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Quest for Harmonization to Implement
Electronic Bills of Lading: An International
Perspective

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Abstract

The lack of legislation on electronic bills of lading is an important existing *lacuna* in the prevailing legal regimes on the international carriage of goods by sea. The Hague/Hague-Visby Rules are increasingly becoming unable to take the modern realities of shipping into consideration and attempts at creating new conventions in this area of law have failed to gain widespread adherence. As of yet, most jurisdictions consequently do not legally recognize bills of lading in electronic form. The study goes to the root of the problem by making an in-depth examination of bills of lading and the functions that they serve in international trade. Through this examination, the picture becomes clear that the fundamentally differing views on property law found in domestic legislations is at the heart of the matter. The study finds that legislative work across multiple jurisdictions is thus indeed necessary to allow for the functions of paper bills of lading to be replicated electronically. Hence, this thesis explores different methods of achieving universally harmonized laws that would remove this barrier to the widespread implementation of electronic bills of lading in international shipping. It is thereby noted that there is a need for new approaches to achieve streamlined laws than what has previously been employed. The static nature of conventions makes them prone to quickly become outdated. This, coupled with their tendency of failing to attract sufficient support makes them too blunt of an instrument in the pursuit of finding wide legal recognition of electronic bills of lading.

The thesis arrives at the conclusion that more focused and flexible methods of harmonization should be employed instead. Model laws are found to be a good example of such a method, and they are accordingly seen as a better and more feasible way of establishing technological neutrality. An additional finding is that the most successful prior harmonization attempts have been where the industry itself has been allowed to have a great amount of say. This has consequently led to the conclusion that a hands-off approach by individual states is to be preferred. Whatever legislative method is chosen should chiefly be aimed at the wide recognition of electronic bills of lading as a legal equivalent to paper bills of lading. It is the view held by this study that soft law in the form of industry standards produced by the third-party service providers and other stakeholders in the shipping industry will subsequently develop to regulate the finer practical aspects once this goal has been reached.

The study takes the most recent developments on the digitization of international shipping into account by relying on the most up to date material covering the topic. Attendance at the recently held UNCITRAL Webinar on "*International experiences with the dematerialization of negotiable transport documents*" has for example allowed for a firsthand view on the progress towards digitization from the perspective of various stakeholders in the transport industry. With technical facilitators such as blockchain technology being all but ready to be employed commercially, these stakeholder insights all point in one direction: the time for legal recognition of electronic bills of lading is now.

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List of Abbreviations

B2G	Business to Government
BBL	BOLERO Bill of Lading
BIMCO	Baltic and International Maritime Council
BOLERO	Bill of Lading Electronic Registry Organization
CISG	United Nations Convention on Contracts for the International Sale of Goods
CMI	Comité Maritime International
EU	The European Union
ICC	International Chamber of Commerce
ILA	International Law Association
IMO	International Maritime Organization
INCOTERMS	International Commercial Terms
ISM	International Safety Management
ISO	International Organization for Standardization
ISPS	International Ship and Port Facility Security Code
MLETR	Model Law on Electronic Transferable Records
NYPE	New York Produce Exchange
PoS	Proof-of-Stake
PoW	Proof-of-Work
SDR	Special Drawing Rights
UCP	Uniform Customs & Practice for Documentary Credits

UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNGA	United Nations General Assembly
US	United States of America
USD	United States Dollar
VCLT	Vienna Convention on the Law of Treaties

1 Introduction

Trade is a phenomenon that is as old as humanity itself. In tandem with the long-term trend of increased globalization, trade has increased accordingly.¹ This evolution of trade has impacted modern society to such a degree that it has become an integral part of sustaining the way that we live today. This was explicitly demonstrated when the vessel *Ever Given* grounded and subsequently blocked the Suez Canal between the 23rd and 29th of March 2021. This obstruction, while lasting only six days, prevented the flow of traded goods at an estimated value of 9.6 billion USD a day.² This does well to show the role that international trade plays and how we simply could not do without it. Moreover, most traded goods are at least partially carried by sea. As a matter of fact, over 80% of world trade measured in volume and more than 70% measured in value is carried by sea.³ Accordingly, measures to make the carriage of goods by sea more seamless stands to benefit society as a whole to a great extent.

At the heart of this dissertation therefore lies the will to inquire into the concept of unification and harmonization of the laws on international carriage of goods by sea. The dissertation wants to establish what benefits there are to be gained from such increased streamlining of trade through unified or harmonized laws. The ambit of the study therefore encompasses the appraisal of the results from previous harmonization and unification attempts and how such harmonization has materialized. This is done with the goal of learning from previous experiences and to draw conclusions on what prior attempts at the unification of the law in this field can teach us for future harmonization projects. Due to the constant evolution of international trade, it is important to note that the quest for increased harmonization of international law is a never-ending endeavor. Where harmonization in one area of law is achieved, new developments in another will make new harmonization efforts necessary. The way in which harmonization is achieved is also in constant evolution and the days of attempting to reach strict unification of the laws are gone and the shipping industry has entered into an era where industry standards and terms are playing an ever-increasing role. Harmonization should therefore not be seen as a process with a final destination but instead as an on-going effort which constantly requires the adoption of new methods in order to reap the benefits.

The background on the topic of legal harmonization in the international carriage of goods by sea will be established in the first parts of the thesis. The study will subsequently turn its attention to finding a specific topical area within international carriage of goods by sea where harmonization could prove to be highly beneficial or even necessary. This study identifies the implementation of electronic bills of lading as such an area of the law which is unregulated in many jurisdictions and it will accordingly inquire into current and potential future

¹ Giovanni Federico and Antonio Tena-Junguito, 'A Tale of Two Globalizations: Gains from Trade and Openness 1800–2010' (2017) 153 *Review of World Economics* 601, 617.

² 'Suez Blockage Is Holding up \$9.6bn of Goods a Day' *BBC News* (26 March 2021) <<https://www.bbc.com/news/business-56533250>> accessed 26 April 2021.

³ United Nations Economic Commission for Europe, 'White Paper on Blockchain in Trade Facilitation' (United Nations 2020) ECE/TRADE/457 51.

harmonizing efforts conducive to their implementation.⁴ In order to achieve harmonized legislation in most jurisdictions, the different views on the rights conferred by bills of lading in domestic legislations must be streamlined and electronic equivalents to paper bills of lading must become universally recognized. From the inquiry into the existing legal regimes on international carriage of goods by sea, the thesis aims to draw insights from prior experiences to avoid the same pitfalls in the pursuit of implementing electronic bills of lading. Furthermore, the thesis will also look at potential future legal and technical developments on electronic bills of lading in an attempt to gauge how these might affect the prospects of coming harmonizing efforts. By comparing past and present harmonization attempts, the goal of the thesis is to stake out the way ahead and to identify the major barriers that are still to be addressed in order to allow for the widespread legal recognition of electronic bills of lading.

1.1 Background

The unification of the carriage of goods by sea stretches far back in time. As early as during medieval times the bill of lading was used as evidence of a contract of affreightment.⁵ This was during the time of the so-called *lex maritima*, which formed a sub-regime to the more general *lex mercatoria*. The *lex maritima* is the name given to the customary law specific to maritime matters that started to develop around this time, and which was widely in use by merchants.⁶ This development of unified rules on the bill of lading and shipping in general coincides with the practice of the merchant being the master himself becoming obsolete.⁷ Due to increased commercial activity, the possibility of the traders themselves traveling alongside their goods became unfeasible.⁸ Instead, ways were needed to keep record of the goods being carried since the merchant no longer had the same direct control over his goods.⁹ Evolving out of what was known as the ‘Ship’s book’, the bill of lading was thus starting to form.¹⁰ It did however develop in stages. At first, the bill of lading would just be issued for the sake of recordkeeping to offset the consequences involved with goods being lost at sea.¹¹ In the late 16th century however, the first descriptions of a bill of lading more similar to the one in use today can be found in Northern Europe.¹² The bill of lading now indicated the quality and quantity of the goods to the master. Furthermore, the practice of using multiple copies where the consignee, meaning the receiver of the goods, would be issued one of these copies was

⁴ Some jurisdictions, such as South Korea and the US, have already implemented legislation that makes electronic bills of lading functionally equivalent to the traditional paper bill of lading. These jurisdictions serve well to highlight the ongoing digitization and could prove to be a valuable source of practical experiences as regards the implementation process. For further reading on some of these domestic legislative measures specific to certain jurisdictions, see Miriam Goldby, *Electronic Documents in Maritime Trade: Law and Practice* (2nd edn, Oxford University Press 2019) 173 ff & 332 ff.

⁵ Elena Orrù, ‘The Challenges of ICTs in the Shipping Sector Among International Uniform Law’ in Justyna Nawrot and Zuzanna Pełowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 135; Justyna Nawrot and Zuzanna Pełowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020).

⁶ Orrù (n 5) 135.

⁷ SF du Toit, ‘The Evolution of the Bill of Lading’ (2005) 11 *Fundamina* 12, 13.

⁸ *ibid.*

⁹ *ibid.*

¹⁰ *ibid* 16–17.

¹¹ *ibid* 17.

¹² *ibid* 20.

now in place.¹³ The document of title function of the bill of lading was subsequently the last function of the bill of lading to develop. While likely being put into practice in the 16th century, it is not until the 18th century when there is clear and formal evidence of the bill of lading having the document of title function.¹⁴ As is evident from what has been discussed above, all these developments regarding the bill of lading were largely harmonized by the previously mentioned *lex maritima*.

With the arrival of the steamship radically transforming the carriage of goods by sea by the late 19th century however, the tension that is inherent in shipping between the carrier and the shipper became ever more apparent.¹⁵ This would come to disrupt the unification that had up until then been prevalent under the custom law regime of the *lex maritima*.¹⁶ This tension between the shipper and the carrier stems from the fact that the carrier was often in a better negotiating position than the shipper. At the time, the prevailing principle of freedom of contract therefore meant that the carriers were able to impose their will when entering into the contracts of carriage with the generally smaller shippers who oftentimes had no other choice but to accept the terms.¹⁷ There was a wide discrepancy in how various jurisdictions approached this issue. In jurisdictions where cargo interests were prioritized, the view was that the terms imposed by the carriers were harsh and unfair.¹⁸ On the flip side to this, in jurisdictions where carriers held a strong position, the principle of unlimited freedom of contract was held sacred. With its ever-increasing geopolitical role, the US with its heavy focus on the interests of the shipper, started to carry increased weight in the discussion at the end of the 19th century. The culmination of this development was the enactment of the US Harter Act in 1893.¹⁹ The Act had a large impact on the position of the shipper, as it made certain routinely implemented exemptions onto the bill of lading for the benefit of the carrier void within domestic US legislation. Many other countries were quick to adopt similar legislation to protect their cargo interests.²⁰ This wave of unilateral legislation presented the international community with new challenges as the enacted rules often conflicted and in turn, this non-uniformity carried the risk of hindering international trade.²¹ From these challenges however, the road to increased international cooperation was set.²² As the tension between the carrier and the shipper that had existed since long became ever more obvious and with the threat of increased domestic legislation on the subject matter causing disharmony, the international community was left with little choice but to try to reach an international agreement. Therefore, the first earnest attempts at unifying the carriage of goods by sea at large by way of treaty law got started in the late 19th century with the advent of the Brussels Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, more

¹³ *ibid.*

¹⁴ *ibid* 23–24.

¹⁵ L Zhao, ‘Uniform Seaborne Cargo Regimes - A Historical Review’ (2015) 46 *Journal of Maritime Law and Commerce* 133, 136–140.

¹⁶ Orrù (n 5) 135.

¹⁷ Zhao (n 15) 138.

¹⁸ *ibid* 140.

¹⁹ *ibid* 141.

²⁰ *ibid* 142.

²¹ *ibid.*

²² *ibid* 143.

commonly known as the Hague Rules.²³ As Zhao points out, there is some irony to be found in the fact that unilateral domestic Harter-style acts counterintuitively marked the dawn of increased international cooperation.²⁴ Active cooperation has since been the way of the international community to unify international carriage of goods by sea and the days of custom law being the main approach to unification and harmonization had come to an end.

New technological and industry advancements however have placed the strict approach of unification by way of international treaties under scrutiny. As will be shown in this study, with a number of Conventions failing to enter into force or to gain sufficient adherence, the international community has begun to realize that the way forward might be by other means instead. Softer harmonization may be what is necessary to update the legal regime on international carriage of goods by sea as the current regimes are becoming increasingly unable to accommodate the needs of the shipping industry. With electronic bills of lading as an example of such an aspect of the shipping industry where legislation is currently in disharmony, the inquiry into alternative approaches for increased harmonization is a necessary endeavor.

1.2 Scope and purpose

Aim of the thesis

Through the examination of the existing international legal regimes on the carriage of goods by sea, this dissertation identifies electronic bills of lading as an area of the law that is not sufficiently legislated. Accordingly, this study looks at previous and current attempts at streamlining the laws on the carriage of goods by sea with the goal of establishing the benefits that stand to be gained from international harmonization. The study examines how harmonization has previously been achieved in international commercial law and also contrasts this with alternative methods of reaching this goal. The ultimate aim of the thesis is to subsequently apply these findings to arrive at what strategy is best suited to reach a harmonized legal regime for the implementation of electronic bills of lading as the industry standard in international trade.

Research questions

The following research questions will be used to facilitate a thorough and satisfactory discussion on the topic in order to arrive at the goal set for this thesis:

Harmonization in the international carriage of goods by sea in general

Harmonization is at the center of this thesis and the study wishes to allow for a proficient discussion on the harmonizing efforts that are needed in the international carriage of goods by sea. Hence, the thesis will establish the concept of harmonization and where harmonization is needed by utilizing the following research questions:

²³ ibid 134.

²⁴ ibid 143.

- Is there a need for harmonization of the rules in the international carriage of goods by sea?
- What benefits can be gained from further harmonization of the law?
- On what topics is such a potential need for harmonization the greatest?

Bills of lading

This study has identified disharmony in the legislation necessary for the digitization of the shipping industry. The legal recognition of electronic bills of lading is held as a key factor to allow for this digitization. Therefore, the bill of lading must be examined in order to make further inquiries into electronic bills of lading and how they can replicate the functions of the conventional paper bill of lading. To facilitate this examination, the following research questions have been of guidance to the study:

- What is a bill of lading and what are its main functions?
- How do bills of lading convey title to the cargo?
- To what extent are bills of lading harmonized?

Electronic bills of lading

With the functions of the bill of lading examined, the study subsequently looks further in-depth at electronic bills of lading to assess the way forward for a harmonized international legal regime that would be conducive to their implementation. The following questions have been instrumental to arrive at relevant conclusions regarding electronic bills of lading:

- What are the salient features of electronic bills of lading and how do they differ from traditional paper bills of lading?
- Can electronic bills of lading fulfill the functions of paper bills of lading?
- What are the benefits of electronic bills of lading?
- What is standing in the way of the implementation of electronic bills of lading in international trade?
- Are the currently available Conventions on the carriage of goods by sea sufficient or is additional regulation needed to allow for the widespread use of electronic bills of lading?
- What are the most relevant regulations on electronic bills of lading to date and how have these been embraced?
- How is legal harmonization on electronic bills of lading best achieved?

Blockchain technology

Blockchain technology is currently viewed as one of the more promising facilitators of electronic bills of lading. This study will therefore approach this technology in detail to establish its benefits and its disadvantages by employing the following research questions:

- What is blockchain technology and how does it work?
- What are the benefits of blockchain technology?

- How does it facilitate the implementation of electronic bills of lading?
- What are the legal and technical challenges facing blockchain technology?
- Will blockchain-based bills of lading be the way of the future?

Delimitations

This study addresses issues related to international commercial law in the main and the thesis is therefore mostly confined within the sphere of private international law. Matters relating to public international law will therefore only play a minor role. To put it in terms more frequently used in the maritime context, this thesis mainly deals with issues that would be categorized under maritime law rather than under the law of the sea.

Within these broader parameters of maritime law, this thesis has the ambit of looking at international legal harmonization, specifically as regards electronic bills of lading. In line with this international scope, the intention of the study is to keep the focus on as wide of a scale as possible. To achieve this goal, the approach is to avoid focusing on specific domestic legislations to the extent possible. Instead, this thesis approaches the topic with the intent of finding how the prevalent non-recognition of electronic bills of lading can be addressed universally. With this approach, the aim is to be able to find ways of reaching the necessary critical mass of jurisdictions that legally acknowledge electronic bills of lading. The study will however encompass previous attempts at the implementation of electronic bills of lading in specific jurisdictions if such an inquiry could prove valuable for providing alternatives that can be used on a larger scale.

Furthermore, on a tangential theme, it should be noted that the differences between common law and civil law are addressed in this dissertation, especially as it pertains to how property is viewed and as it relates to bills of lading. For the purposes of this thesis however, there is a need to limit the scope to some degree. Accordingly, the study has chosen to focus on English common law primarily when the topic needs to be exemplified in a specific jurisdiction. This limitation is out of consideration of the infeasibility of covering a multitude of jurisdictions under the scope of a study of this kind. Civil law for example is inherently divided and a meaningful discussion including civil law jurisdictions would require the inclusion of multiple jurisdictions in order to make up for the importance held by English law in international commerce. It would in any case not be of much explicit benefit to include further jurisdictions into the discussion. On the contrary, it would instead merely function to negatively affect the cohesion of the study and work contradictory to the delimitation of finding a universal solution that addresses the lack of legal recognition on a wider scale.

There are some rather compelling reasons for specifically choosing English common law. For one, English law has traditionally been, and still to this day remain, an important jurisdiction in maritime matters.²⁵ English law is also known for putting much emphasis on contractual certainty. What is stipulated in the contract is the most important deciding factor in English courts and the parties can be assured that other considerations of the courts will not interfere

²⁵ Anders Møllmann, *Delivery of Goods under Bills of Lading* (Routledge 2017) 5.

with their contractual intentions. Due to this, English law is often included as the choice of law and the UK is often the choice of jurisdiction in contracts of affreightment.²⁶ Furthermore, English law is a good choice for illustrating the view held by common law jurisdictions in general. Other common law jurisdictions, such as notably the US, tend to have developed further apart from other common law nations.²⁷ English law as such serves as a better reference point for the common law system as a whole. Inspiration has also been drawn from the 2020 ICC Global Trade Survey on Trade Finance, where the importance of the implementation of electronic bills of lading in the UK has been identified as a key component in the endeavor of digitizing international trade.²⁸

1.3 Method and material

The leading principle behind the structure of this thesis is that it is composed of several chapters, with each chapter providing its own piece to the final puzzle. In line with this overarching principle, the aim has been to address each component of this puzzle in an insulated fashion while at the same time continuously building up towards the complete picture on the topic. By incrementally moving from bigger concepts such as for example the principle of harmonization in general and its *raison d'être*, down to ultimately covering the finer legal details on the specifics of electronic bills of lading, the goal is to paint a thorough picture of the shipping industry as it stands today. With the topic thoroughly mapped, the study will then be able to gauge future developments on electronic bills of lading and how the required harmonization and unification can be accommodated for.

While it is difficult to put a single label on the exact methodological nature of the research conducted in this thesis as a whole, a doctrinal approach has been employed in the parts of the thesis where the current legal landscape on the topic is established.²⁹ It has been the view of this study that it is important to assess the current legal regime before any future developments can be looked into. Without learning from prior experiences in commercial maritime law, the same mistakes are bound to occur repeatedly. Thus, past experiences are given much space in this thesis. These doctrinal findings from the parts aimed at establishing the legal landscape have then subsequently allowed the thesis to make relevant comparisons in later parts of the study. Here, the intention of this thesis has been to contrast the current legal regime in relation to how new, harmonized rules on electronic bills of lading might form. These comparisons have also allowed for the pinpointing of the differences between the legal instruments that have been developed by the international community thus far. Accordingly, this study has been able to note the existence of *lacunae* and how these *lacunae*

²⁶ *ibid.*

²⁷ Francis Reynolds, 'Codification: Problems of Differing Legal Cultures' in Zuzanna Pełowska-Dąbrowska and Justyna Nawrot (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 6–7. Reynolds specifically mentions the United States as the clearest example of this intra common law discrepancy.

²⁸ 'ICC Global Survey on Trade Finance' (International Chamber of Commerce 2020) 97.

²⁹ See for example Ian Dobinson and Francis Johns, 'Legal Research as Qualitative Research' in Mike McConville and Wing Hong Chui (eds), *Research Methods for Law* (2nd edn, Edinburgh University Press 2017) 20 ff; Terry Hutchinson and Nigel Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (2012) 17 *Deakin Law Review* 83, 101 ff for a more extensive detailing of this research method.

have been a recurring theme throughout the history of the quest for harmonization in the international legislation on the carriage of goods by sea. With this approach in place, the dissertation has found it possible to make educated predictions for future developments in the field of international carriage of goods by sea.

It is also important to note that the envisioned reader of this thesis is at the level of knowledge of a law student with a basic understanding of international law but without any greater amount of prior knowledge in the area of maritime law. This has influenced how this thesis has been structured to some extent. Accordingly, with such a reader in mind, the parts of this study that establish the background on the current legal regimes provide multiple benefits. As has already been mentioned, they provide the dissertation with the information required to look into future developments and to make educated conclusions on possible ways forward. These parts however also have the important dual function of providing sufficient background information on this rather esoteric topic for the envisioned reader. The doctrinal methodology has therefore also proven valuable for giving the reader a way to quickly familiarize him or herself with the subject matter at hand. Hence, some of the concepts and information that might seem like common knowledge to someone well versed in commercial maritime law will provide the envisioned reader with essential background information on the topic of this thesis. As such, the first parts of this thesis are meant to bring readers without such prior knowledge up to speed on the topic while at the same time providing valuable information on how previous harmonization attempts have fared.

Furthermore, it is worthwhile to mention that the ambit of this dissertation has lent itself best to a qualitative research approach. In trying to draw conclusions on the prior workings of the international community, the works of experts and scholars have been the primary way of gathering information. These sources have consciously been gathered to be as up to date as possible. This is especially true in regard to the topic of electronic bills of lading as it is a topic that is subject to constant developments. This emphasis placed on using the most recent material is perhaps best illustrated by the attendance at the UNCITRAL Webinar on "*International experiences with the dematerialization of negotiable transport documents*" between the 13th-14th of April 2021. During these sessions, the most recent developments were presented by various stakeholders in the shipping industry and these findings have subsequently played an important role of indicating the way forward for the digitization of international carriage of goods by sea.

1.4 Overview of the thesis

In this sub-chapter, a short presentation of each chapter of the thesis will be given to provide the reader with an easily accessible overview and a way to approach the thesis with the intention behind each chapter clearly stated.

This introductory *Chapter 1* is aimed at giving a background on the topic chosen to show wherein the issues addressed lie. By stating the delimitations, research questions and ultimate

goals of the dissertation, the intention is to provide a roadmap and the thoughts behind sections to come.

