them except for defining them. The drafters have recognized that an ETR is essentially different to a transport document but can be given the same legal functions by way of legislation[115]. A document is generally subject to requirements such as writing or signature under national law and any electronic equivalent should in fact meet these requirements in a digital environment. The RR facilitate the use of ETR by prescribing general and functional equivalence when it deals with negotiability. The RR firstly provide a detailed technical definition of the electronic transport record and its content and then prescribe the equality of the two in the substantive provisions.

The RR define the electronic transport record as:

"information in one or more messages issued by electronic communication[116] *under a contract of carriage by a carrier, including information logically associated with the electronic transport record by attachments or otherwise linked to the electronic transport record contemporaneously with or subsequent to its issue by the carrier, so as to become part of the electronic transport record, that: (a) Evidences the carrier's or a performing party's receipt of goods under a contract of carriage; and (b) Evidences or contains a contract of carriage"*[117].

Regarding the content of the electronic transport record the definition is consistent to the one of transport document as it uses the same wording to prescribe that it must serve as receipt of goods for carriage and evidence or contain a contract of carriage. Therefore the only difference between the two

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[114] Byung-Soo A. and Tae-Ho P., *A Study on the Clause of Uniform Commercial Code for Electronic Bills of Lading*, International Commerce and Information Review, Vol. 2, No. 1, 2009, p. 281-300

[115] Estrella Faria, J., *Uniform law and functional equivalence: Diverting paths or stops along the same road thoughts on new international regime for transport documents,* Elon Law Review, Vol, 2 No. 1, 2011, p. 1-38

[116] For the purpose of the definition of electronic transport document, electronic communication is also defined in the RR to mean: *"information generated, sent, received or stored by electronic, optical, digital or similar means with the result that the information communicated is accessible so as to be usable for subsequent reference"* - RR Art. 1 (17)

[117] RR Art. 1 (18)

is the form in which the information is stored. This definition in conjunction with the one on electronic communication forms a very liberal approach on both how and where the information will be stored. Under the RR electronic communication covers a wide range of possibilities as long as it results in what is essentially a stable and readable format[118]. The electronic transport record definition also allows for the storage of information to be in different locations provided that is linked or attached to the electronic transport record and displayed as part of a single electronic record upon retrieval[119]. This allows for the use of different technologies to digitalize transport documents.

The general equivalence is prescribed in Article 8 (a) which stipulates that "*Anything that is to be in or on a transport document under this Convention may be recorded in an electronic transport record ...*".

Regarding negotiability, the RR aim to achieve functional equivalence through the elements of issuance, exclusive control, and transfer of an electronic transport record. The term exclusive control also comes from the UCC which is introduced to serve as an equivalent to possession of a paper document, that is the guarantee of singularity that the MLEC identified as a need for negotiability. The term exclusive control is not directly defined but through the definitions of issuance and transfer of an electronic transport record[120] where ***Issuance*** is defined to mean the issuance of the record in accordance with procedures that ensure that the record is subject to exclusive control from its creation until it ceases to have any effect or validity[121], while ***Transfer*** of an electronic transport record is defined as the transfer of exclusive control over the record[122]. Article 8(b) provides for statutory equivalence of issuance, exclusive control, or transfer of an ETR with the issuance, possession, or transfer of a transport document. This provision warrants that the person with exclusive control of a negotiable ETR is able to perform the same actions with and rely to the same extent on that record as

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118 Faria, Jose Angelo Estrella. "*Electronic transport records*". In The Rotterdam Rules (2008) Commentary to the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, edited by Alexander von Ziegler, Johan Schelin and Stefano Zunarelli, 51–69, Dordrecht: Kluwer Law International, 2010, p. 57

119 Ibid
120 Møllmann A., *Delivery of goods under Bills of lading*, London: Routledge, 1st ed., 2016, p. 188
121 RR Art. 1 p. 21
122 RR Art. 1 p. 22

if it were a negotiable transport document, provided that the use of such record is subject to certain procedures provided by the RR. Such procedure is prescribed by Art. 9 and should provide for

“ *(a) the method for the issuance and the transfer of the record to an intended holder;*

(b) an assurance that the record retains its integrity;

(c) the manner in which the holder is able to demonstrate that it is the holder; and

(d) the manner of providing confirmation that delivery to the holder has been effected, or that the record has otherwise ceased to have any effect or validity”[123].

