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The Use of EDI in International Trade : Implications for Traders, Banks, Carriers and Insurers

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Introduction

When goods are to be sold in the course of international transportation the parties frequently use a negotiable paper bill of lading to represent the cargo. Traders use computers to conclude sale contracts with one another and have experimented in the use of electronic messages to replace paper bills. The legal implications of such electronic substitutes are the main subject of this paper. It is carriers who create the bills of lading, therefore the first part deals with maritime contracts of carriage. There follows a review of issues that arise under contracts of sale and letters of credit. Fourthly the paper deals with delivery of the goods and fifthly with claims that may arise between the carrier and the trader. Sixthly, because those engaged in underwriting the risks of maritime transport are only a step away from creating insurance contracts through computerised communications, there is an examination of relevant statutory requirements. Lastly the paper examines future developments that may facilitate the use of electronic messages in international trade.

The following simplistic account of carriage contracts, international sale of goods and finance does not reflect the great variety of such dealings in the modern commercial world. It does, however, suffice for the purpose of this paper which is to address some of the fundamental and substantive (rather than formal or evidential) legal issues arising from the use of EDI in international trade. It does not deal with all the legal implications: for example insolvency is omitted. The paper deals only with English law.

1. Contracts of carriage and related documents

A bill of lading is issued by or on behalf of the maritime carrier normally after goods are loaded on board the ship and is signed by or on behalf of the captain of the vessel. It contains the name of the shipper, the consignee and the party to be notified of the arrival of the goods at the port of destination. The nature, numbers and condition of the goods are described and the ports of loading and discharge are named. The bill normally contains the terms of the contract of carriage, either expressly or by reference. Historically, in order for the seller to obtain the best prices for the goods it was necessary for him to offer them for sale in more than one place at a time. Thus a practice developed of issuing three original bills of lading, known as a set.

The bill of lading performs three functions, two of which are apparent from the above account namely those of a receipt for the goods and evidence of the terms of the contract of carriage. Its third function, as a document of title, is the one which gives rise to legal doubts in considering electronic substitutes for paper. It is dealt with in detail in the other parts of this paper. At this point it is only necessary to note that a paper bill of lading represents the goods it describes and its possession is evidence of the right to possess and control the goods. Its endorsement and delivery can be used to evidence the passing of ownership of the goods.

Sea waybills are also created by the carrier and perform the functions of a receipt and evidence of the terms of the contract of carriage. Under a sea waybill contract the carrier promises to deliver the goods in accordance with the instructions of the shipper. The consignee can be named on the sea waybill but the shipper has the right to change his instructions as to who is entitled to receive the goods at any time up to the time of delivery. By contrast with a bill of lading a sea waybill is not a document of title. Where it is not necessary to sell goods in the course of transit the sea waybill is the form of contract of carriage that should be used by the parties.

Lastly, a brief mention of delivery orders. The phrase is used by those engaged in international trade to apply to different types of documents. A true ship's delivery order is issued by or on behalf of the carrier and constitutes a promise by the carrier to deliver the goods described to the person mentioned in the document. The phrase is also, however, applied to orders to ships given by merchants as to the delivery of the goods. These are of no legal effect unless the carrier attorns to them which means that he acknowledges that he holds the goods on behalf of the person named in the order or promises to deliver to that person.

The next issue for consideration is whether and how the functions performed by these contracts can be performed by electronic messages. No significant complications arise out of sea waybills or delivery orders. Electronic sea waybills have been in use for some considerable period of time by those engaged in containerised transportation. Booking information is given by computer, contracts are produced by computer and communicated electronically to all concerned and electronic messages are used to give delivery instructions.

Although there have been and are currently experiments in the use of electronic bills of lading, they are still only the subject of experimentation and not widely used. One example of the way they could operate is to be found in the Rules produced by the Comite Maritime International (CMI) which would work by incorporation into the contract of carriage. Under those Rules the carrier notifies receipt of the goods to the shipper in a message addressed to the latter's electronic address. The message contains the name of the shipper, the description of the goods, date and place of receipt of the goods, reference to the carrier's terms and a private key to be used. The shipper confirms this message and becomes holder of the private key and the Rules provide that the information is to have the same force and effect as if the message were contained in a paper bill of lading. The holder of the private key has the right to claim delivery and to direct the carrier as to the identity of the consignee or as to any subject as if he held a paper bill of lading. Passing the "right of control and transfer" is carried out by notification (from the holder of the private key) to the carrier of the holder's intent to transfer. The notification is accompanied by use of the private key, the carrier confirms the message and transmits all the information, apart from the private key to the new holder. After the new holder has confirmed in a message that he accepts the right of control and transfer, the previous private key is cancelled and a new one is given to the new holder. Delivery of the goods is made according to instructions given to the carrier by the holder of the private key and delivery, in accordance with those instructions, automatically cancels the said key.