Chapter 2 is intended to provide the basics of the concept of harmonization. Thus, terminology behind important concepts such as harmonization and unification are clarified in order to detail what is the actual meaning behind the words. Furthermore, the advantages and disadvantages of harmonization are also discussed in this chapter with the intention of elaborating on what is frequently held to be the benefits conferred by increased harmonization on the one hand while nuancing this view by providing a contrasting image showing the potential negative outcomes of harmonization attempts. This is followed by exemplifying these different perspectives on harmonization by examining the views of scholars on both sides of the divide. Additionally, ways to achieve harmonization are discussed in this chapter. Important instruments such as conventions, model laws and industry standards will thus be covered and will provide a foundation for the discussion on the existing implementation alternatives for electronic bills of lading further on in the thesis.

In *Chapter 3*, the current conventions on the carriage of goods by sea will be examined. This part details the evolution that has taken place from the first attempts by the international community to unify this area of law until the current situation of today. With the evolution established, the study subsequently has the aim of providing a clear picture on what aspects of international carriage of goods have been subject to unification and harmonization up until now and also to highlight important *lacunae* that are not caught by these conventions and where increased harmonization could prove beneficial.

Chapter 4 goes into the finer legal details on bills of lading and their electronic counterparts. In order to fully understand the obstacles that need to be overcome in order to allow for the implementation of electronic bills of lading, one must first understand the basics of the conventional bill of lading. Thus, the first parts of this chapter detail the traditional paper bill of lading and establish what its functions and purposes are within the greater scheme of international trade. The thesis subsequently moves on to examine electronic bills of lading and one of the goals of this chapter is to highlight the benefits that would come with an increased digitization of the shipping industry. Furthermore, inquiries are done into previous and potential future attempts to provide for an electronic equivalent to the conventional paper bill of lading and the difficulties that exist on a technological level.

Chapter 5 looks at the legal difficulties that stand in the way of the full legal recognition of electronic bills of lading. In this chapter, the law of property will play a central role and the study will dissect the concept of property and how electronic bills of lading would be categorized in the property classification scheme with the focus primarily being on English law to make the discussion more cohesive and concretized.

Chapter 6 subsequently provides for ways to alleviate the legal difficulties caused by the law of property and serves to illustrate how harmonization and unification is crucial in order to allow for electronic bills of lading to become the way of the future.

With the pieces of the puzzle assembled in the previous chapters, the study subsequently combines these pieces in the following two chapters. First, a discussion on important findings is made, which is then ultimately followed by the conclusions that the study has been able to draw from the research done.

2 The Concept of Harmonization

2.1 Terminology

The terms harmonization and unification are frequently used in this study, and it is therefore important to clarify the meaning behind the words. There is an abundance of different terms used in the scholarly discussion to designate the streamlining of international laws.³⁰ ‘*Uniformity*’ and ‘*harmonization*’ are however the two most prevailing terms in use.³¹ The streamlining of laws between different jurisdictions that is the outcome of unification and harmonization can take on many forms and the degree to which this streamlining is taken impacts what term is to be used.³² This is due to the fact that these two terms have somewhat differing meanings while dealing with the same phenomenon. Bokareva proficiently points to this distinction by reference to the Oxford English Dictionary. On the one hand, ‘*uniformity*’ is understood to mean “*not varying, the same in all parts and at all times*” in accordance with the Oxford English Dictionary. On the other hand, ‘*harmonization*’ is defined by the same source as when “[...] *two or more things [...] go well together and produce an attractive result*”.³³ In a conversation with the supervisor for this dissertation, the two concepts were aptly compared to a choir.³⁴ If you have a choir that sings in unison, it will not sound good at all. If the choir on the other hand harmonizes, you will achieve great results. The same goes in international law. With a plethora of different jurisdictions, the thought of implementing rules that should be applied in the same manner across these various jurisdictions is simply not feasible. The preference for harmonization instead of uniformity has however not always been prevalent with the international community and this is a development which there will be reason for returning to later on in the thesis. However, attempting to bridge the differences between multiple jurisdictions can produce great benefits in many aspects of trade such as improving efficiency etc. It is likely so, that such harmonization is in fact necessary to develop the world of shipping and to allow it to keep up with technological advancements and other changes it might face.

An important distinction between unification and harmonization also lies in how they are achieved. When applying the definition of the words ‘unification’ and ‘harmonization’ as they are found in the Oxford English Dictionary, one can note that there is a difference in the level of streamlining implied.³⁵ As such, harmonization aims more at achieving a common baseline that removes the most important barriers between various jurisdictions. Unification on the other hand should rather be seen as a stricter variant of harmonization. Instead of establishing said baseline of common rules between jurisdictions, unification is instead aimed at implementing the same rules without the same degree of flexibility that is inherent in

³⁰ For a thorough exemplification of the various terms in use, see for example Olena Bokareva, *Uniformity of Transport Law through International Regimes* (Edward Elgar 2019) 73–77.

³¹ Ajendra Srivastava, *Modern Law of International Trade: Comparative Export Trade and International Harmonization* (Springer 2020) 28.

³² *ibid* 27–30.

³³ Bokareva (n 30) 73.

³⁴ Private conversation with A. Basu Bal.

³⁵ Srivastava (n 31) 27–30.

harmonization.³⁶ As will be detailed in later parts of this thesis, different international instruments are more prone to achieve either increased harmonization or increased unification between jurisdictions. If one were to strive for unification of international law for example, the best way to achieve this would be through multilateral conventions.³⁷ If instead greater harmonization is what is sought, other avenues are often better suited for that purpose.³⁸

The practical importance of the difference in terminology should perhaps not be overstated however. As noted by Bokareva, the terms are sometimes used without any explicitly stated pattern in between the various Conventions on the carriage of goods by sea. In some Conventions, harmonization might be the main choice to denote the ambition of the provisions. In others, uniformity is used.³⁹ What they all seem to have in common however is that they all have the ambition of removing existing differences between jurisdictions in a specific legal area through the streamlining of the law.⁴⁰ For the purposes of this study, the differentiation between unification and harmonization is consciously made to the extent possible in order to indicate the level of streamlining of the laws that is intended.

2.2 Advantages and disadvantages of international harmonization

With harmonization being central to this thesis, the question of why harmonization is so important needs to be addressed. It should be noted that there are varying views on the actual need for harmonization and how beneficial it truly is. Accordingly, it is therefore pertinent to inquire further into the potential advantages and disadvantages that are frequently held by supporters and opponents of further harmonization. As such, this chapter will look in more detail at the various arguments brought for and against harmonization.

2.2.1 Advantages

Among the benefits that are often held to emanate from increased international harmonization is first and foremost the aspect of *certainty and predictability of results*.⁴¹ In Tetley's view, there is no difference between the need for certainty in domestic legislation and the need for certainty in international legislation.⁴² In the same way that a citizen should be able to expect to have clear and established rules to abide by, parties on the international commercial stage should likewise know how potential disputes will be treated.⁴³

Tetley is of the opinion that there are six main reasons for increased harmonization.⁴⁴ With certainty and predictability of results established as his first reason he continues with the

³⁶ *ibid.*

³⁷ *ibid.* 30.

³⁸ *ibid.*

³⁹ Bokareva (n 30) 77.

⁴⁰ Srivastava (n 31) 28.

⁴¹ William Tetley, 'Uniformity of International Private Maritime Law: The Pros, Cons, and Alternatives to International Conventions; How to Adopt an International Convention' (2000) 24 *Tulane Maritime Law Journal* 775, 797.

⁴² *ibid.*

⁴³ *ibid.*

⁴⁴ *ibid.* 797–800.

second reason that increased harmonization makes the *choice of jurisdiction, choice of law and recognition of foreign judgements* easier in international contracts. If the rules are harmonized sufficiently, the parties will therefore not have to waste unnecessary time and legal advice on forum shopping and the problems of conflict of laws etc. will be minimized.⁴⁵

A third factor brought up by Tetley is the aspect of *fairness*.⁴⁶ This is to some degree on the same theme and reasoning as with Tetley's first point where he is of the opinion that there is no difference between domestic legislation versus international legislation. Parties in all jurisdictions must be treated fairly across the board if justice is to be upheld.⁴⁷ Tetley's fourth argument in favor of international harmonization is that it increases *order*.⁴⁸

The fifth argument according to Tetley is that harmonization is beneficial to *economic development*.⁴⁹ His clearest example of how effective such harmonization can be is the EU.⁵⁰ Considering that the EU has successfully allowed for an extensive harmonization of the national legislations of its member states in the field of commerce, he holds it to be clear evidence of the benefits which can be achieved. He is of the opinion that the influence that this development has had in the EU is one of the main reasons why UNCITRAL has spent so much effort in trying to harmonize international regulation related to commerce. The efforts of UNCITRAL have in turn led to the successful drafting of harmonizing instruments such as the Convention on Contracts for the International Sale of Goods.⁵¹

The sixth and final reason given by Tetley is that harmonization increases *procedural effectiveness*.⁵² He exemplifies this by noting the extent to which international arbitration has been unified and that all the major international arbitral institutions abide by the same general procedural rules which makes it easy for litigants to assert their rights and remedies.⁵³

2.2.2 Disadvantages

One of the disadvantages most frequently held to feature in international unification and harmonization attempts is the practical feasibility of achieving similar results in multiple jurisdictions. While the benefits of harmonization are clear on paper, there are many who hold these benefits to be more theoretical than anything as will be shown further on in this chapter. The view that harmonization is something practically unattainable is held to be due to various reasons by different scholars. There are scholars such as Paul B. Stephan who sees the arguments such as those brought by Tetley to be no more than an idealized view of the international legislative process.

⁴⁵ *ibid* 797.

⁴⁶ *ibid* 797–798.

⁴⁷ *ibid* 798.

⁴⁸ *ibid*.

⁴⁹ *ibid*.

⁵⁰ *ibid*.

⁵¹ *ibid* 798–799.

⁵² *ibid* 800.

⁵³ *ibid*.

Regarding Tetley's first argument in favor of unification and harmonization, Stephan is of the opinion that the reduction of risk in international commerce is a worthwhile endeavor but that there is an optimum level of reduction of risk.⁵⁴ With such a view in place, there is a maximum level of clarity in the rules to be aimed for. The need to balance increased clarity of the rules versus flexibility, and thereby increased risk, becomes imperative. To illustrate this balancing act, Stephan exemplifies it by referring to delay. In his example, he sets the scenario of a legal regime where late deliveries would make a contract void, no matter what caused the delay.⁵⁵ According to him, such a legal regime would personify certainty. It would however force a burden on the parties that would not make up for the greater degree of certainty.⁵⁶ Here he is of course taking his point to the extreme, but it does well to show his point of view that certainty at the cost of contractual flexibility is not always to be preferred. Parties to a contract as in Stephan's scenario would most often want to have the opportunity to have the legal ramifications of delay taking effect gradually and to be able to customize the remedies for delay in accordance with their preferences and what suits their specific needs. In the legal regime of Stephan's example then, the parties would frequently have to contract out of said regime (in the case that contracting out would be allowed at all) which would render the whole harmonizing nature of the rules void. The burden placed on the parties to contract these conditions in between themselves as a consequence of certainty being prioritized higher than flexibility would in that case be detrimental to them and the harmonizing attempt would have done more harm than good.⁵⁷

Another issue brought up by Stephan is in regard to the frequently claimed ability to produce better laws by unification and harmonization on a global basis.⁵⁸ One part of this increased ability is that the pool of legal expertise is bigger on the international arena. While factually true, Stephan is of the opinion that this larger pool of expertise is not always able to be fully utilized. This, according to Stephan, is due to the fact that cooperation in such a case would have to be performed over lingual and cultural barriers.⁵⁹ The efficiency of international projects is best when the need for interpreters can be done away with. This according to Stephan reduces the effects of the seemingly larger pool of expertise on the international stage as the people involved in the law reform process would have to possess such multilingual and multicultural talents to bridge these barriers.⁶⁰

Another argument under the same theme that Stephan claims is frequently brought up in favor of international unification and harmonization projects is that the pool of data becomes larger as well.⁶¹ He is of the opinion however that such an argument is not entirely based on correct assumptions. He finds it hard to see the connection between the quality and quantity of data

⁵⁴ Paul B Stephan, 'The Futility of Unification and Harmonization in International Commercial Law. (Unity and Harmonization in International Commercial Law)' 39 Virginia Journal of International Law 743, 746-748.

⁵⁵ *ibid* 747-748.

⁵⁶ *ibid* 746-748.

⁵⁷ *ibid* 747-748.

⁵⁸ *ibid* 748.

⁵⁹ *ibid* 749.

⁶⁰ *ibid*.

⁶¹ *ibid* 748.

available and whether law reform is performed internationally or domestically.⁶² His view that domestic law reforms could likewise draw inspiration from the same data of other jurisdictions as would an international law reform project seems like a logical conclusion. This study wonders however how often such an approach would be taken in practice. It seems most likely that a domestic law reform would have a different starting point than would an international law reform process. In an international setting, multiple states would actively participate and each would contribute with their own insights. In a domestic legislative process on the other hand, the same insights might not be as readily available and the state performing the legislative work would have to actively seek out this data. In the view of this study then, the international legislative process and its domestic counterpart does not seem to share the same ability of finding data on similar reforms in other jurisdictions.

Stephan's viewpoint as said boils down to that the most frequently held arguments in favor of harmonization form an idealized view of the benefits of harmonization.⁶³ He is of the opinion that this idealized version of harmonization seldom, if ever, materializes in reality due to the processes involved in the law-making.⁶⁴ In his view, the rules produced internationally instead either promotes uncertainty or they represent the will of niched interest groups.⁶⁵ To demonstrate the former outcome he exemplifies his point by bringing up the United Nations Convention on Contracts for the International Sale of Goods (CISG).⁶⁶ In great detail, he runs through some fundamental aspects of the CISG and claims that the Convention in fact far succeeds at bringing more uncertainty than it does at bringing harmonization and unification.⁶⁷ To prove his latter point that unification and harmonization oftentimes ends up benefitting niche interest groups, Stephan notes the drafting processes for the Hague/Hague-Visby Rules and the Hamburg Rules. Interest groups representing the carriers in the drafting of the former and the shippers in the drafting of the latter, were allowed to have such an amount of say that the outcomes were two regimes which were skewed too much in favor of either group respectively to be completely satisfying to the other.⁶⁸

Stephan instead seems to be a proponent of incorporating existing national law into international contracts to reduce legal risks.⁶⁹ With this perspective, the contractual parties are seen themselves to know better what national laws fit their needs and what laws do not. In his view, harmonized rules spanning across several jurisdictions stand the risk of not meshing with preexisting legal traditions in these jurisdictions with the consequence that instability would follow.⁷⁰ According to this view, a legal system is something that develops over time, which allows it to mature in tandem with laws being implemented and thereby it becomes a more symbiotic system. Implementing foreign rules into a jurisdiction might thus put this symbiosis out of balance.⁷¹

⁶² *ibid* 749.

⁶³ *ibid* 752.

⁶⁴ *ibid* 788.

⁶⁵ *ibid*.

⁶⁶ *ibid* 772 ff.

⁶⁷ *ibid* 772–780.

⁶⁸ *ibid* 767.

⁶⁹ *ibid* 792.

⁷⁰ *ibid*.

⁷¹ *ibid*.

2.2.3 View among scholars

In order to highlight the debate that exists within academia, this sub-chapter will try to better establish the varying views on harmonization. Thus, some of the different arguments for and against harmonization of international private law will be provided in short to illustrate how disparate the perspective on harmonization can be. This study is of the opinion that it is of importance to show the divide that exists in order to arrive at a fair and balanced conclusion. The intention when including various views on harmonization is however also to point to the fact that the overwhelming majority of international experts seem to favor harmonization in one way or another. Tetley's arguments in favor of harmonization above can thus be said to represent the general positive view towards international harmonization in the scholarly debate. This study finds it important however to highlight that there are seemingly as many perspectives on harmonization as there are scholars, and that it is in fact a sliding scale from a full embracement of international harmonization on one side to a total rejection on the other side. To represent the part of the scholarly divide who do not subscribe to the purported benefits of increased international harmonization, this study has seen the arguments brought by Stephan above. Stephan provides a polemicized debate against international harmonization with some interesting points that provide a different input to the discussion than what seems to be the general consensus.

While not being unique, skeptics such as Stephan should not be viewed as the norm. From a general inquiry into the topic of harmonization, writers usually seem to hold harmonizing attempts as being an established benefit to international commerce. This dissertation has already mentioned the view held by Tetley, who expressly mentions in direct terms that "*The advantages of uniformity far outweigh the disadvantages of international law [...]*".⁷² Sturley et al. seems to hold the benefits of increased uniformity to be so fundamentally established that it goes without saying by stating that; "*The goal of achieving greater international uniformity is so well known, not only for maritime law but for any international private law convention, that it does not require extended discussion here.*"⁷³ Further on in their discussion on uniformity, Sturley et al. bring forth reasons in favor of uniformity such as the reduction of risk in international trade etc.⁷⁴ They especially hold the predictability factor in high regard as a significant argument for increased uniformity and harmonization.⁷⁵ Seemingly then, Tetley and Sturley et al. on the one hand and Stephan on the other position themselves on the opposite sides of the spectrum on this issue. In the view of this study, the opinions of Tetley and Sturley et al. seem to better reflect the prevailing sentiment in scholarly texts on the topic, that uniformity and harmonization is beneficial and even necessary in laws on international trade. To add to this category of scholars, other writers such as Bokareva among others are also more in favor of harmonization and unification of the law as they see it to be a more feasible endeavor than does Stephan.⁷⁶

⁷² Tetley (n 41) 797.

⁷³ Michael F Sturley, *The Rotterdam Rules: The UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea* (2nd edn, Sweet & Maxwell, Thomson Reuters 2020) 3.

⁷⁴ *ibid.*

⁷⁵ *ibid.* 4.

⁷⁶ Bokareva (n 30) 80–84.

It should be said however, that the proponents of harmonization do not form a monolith as they differ to the extent in which they hold unification of the law to be achievable. Some scholars even go as far in their support of harmonization and unification that they have suggested a consolidation of the major international conventions on commercial law into one Global Commercial Code.⁷⁷ Others, such as Lord Hobhouse, see the benefits of harmonization and unification but only to a lesser extent. While subscribing to the notion that it can realistically be achieved in more federated groups of states like the EU, he holds that the differences between the jurisdictions become too vast to allow for any uniform application of the rules on a global scale.⁷⁸ One area where they all seem to agree however, whatever form the unification and harmonization takes, is that it must be accepted in practice by the parties that are the intended benefactors.⁷⁹ From what has been gathered by this study, one can zoom out with this perspective in mind even further and apply this to the whole debate on the *raison d'être* for harmonization and unification. The hesitance towards harmonization and unification often stems from the view that it is a utopian goal that cannot be satisfyingly met by the international community by the available means of international legislation.⁸⁰ As has been discussed previously in this chapter, even skeptics such as Stephan are not opposed to the concept of harmonization and unification *per se* but rather holds the view that the desired effects cannot be achieved due to the realities of international law making. Thus, some focus will be lent in coming sections of this study to the inquiry into the various ways that unification and harmonization can come about. In his text, Stephan for example seems heavily focused on the traditional method of unification through conventions. As will be seen further on in this study however, there are other avenues of achieving unification and harmonization that might be better suited to avoid the pitfalls brought up by skeptics such as Stephan while simultaneously bringing about the much-sought benefits.

2.3 Different approaches to harmonization

There are different ways of achieving harmonization. Historically, the customs and practices among merchants involved in maritime trade formed the base for what developed into the *lex maritima*. By the start of the 20th century, the use of international conventions started to take root, and this has traditionally been the preferred way of the international community to achieve greater uniformity and harmonization ever since.⁸¹ In a previous chapter, the importance of the terminological differences between ‘harmonization’ and ‘unification’ has been established. Accordingly, this distinction is of paramount importance in the discussion on the various techniques of achieving streamlined legislations. This is due to the fact that different approaches to the streamlining of international law will have different outcomes. If the traditional method of international conventions is utilized, the outcome is a greater degree of uniformity rather than harmonization.⁸² This is owed to the strict nature of international

⁷⁷ Michael Joachim Bonell, ‘Modernisation and Harmonisation of Contract Law: Objectives, Methods and Scope, An Overview’ (2003) 8 Uniform Law Review 91, 96.

⁷⁸ Bokareva (n 30) 83.

⁷⁹ *ibid.*

⁸⁰ *ibid.*

⁸¹ *ibid* 94; Srivastava (n 31) 36.

⁸² Srivastava (n 31) 30.

conventions, where a complete implementation of a legal regime on a specific topic into the jurisdiction of the ratifying state is often required. It should however be noted that conventions are far from being the only way to achieve increased harmonization and uniformity. Roy Goode mentions that there are at least nine different instruments that can be used to achieve greater harmonization of the law.⁸³ For example, soft law approaches are also available and are likely to become more important in the future.⁸⁴ Accordingly, this chapter of the thesis will be dedicated to expanding further on how uniformity and harmonization can be achieved on the international stage. Thus, the methods that are most frequently used will be explored in order to make an appraisal of their strengths and weaknesses and in what situations they are best suited.

2.3.1 Conventions

Historically, most active harmonization attempts have been done by way of treaties.⁸⁵ It is an approach that comes with its benefits. For one, this is the best way to reach clarity in the rules. This is acknowledged by Tettenborn who highlights the ability of international conventions to make the law simple, uniform and accessible in an effective manner.⁸⁶ This effectiveness is however ultimately dependent on the topic of the convention. The greater the amount of controversy surrounding the subject matter, the more likely it is that the rules will have to be watered down due to compromise.⁸⁷ Among the negatives of this approach to international lawmaking is the static nature of treaties. Once a convention has entered into force and has been ratified, the possibility of making major alterations becomes slim.⁸⁸ Of course, the option to make amendments is readily available if the parties are inclined to do so.⁸⁹ There is however resistance in the international community to make such amendments once a convention has entered into force as this is often accompanied by a lengthy drafting process and where many compromises have to be made in order to make progress.⁹⁰ The drafting process for the Hamburg Rules for example witnessed this hesitance towards amendments in action as the developing states opposed the idea of making further amendments to the Hague/Hague-Visby Rules and instead called for the creation of a new convention altogether. There are however ways to counteract the static nature of conventions. IMO codes amending the SOLAS Convention such as the ISM and the ISPS provide an example of how to approach topics that frequently require updates. These codes contain provisions that allow for the continual amendment of rules pertaining to technical matters in tandem with new developments.⁹¹ Such an approach serves to afford greater flexibility to the otherwise static instrument that is the international convention. Another technique that is gaining more

⁸³ Roy Goode, 'Reflections on the Harmonisation of Commercial Law' (1991) *os-19 Uniform Law Review* 54, 57.

⁸⁴ Bokareva (n 30) 99.

⁸⁵ *ibid* 98.