In order to have an effective transfer of rights and obligations any practical solution should be within the framework of these requirements.

5.2.3 Right of control

The previously discussed provisions set up certain technical preconditions whose fulfillment is a requirement for legal negotiation of an ETR. However, it must be pointed out that an International convention regulating the CoC cannot in fact regulate the manner in which the transfer of certain rights traditionally recognized to exist under the BoL that are proprietary by nature. While the RR rely heavily on the US approach, this is strictly for the content of the technical provisions. The US legislation regulates the form issue within the act that regulates the rights and obligations under documents of title including the BoL. The UCC is a *lex specialis* to the general law on carriage of goods by sea which in term prescribes the use of a document of title. If the RR were to merely regulate the electronic form of a document this would leave national property or securities law applicable to it, which in turn do impose stringent form requirements[124]. For this reasons the RR stray away from the use of terms such as title or constructive possession. The rights that are being

[123] RR Art. 9 p. 1

[124] Estrella Faria, J., *Uniform law and functional equivalence: Diverting paths or stops along the same road thoughts on new international regime for transport documents,* Elon Law Review, Vol, 2 No. 1, 2011, p. 1-38

transferred with the transfer of exclusive control of a negotiable ETR are contractual by nature and are introduced in the form of the right of control.

The right of control is introduced as a contractual right under the CoC[125] . Some authors have noted that the RR are unclear on whether this right exists by way of application of the RR or the rules provide the parties of the CoC with the option to agree on it[126]? Prof. van der Zier however, makes a point that while not codified, this right has always existed under the CoC and the practice to issue documents that represent the goods stems from the unavailability of effective communication means with the carrier which in fact inhibited the effective exercise of this right[127]. According to him the possibility of instant communication allows for a real-time control of the goods in transit, a fact that the drafters of the RR have recognized and had therefore codified this right[128].

This in term means an introduction of a new subject in relation to the CoC that is the *controlling party*[129] which has exclusivity in exercising the specific rights embodied in the right of control. Primarily, the controlling party can exercise the power to instruct the carrier with respect to the goods[130]. This right relates to instructions regarding the carrier's obligation to take care of the goods while in his possession such as keeping of a certain temperature[131]. Other than that, the controlling party reserves the right to obtain delivery at the port of call[132]. Lastly, the controlling party also has the right to replace the consignee with any other person, including itself[133].

The right of the controlling party to obtain delivery highlights the contractual nature of the RR. That is, the right to take delivery is not based on proprietary rights contained in a document of title such as

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[125] RR Art. 1 p. 12
[126] Baatz Y., Debattista C., Lorenzon F., Serdy A., Staniland H. and Tsimplis M. (eds.) , *The Rotterdam Rules: a practical annotation*, London: Informa Law, 2009, p. 152
[127] van der Ziel, G., *Chapter 10 of the Rotterdam Rules: Control of goods in transit*, Texas International Law Journal, Vol. 44 No. 3, 2009 p. 375-386.
[128] Ibid
[129] RR Art. 1 p. 13
[130] RR Art. 50 p. 1 (a)
[131] Zunarelli S. and Alvisi C. "*Rights of the controlling party*". In *The Rotterdam Rules (2008) Commentary to the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea*, von Ziegler A., Schelin J. and Zunarelli S. (eds.), 219–237, Dordrecht: Kluwer Law International, 2010, p. 225
[132] Art. 50 p. 1 (b)
[133] Art. 50 p. 1 (c)

the BoL but on contractual rights under the CoC. Having the right to replace the consignee is relevant in respect of selling goods in transit or enforcing a pledge of the goods.

5.2.3.1 Transfer of the right of control – who and how?

The key attribute of the right of control is its transferability. The RR recognize that different types of transport documents are issued and that has an impact on the identity of the controlling party. Thus who and how can transfer it depends on what kind of a transport document or ETR is issued. With respect to e-commerce the provisions regarding a non-negotiable ETR and a negotiable ETR are of interest.

