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Chapter VI: Trade and Transport Efficiency



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Chapter VI

TRADE AND TRANSPORT EFFICIENCY

This chapter discusses the developments in multimodal transport, the impact of the latest developments in electronic information technology, the efficiency of transport operations and the new international convention on the arrest of ships, 1999.

A. DEVELOPMENTS IN MULTIMODAL TRANSPORT

General developments

128. Growth and globalization of world economic activities continue to lead the development in the logistics market. Along with simpler procedures for the delivery of goods, consumers expect service companies to provide an efficient door-to-door delivery for a flat rate. These companies usually own entire fleets of air/land/sea vehicles and modern distribution centres. Traditional freight forwarders, on the other hand, have just begun to improve their operations through acquisitions, mergers and alliances to eliminate the gap of logistics in their global transport chain.

129. Through information and communication technology, logistics users are more informed. The airline industry, for example, uses electronic data interchange (EDI), which allows them to inform their customers of the status of their cargoes more quickly and more frequently. Many similar benefits have encouraged logistics providers to use the Internet for news and information on their transport services and products. Logistics information on the Internet ranges from such services as scheduling, cargo movement status, on-line support and reservation and price quotations, to a company's profile.

130. Steps have been taken to resolve some problems caused by the lack of a proper regulatory framework for multimodal or door-to-door transport. Some years ago, the countries members of the Cartagena Agreement, the Andean Pact,²⁰ agreed on a harmonized multimodal transport regime, which has now been made a law in the Andean Pact countries. In 1996, the Latin American Association for Integration (ALADI) agreed to promote a similar regime for the rest of Latin America. While it is not

common law, these initiatives favour the introduction of legal regimes that have the same structure. The European Commission began studying a multimodal transport regime, which was also dealt with by the Economic Commission for Europe's Inland Transport Committee. In Asia, the ASEAN initiative to pursue an agreement similar to the Cartagena Agreement, was supposed to have been completed by the end of 1998, but had a temporary setback when one of the member countries decided to review its position. The ASEAN secretariat hopes to move forward in 1999. In addition, the International Chamber of Commerce (ICC) in Paris established an Ad Hoc Working Group on Multimodal Transport to investigate the possibilities of resurrecting the United Nations Convention on International Multimodal Transport of Goods, which had only 9 contracting parties²¹ out of the 30 required for it to enter into force. The popular view was that rather than revising that Convention, the ICC should promote the UNCTAD/ICC Rules for Multimodal Transport Documents which had been introduced in 1992. Finally, the new draft legislation for the United States Carriage of Goods by Sea, which is likely to become law in 1999, is actually a multimodal transport law that goes well beyond the port-to-port limits introduced by the Hamburg Rules.

131. The initiatives show that the present situation, where no one knows what levels of responsibility will prevail and what the limits may be at the beginning of a multimodal transport, has become an impediment to efficient door-to-door transport. The use of multimodal transport documents, based mainly on the UNCTAD/ICC Rules, is increasing as companies phase out the old documents that were based on the ICC 1975 Rules for Combined Transport Documents, and which are no longer supported by the ICC.

Rail transport and landbridges

132. In 1998, there were many initiatives that helped increase the efficiency of train transport in order to improve domestic and international trade.

Liberalization is a step governments have taken towards better transport flows and networks. In 1998, for example, the Government reduced its share in India's Container Corporation (CONCOR) from 77 per cent to 51 per cent, a move intended to increase the private sector's share in the decision-making that would affect CONCOR's performance.

133. This bold move by the Indian Government came when the increase in the railway freight rate had just been announced and it was a factor that would squeeze the market for CONCOR. CONCOR must always compete with road carriers for transport containers. In 1998, Indian Railways had some 250,000 wagons with approximately a 625,000 ton capacity, which had not changed much since 1994; the volume of railway transport has not increased as much as road transport.

134. Therefore, the Indian Government has granted CONCOR more autonomy which allows CONCOR to set up joint ventures, establish subsidiaries, and help to develop ports in cooperation with the shipping industry. As a consequence, CONCOR allocated Rs 2.53 billion for terminal development, Rs 3.8 billion for rolling stock, and Rs 1.2 billion for improving terminal handling and communications technology and acquiring general-purpose containers. CONCOR has also envisaged setting up a freight-forwarding subsidiary to improve its share of general goods traffic.

135. The globalization of international trade has also led to interesting developments in rail transport in different countries. Trade and investment between China and Taiwan Province of China, for instance, have continued to improve despite their political differences. It has been projected that towards the year 2030 the volume of goods traded and transported between the two may increase to 517 million tons per year. To accommodate this increase in demand with a lower transport cost, proposals go as far as linking Taiwan Province of China with the mainland by a tunnel. One connection could be either between Jinmen and Penghu, Jinjiang and Nantou, Nanri Island and Miaoli, or Pingtan Island and Xinzhu. The Taiwanese private sector, however, has responded to the projected increase in demand for transport by investing in the development of depots in China, particularly in the Shanghai and Shenzhen ports.