⁸⁶ Andrew Tettenborn, 'Codification – Best Left to States or to Someone Else?' in Zuzanna Peplowska-Dąbrowska and Justyna Nawrot (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 44.

⁸⁷ *ibid*.

⁸⁸ Bokareva (n 30) 97.

⁸⁹ Vienna Convention on the Law of Treaties 1969 Article 40.

⁹⁰ Bokareva (n 30) 97.

⁹¹ Tettenborn (n 86) 45.

adherence is the use of optional protocols to conventions. The convention itself then functions as an overarching legal framework under which protocols can be added on specific matters which allows for greatly increased flexibility.⁹² The prime example of this technique employed in practice is the 2001 Cape Town Convention.⁹³

Another disadvantage of using conventions to achieve harmonization is the fact that they often face the possibility of not being met with approval by the international community. In such cases, all the work that has been put into drafting the convention will have amounted to nothing and will thus have been wasted effort. The examples of conventions which have not garnered enough support to enter into force or to have any significant impact in their respective fields are many. One such Convention in the field of the carriage of goods by sea is the Rotterdam Rules. This Convention will be detailed elsewhere in this thesis, but it bears mentioning that the prospects of it gaining traction are slim. In the probable case that it will not receive enough support to take over the role of the Hague/Hague-Visby Rules, the drafting process and all other such resource-intensive work would to a certain degree have been in vain.

Furthermore, the phenomenon of over-production of international instruments is another aspect to take into consideration. According to Rodríguez Delgado, this over-production is not just in relation to the number of conventions produced but also the fact that the extent of the texts is seemingly increasing.⁹⁴ Here, he specifically points out the correlation between the number of articles of each Convention on the carriage of goods by sea and the number of ratifications that they have received. Accordingly, the Hague-Visby Rules has 10 articles, the Hamburg Rules has 34 articles, and the Rotterdam Rules has more than 90 articles.⁹⁵ In tandem with this rise in the number of articles of each Convention, the number of ratifiers has subsequently gone down. Rodríguez Delgado however also states that one should maybe not attach too much significance to this however and cites the 2001 Cape Town Convention on International Interests in Mobile Equipment as an extensive international instrument with more than 85 articles, that despite its complexity has attracted more than 77 ratifications.⁹⁶

The findings of Rodríguez Delgado are interesting and this study shares the opinion that there is an apparent over-production of conventions in the area of international carriage of goods by sea. This study is of the view that the increased scope of each Convention has made it more difficult to gain widespread support and holds that the success of the 2001 Cape Town Convention, despite its extensive scope, is owed to the flexibility imparted by the use of protocols. Complexity does seemingly have a direct correlation to the reception of a convention. This view is mirrored by scholars such as Tetley who have also highlighted

⁹² *ibid.*

⁹³ *ibid.*

⁹⁴ Juan Pablo Rodríguez Delgado, 'Successes and Failures of Uniform Maritime Law Instruments: Is There Room for a New Approach?' in Justyna Nawrot and Zuzanna Pełowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 65.

⁹⁵ *ibid.*

⁹⁶ *ibid.*

similar observations of overly complex legislation failing to gain substantial adherence.⁹⁷ The view of this thesis is therefore that this larger, more complex, scope with each subsequent Convention, coupled with the pre-existing number of previous Conventions might very well be one of the main explanations for the current fragmented legislation on the international carriage of goods by sea. These factors are likely to have been among the chief reasons for the lackluster support that each additional instrument has garnered. It is also likely that some of the hesitance in moving from the Hague/Hague-Visby Rules to a new convention is the lack of pull that previous attempts at updated conventions have had. At this point, it seems as if though much would be required of a new regime in order to become universally accepted and to break the status quo of the Hague/Hague-Visby Rules.

Another thing to note is that the over-production seems to be a consequence of the rigid nature of international conventions. Tettenborn raises the issue of conventions eventually falling out of favor.⁹⁸ With time, conventions often become outdated. When that happens, the solution of the international community so far seems to be by trying to replace them by implementing new conventions covering the same topic as has been the case of the Hague/Hague-Visby Rules and their intended successors.⁹⁹ In order to get to the root of this issue the previously discussed approach of using protocols under an umbrella convention is one option to avoid the situation of conventions becoming dated. As Tettenborn points out however, this does not entirely remove the issue. Some parties will choose to abstain from certain protocols and others not and this would subsequently create regimes within the regime. These protocols in turn could thus be seen to precipitate fragmentation in and of themselves, albeit to a lesser extent than multiple conventions covering the same topic.¹⁰⁰

All in all, conventions are a good way to achieve *uniformity* of the law across multiple jurisdictions. With clear rules that will be implemented, if not identically, at least very similarly across the board, they can have the benefit of achieving great uniformity of the rules that can be ratified by many states at once. This means that once the lengthy drafting process is done and if the convention is received favorably, the result will be a broad acceptance among many nations. These mechanisms are however also key to some of the drawbacks of the convention as the wide acceptance required might work against it as the convention risks not entering into force at all. On issues of much contention and if they have an overextended scope, they are therefore liable to be without success.¹⁰¹ Also, if harmonization is sought rather than uniformity, other methods are available to serve that purpose better.¹⁰²

2.3.2 Soft law

Another avenue for achieving harmonization is the soft law approach. As can be seen from the discussion above, the treaty approach to achieve unification and harmonization of

⁹⁷ *ibid*; Tetley (n 41) 816.

⁹⁸ Tettenborn (n 86) 48.

⁹⁹ *ibid*.

¹⁰⁰ *ibid* 48–49.

¹⁰¹ *ibid* 45.

¹⁰² United Nations Commission on International Trade Law, ‘The UNCITRAL Guide: Basic Facts about the United Nations Commission on International Trade Law’ (United Nations 2007) A/CN.9(09)/B311 14.

international carriage of goods does come with its clear disadvantages. Instead of using conventions, which can oftentimes prove to be blunt instruments in their role as facilitators of increased harmonization, soft law is sometimes a viable option that has a better chance of gaining adherence in the international community.

Soft law plays an ever-increasing role in the creation of international law.¹⁰³ The term ‘soft law’ is admittedly a rather vague term in itself however that can encompass multiple types of instruments.¹⁰⁴ Traditionally, the definition of ‘soft law’ has been seen to denote non-binding instruments and thus it can include a plethora of non-binding instruments such as for example model laws and codes of practice.¹⁰⁵ Due to soft law becoming more important, the thesis will look further in-depth into various forms of soft law that are pertinent to the purposes of this study.

2.3.2.1 Model laws

Model laws have an important role to play in international law-making in cases where greater flexibility is desirable, and also where harmonization rather than unification is the ultimate goal.¹⁰⁶ Often categorized as soft law, model laws are created to serve as a guide for states to adopt into their own legislations.¹⁰⁷ Thus, the state itself is free to implement the model law as it sees fit, and can accordingly choose to tailor the law to its own interests by including its own provisions or to disregard certain aspects of the model law that are unwanted.¹⁰⁸ The harmonizing effect of model laws is significant and where strict unification is not needed, model laws are often a good option to the more traditional treaty route.¹⁰⁹ This is a major reason for their increasing importance in international legislation. A drawback to this approach is of course the risk that states veer too far off from the intended purpose of the model law, which might end up being detrimental to harmonization rather than increasing it. Therefore, UNCITRAL calls for restraint when implementing model laws and urges states to make as few changes as possible in order to facilitate greater harmonization.¹¹⁰

While not solely created for the purpose of producing model laws, the UN-established UNCITRAL has been an important forum for the creation of model laws in the area of international trade law.¹¹¹ With model laws issued on a wide array of legal areas such as electronic commerce, international commercial arbitration and secured transactions etc., the work of UNCITRAL and other similar entities have proven extremely valuable.¹¹² There will be reason to return to model laws created by UNCITRAL later on in this study due to them

¹⁰³ Srivastava (n 31) 42–43.

¹⁰⁴ Dinah Shelton, *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System* (Oxford University Press 2000) 8.

¹⁰⁵ *ibid*; Srivastava (n 31) 43.

¹⁰⁶ United Nations Commission on International Trade Law, ‘The UNCITRAL Guide’ (n 102) 14–15.

¹⁰⁷ *ibid* 14.

¹⁰⁸ *ibid* 14–15.

¹⁰⁹ *ibid*.

¹¹⁰ *ibid* 15.

¹¹¹ Srivastava (n 31) 40–42.

¹¹² *ibid*.

having an important role in the digitization of the shipping industry and the UNCITRAL Model Law on Electronic Transferable Records in particular will be detailed further.

2.3.2.2 *Codes of practice and industry standards and terms*

Codes of practice and industry standards and terms have come to play an increasing role in international commerce.¹¹³ An important example of this development is the Uniform Customs and Practice of the International Chamber of Commerce.¹¹⁴ Issued by the ICC, the UCP is intended to be implemented by way of contract instead of being implemented into domestic legislation.¹¹⁵ This instrument in particular is directed at banks specifically, and it has won a large adherence and is now in use by banks on a global scale.¹¹⁶ Its penetration has been such that its importance should be seen as tantamount to that of hard law.¹¹⁷ As such, the UCP does well to show the strength of soft law when it is applied correctly.

Important soft law instruments exist in other areas of international commerce as well however, and one must not forget the weight carried by standard forms and terms in the international carriage of goods by sea. Tettenborn even goes as far as to hail them as “[...] *probably the most significant source of unification in shipping law*”.¹¹⁸ Examples of important standard forms in the international carriage of goods by sea are forms such as BARECON, NYPE and GENCON, regulating bareboat, time, and voyage charters respectively, which have played a major part of harmonizing the practices in these specific areas.¹¹⁹ Likewise, the output of the ICC has been of utmost importance and the standard terms as provided by the ICC INCOTERMS are vital to shipping as it is performed today.¹²⁰

The strength of industry produced instruments is perhaps best highlighted by looking at the distinction between law and regulation. This type of soft law by all means has to conform with the legal framework wherein it is being applied. Where it excels however is in providing the paramount function of taking the often more principle-based law and transferring it into the practical sphere. Industry standards can thus often have a major impact on the day-to-day application of legislation by regulating the finer practical details on topics that are often more principally established in the law. Important sources of soft law in international commerce have already been exemplified above. For the purposes of this thesis however, the rules produced by the third-party platform providers BOLERO and essDOCS might more proficiently highlight how the application of the law on electronic bills of lading is regulated by the industry itself.¹²¹ As will be detailed further on in the thesis, entities who presently wish to use electronic bills of lading are often hindered by domestic law that is not up to date.¹²²

¹¹³ Goode (n 83) 58.

¹¹⁴ *ibid.*

¹¹⁵ *ibid.*

¹¹⁶ *ibid.*

¹¹⁷ David V Snyder, ‘Private Lawmaking’ (2003) 64 Ohio State Law Journal 371, 392 ff.

¹¹⁸ Tettenborn (n 86) 49.

¹¹⁹ Tetley (n 41) 788–789.

¹²⁰ *ibid.* 790.

¹²¹ Goldby (n 4) 142.

¹²² See Chapter 5 for an in-depth elaboration on how the law of property currently hinders the implementation of electronic bills in many jurisdictions.

Due to this, the industry itself has had to develop rules to circumvent these legal hindrances. Alternative solutions have therefore been developed by BOLERO and essDOCS in their respective rulebooks.¹²³ The users of BOLERO's and essDOCS' services contractually bind themselves to recognize electronic bills of lading that are in conformity with the other stipulations of the rulebooks.¹²⁴ The rules set by BOLERO and essDOCS are therefore clear examples of how industry standards and terms are playing an increasing role as it is upon them which the shipping industry currently relies in order to utilize electronic bills of lading. Industry standards and terms do however not create law in and of themselves. Instead, they only take effect once implemented into a contract and this effect is confined in relation to other contractual parties.¹²⁵ Therefore, these types of instruments are not effective in all instances and they come with a limited scope of application.¹²⁶ In order for them to truly excel then, they should be seen as a complementary form of law. The view of this study is that industry standards and terms are best applied within a widely set legal framework that allows them to have relatively free rein to regulate the finer aspects within their respective fields.

The reason for the success and how well embraced standard forms and terms usually become by the industry is that it is the industry itself who dictates the rules without the same amount of politicized involvement by diplomats and scholars as is the case in the creation of many other international instruments.¹²⁷ Furthermore, an important reason for this increasing role played by soft law and the success of specific instruments such as the UCP is also owed to their flexibility. If certain provisions in the instruments are found to cause difficulties, such provisions can easily be amended or removed.¹²⁸ Also, without being dependent on governments for the enactment of laws, stakeholders have greater maneuverability to customize these soft law instruments to be more in line with industry needs.¹²⁹ An additional aspect to the success of soft law is the heavy reliance on compromise in the drafting of conventions that has increased drastically during the 20th century which is owed to the vast increase in the number of sovereign states.¹³⁰ These aspects combined serve to make soft law an increasingly appealing option in situations when it is allowed to function within a wider legal framework.

2.3.3 Conclusions

On the topic of available approaches to the streamlining of international legislation, it is important to note that there is a trend towards harmonization and away from unification.¹³¹ Setting a common legal baseline between jurisdictions instead of the wholesale adoption of legal rules in a wide area of law seems to be the way currently favored by the international community. Another key aspect in order for a harmonizing instrument to achieve success, no

¹²³ Goldby (n 4) 142.

¹²⁴ *ibid* 144 ff.

¹²⁵ Srivastava (n 31) 43.

¹²⁶ Goode (n 83) 58.

¹²⁷ Tettenborn (n 86) 50–51.

¹²⁸ Goode (n 83) 58.

¹²⁹ *ibid*.

¹³⁰ Shelton (n 104) 6.

¹³¹ Srivastava (n 31) 29.

matter the form it takes, is industry input.¹³² As will be seen in coming sections detailing the current Conventions on the carriage of goods by sea, the rules which have had the most longevity have been the ones where the industry was allowed to have a great amount of say.

Additionally, the importance of industry standards and terms seems to become ever increasing as time passes on. This study thus recognizes the potential that lies in individual jurisdictions allowing for industry standards and terms to emerge by establishing wider legal frameworks wherein industry actors are allowed to regulate the more practical matters in their respective fields.

2.4 Obstacles to harmonization exemplified

There are obstacles that are liable to hamper harmonization efforts and these must be highlighted and addressed in order to achieve the benefits that have previously been discussed. These obstacles can come in various forms, but a significant issue stems from the fact that different jurisdictions will interpret the rules differently. The differences between states are many and just a simple aspect such as linguistic differences can greatly affect the way that international instruments are implemented. If for example a convention exists in multiple official languages, one would have to find proficient ways of solving any discrepancies that might exist in the interpretation of the text.¹³³ Furthermore, jurisdictions around the world adhere to disparate legal systems, the two most commercially important being civil law and common law.¹³⁴ The way in how these legal systems approach the law differs on many levels and this poses difficulties in the law-making process. Therefore, in order to illustrate the obstacles that might be faced when trying to achieve harmonization of international laws in a more concretized fashion, the issue of different legal systems will be exemplified in this sub-chapter.

2.4.1 Different legal systems

The divide that exists between common law jurisdictions and civil law jurisdictions is difficult to bridge in international law.¹³⁵ This divide has different implications in different areas of the law however. Beneficially for the purposes of international maritime law is that it is seen as somewhat of an exception to the general rule and remains rather unaffected by the civil law/common law divide. This is owed to the fact that maritime law has developed in an international context for a much longer time than other areas of law and thereby has acquired its own characteristics.¹³⁶ The prospects of achieving benefits from harmonization attempts are therefore much greater in the context of carriage of goods by sea than elsewhere in the field of international commercial law owing to the unique nature of maritime law. Despite this, the divide between common law and civil law should not go unnoted. While this dissertation has chosen to mainly delimit itself to the common law system, and specifically to English

¹³² Goode (n 83) 70–71; Tettenborn (n 86) 50–51.

¹³³ This is an important obstacle that can face international harmonization attempts. As it relates to treaties, the VCLT Article 33 specifically addresses this issue.

¹³⁴ There exist further legal systems and many jurisdictions are a mix of several different legal systems.

¹³⁵ Reynolds (n 27) 3–7.

¹³⁶ *ibid* 7.

legislation, it must be stressed that any international instrument produced must be able to cater to both these major legal systems in order to gain widespread adherence.

Another aspect to take into consideration when legislating in multiple jurisdictions at once is the categorization as dualist and monist states. While an international instrument becomes law in a monist state upon ratification, it must however be implemented into the domestic law of a dualist state in order to gain effect in that jurisdiction.¹³⁷ That the dualist system might cause fragmentation upon implementation into the domestic legislation is perhaps not surprising, but the same goes for monist states as well.¹³⁸ In a dualist state, the implementation itself might be cause for discrepancies from the original international instrument. In monist states on the other hand, the courts tend to be prone to making more far-reaching interpretations when applying the international legal instrument in domestic law.¹³⁹ This in turn also brings about disharmony from what was originally envisioned. As such, regardless of whether a state constitutes a monist or a dualist state, interpretational differences will occur but owing to differing causes.

These are just examples of some of the obstacles faced in international legislative work and is meant to serve to illustrate why stricter, uniform legislation has increasingly been shunned in favor of more harmonizing measures.¹⁴⁰ Greater and more tangible success seems to be reachable if the aim is set at catching the essence of what is to be harmonized rather than to unify through a specific set of rules on a variety of issues at once. With clearer rules on more focused matters, implementational differences are more easily avoided.

¹³⁷ Cécile Legros, 'Improving International Uniform Transport Law by Creating Interpretative Committees' in Jason Chuah (ed), *Research Handbook on Maritime Law and Regulation* (Edward Elgar Publishing 2019) 5.

¹³⁸ *ibid* 5–6.

¹³⁹ *ibid*.

¹⁴⁰ Erik Røsæg, 'Unification of Maritime Law - A Failed Strategy?' in Zuzanna Pełowska-Dąbrowska and Justyna Nawrot (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 27 & 32–33.

3 Conventions on the Carriage of Goods by Sea

Up until now, international legislation on the carriage of goods by sea has largely been achieved by way of conventions. There is however an apparent shift away from unification of the law, instead, harmonization seems to have become increasingly favored by the international community in matters on maritime law. To understand the origins of this trend, the study finds it pertinent to highlight the developments thus far and to illustrate what has been the shortcomings of previous attempts. Therefore, an overview of the current existing Conventions will be provided in this part of the thesis with the goal of highlighting the salient features of each of the Conventions to show how *lacunae* have appeared over time. These *lacunae* have subsequently led to calls for new conventions to mend the gap between the needs of the shipping industry and the outdated rules. This repetitive cycle has been an important characteristic of unifying and harmonizing attempts in the carriage of goods by sea. Another aspect that this thesis wants to highlight in this chapter is the fact that the issues being discussed have shifted. No longer is the imbalance between the carrier and the shipper in primary focus. The issues that are being discussed have evolved to become far more diverse and the various industry stakeholders are no longer pitted against each other and are now more united than ever in their efforts which holds great promise for future harmonization projects.

3.1 The Hague/Hague-Visby Rules

3.1.1 The Hague Rules

In 1924 when The Hague Rules were adopted, they constituted the first unifying convention under the bill of lading regime.¹⁴¹ The word ‘unifying’ should be stressed here as international attempts at achieving a streamlined international regime were for a long time first and foremost envisioned to be by the adoption of the same rules in all contracting states by way of conventions.¹⁴² This prevailing view at the time is evident by the official name of the Hague Rules, *the International Convention for the Unification of Certain Rules of Law relating to Bills of Lading*. The fact that the term ‘Unification’ is included in the official name does well to highlight the prevailing view of the international community at the time that a unified regime was desirable.¹⁴³

The UK’s opposition to restrict the freedom of contract between parties to a contract of carriage had for a long time been seen as the main obstacle to achieve greater harmonization in the international community. Counterintuitively therefore, it was the UK who led the development towards greater international unification in the carriage of goods by sea.¹⁴⁴ With the realization that the unilateral and domestic Harter-style acts would slowly fragment

¹⁴¹ Zhao (n 15) 147.

¹⁴² Refer to Chapter 2 for a detailed presentation of the most commonly used methods for unification and harmonization.

¹⁴³ A concrete example of this prevailing view at the time can be found in the ‘The Travaux Préparatoires of the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading of 25 August 1924 the Hague Rules and of the Protocols of 23 February 1968 and 21 December 1979 the Hague-Visby Rules’ 18–19 where the Imperial Shipping Committee made recommendations for implementing uniform shipping laws.

¹⁴⁴ Zhao (n 15) 147.

international shipping law and practices, the UK was responsible for the preparatory work that formed the basis for the first draft of what would become the Hague Rules. In August 1924 the Hague Rules were opened for signature.¹⁴⁵ With the UK being soon to adopt the rules, it was subsequently followed by other countries in quick succession, many of which were part of the British Empire.¹⁴⁶ It wasn't however until 1936, with the ratification of the rules by the US, that wider ratification outside of the British Empire got started in earnest.¹⁴⁷ The phenomenon of states holding off on ratifying treaties until major trading nations join in is a recurring theme and there will be opportunity to highlight this tendency again when it comes to later Conventions such as the Rotterdam Rules further on in this chapter. The subsequent wide adherence to the Hague Rules by the international community has been attributed to how the conferences involved in the drafting process were constituted.¹⁴⁸ One part of the reason why the Hague Rules became as popular as they did was due to the representation of private sectional interests, such as the *Swedish Shipowners' Association*, *Lloyd's*, and the *British Bankers' Associations* at the conferences.¹⁴⁹ This allowed for the specific needs of the commercial interests encompassed by the rules to be represented and the Hague Rules were able to be drafted to account for these commercial interests accordingly. Furthermore, another part of the success of the Hague Rules was owed to the drafting process taking place in the non-governmental forums of the ILA and CMI. This allowed the decisional process to take place without the political infighting prevalent in other, more formal diplomatic channels such as the later established UN.¹⁵⁰

The launch of the Hague Rules marked the victory of the principle first established in the Harter Act, where any clause limiting the carrier's minimum liability was automatically made void. Thus, this principle prevailed over the principle of complete freedom of contract of the past.¹⁵¹

3.1.2 The Visby Protocol and the SDR Protocol

The Hague Rules were sufficient for the requirements posed by international shipping until the container revolution entered the stage. Until then, the definition of a "package" in the Hague Rules seemed self-evident.¹⁵² The container however made the definition of a "package" much more difficult to ascertain. Under the unamended Hague Rules, a sealed container would be seen as a single package.¹⁵³ Due to the carrier's limitation of liability being calculated on a 'per package or unit' basis, it was therefore seen as an important matter to address considering that the limitation was liable to end up at a level well below what was intended.¹⁵⁴ Courts around the globe have accordingly continued to discuss this issue until this

¹⁴⁵ *ibid* 148.

¹⁴⁶ Stephen Girvin, *Carriage of Goods by Sea* (2nd edn, Oxford University Press 2011) 222–223.