The rules contain no direct provisions on the identity of the controlling party when a non-negotiable ETR is issued. However, Art. 51 p. 1 is written as a general rule whose exceptions are contained in paragraphs 2-4 which apply when a non-negotiable transport document has been issued that indicates that it shall be surrendered as to obtain delivery of the goods, a negotiable transport document or a negotiable ETR has been issued respectively. If read in conjunction with the said exceptions it can be inferred that it applies to situations where either no transport document is issued or a non-negotiable transport document or ETR is issued[134]. In these scenarios the shipper is the controlling party unless he designates the consignee, the documentary shipper or another person as the controlling party when the CoC is concluded[135].

As for situations where a negotiable ETR is issued, the provisions prescribe that its holder i.e. the person exercising exclusive control is the controlling party[136].

The provisions of Art. 51 p. 1 allow for the transfer of the right of control to a third party upon notice from the transferor. It is important here to mention that such notice can be given by means of

[134] Zunarelli S. and Alvisi C. "*Rights of the controlling party*". In *The Rotterdam Rules (2008) Commentary to the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea*, von Ziegler A., Schelin J. and Zunarelli S. (eds.), 219–237, Dordrecht: Kluwer Law International, 2010, p. 227-228
[135] RR Art. 51 p. 1
[136] RR Art. 51 p. 4

electronic communication which is expressly allowed by Art. 3 provided there exists consent of the parties to the communication.

The holder of a negotiable ETR can transfer the right of control by transferring the exclusive control to the ETR in accordance with the requirements set out in Art. 9 p. 1. When a negotiable ETR is issued the RR recognize it as a representation of the right of control by stipulating that ..”*its holder may transfer the rights incorporated in it, whether it be made out to order or to the order of a named person, by transferring the electronic transport record in accordance with the procedures referred to in article 9, paragraph 1”*[137].

5.3 Conclusion

The RR have taken a comprehensive approach to regulate the issue of the use of an EBoL. The rules approach the issue on two different levels. Regarding the form issue, the Rules recognize the same legal effect of electronic transport records as paper documents, which has been omitted in pervious conventions. This provides the ETR with the receipt and evidence of contract functions. The rules have also provided a set of rules which regulate how an ETR can be transferred.

With respect to the document of title function the RR do not try to replicate it in an electronic environment. Instead, with the introduction of the right of control the rules transpose the traditional proprietary rights incorporated into the BoL into contractual ones. This coupled with the recognition of the negotiable ETR as a representation of those rights does in fact create an instrument that is capable of transferring rights with the transfer of the instrument itself, that is the transfer of exclusive control. If the RR were to enter into force the negotiable ETR should become a security that is truly negotiable and acceptable as a pledge in the documentary credit process.

[137] RR Art. 57 p. 2

The RR are however, currently in the process of ratification awaiting entry into force. It must be noted that the Rules represent a comprehensive legislation which deals with other issues as well such as multimodal transport, volume contracts and others. States might find that the EBoL issue is well dealt with the Rules but may be hesitant to adopt a new regime of liability imposed by them. It does remain to be seen how the process of ratification of the RR will unfold but it can be concluded that the rules do represent a proper attempt at regulating the subject issue.

6. Concluding remarks – What the future holds?

The future of the EBoL is uncertain at the least. The one certainty is the need of the shipping industry for a workable system within which an EBoL can be used with the same degree of certainty that the use of a paper BoL warrants. This need is an established fact and as such served as a justification for this research. As mentioned in the introduction to this thesis, the subject matter of research is a much discussed issue. At its core, the thesis asks the question of how an issue that has been discussed by almost all maritime law experts is largely an unregulated one especially at English common law taking into consideration that London is the worlds' maritime hub and most carriage by sea is performed under common law. The general consensus on this issue is that the difficulty of replicating the document of title function in an electronic environment is the reason behind lack of regulation. With that in mind most legislators have been reluctant to regulate the issue without being presented a working technical solution. However, Chapter 4 argued against such an approach as it creates a sort of a "*chicken and the egg*" situation where any economically viable effort is bound to operate outside of statutory law while trying to create a solution that would convince legislators that it could fall under such law provided that it is recognized by it. All efforts have thus far resulted in platforms for electronic transfer of title of goods. And while successfully transferring title they are not suitable for widespread use because they operate within a closed group on a contractual basis. The main goal of that analysis was to demonstrate the implausibility of the scenario where legislators are being presented with a working platform without it being based in statutory law. The approach is apparently in need of change. This change however is not sufficient when it comes from a single state, especially when that state is not the UK which should act as a leader for other maritime nations to follow.