No statute or decided case expressly requires a bill to be signed but references to signature appear in the leading text books and in many judgements which assume it to be an essential feature. Because of the potential value of a negotiable bill it is clearly important to authenticate it. The CMI private key is a code which is to accompany messages from traders to the carrier and is, accordingly, one level of security. It is however known not only to the trader using it but also to the carrier and therefore not as secure as a code known only to the sender. The current digital cryptography systems in use may well meet the authentication needs of the industry. One example is the public/private key system under which the sender has a secret numerical cypher used to encrypt his messages and the receiver has access to the public key used to decrypt such messages. It should not be possible by the use of the public key to work out the sender's secret cypher if a sufficient number of digits are used.

2. Contracts for the sale of goods

Under English law an international sale contract can be made orally. Thus the use of EDI presents no difficulties in creating a legally valid contract. It is common for major trading partners to conclude such contracts electronically. In the absence of domestic or international law facilitating such trade, the parties to it have developed their own underlying agreements which govern the creation of sale contracts by electronic means. These may be called "communication agreements" or "interchange agreements"; whatever the nomenclature their functions are to fill the gaps in the applicable law in so far as it does not contemplate electronic communication. Specialised technical points may be incorporated in a second underlying agreement or document frequently called a "user manual" governing such items as message formats. In January 1988(1) the International Chamber of Commerce (ICC) in conjunction with the United Nations Commission on International Trade Law (UNCITRAL) and other international trade bodies produced UNCID, uniform rules of conduct for interchange of trade data by teletransmission. These rules were designed to facilitate the use of EDI and do not affect the underlying trade transaction but can be used as the basis for an interchange agreement. They only take effect where the parties have contractually agreed to abide by them. Provisions included relate to duties of care in relation to the correct content of messages, a requirement for identification of the sender and the recipient of messages and rules governing the acknowledgement of messages. The latter are interesting because there is no mandatory requirement for an acknowledgement; it is only necessary if specifically requested by the sender. A similar approach has been adopted by the English EDI Association in its Standard Electronic Data Interchange Agreement. Acknowledgement by the recipient of the message provides an additional layer of security in that it shows that the correct party has received the communication. The UNCID does not specifically cover topics such as the identity of the party to bear the risk in the event of malfunction, requirements for security measures or detailed provisions as to "signature" ie authentication issues. However the introductory note suggest that parties should consider these matters among others in addition to UNCID.

The common use of EDI in international contracts of sale has also been recognised in another ICC publication namely the INCOTERMS 1990(2) these terms are aimed at defining the responsibilities and rights of parties under various different types of international sale contract. Again they will only be binding if the parties contractually agree to treat them as such. The INCOTERMS contemplate agreement between sellers and buyers to communicate electronically. For example in rule A8 relating to Cost, Insurance and Freight (CIF) contracts the seller is required to provide the buyer with "the usual transport document" which may include a negotiable bill of lading, a non-negotiable sea waybill or an inland waterway document. The rule expressly provides:-

> "where the seller and the buyer have agreed to communicate electronically, the document referred to in the

> preceding paragraphs may be replaced by an equivalent electronic data interchange (EDI) message."