¹⁴⁷ *ibid* 223.

¹⁴⁸ Zhao (n 15) 149.

¹⁴⁹ *ibid*.

¹⁵⁰ *ibid* 149–150.

¹⁵¹ *ibid* 150.

¹⁵² *ibid* 153.

¹⁵³ *ibid* 155.

¹⁵⁴ International Convention for the Unification of Certain Rules of Law relating to Bills of Lading 1924 (120 LNTS 155) (The Hague Rules) Article 4 Rule 5.

day.¹⁵⁵ In the mid-1950s, calls were made for amendments to the Hague Rules in order to address issues that had begun to emerge as the shipping industry had developed, such as the package dilemma.¹⁵⁶ Yet again, the CMI was chosen as the negotiating forum. A draft to amend the Hague Rules was subsequently approved at the Stockholm Conference “Visby Rules”. These amendments to the Hague Rules resulted in the Hague-Visby Rules, which were signed in 1968 and entered into force in 1977.¹⁵⁷

A subsequent amendment was also made with the SDR Protocol in 1979. With this protocol, a standardized unit for calculating liability based on a basket of currencies was implemented called Special Drawing Rights.¹⁵⁸ Previously, this unit had been based on the value of gold instead, but due to heavy fluctuations of gold prices, a new approach was felt to be necessary.¹⁵⁹ With these developments, the Hague/Hague-Visby Rules as they are constituted today had been established in full.

3.1.3 The Hague-Visby Rules

As has been established above, the Hague/Hague-Visby Rules were developed in stages over time by amendments to the original Hague Rules. These developments of the regime were triggered as responses to changes in the realities of shipping. Therefore, the Hague-Visby Rules share much in common with their predecessor, the Hague Rules. Accordingly, this thesis will deal with them as one entity for most intents and purposes unless otherwise stated.

The inclusion of ‘Unification’ in the official name of the Hague/Hague-Visby Rules has already been stressed. However, there is an additional aspect to take into consideration. The official name, *the International Convention for the Unification of Certain Rules of Law relating to Bills of Lading*, also gives way for the interpretation that the rules in themselves will deal with bills of lading. This is however not the case and what is mentioned explicitly concerning bills of lading is done so in order for them to accommodate for the other provisions of the Convention. This is due to the fact that the Rules are effected under the use of bills of lading in accordance with Hague-Visby Rules Article X. The bulk of the Convention is instead related to the carrier’s limitation of liability.¹⁶⁰ It bears repeating that the carrier routinely contracting out of almost all liability for damage to the shipper’s cargo had up until then been one of the key issues in the shipping industry. Due to this, once the Rules are in effect under a bill of lading, the Rules establish certain obligations of the carrier from which he cannot exclude himself. In accordance with Article III therefore, the carrier must for example:

¹⁵⁵ See for example *El Greco (Australia) Pty Ltd v Mediterranean Shipping Co SA* (2004) 2 Lloyds Rep 537 which is a relatively recent Australian case showcasing this ongoing issue.

¹⁵⁶ Zhao (n 15) 155.

¹⁵⁷ *ibid* 156.

¹⁵⁸ For a full overview of the currencies constituting the Special Drawing Rights see, ‘Special Drawing Rights (SDR)’ (*IMF*) <<https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR>>

¹⁵⁹ Bokareva (n 30) 20.

¹⁶⁰ John Furness Wilson, *Carriage of Goods by Sea* (7th edn, Pearson/Longman 2010) 186–187.

- Make the ship seaworthy.
- Properly man, equip and supply the ship.
- Make the holds etc. fit and safe for reception, carriage, and preservation of the goods.
- Properly and carefully load, handle, stow, carry, keep, care for and discharge the goods carried.
- Issue a bill of lading to the shipper on the shipper's demand.

These obligations are in effect from when the goods are loaded until they are discharged from the ship in accordance with Article 1(e). This is what is usually referred to as 'tackle-to-tackle'.¹⁶¹ This is in reference to the loading and discharge by the use of the ship's tackle and thus the period of responsibility starts from when the ship's tackle is hooked to the goods at the port of loading and lasts until the goods are released from the ship's tackle at the port of discharge.¹⁶² This is however subject to the contractual agreement of the parties. The parties may have stipulated that the loading and discharging is to be done by someone other than the carrier and in that case, the carrier's period of responsibility starts running once the goods are under the carrier's charge.¹⁶³ During the period of responsibility, the carrier is liable for damage to cargo which has been caused by the failure of the carrier to perform his obligations with the exception of the exemptions enumerated in Article IV. This list of exemptions is rather extensive and there are many situations such as in cases involving fire, perils of the sea and act of God etc. where the carrier would not be held liable.¹⁶⁴ In turn, the shipper has an obligation to guarantee that correct information has been given regarding aspects of the goods such as accuracy of marks, number, quantity and weight in accordance with Article III. The shipper is also to inform the carrier of any dangerous goods to be carried in accordance with Article IV Rule 6. If the shipper fails to perform his duty to provide the correct information in Article III and Article IV Rule 6, the shipper is to indemnify the carrier in the case of direct or indirect damage caused by such incorrect information.

As can be seen then, the main salient feature of the Hague/Hague-Visby Rules is that they provide international unification on the carrier's limitation of liability. Where the bill of lading is mentioned, this is done in order to facilitate a basis for the limitation of liability and issues such as what forms a bill of lading can take are mostly left out of the Convention. As will be seen further on in this dissertation, the digitization of society has brought on subsequent *lacunae* in the Hague/Hague-Visby Rules. This serves to highlight the pitfalls of strict unification attempts as these Rules, which were supposed to be the unifier of the international carriage of goods by sea, have increasingly become detached from the realities of shipping. Another important aspect to keep in mind is that the Hague/Hague-Visby Rules is currently the dominating regime on the carriage of goods by sea and that they therefore cover the vast majority of world shipping.¹⁶⁵ Despite this, seeing as states have the option of

¹⁶¹ Girvin (n 146) 260.

¹⁶² Wilson (n 160) 181.

¹⁶³ Indira Carr, *International Trade Law* (4th edn, Taylor & Francis Group 2010) 241.

¹⁶⁴ See International Convention for the Unification of Certain Rules of Law relating to Bills of Lading as amended by the Visby Protocol and the SDR Protocol (The Hague-Visby Rules) Article IV for the full list of exemptions.

¹⁶⁵ Sturley (n 73) 2.

ratifying the regime to varying degrees by choosing to adhere to some protocols or amendments but not to others, the regime itself is fragmented to some extent. Some states, as for example the US have only ratified the Hague Rules, while Sweden for example has ratified the Hague-Visby Rules including the SDR Protocol.¹⁶⁶ Thus, one can conclude that even though the Hague/Hague-Visby Rules cover much of international shipping and could thereby be seen to have gained nigh universal acceptance, they have only been embraced to varying degrees by different states.¹⁶⁷ They are however extremely influential on how shipping is conducted, and the Hague/Hague-Visby Rules will accordingly form the basis upon which subsequent Conventions will be compared.

3.2 The Hamburg Rules

This section will highlight the reasons for why the Hamburg Rules came about. What were the shortcomings of the previous Convention that fueled the need to create an entirely new Convention on the carriage of goods by sea? This is done in order to show the differences between the two Conventions with the goal of highlighting the constant development in the shipping industry and subsequent constant need to update the rules.

By the late 1960s/early 1970s, shipping practices had changed to such a degree where the Hague/Hague-Visby Rules were held by many to be inadequate to meet the requirements of the shipping industry. The container revolution had only partly been addressed by the addition of the Visby Rules to the regime and there was a sentiment that the Hague/Hague-Visby Rules had not done enough to address the imbalances between the position of the shipper and the carrier.¹⁶⁸ These calls for a new legal regime were amplified by the change in the political landscape at the time. With many former colonies becoming independent, the number of states categorized as developing states increased substantially.¹⁶⁹ This caused a shift in the balance of power between states favoring cargo interests versus states favoring ship owning interests. Seeing as the ship owning states are traditionally mostly found in the category of developed states, and vice versa cargo interest being more prevalent in developing states, the tension was to a large degree between the developing states and the developed states.¹⁷⁰ The calls for a new convention that would revise the Hague/Hague-Visby Rules were therefore most frequently made by developing states, whereas the developed nations wanted to retain the status quo by not implementing any changes to the Hague/Hague-Visby regime.¹⁷¹

These calls for change resulted in a Convention that was formed under the auspices of the UN following many difficult compromises.¹⁷² The Hamburg Rules address the container

¹⁶⁶ Carr (n 163) 231.

¹⁶⁷ Kate Lannan, 'Navigating the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (the "Rotterdam Rules")' <<https://unece.org/DAM/trans/wp24/wp24-presentations/documents/pres10-05.pdf>> accessed 24 March 2021.

¹⁶⁸ Bokareva (n 30) 21; Jason Chuah, *Law of International Trade: Cross-Border Commercial Transactions* (5th edn, Sweet & Maxwell 2013) 392.

¹⁶⁹ Bokareva (n 30) 21.

¹⁷⁰ *ibid* 22.

¹⁷¹ *ibid* 22–23.

¹⁷² *ibid*.

revolution more in earnest than before. This is for example done by allowing for deck carriage of cargo if it is “*in accordance with an agreement with the shipper or with the usage of the particular trade or is required by statutory rules or regulations.*”¹⁷³ Thus, “*in accordance [...] with the usage of the particular trade*” would include for example the carriage of containers on deck when utilizing a designated container vessel.¹⁷⁴

They also widen the scope of application. When looking at the tackle-to-tackle stipulations in Article 1(e) of the Hague-Visby Rules for instance, there was a will to do away with the situation where the carrier is excluded from liability even though the goods are in his custody at the port without having been loaded onto the ship.¹⁷⁵ Therefore, the wider scope introduced with the Hamburg Rules now means that the carrier is encompassed by liability for the entire duration of him being in charge of the goods, regardless of them being loaded or not.¹⁷⁶ Another part of the hostility towards the Hague/Hague-Visby Rules was due to the carrier being at a clear advantage in relation to the shipper in certain situations. One of these instances was the burden of proof.¹⁷⁷ The burden of proof in the Hague/Hague-Visby Rules Article IV were usually easily turned by the carrier who has better access to facts and once the initial proof had been presented to the courts it was frequently accepted. The shipper was then at a clear disadvantage and had a much worse position to gather proof on for example damage to the goods that might have occurred during the voyage.¹⁷⁸ The Hamburg Rules Article 5 therefore introduces a general burden of proof on the carrier in most cases, and there is as such no longer an enumerated list of exceptions to liability as is the case in the Hague/Hague-Visby Rules Article IV.

The fact that the forum for the creation of the Hamburg Rules had shifted from the likes of CMI to the more politicized UN, led many to feel that the proceedings did not take the commercial realities of shipping into enough consideration however.¹⁷⁹ Upon arrival, the Convention therefore faced criticism in the form of fears that this less favorable regime from the carrier’s perspective would mean that freight costs would increase as well as a general fear of tearing up the since long established paradigm of the Hague/Hague-Visby regime.¹⁸⁰ This meant that the developed countries were generally unfavorable in their view of the Convention and thus it failed to attract ratifications from the developed states. Additionally, some criticism was voiced from developing countries. Some of these states had adopted a system where a proportion of outbound carriage was reserved to be administered by state-run carriers. These states then held that the Hamburg Rules’ harsher stipulations in relation to carriers meant that the earnings from these state-run carriers would decrease.¹⁸¹ All in all, the

¹⁷³ United Nations Convention on the Carriage of Goods by Sea 1978 (1695 UNTS 3) (The Hamburg Rules) Article 9.1.

¹⁷⁴ Christof F Lüddeke, *A Guide to the Hamburg Rules: From Hague to Hamburg via Visby: An Industry Report* (Lloyd’s of London Press 1991) 19.

¹⁷⁵ Wilson (n 160) 216.

¹⁷⁶ The Hamburg Rules Article 4.

¹⁷⁷ Carr (n 163) 285 & 305.

¹⁷⁸ Wilson (n 160) 218.

¹⁷⁹ Zhao (n 15) 158–161.

¹⁸⁰ Bokareva (n 30) 23–24.

¹⁸¹ Zhao (n 15) 161.

generally mixed to unfavorable reception from both sides of the cargo interest and the ship owning interest divide has meant that the Hamburg Rules never gained the traction needed to supersede the hegemony of the Hague/Hague-Visby Rules. The Hamburg Rules entered into force in 1992, 14 years after being opened for signing, and to date have only managed to gather 34 ratifying states, none of which are the traditional maritime powerhouses in Europe and the United States.¹⁸² In 2010, the states that had ratified the Hamburg Rules accounted for only 5% of the goods traded by sea.¹⁸³ Despite this however, some states have implemented some of the stipulations found in the Hamburg Rules into their preexisting legislation. Sweden for example employs a mixed system where the Hague-Visby Rules are applied in the main, but where *lacunae* exist, the Hamburg Rules apply instead.¹⁸⁴

Much of the Hamburg Rules can to some extent be seen as an attempt to further balance the relation between the carrier and the shipper as it regards liability. As such, it follows along the path previously set out by the Hague/Hague-Visby Rules in trying to redress this situation.¹⁸⁵ As will be seen in the next sub-chapter however, increasing trade and technological development has entailed a shift away from the focus being so heavily placed on the carrier's limitation of liability. The focus of the international community has instead increasingly moved to other issues and incorporated other aspects of international carriage of goods by sea into the discussion.

3.3 The Rotterdam Rules

By the mid-1990s, an attempt to create an international instrument that would supersede all the previous harmonization attempts was initiated.¹⁸⁶ One of the main goals when drafting the Rotterdam Rules was therefore to address the fragmentation that now existed in the legal regimes on the carriage of goods by sea.¹⁸⁷ With the Hamburg Rules failing to attract the support that was needed, and the Hague/Hague-Visby Rules being fragmented despite being widely accepted, this new Convention would finally unite the international community under one regime.¹⁸⁸ It was intended to allow for greater uniformity between all stages of carriage and as part of the full name implies, '[...] *Wholly or Partly by Sea*', it only requires that one leg of the voyage is by sea. In so doing it would allow for greater predictability when assessing liability for damaged goods and thus the Rotterdam Rules becomes more accommodating towards multimodal door-to-door transports.¹⁸⁹ This is not the case with the Hague/Hague-Visby Rules and the Hamburg Rules.¹⁹⁰ Instead, when these Conventions are applied, it becomes imperative to be able to establish during what part of the voyage the goods were damaged as the liability for such damage would differ depending on the mode of

¹⁸² *ibid.*

¹⁸³ Wilson (n 160) 215.

¹⁸⁴ Carr (n 163) 288.

¹⁸⁵ Chuah (n 168) 392.

¹⁸⁶ Sturley (n 73) 2.

¹⁸⁷ Preamble to the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea 2008 (The Rotterdam Rules).

¹⁸⁸ Sturley (n 73) 2.

¹⁸⁹ See The Rotterdam Rules Article 5; Girvin (n 146) 285.

¹⁹⁰ The Hague-Visby Rules Article X; The Hamburg Rules Article 2 Rule 1 respectively.

transportation used for that specific leg of the voyage.¹⁹¹ This disharmony between the various Conventions on the carriage of goods by different means of transportation would have a much lesser effect with the application of the Rotterdam Rules. Considering what has previously been mentioned regarding the fact that roughly 80% of world trade is at some point carried by sea, much of the world's trade would accordingly fall within the scope of the Rotterdam Rules.

Equally as important was the fact that neither of the previous Conventions were up to date to serve their function in a shipping industry that was developing at a steady pace.¹⁹² As was previously the case when the Hamburg Rules were being drafted, the will to address the container revolution in earnest was yet again an objective in the drafting process of the Rotterdam Rules.¹⁹³ The Hague/Hague-Visby Rules were still the main Convention on the carriage of goods by sea but it contained little to be able to handle the new standard method of contracting for door-to-door multimodal transports with the usage of containers.¹⁹⁴ The Hamburg Rules on the other hand had made an attempt at addressing the topic of the container revolution. Seeing as the Convention never attracted enough support to become the main convention on the carriage of goods by sea that it was intended to be however, containerization became the topic of priority yet again.¹⁹⁵ The new Rotterdam Rules would as such finally accommodate for the containerization through and through and be based around the realities of the shipping industry.¹⁹⁶ Further implementations into the Rotterdam Rules was the support for electronic commerce.¹⁹⁷ The prior Conventions on the carriage of goods by sea had not been drafted with technological neutrality in mind. During the period of time at which the Hague/Hague-Visby Rules and the Hamburg Rules were developed, the digitalization of society had not yet occurred. Rules relating to for example electronic equivalents of the traditional paper bill of lading are therefore absent in these Conventions. The Hague/Hague-Visby Rules for example utilizes the documentary approach. With this approach, the applicability of the rules is dependent on a bill of lading having been issued.¹⁹⁸ Considering that a 'document' is not given any further explanation in the Hague/Hague-Visby Rules, the utilization of electronic bills of lading under the Hague/Hague-Visby Rules would involve much uncertainty considering how the term 'document' is to be interpreted.¹⁹⁹ The Hamburg Rules on the other hand allow for the electronic signing of bills of lading but it is silent on the topic of issuing bills of lading electronically.²⁰⁰ Consequently, neither of the prior Conventions expressly deal with electronic equivalents to the paper bill of lading, effectively hindering their use. Allowing for the use of electronic alternatives was thus an important

¹⁹¹ For example in the case of transportation by road, the Convention on the Contract for the International Carriage of Goods by Road 1956 (399 UNTS 189) (CMR Convention) could become applicable.

¹⁹² Sturley (n 73) 5–6.

¹⁹³ *ibid* 5.

¹⁹⁴ *ibid* 5–6.

¹⁹⁵ *ibid* 6.

¹⁹⁶ *ibid*.

¹⁹⁷ *ibid* 27.

¹⁹⁸ The Hague-Visby Rules Article X (a) as well as the definition of contract of carriage in The Hague-Visby Rules Article I (b).

¹⁹⁹ Orrù (n 5) 142.

²⁰⁰ *ibid*.

aspect when drafting the Rotterdam Rules.²⁰¹ This is an area of the Rotterdam Rules that will be further expanded upon in coming sections of this dissertation as such technological neutrality is poised to play a major role in the shipping industry in the near future and it also plays a central part to the goal of the study of inquiring further into the harmonization of the rules on electronic bills of lading.

Following the adoption of the Rotterdam Rules by the UNGA in 2008, the Convention was initially signed by sixteen nations in 2009. Despite these early signatures the Convention has yet to come into force. As of 2021, only 5 countries, Spain, Togo, Congo, Cameroon and Benin, have ratified the Convention.²⁰² This is well below the twenty ratifications needed for the Convention to enter into force and the future of the Rotterdam Rules still hangs in the balance.^{203, 204} What the low number of ratifiers is indicative of is not entirely clear. Thomas, who does not seem particularly embrasive of the new rules, suggests that this may be due to deficiency of the rules and that they might not have a viable future.²⁰⁵ Others have noted the tendency of some countries to be holding off on ratifying to see if the Convention will be generally adhered to and also to see if the two biggest economies, the USA and China, will ratify the convention.²⁰⁶ The US, who had a leading role in the development of the Convention, seems to have become disillusioned with the Convention. Strong negative sentiments from interests representing the ports and terminals in the US was one of the reasons for its non-ratification of the Rotterdam Rules.²⁰⁷ According to Rodríguez Delgado, this negative view of the Convention from the port and terminal sector in the US stems partly from a misunderstanding of how a ‘maritime performing party’ in accordance with the rules should be interpreted.²⁰⁸ The fear of being at risk of a greater cargo liability than is now the case made these interests lobby for staying out of the Rotterdam Rules.²⁰⁹ Owing to the prevailing uncertainty in the US, developments on this issue are therefore currently pending and many are anxiously awaiting if there will be any further actions from the new administration which took office in 2021.²¹⁰

²⁰¹ The identification of electronic transport documents as a legal area that lacks uniformity and where the current legal regime fails to take the modern transport practices into consideration is explicitly addressed in the preamble to the Rotterdam Rules.

²⁰² ‘United Nations Treaty Collection’ <https://treaties.un.org/pages/ViewDetails.aspx?src=IND&mtdsg_no=XI-D-8&chapter=11&clang=_en> accessed 28 April 2021.

²⁰³ Rhidian Thomas, ‘The Rotterdam Rules and International Trade - Accord or Discord?’ in Justyna Nawrot and Zuzanna Pełowska-Dąbrowska (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 105.

²⁰⁴ Eric Van Hooydonk, ‘Unification and Codification of Maritime Law: Friends or Foes?’ in Zuzanna Pełowska-Dąbrowska and Justyna Nawrot (eds), *Codification of Maritime Law: Challenges, Possibilities and Experience* (Informa Law from Routledge 2020) 14.

²⁰⁵ Thomas (n 203) 105 & 120.

²⁰⁶ Rodríguez Delgado (n 94) 73.

²⁰⁷ *ibid.*

²⁰⁸ *ibid.*

²⁰⁹ *ibid.*

²¹⁰ *ibid.*

3.4 Summary on current conventions

One reasonable conclusion to make from these previous attempts at unification and harmonization is the fact that they to some degree have caused fragmentation in and of themselves. In fact, Tettenborn uses the existing Conventions on the carriage of goods by sea as the clearest example of where over-production of legal instruments seems to have had the opposite effect than the increased harmonization envisioned.²¹¹ There seems to be a tendency of the international community of trying to unify and harmonize the law by introducing additional conventions and regulations. This in turn only seems to work contrary to the desired effect and accordingly it appears to be a case of adding fuel to the fire. An important aspect to take into consideration when discussing the fragmentation is the tension that is inherent in the shipping industry. With shippers on one side and carriers on the other, this struggle seems to be one part of the issue in achieving regulation that is palatable to all parties. As has been noted by Stephan, it does indeed seem like particular interests might have gained too much influence in the drafting of both the Hague/Hague-Visby Rules and the Hamburg Rules.²¹² In the case of the Hague/Hague-Visby Rules, the carrier side had their way to a large extent and in the case of the Hamburg Rules the same could be said for the shipper side of the divide. The previously mentioned fragmentation is probably to some extent explained by the fact that specific interests have had too much influence in the lawmaking process. The ease with which specific interests are able to influence the process, according to Stephan, is one of the downfalls of the process to achieve harmonization and unification in an international setting.²¹³

Furthermore, the success of the ambitious attempt of removing the fragmentation discussed above with the introduction of the Rotterdam Rules seems to get further away as time passes without the Convention entering into force. Van Hooydonk eloquently poses the question of whether or not the potential failure of the Rotterdam Rules could “*go down as the Waterloo of maritime law unification*”, signaling that this Convention’s success might make or break the willingness of the international community to arrive at further unification in this field.²¹⁴

Where harmonization is needed

There seems to be a lot to be learned from the detailing of the development of the Conventions above. For a long time, the containerization and the need for regulation on multimodal transport liability that it entails has remained unanswered. With the Hague/Hague-Visby Rules not addressing this topic to any greater extent and the meagre success of the Hamburg Rules has meant that it is still a question due to be dealt with. Thus, what the Rotterdam Rules set out to do was to adjust to the times and to move away from the Hague/Hague-Visby Rules which essentially is a regime on carrier liability. Additionally, the Rotterdam Rules also set out to regulate a new area of law, electronic bills of lading, that had not previously been considered. With technology seemingly having gone past the scope of previous Conventions on the carriage of goods by sea and with the issue of making way for

²¹¹ Tettenborn (n 86) 48.