As observed by some authors, the adoption of the UCC in the USA has not resulted in an increase in the use of existing platforms nor have new ones emerged that would demonstrate to other legislators the feasibility of an EBoL. This is the case because all platforms including the latest ones operate under English law using alternative legal institutes to effect the transfer of title. Taking that into account any EBoL issued using these platforms could not be considered an EBoL under the UCC despite it most likely would fulfill the technical requirements for integrity and exclusive control set forth therein. An option to consider for EBoL platform operators is to switch their operations under US law in order to allow for the application of the UCC to EBoLs issued by using their platforms. This has however, not happened even though the amendments to the UCC have been introduced in 2003. Reasons behind this are not publicly available nor is there any available information on whether such option has been even considered. If one were to guess the reasons behind that the most likely deterrent would be found in the preferred choice of jurisdiction in maritime issues which is the UK.

Another possible way forward is the advent of blockchain based EBoL. There is a strong case to be made in favor of such approach. In fact numerous articles have been written over the last few years supporting blockchain technology to be the perfect fit for the creation of an EBoL. 2020 saw 3 blockchain based EBoL platforms being approved by the International Group of P&I clubs. They, as well operate in a contractual nexus which prevents them to establish a free flowing EBoL. With little or no information available on their functioning there is no room for a proper academic discussion which is crucial in the effort to persuade lawmakers to take legislative action. A lot of authors agree that the blockhain based EBoL does offer the closest alternative to possession and originality in an electronic environment. Therefore the mere existence of these platforms could be enough stimulus for legislators to regulate. It is however, too early to expect such action since at the time of writing these platforms have been operational for less than a year.

The final chapter of the thesis was aimed towards the potential solutions brought forward by the Rotterdam Rules. This solution is based on the fact that the traditional BoL is not a document that is exclusive to transport law. Instead its use triggers the application of property law, sale of goods law and secured transactions law. For those reasons, the Rules offer a paradigm shift with the introduction of the right of control as a pure contractual right that is transferable. In conjunction with the technical provisions the Rules offer a truly practical solution. The Rules could bring a number of possibilities even carriage of goods with no documentation at all. For instance, Prof. van der Ziel proposes such a model for financing based on the RR he named Cash Against Transfer Of Control (CATOG) where each payment is conditioned on its transfer. The Rules have not yet entered into force but have been included in the thesis as to present the difficulties of replicating the document of title function and to point out that if recognized such function is recognized through national legislation that is not fully harmonized could create further legal uncertainties. That is why the approach of the Rules should be given serious consideration when or if legislating or in the possible drafting of another instrument which could even come in the form of an amendment to the HVR.

For the time being the EBoL remains an unregulated issue. It will definitely continue to be subject of academic debate even after being regulated. At the moment the future of the EBoL is dependant on the creativity of the shipping industry to come up with their own solution that could work independently of the existing legal framework. That should be an unsurprising move taking into consideration the creation of P&I clubs or Lloyd's insurance market which have been established to cater the needs of the shipping industry where the law wasn't as accommodating and were regulated long after they became operational[138]. It must be noted that the industry has switched to the use of non negotiable transport documents where containerized cargo is not intended for subsequent sale of where bank financing is not needed. These documents are fully dematerialized and their electronic versions are operated by the same platform operators. It is not excluded that the costs for operation of platforms could reduce significantly over time thus making the use of multiple platforms a possibility. However, it must be concluded that the legal setting at the moment paired with economic and administrative realities make the current versions of the EBoL offered to the industry unattractive for use.

[138] For instance, Lloyd's market was created in 1686 with the first Lloyd's Act being enacted in 1871 https://www.lloyds.com/about-lloyds/history/corporate-history

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