The INCOTERMS do not, however, deal with provisions for the passing of ownership in the goods. Under some international contracts for the sale of goods negotiable documentary bills of lading perform a function in the transfer of ownership. In over the counter retail trading the goods are physically passed to the buyer in return for payment. In international trade, a bill of lading can represent the goods and its presentation can trigger payment. Where transfer of a bill of lading is intended, by the parties to the sale contract, to pass property in the goods its endorsement and delivery can evidence such intention. When a paper bill of lading is to used in circumstances where it is intended to sell the goods in the course of transit, a flexible mode of indicating the person entitled to take delivery has to be used. The consignee is shown as "to order" or "to AB or to his order", AB being the seller, his agent or bank. Once the buyer is identified and has paid for the goods, the bill is endorsed in his favour. This means that the buyer's name is written in manuscript on the bill and the person making this endorsement signs it. If the buyer's name is not written but the endorser merely signs the bill, it is known as an endorsement in blank. The mercantile use of bills of lading to transfer ownership was recognised judicially in 1794 in Lickbarrow v Mason (1794) 5 T.R. 683). As the INCOTERMS make no express provision for this procedure, parties using electronic bills of lading may need to provide in their sale contracts the method by which the messages are to be used for this purpose. Taking the CMI Rules as an example, endorsement under that system would be: notification to the carrier that the holder intends to transfer, confirmation by the carrier to the holder, transmission of the message without a key by the carrier to the proposed new holder, acceptance by the new holder and the issue of a new private key. The CMI scheme thus involves the carrier in the transfer of ownership from the seller to the buyer of the goods. Using paper the carrier is not involved in that process and this consequence of the CMI Rules is regarded as objectionable by some carriers and traders.

Under English law the Sale of Goods Act 1979 and the Factors Act 1889 govern situations such as the effect of the delivery or transfer of a bill of lading where a seller is still in possession of the goods, the effect of the buyer's transfer of the document of title on the seller's rights of lien or stoppage in transit and the protection of the rights of innocent buyers and the pledgee's of goods. The 1979 statute refers to "bills of lading" and to "documents of title". The latter phrase has the meaning set out in the 1889 statute as follows:

> "document of title includes any bill of lading .... and any other document used in the ordinary course of business as proof of the possession or control of goods or authorising or purporting to authorise either by endorsement or by delivery the possessor of the document to transfer or receive goods thereby represented".

The words "document" and "endorsement" may be held to be inapplicable to electronic bills of lading in that they appear to imply the presence of a materialised document. The inapplicability of such statutes to electronic messages would result in significant uncertainty in international trade.

3. Finance

Payments under international contracts of sale are most frequently made by the use of documentary credits. The rules by which banks and trader operate these payment systems are to be found in the ICC Uniform Customs and Practice for Documentary Credit (UCP 500 (1993)). This paper does not encompass bills of exchange which are subject to statutory requirements of writing and signature. It is limited to documentary credits under which the bank pays a third party on the instructions of its customer or on its own behalf.

Typically the sale contract will provide that payment is to be secured by a confirmed irrevocable letter of credit to be opened in a form and from a first class bank both acceptable to the seller. The purchaser will ask his bank to issue a letter of credit in favour of the seller's bank which will advise and confirm the letter of credit to the seller. The terms of the credit will incorporate UCP 500 and will provide that the buyer's bank will pay to the seller the sale price on presentation of a number of documents to the confirming bank.

The deposit of a paper bill of lading with a bank amounts to a pledge of the goods. The bill will normally be endorsed to the bank but such endorsement in these circumstances will not be intended to pass full ownership to the bank. Provided that property in the goods has not passed to the buyer before the bank receives the bill the bank will obtain "special property" in the goods. It can sell them if the buyer does not repay its debt to the bank. UCP 500 lays down specific provisions as to the types of bills of lading and other documents that will be acceptable for the purposes of triggering payment. It does not currently contemplate an electronic message replacing such a document. Thus, in the absence of express agreement by the bank, it will not be possible to use an electronic bill for these purposes. The ICC have set up a committee to consider the amendment of the UCP to facilitate the use of electronic negotiable documents.

4. Delivery of goods

The fact that a bill of lading is a document of title is of importance not only to banks and traders but also to carriers. Possession of an original bill of lading is evidence of entitlement to possession of the goods and to the right to control

them. A carrier, provided that he has no notice of a competing claim to the goods, can safely deliver them to the person who presents one of the original bills of lading (or in accordance with that person's instructions). As a matter of law the delivery of the goods to a person entitled to them against production by that person of one of the originals renders the other originals void. Thus, historically, the maritime carrier would have insisted upon production of one of the original bills of lading before delivering the goods at the port of discharge. Theoretically this is still true today. It is now common however, for example in the tanker trade, in which an oil cargo may be sold more than a hundred times during the course of a voyage, for the ship owner to deliver the goods without production of one of the original bills of lading. To protect himself against claims for mis-delivery he will take an indemnity (from one of the traders involved in the transactions) against any such claims. There is commercial pressure on carriers to adopt this practice because, in the event of multiple sales the indorsement and transfer of a paper bill through the banking chain means that the original bill of lading will not arrive at the port of destination in time for discharge. Use of an electronic bill would reduce the risks borne by carriers in this trade.