²¹² Stephan (n 54) 767.

²¹³ *ibid.*

²¹⁴ Van Hooydonk (n 204) 14.

multimodal door-to-door transports under a consolidated regime, the preamble to the Rotterdam Rules proficiently identified these two issues as the most urgent matters to address.²¹⁵ This study identifies this shift of focus as movement in a positive direction in the strive for increased harmonization. It is a reasonable conclusion that this shift of focus has reshuffled the playing field and no longer are ship owning interests and cargo interests pitted against each other as was the case in regard to the carrier's limitation of liability. It is instead the view of this study that the more recent developments have brought the stakeholders together in a united effort. This is a new feature of the modern harmonization effort that bodes well for the future. Seeing as the future of the Rotterdam Rules hangs in the balance, much due to its extensive scope, this thesis will therefore turn its attention to electronic bills of lading to make an appraisal of previous harmonization attempts and to look ahead at possible solutions to the stalemate that is at hand. The next chapters will therefore be dedicated to bills of lading and an inquiry into their place and function in international trade.

²¹⁵ Preamble to the Rotterdam Rules.

4 Law and Practice of Paper and Electronic Bills of Lading

4.1 Bills of lading

The traditional paper bill of lading plays a vital role in international trade. Apart from providing information regarding the goods being traded, it serves additional functions such as being a key component in facilitating trade finance etc. It is safe to say then that trade as it exists today could not function without the bill of lading. With electronic bills of lading being in focus of this thesis, it is therefore of utmost importance to first detail the bill of lading. In this chapter therefore, the traditional paper bill of lading will first be assessed in order to allow for the full comprehension of its usage and the functions that it serves in international trade. Once these fundamental aspects have been established, the study will subsequently contrast this with electronic bills of lading which, by all indications, are bound to overtake the role of the paper bill of lading in the ongoing process of digitization.

4.1.1 Overview of the usage of bills of lading

The bill of lading has a role unlike any other document at common law.²¹⁶ As has been previously established, this special role of the bill of lading developed over time and the bill of lading is hence a creation of customs and practices rather than being an intentional creation of the law.²¹⁷ It came to be due to the special nature of sea voyage, which is often a lengthy undertaking.²¹⁸ This specific feature of sea voyage subsequently confronts the trading parties with a considerable dilemma. On the one hand, the buyer does not want to pay money in advance for goods that might end up not arriving as per agreement. The seller of the goods on the other hand does not want to send the goods without having been paid and thereby standing the risk of having goods at the port of discharge with no buyer where the goods might be difficult to control and resell.²¹⁹ This is part of what makes the bill of lading so important as it represents the goods by providing constructive possession and also the ability of conferring rights of property in the goods.²²⁰ With these functions in place, the transfer of the bill of lading will effectively transfer the goods in the eyes of the law. This means that the trading of the bill of lading circumvents the dilemma that is brought on by the lengthy ocean voyage.

4.1.2 The functions of bills of lading

The bill of lading has three functions in international sales, and these will be examined closer in this part of the thesis:²²¹

1. It serves as a receipt for goods shipped or received by carrier.
2. It is evidence of the contract of carriage.

²¹⁶ *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935] AC 53.

²¹⁷ *Lickbarrow v Mason* (1787) 2 TR 63.

²¹⁸ *Sanders Bros v Maclean & Co* (1883) 11 QBD 327.

²¹⁹ *Møllmann* (n 25) 11.

²²⁰ *Girvin* (n 146) 88–89.

²²¹ *Møllmann* (n 25) 10.

3. It is a document of title to the goods being carried.

Receipt for goods shipped or received by carrier

The bill of lading acts as a receipt for the goods being carried and thus it contains information regarding such factors as quantity and quality of the goods and a description of the goods as they are received by the carrier noted on the bill.²²² Hence, once the carrier has received the goods for carriage and has signed the bill of lading in accordance with his observations of the goods, the bill of lading will be referred to as a ‘shipped’ bill of lading.²²³ This has the effect that the receiver of the goods is able to base his claims for damages using the information supplied on the bill of lading by the carrier. If the bill of lading for example states that a certain amount of a particular goods has been received by the carrier and the tally ends up non-conformant to this amount on arrival, the receiver will be able to make claims against the carrier for damages for the discrepancy. It accordingly serves the function of providing the parties to the sales contract with evidence of the fault of the carrier for any difference between loaded and discharged quality or quantity of the goods.²²⁴ Furthermore, if payment for the goods is due against delivery of documents, the buyer can reject the documents if the description of the goods on the bill is not in accordance with the description in the contract of sale between him and the seller.²²⁵ Statements by the carrier regarding deficiencies or damage in the goods impacts the negotiability of the bill of lading as potential buyers of the goods in transit are generally hesitant to buy an unclean bill of lading.²²⁶ A clean bill of lading, where no such statements have been made by the carrier, is therefore often demanded by buyers in transit.

Due to the fact that it is oftentimes the shipper who will specify the quantity and quality shipped entered onto the bill of lading, the carrier frequently uses phrases such as ‘shipper’s count’ and similar in order to avoid liability for potential mistakes made by the shipper of the goods.²²⁷ As previously mentioned, the often stronger bargaining position of the carrier relative to the shipper was one of the reasons why the Hague/Hague-Visby Rules came about. The shipper, at the time when the principle of freedom of contract still reigned supreme, had no other choice but to acquiesce to the inclusion of clauses such as ‘shipper’s count’ which often included a total limitation of liability for the carrier.²²⁸ However, with the Hague/Hague-Visby Rules came provisions that were aimed at balancing out such differences in bargaining power. As regards ‘shipper’s count’ and similar clauses, Article III Rule 3 makes it possible for the shipper to demand that the carrier issues a bill of lading containing information regarding the marks of the goods, quantity and apparent order and condition of the goods without such exemptions of liability. This balancing of bargaining position between the

²²² Wilson (n 160) 118.

²²³ Simon Baughen, *Shipping Law* (5th edn, Routledge 2012) 6.

²²⁴ Wilson (n 160) 118.

²²⁵ *ibid.*

²²⁶ *ibid.*

²²⁷ *ibid.*

²²⁸ Girvin (n 146) 214.

shipper and the carrier is however predicated on the condition that the information on the goods supplied by the shipper is accurate.²²⁹

Evidence of the contract of carriage

The bill of lading contains the contractual terms of the contract of carriage on the back of the bill.²³⁰ It is however important to note that the backside of the bill itself does not constitute the contract *per se*. Instead, it is only *evidence* of the contract and in the case of a breach of contract prior to the issuance of the bill of lading, either party can claim remedies for the breach at hand in accordance with their prior, often oral, agreements.²³¹ On the same theme, a person accepting a bill of lading in good faith provided by a shipowner is not bound by the details on the backside of the bill in cases where the terms differ from the normally used terms.²³² An important case on the principle of the bill of lading constituting evidence of the contract of carriage is *The Ardennes*. In this case, Lord Goddard gave his view on the bill of lading by cementing the principle that the bill of lading is only to be seen as evidence of the contract of carriage, not constituting the contract itself.²³³ In accordance with this sentiment, a shipper, seeing as he is not involved with the preparation of the bill of lading, should be able to claim that different contractual terms existed before the issuance of the bill of lading and that these terms are to take precedence over the terms found on the back of the bill.²³⁴ Wilson however counters this by mentioning two factors that might impact the practical relevance of this principle. For one, the bill of lading is the clearest indicator of the contract of carriage and thus it would be difficult to claim other terms than the ones on the bill of lading. The burden of proving that a term by oral agreement was at hand before the issuing of the bill of lading would constitute a major barrier to claim such differing terms.²³⁵ The other aspect brought up by Wilson is that it is not in line with the realities of the shipping industry to claim that the shipper is not a party to the preparation of the bill of lading. According to Wilson, the shipper is given opportunity to inspect the terms of the document upon filling in the details of the cargo to be shipped.²³⁶ Despite these objections to the judgement in *The Ardennes*, Wilson is of the opinion that it would be wrong to hold the case as wrongfully decided and states that it still constitutes “[...]good law since it conforms with commercial practice and is in line with the attitude adopted towards the receipt function of the bill.”²³⁷ Once the bill of lading has been traded in transit on to a subsequent buyer, it should however be noted that the new third party holder of the bill does become entitled to rely on what is contractually stated on the bill in relation to the carrier.²³⁸

²²⁹ Wilson (n 160) 119.

²³⁰ Baughen (n 223) 8–9.

²³¹ Wilson (n 160) 129.

²³² *ibid.*

²³³ *Ardennes (Owners of Cargo) v Ardennes (Owners)* (1951) 1 KB 55, 59.

²³⁴ *ibid* 59–60.

²³⁵ Wilson (n 160) 130.

²³⁶ *ibid.*

²³⁷ *ibid* 132.

²³⁸ *Leduc & Co v Ward* (1888) 20 QBD 475, 479.

Document of title to the goods being carried

The final function of the bill of lading is that it acts as a document of title to the goods being carried. This function was established at common law in *Lickbarrow v Mason*.²³⁹ Ownership of the goods can therefore be traded in transit by the indorsement of the bill. Here, an important note must be made however to the fact that there are two sides to the document of title function. This is due to the fact that bills of lading *inherently confer* constructive possession of the goods and that they *can optionally transfer* property rights, which was highlighted in *Sanders Bros v Maclean & Co*.²⁴⁰ It must therefore be the clear intention of the parties to transfer property rights in the goods by the indorsement of the bill of lading for this to happen.²⁴¹ Otherwise, it is only the constructive possession of the goods that is transferred. In either case therefore, the bill of lading confers the right to collect the goods at the port of discharge. If the parties wish to confer property rights in the goods, this must however be explicitly stated.

The document of title function is however not always able to be transferred to subsequent buyers of the bill. The negotiability of the bill of lading is instead connected to the bill being issued as an ‘order’ bill and thereby being negotiable.²⁴² If the bill of lading on the other hand is issued to a certain named receiver of the goods, the bill of lading constitutes a ‘straight’ bill of lading and thus loses its negotiability.²⁴³ If this is the case, the bill only carries the document of title function in relation to the named receiver.²⁴⁴ Another condition in place for a bill of lading to be negotiable is that the goods have to be in transit for a bill of lading to be able to transfer the title to the goods covered by the bill. Once delivered, the bill of lading therefore stops functioning as a document of title to the goods.²⁴⁵ A good way of looking at it is that the bill of lading will thereby be ‘spent’.²⁴⁶

The document of title function opens up for many possibilities and it is by and large what makes the bill of lading such an integral part of international trade. As such, there are certain distinct roles played by the bill of lading attributable specifically to this function.²⁴⁷ The ability to *collect the goods at the port of discharge* has already been presented above as has also the ability to *trade the goods in transit*. The last important role imparted by the document of title function is that of *facilitating international trade*. This is one of the most important abilities provided by the document of title function and for one, it allows for the use of the bill of lading as security for debt.²⁴⁸ The bill of lading can thus for example act as collateral for bank loans.²⁴⁹ Seeing as the goods are represented by the bill of lading, the bill can be accepted by banks as were it the goods themselves. This allows the traders in international

²³⁹ *Lickbarrow v Mason* (n 217).

²⁴⁰ *Sanders Bros v Maclean & Co* (n 218).

²⁴¹ *Sewell v Burdick (The Zoe)* (1884) 10 App Cas 74, 105.

²⁴² Wilson (n 160) 132.

²⁴³ *ibid.*

²⁴⁴ *Jl MacWilliam Co Inc v Mediterranean Shipping Co SA* (2005) 2 AC 423.

²⁴⁵ Wilson (n 160) 134.

²⁴⁶ *East West Corp v DKBS 1912* (2003) 1 Lloyds Rep 239.

²⁴⁷ Wilson (n 160) 133. See Wilson (n 159) Chapter 5.2.3 for a comprehensive detailing of these functions.

²⁴⁸ Wilson (n 160) 133.

²⁴⁹ Chuah (n 168) 230.

commerce to avoid tying up capital in goods in transit and they can instead use the capital for other investments.²⁵⁰ Furthermore, a major part of international trade is done by the use of so-called documentary credits.²⁵¹ These documentary credits are set up using a system of banks and the process rests on the premise that the bill of lading confers constructive possession of the goods. The basics of documentary credit trade is as follows. First, the buyer applies with his bank, the issuing bank, to issue a documentary credit for the benefit of the seller. The seller is then in turn advised of the letter of credit, most frequently by his bank, the so-called corresponding bank. Subsequently, the issuing bank and the corresponding bank work in unison to allow for the sale between the buyer and the seller to go through. With the application for the letter of credit being completed and it being advised to the seller by the corresponding bank, the seller needs to submit the required documents according to the specifics of the documentary credit. These documents have to correspond with the documents that have been set as a baseline by the buyer in the application for the letter of credit as per agreement in the sales contract between the seller and the buyer.²⁵² If the provided documents conform with the baseline, the seller will be paid, and the documents are forwarded from the advising bank to the issuing bank. The final step involves the buyer receiving the documents that have been provided by the seller via the two banks. The buyer then has the opportunity to inspect that the documents correspond with the requirements that had been set by him and upon accepting the documents, the buyer will have to reimburse the bank for what has been paid to the seller.²⁵³ Upon receiving the conforming documents, among these the bill of lading, the buyer can then use the bill of lading to collect the goods at the port of discharge. Documentary credits are thus in place to assure that the seller gets paid and that the buyer gets his goods. The added security bestowed by having banks as guarantors can allow for trade in situations that would otherwise have been too risky.²⁵⁴

4.2 Electronic bills of lading

With the importance and functions of bills of lading in international trade having been established in the previous parts of this chapter, this study will now look further into the topic of electronic bills of lading. With the goal of gauging potential benefits of the electronic version over the conventional paper bill of lading, this study wishes to lay the groundwork for further discussion on ways to allow for their implementation into commercial practice.

4.2.1 Benefits of electronic bills of lading

The electronic bill of lading comes with a number of benefits when compared to traditional paper bills of lading. First thing to note are the huge costs involved in the use of paper bills of lading. Estimates have placed the documentation costs involved in transportation at between 10-15% of total transport costs.²⁵⁵ Among these costs, one has to consider all the different

²⁵⁰ Charles Debattista, *Bills of Lading in Export Trade* (3rd edn, Tottel Publishing 2009) 26–27.

²⁵¹ Wilson (n 160) 135.

²⁵² Chuah (n 168) 578–579.

²⁵³ *ibid* 573–574.

²⁵⁴ *ibid* 573–575.

²⁵⁵ Christian Albrecht, ‘Blockchain Bills of Lading: The End of History? Overcoming Paper-Based Transport Documents in Sea Carriage Through New Technologies’ (2019) 43 *Tulane Maritime Law Journal* 251, 254.

types of dilemmas that inherently come with the use of conventional bills of lading that could be alleviated by the use of electronic bills of lading. Delays in the collection of the goods at the port of discharge due to the bill of lading not arriving on time is one example of a significant commercial obstacle that would be avoided if electronic bills of lading were allowed to become the industry standard.²⁵⁶ This ability of electronic bills of lading to speed up trade carries the added benefit of the parties not having to resort to the issuance of letters of indemnity in cases where the bill of lading does not arrive on time.²⁵⁷ Issuing such a letter of indemnity means that the traders of the goods would have to approach a third party. This third party, which is usually a P&I club, would then act as a guarantor for payment in relation to the carrier in the event of the bill of lading not arriving within a reasonable time, thereby allowing for the early release of the goods. The avoidance of having to resort to letters of indemnity would entail reduced costs for all parties involved.²⁵⁸ It is also important to stress the fact that the costs of the current system of using paper bills of lading is not only to be measured in economic costs. The environmental impact that the vast amount of paper being consumed under the regime of paper bills of lading is also an important aspect to take into consideration.²⁵⁹

An additional feature that makes electronic bills of lading superior to conventional paper bills of lading is their ability to reduce the element of human error.²⁶⁰ It has previously been mentioned that the holder of a validly traded bill of lading has the title to the goods and is as such able to collect the goods upon delivery at the port of discharge. However, as is customary in commercial practice, bills of lading are usually printed in sets of three, meaning that the risk is present of multiple traded bills of lading being used by different actors who could wrongly claim title to the goods.²⁶¹

On a somewhat similar theme of the prevalence of human error in the handling of paper bills of lading is the ease of with which a paper bill of lading can be replicated. This opens the door for forgers to use these counterfeits to obtain goods that is not rightfully theirs.²⁶² As will be seen further on in this study, the correct implementation of electronic bills of lading would essentially eliminate such a risk.²⁶³

The list of aspects in favor can be made even longer and these are some of the more important examples of the benefits imparted by the use of electronic bills of lading over conventional paper bills of lading.

²⁵⁶ Girvin (n 146) 197.

²⁵⁷ Chuah (n 168) 201.

²⁵⁸ *ibid.*

²⁵⁹ Vasileios Ziakas, 'Challenges Regarding the Electronic Bill of Lading (EBoL)' (2018) 4 *International Journal of Commerce and Finance* 40, 41.

²⁶⁰ David A Bury, 'Electronic Bills of Lading: A Never-Ending Story?' (2016) 41 *Tulane Maritime Law Journal* 197, 210.

²⁶¹ *ibid.*

²⁶² *ibid.*

²⁶³ See Chapter 5.4, specifically Chapter 5.4.3 for an appraisal of the security features inherent in blockchain technology.

4.2.2 The difficulty of guaranteeing singularity

Seeing as there are an abundance of benefits inherent in the use of electronic bills of lading, one thus has to consider what is standing in the way of the shipping industry making them the industry standard. Hitherto, electronic bills of lading have yet to achieve success as a viable alternative to the paper bill of lading.²⁶⁴

For the successful implementation of electronic bills of lading, the previously discussed functions of the bill of lading must all be replicable in electronic form. Of the three functions of the bill of lading, it is mainly the document of title function that poses a challenge to the effective implementation of electronic bills of lading in commercial practice.²⁶⁵ Considering this, other transport documents that are not reliant on functioning as a document of title, such as sea waybills, have since long been readily available in electronic form.²⁶⁶ The difficulty of replicating the document of title function is connected to the law of property which will be studied in detail further on in the thesis. For now, the difficulty of replicating this function can be simplified to stem from the following factor. A negotiable document such as the bill of lading must retain its uniqueness throughout its whole lifecycle to remain valid as a document of title.²⁶⁷ For example, unless the carrier can be adequately certain of the authenticity of the person claiming to be the consignee upon collection of the goods at the port of discharge, the document of title function would be lost. Therefore, in order to retain this ‘guarantee of uniqueness’ or ‘guarantee of singularity’, technology is required that prevents the duplication of the negotiable document. Unless safeguards are in place against such duplication, electronically transferrable documents would be significantly vulnerable to such attempts.²⁶⁸ While such a ‘guarantee of uniqueness’ is by all means required of a conventional paper bill of lading as well, they are however not equally as susceptible to duplication as is the case with their electronic counterparts.

4.2.3 Previous attempts at implementing electronic bills of lading

Up until now the way to guarantee the uniqueness of the electronic bill of lading has been through the use of so-called closed registry systems.²⁶⁹ Currently, the most prominent of these registries are the Bill of Lading Electronic Registry Organization, also known as BOLERO for short, and CargoDocs Electronic Bills of Lading, essDOCS.²⁷⁰

4.2.3.1 *BOLERO*

BOLERO is a platform that provides a multitude of services which are aimed at covering many aspects of trade.²⁷¹ It is centered around the so-called BOLERO bill or BBL which acts

²⁶⁴ Bury (n 260) 212.

²⁶⁵ *ibid* 212–213.

²⁶⁶ *ibid*.

²⁶⁷ Koji Takahashi, ‘Blockchain Technology and Electronic Bills of Lading’ (2016) 22 *The Journal of International Maritime Law* 202, 204.

²⁶⁸ *ibid*. p.

²⁶⁹ Jung-Ho Yang, ‘Applicability of Blockchain based Bill of Lading under the Rotterdam Rules and UNCITRAL Model Law on Electronic Transferable Records’ (2019) 23 *Journal of Korea Trade* 113, 114.

²⁷⁰ Orrù (n 5) 137.

²⁷¹ Chuah (n 168) 202–203.

as a substitute to the conventional paper bill of lading.²⁷² Through the “Core Messaging Platform” the parties involved in the transaction are able to transmit the required documents between each other. This “Core Messaging Platform” is supported by a system of signatures and digital encryption to ensure secure transmissions.²⁷³ Each of these transmissions are subsequently recorded in the Title Registry, and every transfer of BOLERO bills is recorded to keep track on the chain of ownership.²⁷⁴ These transactions that are recorded in the Title Registry however do not make the BOLERO bill an electronic equivalent to the conventional bill of lading in the eyes of most jurisdictions. Due to the system being based on attornment, meaning that the carrier has to acknowledge each transaction, the BOLERO bill is as such not independently negotiable.²⁷⁵ Additionally, for each of these transactions of the BOLERO bill, the contract between the previous holder of the BOLERO bill of lading and the carrier has to be extinguished, followed by a new contract that is entered on the same terms where the previous holder is replaced by the new holder.²⁷⁶ This process of forming a new contract on the same terms with the carrier to replace the previous one is called novation.²⁷⁷ This reliance on the active participation of the carrier is unlike that in trade using conventional paper bills of lading where the carrier is not involved to the same degree. Instead, in trade where traditional paper bills of lading are utilized, the mere indorsement of the bill of lading is enough to confer the rights to the goods.²⁷⁸

4.2.3.2 *essDOCS*

The second closed registry system mentioned above is the essDOCS system. Like BOLERO, essDOCS also allows for the documents to be traded electronically.²⁷⁹ The way that it functions is not as clear as with the BOLERO system owing to the fact that the provider, Electronic Shipping Solutions (ESS) have chosen not to disclose how their product works in detail.²⁸⁰ What is clear however is that it is built around a tokenized system that allows their users to upload their transport documents which are then subsequently rendered into digital form while retaining the look of the physical document which was uploaded.²⁸¹ This has been a crucial part of the relative success that essDOCS has experienced since it has allowed for a smoother transition from paper to digital form. Due to the familiarity with the paper bill of lading, customers have seemingly been quicker to adopt the platform.²⁸²

4.2.3.3 *Summary on closed registry systems*

What these systems, as well as other similar services not mentioned in this chapter, have in common is that they rely on a trusted intermediary to enable the transactions.²⁸³ With such a

²⁷² Yang (n 269) 114.

²⁷³ Chuah (n 168) 203.

²⁷⁴ *ibid* 204.

²⁷⁵ *ibid* 204–205.

²⁷⁶ Goldby (n 4) 154–156.

²⁷⁷ *ibid* 154.

²⁷⁸ Chuah (n 168) 205.

²⁷⁹ *ibid* 206.

²⁸⁰ *ibid* 207.

²⁸¹ *ibid* 206.

²⁸² Goldby (n 4) 341.

²⁸³ Yang (n 269) 114.

system in place, the bills of lading under these registries never become true electronic equivalents to the conventional paper bill of lading in many jurisdictions.²⁸⁴ There are also many further drawbacks to these systems. Among these are the huge costs that are frequently involved in order to gain access as a member to such registries.²⁸⁵ Considering that there are numerous *lacunae* on the topic of electronic bills of lading and that large swathes of this area of law are unregulated and unharmonized, the various registries come with their respective rule books that must be complied with.²⁸⁶ For a company to become a member then, it would have to tailor its business around these rules which would involve legal expenditure to ensure that the rules are complied with.²⁸⁷ Even after having completed such a calibration of their business, the closed registry system, as is hinted at by the word ‘closed’, is only applicable between its members.²⁸⁸ For trade with non-members, conventional paper bills of lading would have to be employed instead and thereby negating all the arduous work and expense of attaining membership.²⁸⁹ In fact, in a 2003 survey performed by UNCTAD, the lack of potential trading partners having made the switch to electronic alternatives, by for example becoming members to a closed registry system, was the biggest reason for the reluctance of the industry in general to make the switch.²⁹⁰ The situation therefore resembles the prisoner’s dilemma, with general adherence to these registries being a condition for them to work effectively, but where few incentives are present for individual entities to lead the way. For these registries to function properly therefore, a critical mass must be reached, something which has yet to be achieved.²⁹¹ As such, these systems have not been able to overtake the regime of the paper bill of lading.

4.2.4 Blockchain technology

With the registry approach established above, this study will now turn to another technical alternative for the implementation of electronic bills of lading. This alternative approach to solve the issue is by utilizing blockchain technology. The most popularly known application of blockchain technology is probably as the facilitator of cryptocurrencies such as Bitcoin.²⁹² Despite being developed with this purpose in mind, the potential application of blockchain in other fields are manifold. For the purposes of electronic bills of lading, it could be a way to allow for their implementation without the use of a central registry involving an intermediary as has been described in the previous sub-chapter.²⁹³ Instead, the blockchain could potentially allow for the electronic bill of lading to be independently negotiable as is the case with paper bills of lading and thereby acting as an electronic equivalent in the true sense of the words.²⁹⁴

²⁸⁴ Chuah (n 168) 204.

²⁸⁵ Goldby (n 4) 329–330.

²⁸⁶ Yang (n 269) 114.

²⁸⁷ Goldby (n 4) 329–330.

²⁸⁸ *ibid* 330.

²⁸⁹ Yang (n 269) 115.

²⁹⁰ United Nations Conference on Trade and Development, ‘The Use of Transport Documents in International Trade’ (United Nations 2003) UNCTAD/SDTE/TLB/2003/3 27.

²⁹¹ Yang (n 269) 115.

²⁹² Takahashi (n 267) 202.

²⁹³ *ibid*.

²⁹⁴ *ibid* 205.

This study will therefore attempt to clarify the basic concepts of blockchain technology in the next parts of the thesis. This is done with the goal of supplying enough context on the workings of the blockchain to allow for the full appreciation of the potential it has for the digitization of the bill of lading. The aim of this clarification however is that it is to be done in a manner that is as easily accessible as possible. The theory behind the blockchain is very technical and to keep in line with the legal nature of this thesis, the study will attempt to give a sufficient explanation on the topic without venturing unnecessarily deep into the finer technical details. Technical terms which are not needed for a sufficient understanding of the blockchain have been left out and where such technical terms are needed, an explanation is given.

4.2.4.1 Overview of blockchain technology

Blockchain technology is structured as an online ledger shared between multiple participants. A ledger in this sense of the word means a registry which records transactions between the participants. The word ledger is taken from accounting and it is a journal where once something is entered into the ledger, it cannot be changed.²⁹⁵ Similarly to such a ledger used in accounting, once something is entered into the online ledger of the blockchain it becomes immutable.²⁹⁶ Instead, each new transaction (or sets of transactions if the entry contains many actions at once) is recorded as a new entry into the online ledger, added onto the previous entries. These entries into the ledger are analogous to blocks of Lego and with each new transaction, another block is added. From this feature stems the word ‘block’ in ‘blockchain’.²⁹⁷ The word ‘chain’ is derived from the fact that each added block then rests on the previous block, thus creating a chain.²⁹⁸ If any tampering was to occur in any part of the chain, it would therefore travel along the chain of blocks, becoming easily identifiable to all participants.²⁹⁹ *Figure 1* below is intended to illustrate these basic principles of the blockchain as straightforward as possible.³⁰⁰

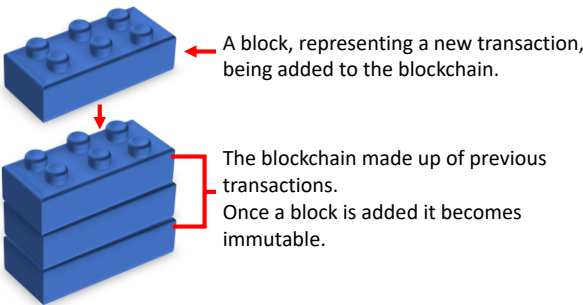


Figure 1

²⁹⁵ United Nations Economic Commission for Europe (n 3) 5.
²⁹⁶ *ibid* 5 & 8.
²⁹⁷ *ibid* 7.
²⁹⁸ *ibid*.
²⁹⁹ *ibid* 8.
³⁰⁰ Inspiration for *Figure 1* has been drawn from Yang (n 269) 117.

4.2.4.2 Closed registry systems vs. peer-to-peer systems

Furthermore, the blockchain is based on a peer-to-peer platform.³⁰¹ This means that the participants themselves verify each transaction in between themselves. The figures below have been included in order to illustrate the difference between the closed registry systems and the use of a peer-to-peer-based system.

Closed system based on a central registry³⁰²

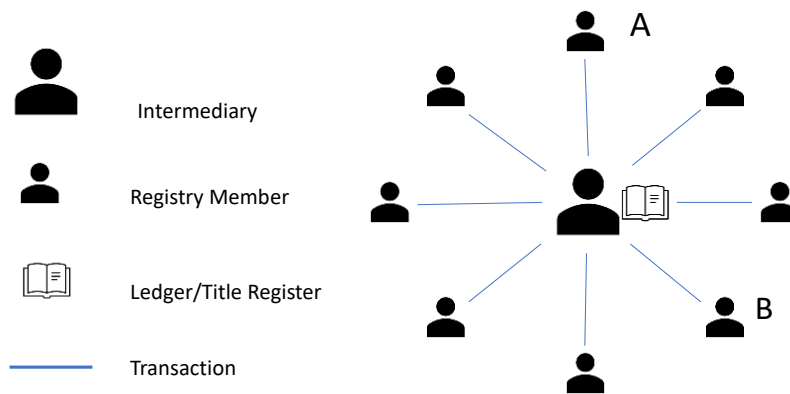


Figure 2. Symbol description to the left and basic outline of a closed registry system to the right.

Figure 2 above outlines the closed registry system that has been described in detail in previous parts of the thesis. If Member A wants to indorse a bill of lading to Member B under such a system, for example BOLERO, the transaction would have to go through the intermediary who acts as a nexus for intra-registry trade and who would have to register the transaction in the Title Registry in order to allow for the title to the goods to be transferred from Member A to Member B.

³⁰¹ Takahashi (n 267) 205.

³⁰² Inspiration for *Figure 1, 2 and 3* has been drawn from similar illustrations from *ibid* 203; Yang (n 269) 117. They have been amended by substituting the symbol representing the ledger from a cone to a book, which serves to make the representation clearer.

Peer-to-peer based system

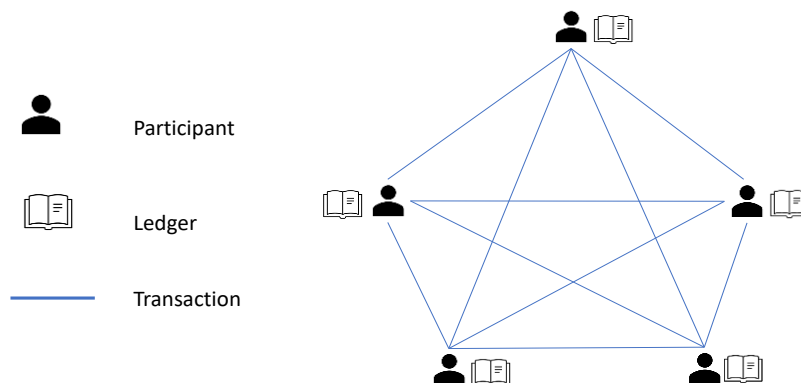


Figure 3. Symbol description to the left and basic outline of a peer-to-peer based system to the right.

Figure 3 above on the other hand outlines the peer-to-peer-based system that is fundamental to the blockchain technology. Simplified, but subject to some variation in practice that falls outside of the scope of this thesis, each participant shares the ledger equally.³⁰³ Such a participant with a full copy of the ledger is called a *node*.³⁰⁴ This makes the blockchain a decentralized system in contrast to the centralized system of the closed registry approach where the intermediary is the sole entity in possession of the whole ledger/title registry.

In the event of a transaction between two participants in the peer-to-peer network, for example the theoretical situation that Participant A were to trade an electronic bill of lading to Participant B as in Figure 4 below, each node would have to validate this transaction.³⁰⁵

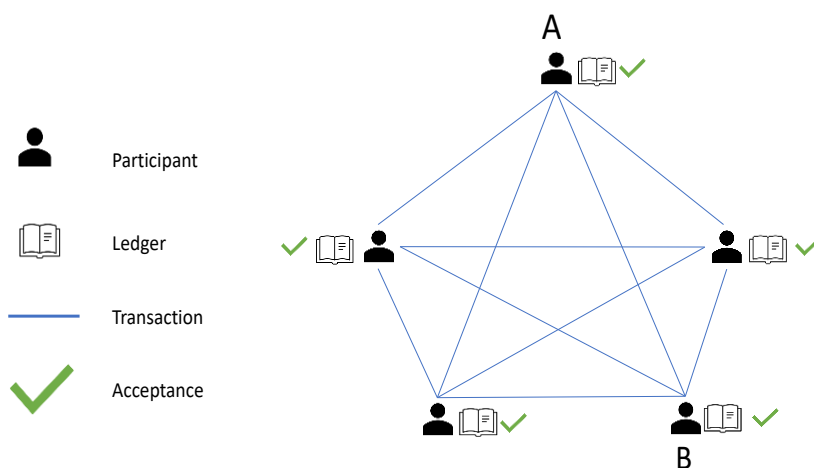


Figure 4. Symbol description to the left and transaction between Participant A and B in a peer-to-peer system using nodes that validate the transaction.

³⁰³ Albrecht (n 255) 5.

³⁰⁴ United Nations Economic Commission for Europe (n 3) 5.

³⁰⁵ *ibid.*

4.2.4.3 *Security features of the blockchain*

The high amount of security provided by the blockchain is therefore due to several factors working together and this decentralized system with a validation process is one of these factors. Due to the ledger existing in its entirety with all participants in the network at once, every transaction has to be validated by a consensus algorithm.³⁰⁶ Only once consensus has been achieved between all the participants can a new block be added to the blockchain. In order for any tampering to occur after a block has been added, it would have to occur simultaneously in all the participants' ledgers, which is not realistically feasible.³⁰⁷ No single party could therefore singlehandedly alter or amend the blockchain once a block has been added and neither could such a party add a new block to the chain singlehandedly seeing as consensus would have to be reached.³⁰⁸

Another factor that accords the blockchain its high level of security is the assignment of a digital fingerprint to each new block being added.³⁰⁹ Any tampering with the blockchain is therefore traceable to a specific part of the chain.³¹⁰ This digital fingerprint forms one part of the two cryptographic security factors of the blockchain, with the other part being formed by the use of private keys.³¹¹ Put into the context of electronic bills of lading, in the event of an indorsement of a bill of lading between two participants, the participant to whom the bill of lading is being transferred to would only be able to access the document by using such a private key.³¹²

4.2.4.4 *Blockchain technology and electronic bills of lading*

With the basic concepts of the blockchain established, this study now turns its attention to how its features could be utilized specifically to facilitate the use of electronic bills of lading.

Tokenization

One aspect of why blockchain technology is so well suited to be used for electronic bills of lading is the fact that it allows for the tokenization of digital assets.³¹³ As such, it is possible to circulate tokens representing non-monetary value using blockchain technology.³¹⁴ This tokenization process is better understood if contrasted with a blockchain-based system that is already implemented. In the case of Bitcoin therefore, the currency is based on *satoshi*, where one *satoshi* constitutes the lowest possible value of a transaction.³¹⁵ This can be likened to one cent constituting the lowest possible value of USD. If this was to be juxtaposed with electronic bills of lading, instead of having each token representing one *satoshi*, each token could instead represent a transferable document, thereby facilitating electronic bills of lading.

³⁰⁶ *ibid* 6.

³⁰⁷ Yang (n 269) 118.

³⁰⁸ *ibid*.

³⁰⁹ Such a digital fingerprint is also known as a 'hash', see United Nations Economic Commission for Europe (n 3) 5–6 for additional information on this topic.

³¹⁰ *ibid* 6.

³¹¹ *ibid*.

³¹² *ibid*.

³¹³ Takahashi (n 267) 204.

³¹⁴ *ibid*.

³¹⁵ *ibid*.

This would allow for the carrier to issue the bill of lading electronically as a token on the blockchain instead of issuing a paper bill of lading as is currently the standard industry practice.³¹⁶ It should also be noted that this tokenization does not however have to be limited to just the bill of lading.

Private keys facilitating exclusive control over the electronic bill of lading

In order to gain access to a traded token representing an electronic bill of lading, the transferee would use his private key to access his newly acquired electronic bill of lading.³¹⁷ This private key and the exclusive control that it imparts is another important function of the blockchain system. The reason for this is that in most jurisdictions, some form of possession is required to transfer property rights in the goods being sold. Takahashi exemplifies this by using Germany as an example.³¹⁸ In Germany, the passing of property in the goods does not solely rely on the contractual agreement that the property is to be transferred between the parties.³¹⁹ In addition to such an agreement, there also needs to be a transfer of a bill of lading representing the goods for the transfer of property rights.³²⁰ The difficulty thus far with electronic bills of lading is that there has not been any way to electronically replicate the ability that a conventional bill of lading has to act as a substitute for actual possession of the goods.³²¹ With the blockchain however, this becomes a reality. With the electronic bill of lading being tokenized by the blockchain, access to the traded token is then hinged on the previously mentioned private key. The holder of this private key is subsequently in exclusive control of the bill of lading.³²² Due to the guarantee of uniqueness, which is inherently imparted by blockchain technology, there cannot be multiple holders of the token at the same time. This aspect forms the ‘exclusive’ part of the exclusive control provided by the blockchain. With these fundamentals in place, this exclusive control of the tokenized electronic bill of lading can therefore be regarded as the functional equivalent to the possession of a conventional paper bill of lading.³²³ Functional equivalency is an important concept that is central to the potential success of blockchain technology being the facilitator of electronic bills of lading and there will therefore be reason to return to this concept further on in this thesis.

4.2.4.5 Practical obstacles

There are however many challenges to overcome in order to reap the many benefits inherent in blockchain technology. Examples of some of the more prevalent practical issues will therefore be included in this sub-chapter to illustrate the hurdles that lie in the way of unlocking the true potential of blockchain technology as a facilitator for the implementation of electronic bills of lading.

³¹⁶ *ibid.*

³¹⁷ *ibid* 208.

³¹⁸ *ibid* 207–208.

³¹⁹ *ibid* 207.

³²⁰ *ibid* 207–208.

³²¹ United Nations Commission on International Trade Law, ‘Legal Issues Relating to the Use of Electronic Transferable Records’ (United Nations 2012) A/CN.9/WG.IV/WP.118 7.

³²² Takahashi (n 267) 207–208.

³²³ United Nations Commission on International Trade Law, ‘Legal Issues Relating to the Use of Electronic Transferable Records’ (n 321) 7.

For one, in order for the blockchain to be practically applicable in the maritime industry, it is important to note that shipping is only a cog in a bigger machinery. Maritime trade does not operate in a vacuum. Rather to the contrary, it is only one part of the greater international trade regime which includes many other sectors such as finance, insurance, other modes of transportation and also governmental authorities etc.³²⁴ Therefore, the whole infrastructure of international trade would have to be able to accommodate for this digitization.

This means that for the digitization of the electronic bill of lading to take place, other documents that are prevalent in international trade such as letters of credit etc. would also have to be compatible with the use of blockchain-based bills of lading.³²⁵

From a business to government (B2G) perspective, there is also the need for a unified platform for electronic communications in use by governmental authorities. Setting up a system that allows for the seamless transfer of electronic communication at all stages of international trade is crucial in order to unlock the true potential of digitization.³²⁶ This infrastructural support from state authorities would be highly beneficial, perhaps even necessary, in order to do away with a duality of systems whereby the shipping industry would be using electronic documentation whereas governmental authorities would require paper documentation.³²⁷ Such a duality of systems would remove many of the benefits of digitization by taking away much of the synergizing effects that are sought by the use of blockchain-based bills of lading in the first place.³²⁸ This has led to calls for so-called ‘electronic single windows’ which aim to establish interlinked systems between multiple government authorities that would be able to process electronic submissions.³²⁹ Such an electronic single window would allow for the benefits of electronic trade to be fully retained by for example allowing for simplified cargo reporting etc.³³⁰ This thesis will not venture much further into these developments, but it serves to illustrate the fact that electronic bills of lading cannot be viewed in a vacuum.³³¹ Instead, whatever solution will be the way forward needs to have a holistic approach that takes the entire international trade nexus into consideration.

Another important obstacle to the use of blockchain are the costs involved. In its infancy, the computing needed to support a blockchain-based system was a significant barrier. This has however become less of an issue in recent times.³³² It does however still seem to pose somewhat of a hindrance, especially when certain consensus mechanisms are employed. The most frequently used consensus mechanism for example, the PoW (proof-of-work), used by for example Bitcoin requires staggering amounts of energy to sustain. The amount of energy consumed by Bitcoin is close to that of the Netherlands and it is close to 150% of the energy

³²⁴ United Nations Economic Commission for Europe (n 3) 60.

³²⁵ *ibid.*

³²⁶ Goldby (n 4) 294.

³²⁷ *ibid* 294–295.

³²⁸ *ibid* 294.

³²⁹ *ibid* 295–296.

³³⁰ United Nations Economic Commission for Europe (n 3) 52.

³³¹ For further information on this particular topic, see Goldby (n 4) Chapter 9(B).

³³² United Nations Economic Commission for Europe (n 3) 22.

consumed by the Czech Republic.³³³ These high energy demands can however be avoided by the use of other types of consensus mechanisms, notably the PoS (proof-of-stake) which has great potential in this regard.³³⁴ The development of alternative consensus mechanisms has seen the movement away from the traditional PoW, and Ethereum which is another of the bigger cryptocurrencies, is a good example as it is exploring other avenues.³³⁵

For the requirements of international trade between larger corporations with fewer participants than in the trading of cryptocurrencies, the use of so-called permissioned ledgers would be a way to effectively circumvent these high energy demands as well.³³⁶ The need for the approval of new participants in a permissioned ledger has the added bonus of granting even further security to the technology and is as such a great fit for the needs of international commerce.³³⁷ With such a solution in place, the system would achieve the best of both worlds and have both the ease of access of blockchain technology without the high entry demands and lock in effects as with the closed registry system, while simultaneously gaining much of the security accorded by such a closed system.

As of now, the biggest investment that would have to be made in many states in order to make blockchain viable would be to make sure that a high enough internet performance can be guaranteed.³³⁸

These are some examples of obstacles that need to be overcome in order for blockchain technology to establish itself and to highlight some practical reasons for why blockchain-based bills of lading have yet to have been implemented on a wider scale. Progress is however constantly made in these more technical areas and as of now the biggest issue seems to be the non-recognition of electronic bills in many jurisdictions. Thus, the next chapter will make an in-depth inquiry into the legal difficulties that need to be addressed in order to establish electronic bills of lading.

³³³ 'Bitcoin Energy Consumption Index' (*Digiconomist*)

³³⁴ *ibid.*

³³⁵ United Nations Economic Commission for Europe (n 3) 22.

³³⁶ Goldby (n 4) 165–166.

³³⁷ Bury (n 260) 235.

³³⁸ United Nations Economic Commission for Europe (n 3) 22.

5 Law of Property and Legal Obstacles to the Implementation of Electronic Bills of Lading

With the basic concepts of the important technical facilitators of electronic bills of lading laid down in the previous chapter, this thesis will now turn to look at the legal difficulties that are yet to be addressed. Despite blockchain technology having much potential for the widespread use of electronic bills of lading, major harmonization of existing regulations is still required for the implementation to be effective. This has been mentioned in previous parts of the thesis, but the need for harmonization stems from the difference in how various jurisdictions view the rights conferred by a bill of lading and to what degree various jurisdictions allow for electronic equivalents to the conventional paper bill of lading. One fundamental aspect that thus needs to be addressed when discussing bills of lading and their electronic equivalents is the law of property. The legal foundations on which the rights conferred by the bill of lading rests must be expanded upon to allow for further discussion on the topic.

From what has been stated in the introductory chapter of this thesis, this study has delimited itself to a common law centric view with the emphasis on English law. The forthcoming presentation will however make some references to the civil law system. The comparison between civil law and common law is made with the intention of placing English common law in its context. It also serves to showcase the need for harmonization even more concretized by highlighting the inherent contrasts that exist between common law and civil law.

While references to ‘common law’ in the coming presentation are based on English common law in particular, it must be stressed that there is a great degree of mutuality between the various common law jurisdictions and that what is held in one common law jurisdiction is often mirrored and applicable in other common law jurisdictions. It is important to bear this cross-jurisdictional characteristic of English common law in mind when approaching this subject.

5.1 Property defined

Due to its document of title function, the bill of lading is capable of transferring constructive possession as well as ownership of the goods covered by it. To better understand the legal mechanisms behind such a transfer, it is important to have a closer look at some important terminology.