Under the CMI system the shipowner would deliver the goods in accordance with instructions given to him in an electronic message which is accompanied by the private key. Those not involved in the shipping industry may intelligently ask the question "in the absence of a paper bill how does the person taking delivery prove to the carrier that he is the person entitled to receive the goods?". In fact this issue arises when the goods are carried under a sea waybill, possession of which is not evidence of entitlement to the goods. In those circumstances a letter on headed notepaper or a business card is often used. This does not seem to be a very secure approach but it usually works without leading to claims for misdelivery. This is not surprising in the context of all the arrangements that have to be made for a ship to enter port and for discharge of the goods. If participants in the trade considered that the procedure involved great risk ultimately use could be made of smart cards which would be read by equipment on board ship or in the office of the carrier's agent at the discharge port.

5. Claims against the carrier: title to sue and terms of contract

Under this head consideration is only given to claims for breach of contract and not to tortious claims. In the event of loss of or damage to the goods in the course of transportation it is first necessary to identify the party entitled to sue the carrier for breach of the contract of carriage. This issue is dealt with in the provisions of the Carriage of Goods by Sea Act 1992 which replaced the Bills of Lading Act 1855. Broadly speaking, the 1992 statute gives this right to the holder of the bill of lading. (It also deals with the issue of title to sue where sea waybills or delivery orders are used.) Under the CMI Rules this would be the holder of the current private key. The statute refers to "documents"and "indorsement" both of which words, as stated above in reference to legislation relevant to sale contracts, imply the use of paper. Section 1 (5) of the 1992 Act, however, gives the Secretary of State power to make regulations to provide for the application of the statute to cases where a telecommunication system or other information technology is used. No such regulations have yet been made and, in the absence of widespread use of negotiable electronic bills, they could well be premature.

Having identified the person entitled to sue for loss or damage it is necessary to identify the terms of the contract of carriage. These are frequently found in international treaties which are incorporated into the bill of lading either by express reference or by the mandatory applicability of such treaties under national legislation. There are two such treaties which are widely enforced namely the Hague and the Hague-Visby Rules. Their terms govern such matters as the limitation period, financial limits on recovery, standard of care of the goods and exemptions from liability. Under the Carriage of Goods by Sea Act 1924 the former governed bills subject to English law until the enactment of the Carriage of Goods by Sea Act 1971 which brought in the later Hague-Visby Rules. Under it the Rules apply mandatorily to certain contracts of carriage which are "covered by a bill of lading or similar document of title". If there is doubt as to whether these words apply to electronic messages then the basic terms on which the goods are carried will also be in doubt. Under the 1971 Act the Rules apply to bills of lading if they expressly or impliedly incorporate the Rules. In English law an electronic contract of carriage with such express incorporation would probably obviate the uncertainty as to the terms of the contract of carriage. Under Article X of the Rules, however, they should apply not only to bills which contain such express or implied incorporation but also to bills of lading issued in contracting states and when the voyage is from a port in a contracting state. In the absence of express incorporation in the electronic contract this Article may not take effect in relation to a computerised bill.

6. Marine Insurance

The Marine Insurance Act 1906 prescribes a number of requirements with which such policies must comply. Section 22 provides that

> "a contract of marine insurance is inadmissible in evidence unless it is embodied in a marine policy in accordance with this Act. The policy may be executed and issued at the time when the contract is concluded, or afterwards."

and section 24 requires it to be signed by the insurer or, in the case of a corporation a seal may be used. Section 50 provides that it may be assigned "by endorsement thereon or in other customary manner". The words "in accordance with

this Act" refer to the substantive content of the policy. Before the use of computerised communications the effect of the provisions was that in the absence of a written policy the insurance was valid but unenforceable in the event of a dispute because of its inadmissibility as evidence. Currently EDI is in use by underwriters and brokers but largely in relation to initial communications, and claims handling rather than placing. This is expected to change in the near future. For example, the Lloyds' LIMNET system does contemplate electronic placing of risks. The market will, no doubt, reach express agreement as to the definition of policy and means of endorsement for the purposes of computerised communications. The issue of whether the courts would give effect to this method of trading is dealt with in section 7 below. If the industry is in doubt as to the effect of its agreements it may well produce written documents after the risk has been placed electronically. Since the Act expressly contemplates the execution and issuance of the policy after the conclusion of the contract such a procedure should not give rise to additional legal complications.