‘Property’ does not mean the object or thing itself. Instead, ‘property’ is in fact a relationship to the thing.³³⁹ The terms ‘constructive possession’ and ‘ownership’ therefore actually describe different types of relationships to the object. Bearing in mind that property is actually a relationship to the object, the next important question to address is the practical effects that the classification as property carries with it. If a proprietary right to a thing is not

³³⁹ *Yanner v Eaton* [1999] HCA 53.

acknowledged by law, what would instead be transferred is a personal right to the thing.³⁴⁰ It is of importance to differentiate between *proprietary rights* versus *personal rights* to an object. A proprietary right on the one hand is recognized against the whole world, while a personal right on the other hand is only recognized intra-contractually.³⁴¹ The lack of proprietary rights would have widespread consequences in cases of, for example, insolvency or theft where one who would suffer a loss would not be able to base any legal claims on such a personal right to an object before courts.³⁴² Pertaining to electronic bills of lading then, the document of title function would be rendered void if they were to not be seen as property recognized against the whole world.

To make things a bit more complicated, one must also take into consideration the different views on property held by the common law system and the civil law system respectively. This study will therefore delve a bit further into the differing views on property held by the two legal systems.

5.2 Difference between common law and civil law

There is a rather deep divide between common law jurisdictions and civil law jurisdictions in their view on property. An inherent cause for this difference relates to the basic understanding of how ownership is derived. While civil law systems largely base their notion of property on the Roman view of total ownership, *dominion*, common law jurisdictions instead base their definition of property on the estate system which traces its roots back to the feudal system of England.³⁴³ Ownership thus emanates from different directions. With a view of ownership resting on *dominion*, full ownership is seen as the default in the civil law system and any other form of interest in property, such as for example leases etc., would be seen as a deviance from this main rule.³⁴⁴ This should be put in contrast to the estate system of common law jurisdictions, where the view has its basis from the top down. This perspective has its historic roots in the notion of the regent being the only true owner over his lands and that subsequent property interests are derived from some form of partitioning of these sovereign ownership rights.³⁴⁵ In common law therefore, ownership is accordingly thought of as a bundle of rights.³⁴⁶ This bundle is constituted by the right to possess, the right to use, the right to manage, the right to the income of the thing, the right to the capital, the right to security, the rights or incidents of transmissibility and absence of term, the prohibition of harmful use, liability to execution, and the incident of residuary.³⁴⁷

³⁴⁰ UK Jurisdiction Taskforce, 'Legal Statement on Cryptoassets and Smart Contracts' (The LawTech Delivery Panel 2019) 11.

³⁴¹ *ibid.*

³⁴² *ibid.*

³⁴³ Yun-chien Chang and Henry E Smith, 'An Economic Analysis of Civil Versus Common Law Property' (2012) 88 *Notre Dame Law Review* 1, 2.

³⁴⁴ *ibid.* 5.

³⁴⁵ *ibid.*

³⁴⁶ LS Sealy and RJA Hooley, *Commercial Law: Text, Cases and Materials* (2nd edn, Butterworth 1999) 61.

³⁴⁷ *ibid.*

It should also be mentioned that these two legal systems have developed in different directions. The legal traditions of the English common law system were implemented in many parts of the British Empire during its existence and eventually became ingrained to such a degree that they remained in many of the colonies even after independence.³⁴⁸ This resulted in a form of harmonization in its own right between many of the now independent states of the former British Empire.³⁴⁹

While the common law system developed in a harmonizing direction, the same cannot be said of the civil law system. With its basis in the uniform Roman law, the end of this uniformity was marked by the increased national codification in civil law countries in the nineteenth century.³⁵⁰ It is therefore difficult to neatly fit the bill of lading into civil law the way as is possible to a greater extent at common law. While there of course are differences in the legislations of the countries that are part of the common law system, these differences are not as prevalent as they are within the civil law system.³⁵¹

The central role played by English law within the common law system, as well as the important role that the UK has traditionally had in maritime matters, has led to English common law establishing itself as an important source of law in international commerce.³⁵² Accordingly, the study will examine how the categorization of property is done in English law in order to truly understand where a digital asset such as an electronic bill of lading fits in into the law of property in this commercially important legal system.

5.3 Property categorization in English law

In English law, property is either real property or personal property.³⁵³ Real property is land and all things built on land, while personal property is negatively defined as all other property that does not classify as real property.³⁵⁴ The idea behind such a division is that these different types of property are utilized in distinctly separate ways. As such, this categorization is based on the inherent characteristics of the objects. Real property is often acquired for use instead of circulation by trade, it is often held over longer periods of time and often partitioned into separate interests in the property. Personal property on the other hand is readily movable and is often subject to trade and has a relatively short life span.³⁵⁵ These characteristics make them suited to be ruled by separate principles.

³⁴⁸ Bokareva (n 30) 71–72.

³⁴⁹ *ibid* 71.

³⁵⁰ *ibid* 72.

³⁵¹ Reynolds (n 27) 6–7. Reynolds specifically mentions the United States as the clearest example of this intra common law discrepancy.

³⁵² On the importance of English law in international trade, see for example Ioanna Magklasi, *The Rotterdam Rules and International Trade Law* (Routledge 2018) 14–15; Bokareva (n 30) 71–71.

³⁵³ Sealy and Hooley (n 346) 49.

³⁵⁴ *ibid* 49–50.

³⁵⁵ *ibid* 50.

This division can then be further sub-divided into additional categories. Personal property is as such composed of, on the one hand, chattels real and on the other hand chattels personal.³⁵⁶ Chattels real are mostly constituted by leasehold interests and chattels personal is negatively defined as any personal property which is not a chattels real. A subsequent sub-division of chattels personal is then made into tangible movables and intangible movables, also known as choses in possession and choses in action respectively.³⁵⁷ Yet another subdivision is made from intangible movables into documentary intangibles and pure intangibles. For clarity's sake, a schematic of the division of property in English law has been included in Figure 5 below.

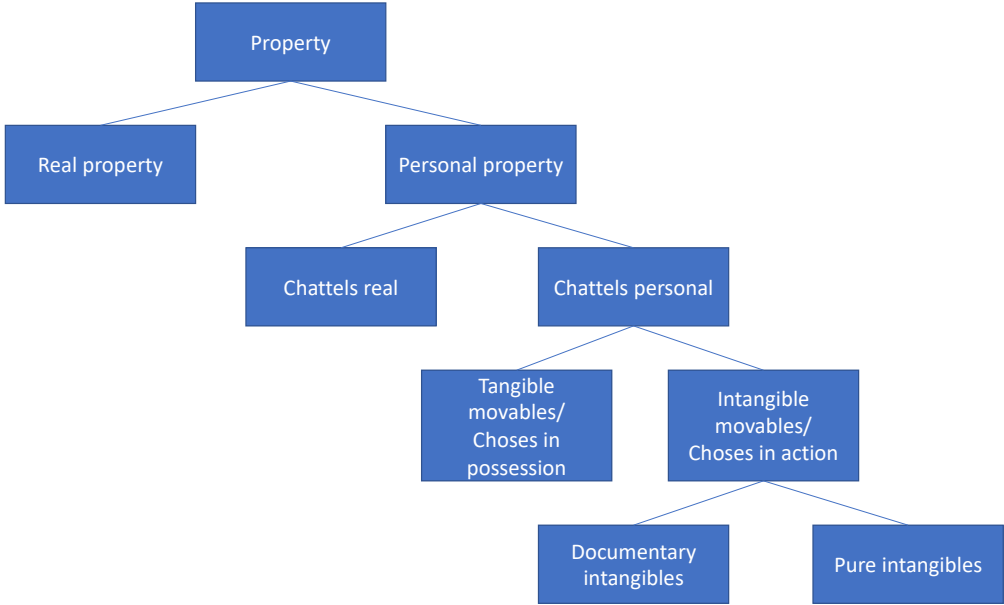


Figure 5. The categorization of property in the English common law system

The categorization of bills of lading in English law

With the categorization of property in English law established, it is time to place the paper bill of lading into this scheme. Accordingly, the bill of lading is categorized as a documentary intangible.³⁵⁸ Documentary intangibles are distinguished by the fact that they are not only evidence of the underlying rights but that they also embody the right.³⁵⁹ This is what gives the bill of lading its defining feature as a negotiable document, whereby the transfer of the bill of lading also transfers the right to the goods if this is intended by the parties and stated in the contract of sale.³⁶⁰ One should however note that this position of the bill of lading within English law is rather unique. What is normally the case with documents of title is that they are not seen to carry with them constructive possession of the goods. For this to occur in other

³⁵⁶ *ibid.*
³⁵⁷ *ibid.* It can also be mentioned for pedagogic reasons that the term ‘choses’ is derived from French, meaning ‘thing’.
³⁵⁸ *ibid.*
³⁵⁹ *ibid.*
³⁶⁰ For the general rule of actual delivery of the thing being required for the transfer of property rights, see for example *Cochrane v Moore* (1890) 25 QBD 57, 72–73. In this case, gifts of personal property were held to be dependent on such actual delivery in order to be valid and does well to contrast the special function of bills of lading.

cases than in situations involving bills of lading, the third-party intermediary holder of the goods (e.g., when the goods are kept at a third-party warehouse), would have to acknowledge the new holder of the document of title by attornment for the constructive possession of the goods to be transferred.³⁶¹ This principle was explicitly stated in *Dublin City Distillery Ltd v Doherty*. In this case, whiskey was kept in a warehouse to which two parties had access by way of two separate keys for two separate locks. When the distillery company, who possessed one of the keys, pledged the whiskey to a third party, question arose as to whether this constituted constructive delivery. In the view of the Court, the fact that the two keyholders had joint possession over the whiskey meant that the pledging of the whiskey to a third party by the distillery company could not be seen as constructive delivery unless attornment was made through the acknowledgement and acceptance of the transfer by the second keyholder.³⁶² The special nature of bills of lading however was established in *Official Assignee of Madras v Mercantile Bank of India*. After establishing that attornment was required in normal instances, as was the case in *Dublin City Distillery Ltd v Doherty*, Lord Wright went on to clarify the status of the bill of lading being an exception from this main rule by saying: [...] *The one exception was the case of bills of lading, the transfer of which by the law merchant operated as a transfer of possession of, as well as the property in, the goods.*^{363, 364}

Digital assets in English law

With the prospective implementation of electronic bills of lading to replace conventional paper bills of lading, the question arises where a bill of lading tokenized as a digital asset would place itself in the property categorization of English law. An electronic bill of lading would be constituted by data formed into a digital token. First, it would therefore have to be established whether such a collection of data could be seen to qualify as property. A formative case on objects of property rights before UK courts was the *National Provincial Bank Ltd v Ainsworth*. The case before the Court involved a wife who claimed to have property rights to the residence which had been her and her husband's home before the husband had deserted their relationship and subsequently had stopped making payments to the bank. In the statements made by the Court, it was held by Lord Wilberforce that such a property right as was claimed by the wife did not exist. He defined property as being something that is "*definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability*".³⁶⁵ Such was however not the nature of the wife's claimed interest in the property. This requirement of having assignability has become a classic common law criterion of property.³⁶⁶ These criteria for the classification of property have subsequently been expanded upon, and in *Fairstar Heavy Transport NV v Adkins* it was held that additional characteristics of property apart from the aforementioned *assignability* are

³⁶¹ *Dublin City Distillery Ltd v Doherty* [1914] AC 823.

³⁶² *ibid* 847–865.

³⁶³ Sealy and Hooley (n 346) 957.

³⁶⁴ It should be noted that there are some additional statutory documents of title in English law that are likewise exceptions to the main rule and are treated as negotiable documents in the same manner as bills of lading, see *ibid* 68.

³⁶⁵ *National Provincial Bank Ltd v Ainsworth* [1965] AC 1175, 1247–1248.

³⁶⁶ Sealy and Hooley (n 346) 55.

*certainty, exclusivity, and control.*³⁶⁷ These mentioned factors that affect the classification of property should not be seen as an exhaustive list however. Instead, whether a right or an interest should be seen as property is to be decided on a case-by-case basis and established case law could more adequately be seen to constitute minimum requirements for the classification of property in English law.³⁶⁸

Would then the requirements set in *National Provincial Bank Ltd v Ainsworth* and further case law be fulfilled by cryptoassets such as a blockchain-based electronic bills of lading? There are some features which have been detailed in the previous chapter on blockchain technology which are novel to English law. The fact that these digital assets are intangible, cryptographically authenticated, uses a distributed transaction ledger, are decentralized and are ruled by consensus poses some issues as regards their status as property.³⁶⁹ The UK Jurisdiction Taskforce concluded however that these novel features do not preclude cryptoassets from constituting property.³⁷⁰ It was held that none of these features made cryptoassets unable to satisfy the criteria established in *National Provincial Bank Ltd v Ainsworth*. The one feature that caused the greatest reason for concern was the consensus mechanism as it could be seen to impact the permanence factor.³⁷¹ Despite conceding to the fact that there is some risk of change occurring in a cryptoasset due to the consensus mechanism, this risk was held to be too minute to amount to any significance. Instead, cryptoassets were seen as sufficiently stable in order to be classified as property.³⁷² This was a conclusion that was similarly reached by a Singaporean Court in *B2C2 Ltd v Quoine Pte Ltd*, where it was also held that Bitcoins were property due to them having “[...] *the fundamental characteristics of intangible property as being an identifiable thing of value*” as well as fulfilling the requirements set in *National Provincial Bank Ltd v Ainsworth*.³⁷³ It is therefore not unlikely that such a conclusion would echo in other jurisdictions sharing the common law tradition. This conclusion leaves a lot to be wanted however and until this fundamental question is ultimately settled, uncertainty will prevail.

As one can see, it is therefore rather difficult to gauge where a digital asset would fit in the property categorization of English law if it was to be seen as property. It would not qualify as a chose in possession as digital assets are not tangible.³⁷⁴ The digital asset could potentially fit the role of a chose in action, but such a classification would require the ability of the right to the thing to be brought before courts by litigation as was held in *Torkington v Magee*.³⁷⁵ In *Colonial Bank v Whinney*, the importance of the *Torkington v Magee* judgement was highlighted when it was held that for a thing to constitute personal property at all, it would have to fit in to either classification as a chose in action or a chose in possession. If a thing

³⁶⁷ *Fairstar Heavy Transport NV v Adkins* [2013] EWCA Civ 886.

³⁶⁸ UK Jurisdiction Taskforce (n 340) 12.

³⁶⁹ *ibid* 10–11.

³⁷⁰ *ibid* 15–16.

³⁷¹ *ibid*.

³⁷² *ibid*.

³⁷³ *B2C2 Ltd v Quoine Pte Ltd* [2019] SGHC(I) 03.

³⁷⁴ UK Jurisdiction Taskforce (n 340) 18.

³⁷⁵ *Torkington v Magee* (1902) 2 KB 427, 430.

was not classifiable as either, it would subsequently not be seen as property. In the words of Fry LJ, “All personal things are either in possession or in action. The law knows no *tertium quid* [third thing] between the two.”³⁷⁶ With this statement, the practice of categorizing personal property as a chose in action as a catch-all for situations where objects would not neatly fit into the categorization of a chose in possession was held to be an incorrect application of the law. In more recent case law however, such as in *Your Response Ltd v Datateam Business Media Ltd*, this view seems to have been sidelined for a broader take on the definition of property and the will to accept such a “third thing” has been expressed by UK courts. In *Your Response Ltd v Datateam Business Media Ltd*, Moore-Brick LJ held that there was “a powerful case for reconsidering the dichotomy between choses in possession and choses in action and recognising a third category of intangible property, which may also be susceptible of possession and therefore amenable to the tort of conversion.”³⁷⁷ But it was simultaneously held that the Court was bound by previous case law in *OBG Ltd v Allan* and that it would be impossible for Courts to overrule this previous decision.³⁷⁸ Instead, it was stated that such a development “may now have to await the intervention of Parliament”.³⁷⁹

The varying views on electronic bills of lading at common law

One aspect of the above presentation of previous case law is to illustrate how the technical development now seems to have reached a point where the traditional common law categorization of property might no longer be able to provide a good enough classification to cover all the situations that may arise in today’s society. As it currently stands, an electronic bill of lading would not inherently be recognized as a document of title at common law.³⁸⁰ While the traditional paper bill of lading formed during a long period of time under the *lex maritima* and as such has been incorporated into the common law system through mercantile common practice, this is not the case for its electronic counterpart.³⁸¹ In order for electronic bills of lading to gain the ability to transfer constructive possession of the goods, legislative intervention is thus needed.³⁸² Legislation allowing for the electronic bill of lading to transfer constructive possession of the goods is currently rare within the common law sphere. The US has however enacted such legislation in their Uniform Commercial Code through an amendment.³⁸³ Furthermore, Singapore recently adopted legislation that allows for the use of electronic equivalents.³⁸⁴ Due to such legislative intervention being rare, attornment and novation have been used by the existing closed registry systems which has been detailed previously in this thesis. As can be remembered from earlier parts of this chapter, it is the unique position of the bill of lading within the English common law system which

³⁷⁶ *Colonial Bank v Whinney* (1885) 30 Ch 261, 285.

³⁷⁷ *Your Response Ltd v Datateam Business Media Ltd* [2014] EWCA Civ 281, 896.

³⁷⁸ *ibid.*

³⁷⁹ *ibid* 897.

³⁸⁰ Goldby (n 4) 160.

³⁸¹ *ibid* 158–159.

³⁸² *ibid* 158.

³⁸³ *ibid.*

³⁸⁴ ‘UNCITRAL Model Law on Electronic Transferable Records (2017) - Status | United Nations Commission On International Trade Law’

<https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_transferable_records/status> accessed 27 April 2021.

necessitates the main rule of attornment and novation in order to transfer constructive possession and ownership in cases other than in the use of the traditional paper bill of lading.

6 Legal Frameworks for Electronic Bills of Lading

As was established by Moore-Brick LJ in *Your Response Ltd v Datateam Business Media Ltd*, there is a strong case for the embracement of a third category of personal property. It was however also held that the way of implementing such a third category by UK courts is not open. Instead, a legislative approach must be taken in order for this to happen. There are many forms which this legislative process can take. One way to go about it is by opting for a completely domestic process. This however carries many drawbacks which relates back to the point of harmonization between jurisdictions. Another way is for the international community to attempt to unite behind a uniform regime. As of yet, there is no uniform regime on electronic bills of lading in force however.³⁸⁵ This chapter will therefore examine the existing alternatives for a wide legal recognition of electronic bills of lading.

6.1 The Rotterdam Rules

The Rotterdam Rules have been introduced in a previous chapter. In this chapter however, the study aims to establish how the Rotterdam Rules could facilitate the implementation of electronic bills of lading. As the first Convention on the carriage of goods by sea with the ambit of going further than to mainly deal with the issue of limitation of liability, it provides a unique platform for a broader adoption of electronic equivalents to paper bills of lading within the jurisdictions of ratifying states.³⁸⁶ The rules pertaining to such electronic equivalence will therefore be looked at closer below.

The Rotterdam Rules consist of 96 articles contained in 18 chapters. Among these, Chapters 3 and 8 deal with ‘electronic transport records’. With the introduction of the terms ‘transport document’ and ‘electronic transport record’ the Rules thus makes away with the usage of terms such as ‘bill of lading’ and ‘electronic bill of lading’ altogether.³⁸⁷ It should however be pointed out that previous case law on bills of lading would by all means still be applicable even after ratification of the Convention as bills of lading are caught by the definition set for ‘transport documents’.³⁸⁸ In essence these terms do not change the functions of the documents that they replace and they still come in the form of negotiable and non-negotiable transport documents and negotiable and non-negotiable electronic transport records which thus cover both bills of lading and sea waybills.³⁸⁹

³⁸⁵ Orrù (n 5) 142.

³⁸⁶ Bokareva (n 30) 134.

³⁸⁷ Definition of the terms ‘transport document’ and ‘electronic transport record’ can be found in the Rotterdam Rules Articles 1(14) & 1(18) respectively.

³⁸⁸ Goldby (n 4) 188–189.

³⁸⁹ The terms ‘negotiable/non-negotiable transport record’ are defined in the Rotterdam Rules Articles 1(15) & 1(16) and ‘negotiable/non-negotiable electronic transport record’ are defined in the Rotterdam Rules Articles 1(19) & 1(20).

One of the key features of the Rotterdam Rules is the acceptance of electronic equivalents found in Article 8. If consented to by both the carrier and the shipper, a transport document may be issued as an electronic transport record instead of a paper bill of lading as long as it fulfills the requirements in Article 8(b). Most importantly here is the fact that ‘exclusive control’ is made equivalent to possession. A good example of ‘exclusive control’ has already been presented in the chapter on blockchain technology, where the private key that is required to access the electronic transport record would provide precisely such ‘exclusive control’. This acceptance of electronic equivalence is what makes the Rotterdam Rules technology neutral and it is therefore up to the contractual parties to decide what form suits their needs the best. This freedom of choice however comes with the responsibility to fulfill the stipulations found in Article 9, where the parties are obligated to adhere to certain procedures. The parties must accordingly ensure that procedures are in place that provide for:

- (a) The method for the issuance and the transfer of that record to an intended holder;
- (b) An assurance that the negotiable electronic transport 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, pursuant to articles 10, paragraph 2, or 47, subparagraphs 1 (a) (ii) and (c), the electronic transport record has ceased to have any effect or validity.

These procedures must also be referred to in the contract and be readily ascertainable in accordance with the Rotterdam Rules Article 9(2). Once these procedures are in place, the document of title function that is found in conventional paper bills of lading is conferred to electronic bills of lading in accordance with the Rotterdam Rules Article 47.³⁹⁰ The electronic bill of lading would thus constitute a functional equivalent to the conventional paper bill of lading and the implementation of the Rotterdam Rules would thereby open the door for the widespread use of electronic bills of lading if enough states were to ratify the Convention.

6.2 UNCITRAL Model Law on Electronic Transferable Records (MLETR)

Another approach that is readily available for states wishing to make way for electronic bills of lading is the UNCITRAL Model Law on Electronic Transferable Records. The MLETR is a good example of the ongoing legislative evolution of the international community in matters concerning international trade. It represents a step away from the traditional method of using conventions to achieve uniformity. Instead, with this type of instrument, the focus is now shifted away from achieving uniformity and what is rather sought is harmonization. Relating back to Chapter 2 on the ways to achieve greater streamlining in international law, the

³⁹⁰ In the Rotterdam Rules, the term ‘document of title’ has been substituted by the term ‘negotiable’.

MLETR approach is a prime example of how more room is left to the implementing state to adopt the model law in a way as it sees fit and in accordance with its particular situation. The legislation adopted will thus not look the same in every implementing state. Despite the fact that some amendments will be probable before the model law is implemented, the core of the legislation will however remain and thus harmonization will be achieved.