7. The Future

The first development to note here is the latest experiment in the use of electronic bills of lading. It is known as Bolero and is a joint project, with funding from the European Commission, in which the participants include carriers, telecommunications companies, banks and major traders. It will use a trusted third party, probably one of the telecommunications companies, as a central registry for electronic messages. In its first stage it will operate rather like a club and will have a rule book (governing legal and technical issues) which will bind the parties to the scheme but, obviously, not outsiders. Bolero is due to start operation in the first part of this year.

Next this paper addresses the question of whether, in the event of a dispute between the parties to electronic trade or between them and a stranger to their contracts, the courts would treat electronic bills of lading in the same way as paper. The key concepts are "bills of lading" and "documents of title". If electronic messages were legally recognised as satisfying those descriptions then the legal construction of the word "endorsement" would follow suit.

The first point to note is that there are numerous examples of legislative and judicial recognition of other means of conveying information than written documents. Some of these are: the definition of "writing" in the Interpretation Act 1978 to include "typing, printing, lithography, photography and other modes of representing or reproducing words in a visible form,"; Mr Justice Vinelott held in Derby & Co Weldon (No 9) (1991, 1 WLR 653) that the database of a computer's on-line system or one recorded in back-up files is a document for the purposes of the High Court rules governing discovery of documents; section 10 of Civil Evidence Act 1968 (dealing with the admissibility of hearsay evidence) defines "document" as including "any disc, tape, sound track or other device in which sound or other data (not being visual images) are embodied so as to be capable (with or without the aid of some other equipment) of being reproduced therefrom"; the Copyright Designs and Patents Act 1988 provides that a "literary work" includes a computer programme. There is no specific legislative or case law precedent dealing with the issues considered in this paper. If, however, the terms of a contract binding all the parties to the dispute showed unequivocally that they intended the electronic message to have the same effect as a paper bill of lading or document of title and how it was to be used for that purpose an English court might well give effect to their agreement.

Recognition by the courts of electronic documents of title would be more likely if their use became widespread. As noted above, as far back as 1794, the courts were prepared to give legal effect to commercial practices in the case of Lickbarrow v Mason. Additionally, under the Factors Act 1889 the use of the document in "the ordinary course of business" is relevant to the issue of whether it satisfies the document of title requirement and the Marine Insurance Act gives legal effect to the "customary manner" of endorsement. Other examples of judicial recognition of commercial practices in relation to contracts of carriage are to be found in cases which considered the applicability of international treaties which lay down the terms of such contracts. In Vita Food Products Inc v Unus Shipping Company (1939, AC 277) a bill of lading breached a statutory requirement that it should contain an express statement that the Hague Rules should apply. The Privy Council nevertheless held that the bill was valid as to do otherwise would jeopardise international trade. Similarly, in Samuel Montagu & Co Ltd v Swiss Air Transport, the Court of Appeal held that a strict interpretation of the form required for consignment notes under the Warsaw Convention (which governs carriage of goods by air) should not be applied so as to hamper the conduct of business. Thus widespread use of electronic messages as documents of title could cause the courts to give them legal effect even where the contracts between the parties do not cover all relevant issues and possibly even where the dispute involves strangers to any such contracts. Similar commercial arguments could succeed in relation to marine policies of insurance. Unless, however, schemes such as Bolero and LIMNET, satisfactorily overcome the current areas of doubt it may be considered unlikely that such widespread use will develop.

It is possible that international efforts will overcome the legal problems. The ICC review of the UCP has already been mentioned in section 3. The European Commission funding for Bolero is only one example of the investment of EU monies in studies into the use of EDI. The United Nations Commission on International Trade Law (UNCITRAL) has a working group on EDI which will, this year, complete draft model statutory provisions which are designed to overcome legal obstacles to the use of EDI. In the USA a group of commercial enterprises, legal practitioners and academics is engaged in drafting legislation which is intended, among other objectives, to extend their statutory enactment of the Hague Rules to cover electronic contracts of carriage. In this country there is no such coordinated work in progress but

numerous individuals and government departments are considering related and analogous issues. It may be thought preferable that such issues should be dealt with by international measures because uniformity and comity between legal systems would result in the most convenient and cheap regime for international trade.

Notes

1 ICC Publication no 452
2 ICC Publication no 460