The MLETR allows for an off-the-shelf adoption of legislation that enables the use of electronic bills of lading.³⁹¹ It does so by introducing the ‘electronic transferable record’ which is defined in Article 2, and they largely correspond with the ‘electronic transport record’ found in the Rotterdam Rules. Similarly as with the Rotterdam Rules, bills of lading are caught under the definition and previous case law on bills of lading would apply to the electronic transport record once implemented. Legal recognition of the electronic transferable record is subsequently achieved by providing for the functional equivalence of electronic alternatives to paper bills of lading by the provisions found in Article 10. If the requirements are met in Article 10(1)(a-b), then electronic equivalence is attained. These requirements in Article 10 are fulfilled by the electronic record if a ‘reliable method’ is being used:

- (i) To identify that electronic record as the electronic transferable record;
- (ii) To render that electronic record capable of being subject to control from its creation until it ceases to have any effect or validity;
- and
- (iii) To retain the integrity of that electronic record.³⁹²

MLETR Article 10 should also be read in conjunction with Article 12, where a ‘general reliability standard’ is established.³⁹³ Article 12 thus defines and details what a ‘reliable method’ is. It should be noted though that the list provided in Article 12(a)(i-vii) is not exhaustive and as such only provides for examples of what could be included in the concept of a ‘reliable method’. The purpose of defining ‘reliable method’ in Article 12 is twofold. First, it is aimed at providing guidance in cases where dispute is already at hand due to the method not having fulfilled its function. Second, it also serves as guidance when designing the systems that allow for the use of electronic equivalents to paper bills of lading.³⁹⁴

Where the requirements for such a ‘reliable method’ are met and functional equivalence has been attained for the electronic transferable record, the need for possession of the document is replaced by ‘exclusive control’ over the electronic equivalent in accordance with Article 11. Similar to the provisions of the Rotterdam Rules where ‘exclusive control’ is also equated to possession, this would for example be satisfied by the private key used to access the

³⁹¹ Goldby (n 4) 205.

³⁹² United Nations Commission on International Trade Law, ‘UNCITRAL Model Law on Electronic Transferable Records’ (United Nations 2017) Article 10(1)(b)(i-iii).

³⁹³ United Nations Commission on International Trade Law, ‘Explanatory Note to the UNCITRAL Model Law on Electronic Transferable Records’ (United Nations 2017) 37–38.

³⁹⁴ *ibid* 46.

blockchain-based bills of lading. Furthermore, the vital ability of the bill of lading to transfer constructive possession of the goods covered by the bill is enabled by Article 11(2).

Therefore, if all of the criteria for a conformant electronic transferable record are met, the electronic transferable record cannot be denied legal effect, validity or enforceability on the sole ground that it is in electronic form in accordance with Article 7. On implementation of the MLETR therefore, authorities must accordingly legally recognize documentation in a non-discriminatory way, no matter whether they come in physical or electronic form.

6.3 Comparison between the Rotterdam Rules and the UNCITRAL Model Law on Electronic Transferable Records

As can be gathered from what has been presented above, the Rotterdam Rules and the MLETR have rather similar provisions for enabling the implementation of electronic bills of lading. Among the more notable differences between the electronic transferable record envisioned in MLETR and the negotiable electronic transport record found in the Rotterdam Rules respectively, is the slightly wider definition found in MLETR. The definition of an electronic transport record in the Rotterdam Rules Article 1(18) on the one hand is confined to a contract of carriage. The negotiable version of the electronic transport record as found in the Rotterdam Rules Article 1(19) would thereby be the electronic equivalent of a negotiable paper bill of lading. In the MLETR on the other hand, the definition stipulated in Article 2 allows for additional documents to fall under the category of ‘electronic transferable document’. The various documents that will correspond to MLETR Article 2 may therefore differ from jurisdiction to jurisdiction depending on which documents or instruments are transferable in the domestic law of each specific jurisdiction.³⁹⁵ As such, various documents and instruments such as bills of exchange, cheques, promissory notes, consignment notes, bills of lading, warehouse receipts, insurance certificates, and air waybills could all come to be recognized in electronic form.³⁹⁶ It is the view of this thesis that the extended definition found in the MLETR is preferable to the one found in the Rotterdam Rules. By allowing for the digitization of additional documents, the point previously noted where bills of lading cannot be seen in isolation but that they rather have to be placed within the greater scheme of international trade is more proficiently addressed. Allowing for digitization in all sectors is imperative as they are all interconnected. With the wider definition provided for by the ‘electronic transferable document’ in the MLETR vis-à-vis its counterpart in the Rotterdam Rules, synergizing effects in the entire logistics sector are encouraged.

It bears reiterating as well that the MLETR has a more harmonizing rather than unifying effect compared to the Rotterdam Rules. As has previously been detailed, this is an aspect that is more in line with the approach increasingly favored by the international community and is thereby more likely to achieve success.

³⁹⁵ *ibid* 27.

³⁹⁶ *ibid*.

7 The Way Forward

In this section of the thesis, the components established in previous parts will be combined, and a roadmap for the implementation of electronic bills of lading will be laid down.

7.1 The role of harmonization

It is the view of this study that harmonization, not unification, is the way forward. In line with how international lawmaking has progressed, harmonization serves the modern globalized trade regime better than unification. Attempting to achieve unification in multiple jurisdictions is too difficult of a task and there is little to be gained from such an approach, preferably then is to aim for a less strict harmonization approach.

English law has specifically been in the focus of this study to serve as an example of a jurisdiction that is not, as of yet, legally compatible with electronic bills of lading. The ever so important document of title function that is provided by paper bills of lading cannot be guaranteed in the use of electronic bills of lading. Owing to this shortcoming, the only guarantee that trading partners agreeing to use an electronic bill of lading currently have is that it would be valid in between themselves in accordance with their contract. This lack of guarantee of having the document of title function in relation to third parties carries the consequence of electronic bills of lading not being able to gain a foothold. Furthermore, this situation is far from unique in English law. In order to bring multiple jurisdictions up to date with technology, legislative work is required. From the discussion on harmonization in general, this study is therefore of the opinion that harmonization for the widespread implementation of electronic bills of lading is beneficial and that it is, with all probability, even necessary. Given the international character of carriage of goods by sea, spanning multiple jurisdictions and with transport documents moving across these borders, it is imperative that the legal framework is set to allow for as smooth of a process as possible. This is especially so considering that goods, particularly in the case of bulk goods, are frequently traded in transit.³⁹⁷ In order for electronic bills of lading to stand on equal footing with their paper counterparts, they need to be accepted in a non-discriminatory way in all parts of the chain of trade. Thus, the way forward must be taken with the entire international trade nexus in mind. Sustaining the interplay between the prevalent documents in international trade must therefore be a top priority. As has been established, harmonization has the capacity of providing clearer rules for the parties and functions to increase legal certainty in international trade. It is thus the view of this study that such clarity in the rules is necessary in order for electronic bills of lading to become established. To encourage investment and in order to make industry actors confident enough to make the transition to electronic bills of lading wholeheartedly, the law has the utmost responsibility of setting a legal framework that is clear and conducive to electronic commerce.³⁹⁸ While it is admittedly up to the shipping industry itself to make the move to digitize, this can only be facilitated by making the digitization

³⁹⁷ Goldby (n 4) 125.

³⁹⁸ AN Yiannopoulos and International Academy of Comparative Law (eds), *Ocean Bills of Lading: Traditional Forms, Substitutes, and EDI Systems* (Kluwer Law International 1995) 41.

feasible and not a mere novelty. Electronic transport documents must be as viable in state A as they are in state B if the transition is to happen in earnest.

7.2 Available legal frameworks

With this study establishing that harmonization is indeed beneficial for the digitization of the international carriage of goods by sea, the next step is to make an appraisal of the available legal frameworks. What is the most feasible way of achieving the needed change in multiple domestic legislations while simultaneously maintaining coherency of the laws?

7.2.1 The Rotterdam Rules

As has been seen, a number of approaches are available for states wanting to make the shift to legally acknowledging electronic bills of lading. While the international community might be hesitant to invest further resources into the creation of yet another convention on the carriage of goods by sea, there is still some possibility that the Rotterdam Rules will catch on and enter into force. This, as has been shown, is however not a likely proposition. But in the case that the Rotterdam Rules were to catch on and become the prevailing convention on the carriage of goods by sea, the international community would have a proficient platform for making electronic bills of lading equivalent to conventional paper bills of lading on a large scale. Thus, the Rotterdam Rules represent both the positives and negatives of using treaties to achieve harmonization. The dependence on widespread ratification is both the downfall and the advantage of conventions. On the one hand, if many states were to ratify the convention, its effects would be transferred in an instant to many jurisdictions at once and it could in a sense function as a shortcut to the alternative of each state having to update their legislation to accommodate for technology in their own time which might be a lengthy process and which is liable to constantly lagging behind. On the other hand, as is the exact case with the Rotterdam Rules, conventions are more often than not liable to fail to attract the support needed to enter into force or in any case fail to have any considerable relevance. It would therefore be an unrealistic stance to see the adoption of the Rotterdam Rules as the way forward. While this study is of the opinion that they would be very beneficial in the harmonizing endeavor as it relates to electronic bills of lading in particular, it is also the view of this study that the primary reason for the shortcomings of the Rotterdam Rules seems to lie with their extensive scope. The Rules have the ambit of solving too many questions at once, which ultimately ends up causing hesitance among states. A ratifying state would have to make a complete overhaul of its legal regime on the carriage of goods by sea as it would have to abandon any of the prior Conventions on the topic in favor of the Rotterdam Rules.³⁹⁹ This is likely to be one of the reasons for its seeming failure. Therefore, while the view of this study is that the Rotterdam Rules would have been very efficient as a legal facilitator for electronic bills of lading and that their ratification on a wider scale would have been very beneficial in the quest for an internationally unified legal regime on electronic bills of lading, they should not be the primary way forward. It should rather be seen as a bonus scenario if they were to be widely

³⁹⁹ The Rotterdam Rules Article 89.

accepted with time instead of being the main goal of international unification and harmonization at this point.

The Rotterdam Rules do not in any case represent the final destination in the quest for harmonization. The days of conventions such as the Rotterdam Rules might be down for the count as the shift from uniform lawmaking to harmonizing lawmaking on the topic of international trade becomes ever clearer. The perspective of this study is that the international community is slowly starting to realize that treaties in many cases can actually come to function as a hindrance to development as time goes on. The lessons learned from the previous Conventions on the carriage of goods by sea resonates with such a view. While the Hague/Hague-Visby Rules have been beneficial to international shipping as a whole, their shortcomings are slowly starting to show. With the carrier's exemption clauses of the past not seemingly being an issue any longer, their role now is more and more becoming outdated. Instead, with their very uncertain relationship to electronic bills of lading combined with their widespread application, they are now increasingly acting as a barrier to the digitization of the shipping industry.⁴⁰⁰ The Hamburg Rules on their end should also serve to illustrate the pitfalls of treaty law in areas of law that are constantly evolving. Entering into force in 1992, they are to some extent already not serving the purposes that is required by the shipping industry. Demonstrably then, conventions do not seem to be able to keep up the pace at which technological advancements are made and to which the shipping industry must continually adapt.

With the amount of effort that goes into the drafting of a new convention it is highly unlikely that this is the route that will be taken by the international community on the topic of carriage of goods by sea in the near to medium-term future. In the unlikely scenario that a new convention was to be drafted further along the line, the view of this study is that it should be done on more specific issues and that the approach of using protocols as was the case with the Cape Town Convention should be employed. Such conventions that are more readily amendable and which serve as a legislative framework onto which new protocols can be added to accommodate for future developments would serve the harmonization effort better than what is currently available.

7.2.2 The MLETR and future model laws

Considering the discussion above, a more likely approach forward to establish the legal framework needed for the implementation of electronic bills of lading is the gradual adoption of the MLETR by more and more states. Already, there is some movement towards the implementation of the model law into certain jurisdictions. Most notable in this regard is probably Singapore. Jurisdictions such as Singapore are often quick to adopt innovative legislation and can therefore serve as a good testing ground for how such legislation functions in practice.⁴⁰¹ This study was fortunate enough to have been able to attend the UNCITRAL Webinar on "*International experiences with the dematerialization of negotiable transport*

⁴⁰⁰ Orrù (n 5) 142.

⁴⁰¹ 'ICC Global Survey on Trade Finance' (n 28) 94.

documents" which was hosted between the 13th-14th of April 2021. During these two days, various stakeholders in the shipping industry were present to give their view on the current developments on the dematerialization of negotiable transport documents. One of the presenters at this Webinar, Kah Wei Chong, discussed the implementation of the MLETR into the legislation of Singapore.⁴⁰² From this presentation, the picture becomes clear that this might be one of the more appealing ways ahead. While the Rotterdam Rules suffered from the fact that it focused on a plethora of issues at once, the MLETR centers around 'electronic transferable records'. In the view of this study, this is likely to play a major part in the potential success of the MLETR. Once a state has realized the worthwhile endeavor of facilitating the implementation of electronic bills of lading by establishing legislation that acts as a proliferator instead of effectively hindering their use, the MLETR will prove a valuable tool. Being an off-the-shelf set of rules, but still with the ability to make adjustments to fit the specific needs of the implementing jurisdiction, is likely to make it an appealing choice for many states. While the MLETR admittedly has only gained minor adherence within the international community thus far, there is as said motion in progress. China for example, is currently underway as well with the adoption of similar legislation. During the mentioned UNCITRAL Webinar, the Chinese perspective on the matter was presented.⁴⁰³ China is an avid proponent of allowing for electronic transport records. The reason for certain hesitance towards adopting the MLETR was held to be that it is too focused on the carriage of goods by sea whereas China, being a major stakeholder in the railway industry, wants legislation that allows for the document of title function to be applicable to transport documents used in rail as well.⁴⁰⁴ Another thing to note in the progress of more and more jurisdictions recognizing electronic bills of lading in one way or another is that it is bound to have a snowball effect. An analogy that was drawn during the UNCITRAL Webinar that aptly applies to legislation recognizing electronic bills of lading was that of a phone.⁴⁰⁵ Accordingly, a phone is of no use if no one else has a phone. Once everyone else has a phone however, being without one becomes a major disadvantage. Similarly, once more and more jurisdictions start acknowledging electronic bills of lading as functional equivalents of conventional paper bills of lading, the shift is bound to happen quickly.

The model law approach is thus the favored way forward by this study as it provides the much-needed harmonization while at the same time avoiding many of the obstacles usually faced in international harmonization. If the model law is drafted in a correct way, it will take into consideration such aspects as linguistic differences and difference in legal systems by aiming at the most fundamental aspects of what needs to be harmonized. Unlike the overly ambitious Conventions of the past, avoiding interpretational difficulties will be an easier task

⁴⁰² Deputy Senior State Counsel, Attorney-General's Chambers, Singapore, on "MLETR and its enactment in Singapore". For the presentation in full, see UNCITRAL: United Nations Commission on International Trade Law, *Day 1: Electronic Transferable Records and Dematerialization of Trade Documents* (2021) <https://www.youtube.com/watch?v=LOTFaGCpC3E&ab_channel=UNCITRAL%3AUnitedNationsCommissionInternationalTradeLaw>

⁴⁰³ Guo Yu, Peking University, on "MLETR: the perspective from China". For the presentation in full, see *ibid.*

⁴⁰⁴ *ibid.*

⁴⁰⁵ Hans Huber, PO Trade Finance DLT R&D, Commerzbank, on "Blockchain and other electronic processes for documentary credit in the banking sector", For the presentation in full, see *ibid.*

when following this approach instead. However, it should be noted that the way forward will most likely be a combination of different methods of harmonization and it will also most likely be a gradual adoption.⁴⁰⁶ It is the role of states to allow for the widespread implementation of electronic bills of lading. It is subsequently up to the industry itself to actually implement them in into business practice. The success of the ICC UCP has previously been illustrated and with the legal recognition of electronic bills of lading on a wider scale, rules of a similar character will be drafted by the electronic bill of lading platform providers which will subsequently have a major impact on the more practical aspects that are likewise in need of harmonization in order to allow for digitization.

7.3 Technological platforms

In addition to finding an approach for harmonizing the laws on electronic bills of lading, finding a suitable technological platform that can accommodate for electronic bills of lading to be implemented on a wide scale is of the utmost importance.

Previous attempts at digitizing the bill of lading have been detailed in this study. *essDocs* and *BOLERO* however never managed to achieve the critical mass needed in order to make their systems overtake the paper bill of lading and their closed registry systems remain rather niche and are only applied in a small proportion of carriage of goods by sea.⁴⁰⁷ Instead, the focus of the shipping industry is now on blockchain. Blockchain is a capable facilitator of electronic bills of lading and there even seems to be movement towards the implementation of the technology into the closed registry systems. *essDocs* and *BOLERO* are as such currently working on implementing blockchain technology as part of their services.⁴⁰⁸ It should therefore be clear that the industry itself sees blockchain as the way of the future.

Until the widespread use of blockchain-based bills of lading becomes a reality however, the closed registry system will still be the main way of achieving the digitization of electronic bills of lading. The closed registry providers are therefore likely to be instrumental in the abovementioned gradual shift from the registry approach with its heavy reliance on contracts to emulate the functions provided by the paper bill of lading. With these closed registries being able to incorporate blockchain into their provided services, their customers will be able to utilize the most suitable approach in accordance with their specific needs. Blockchain-based bills of lading might therefore suit the parties better where trade is conducted between states where legislation is in place that accords functional equivalence to blockchain-based bills of lading. Contrary, if parts of the trade conducted is in-between states which have not granted functional equivalence, the closed registry approach might be a better option.

⁴⁰⁶ Goldby (n 4) 16.

⁴⁰⁷ *ibid* 338.

⁴⁰⁸ For further information on this topic, see *ibid* 347–350.

7.4 The increasing importance of soft law

With blockchain-based bills of lading poised to become the way forward and with a proficient method for the wide recognition of electronic bills of lading across multiple jurisdictions there is another important aspect to note. How will the playing field look once the smoke has settled? Will there be many competing entities who each have their own viable platform or is there only room for one entity on the market? This is important as it would affect harmonization in a direct way. In the parts of this thesis related to the various approaches to harmonization, the importance of industry standards and terms were highlighted. The MLETR is as previously stated the favored available option of this thesis. If the MLETR or similar future model laws were to attract the necessary support, the next step would be for the third-party service providers of the blockchain-based bill of lading to develop a platform that fulfills the criteria stipulated by the model law. The entity who would be the provider of the blockchain-based platform of the future would thus come to play a significant role. The terms and rules of the service would form an important source of soft law and the way that they would be constituted would likely have a great impact on how the blockchain-based bills of lading are implemented in practice. During the UNCITRAL Webinar, the question was brought up whether there is potential of essDocs and Bolero becoming interoperable. The answer was in the affirmative, while admittedly only being in a developmental stage thus far.⁴⁰⁹ Such a development seems to hint to the evolution towards a larger platform. Taking into consideration the important fact mentioned in a previous chapter that electronic bills of lading are only a cog in the bigger wheel that is international trade, the circumstances seem to be in favor of one or, at the very most, a handful of bigger actors rather than many smaller actors. In order to cater to these multi-faceted needs of international trade, such as finance, insurance and transport etc., it seems as if there would have to be an interlinked system that has a synergizing effect. In the view of this study therefore, it seems very likely then that the future lies with big third-party service providers who will likely form a major authority in these matters. This does seem like a development in a positive direction from a harmonization point of view and it might be exactly what is needed as it would let the industry itself play a bigger role. There are similarities to draw in this regard if one bears in mind the shift that occurred between the formation of the Hague/Hague-Visby Rules and the Hamburg Rules. It has previously been shown that much of the success of the Hague/Hague-Visby Rules was owed to the fact that the industry had such a major role in the drafting process. When it came time to draft the Hamburg Rules on the contrary, the drafting process was in the more politicized forum of the UN. This increased the amount of compromise that was required and it also failed to grasp the sentiments of the industry to a sufficient degree. Therefore, the view of this study is that the most important role of each jurisdiction now should be to establish an as technologically neutral legislation as possible in order to allow for these industry-implemented soft law rules to form and take effect. This is only a potential scenario however and only the future will tell if the progress will be by way of big entities or if there will be

⁴⁰⁹ UNCITRAL: United Nations Commission on International Trade Law, *Day 2: Dematerialization of Negotiable Transport Documents: Challenges and Opportunities* (2021) <https://www.youtube.com/watch?v=eruOmdJklqo&ab_channel=UNCITRAL%3AUnitedNationsCommissiononInternationalTradeLaw>

sufficient interoperability between available service providers to allow for many smaller entities.

Conclusions

This study identifies the road forward as consisting of a number of criteria that must be achieved in order to facilitate the widespread use of electronic bills of lading in international commerce:

- *Establish legal acknowledgement of electronic bills of lading on a global scale.*

This should preferably be done as harmonized as possible across multiple states given the border-crossing nature of international carriage of goods by sea. The way of using international conventions to allow for such legal recognition has seemingly failed to be effective and it is therefore important that harmonization, rather than unification, is the chosen path forward. Accordingly, this study arrives at the conclusion that model laws will likely have an important role to play in coming developments on the subject matter. Model laws have the capacity to be more specific in contrast to the blunt nature of international conventions that have up until now only expanded their scope further and further, and in so doing, have made them less appealing to the international community.

- *Find a technical facilitator for electronic bills of lading.*

It is the view of this study that blockchain technology will be the main facilitator of electronic bills of lading. There are still some obstacles in the way before this technology can be implemented on a scale that is needed for electronic bills of lading to overtake the conventional paper bill of lading, but that date is rapidly approaching.

Once technical feasibility has been established, electronic bills of lading will eventually be recognized.⁴¹⁰ Law is constantly in motion and it has to, at least to some degree, mirror reality in order to retain authority in the long run. Considering this factor, once the conservative shipping industry starts to see a straightforward path to digitization and starts to demand legal recognition in earnest to that effect, digitization on a wider scale is bound to occur sooner rather than later.

- *The industry will lead the way.*

Once blockchain technology has become more commercially applicable and electronic bills of lading are seen as legal equivalents to conventional paper bills of lading in a sufficient number of jurisdictions, the industry will lead the way. The role of individual states should therefore mainly be confined to establishing technologically neutral laws. It is the view of this study that legislation on the finer legal and practical aspects should subsequently be kept to a minimum. The shortcomings of previous unification and harmonization attempts have shown that the needs of the shipping industry must be taken into consideration. This is something that the more politicized forums such as the UN have been unable to fully accommodate. Instead, the most successful regime on the carriage of goods by sea, the Hague/Hague-Visby Rules, owes a lot of its success to the fact that the industry led the way. With no inherent imbalance between stakeholder interests as was the reason for the advent of the Hague/Hague-

⁴¹⁰ Yiannopoulos and International Academy of Comparative Law (n 398) 41.

Visby Rules and its goal of doing away with carriers implementing too far-reaching limitations of liability, it seems as if the finer details of digitization of the shipping industry is better left to the industry itself. Soft law in the form of standard terms regulating the practical use of electronic bills of lading provided by third-party service providers and other private stakeholders in the shipping industry will thus be able to stake out the way forward in the future digitized world of shipping.

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