136. The Republic of Korea and China also have to improve trade efficiency between them. A study, which should be completed by 2002, is being done to determine the feasibility of trains of the Republic of

Korea transporting containers by ferry to ports in China and then continuing their journey on the Trans-China Railroad (TCR) and of setting up a train-ferry transportation system, with departure ports at Incheon, Pyongtaek or Kunsan-Changhang.

137. At the northern part of China's international trading link, there is a new landbridge service connecting China with Europe. The Rotterdam Municipal Port Management authority said that Rotterdam-based Multimodal Logistics is now offering a rail transport service, for containers from Rotterdam to north-west China - the Marco Polo Rail Express. There are connections at Alma-Ata and Druzhba. The approximate transit time is between two and three weeks depending on its destination in China - either Alataw-Shankou, Jinghe, Wusu, Ürümqi, Turpan, Korla or Hami/Yumen. Multimodal Logistics will have its own agents in China to handle transport and paperwork.

138. A longer landbridge, the Trans-Asia rail link, will link Singapore and Europe. The International Union of Railways originated the idea and India has decided to participate. There are, however, two incomplete railroads: one is the 500-km rail track between Zahedan and Kaharman, which is being constructed by the Islamic Republic of Iran, and the other is the 800-km track in Myanmar. Until its completion, containers will have to be transported by ship from Singapore to a port in Bangladesh or India and then by rail through Pakistan, Iran and Turkey to Europe. The transit time between Singapore and Europe will be reduced by two weeks. Each country bears the cost of closing the gap of the railway link in its own country. The link is expected to be operational by 2001 after problems of cross-border formalities are resolved.

139. In Latin America, operators are showing an interest in intermodalism, especially in landbridge services that connect the Atlantic and Pacific coasts. Last year, for instance, a proposal was made to link Bolivia's Eastern Railway and the Andean railway to establish an inter-oceanic landbridge linking the Chilean port of Arica with the Brazilian Port of Santos. The plan includes the construction of a 388-km track between Santa Cruz and Aiquile and a 100-km track to close the gap between Cerro del Mutun in Bolivia and Puerto Bush on the Brazilian border.

140. In the freight train section in Australia, a recommendation was recently made to privatize all State-owned and nationally owned freight rail operations, which excludes bids from other Government-owned companies. The infrastructure

will cost about A\$ 2.75 billion in the next 13 years, and could be funded more adequately by the private sector. For railfreight operations to compete with road carriers, it was also suggested that fuel subsidies, currently shared by rural and mining industries, be extended to cover rail operations.

141. Europe handled the problem in the rail freight industry differently. Inefficiency is due to the lack of corporate accountability for the quality of its final output and cost, and is usually worsened with corporate size. Some form of decentralization is needed to remedy the situation. The recent restructuring of Intercontainer-Interfrigo (ICF), the largest pan-European intermodal networks operator, is a good example. There are now four companies responsible for each of the four corridors: the North-South corridor serving Scandinavia, Germany, Switzerland, Italy; the West corridor serving the United Kingdom, Benelux, France, the Iberian Peninsula and Italy; the South-East corridor for Austria, the Balkans and adjacent countries; and the North-East corridor serving Germany, Poland, and the Commonwealth of Independent States (CIS). Each company is a commercially-independent unit of which the participating railways are the major shareholders. The Basle office provides most of the operational services for new companies. In 1997, deliveries totaling 1,286,286 TEUs in both rail and maritime traffic across Europe were managed by ICF. Maritime traffic alone was 617,000 TEUs.

Trade facilitation initiatives: the example of Nepal

142. The Government of Nepal is making a major investment to improve its link to the sea, partly through a soft-loan credit from the World Bank and partly by the Government's contributions. Nepal will construct a large Inland Clearance Depot (ICD) at Birgunj on the border with India. The customs terminal in that town is the largest inland customs-clearance point in South Asia, and the new facility, which will be linked by direct container block-train services to Calcutta, will boost its capacity by almost 100 per cent. The two road terminals at the border towns of Biratnagar and Bhairahawa will also be enlarged and upgraded.

143. The Nepalese Government is handling the development of this improved access to the sea by combining improvements in infrastructure with a series of – software - initiatives, the largest of which is the introduction of the Automated System for

Customs Data (ASYCUDA) at Nepal's main customs entry points. This work began in 1996 and will terminate in the year 2000 when the new ICD at Birgunj will begin to operate. Tracking containers between Calcutta and the three border stations will be handled by the Advance Cargo Information System (ACIS) in a special version that takes into account the fact that a large share of the land transport will continue to go by road. Streamlined procedures and the reduction and simplification of trade and transport documents will be done by the Project Implementation Unit, established by the Government. This work includes assistance to Nepal's freight-forwarding industry, modernizing transport laws, and updating insurance provisions for door-to-door transport.

144. Nepal is also trying to improve transport efficiency. For years, most Nepalese exports and imports have been delivered through the Calcutta port in eastern India. From April 1998 to January 1999, the Calcutta Dock System handled about 360,000 tons of Nepalese goods, but there were running demurrage charges at the dock of about \$1.8 million. In order to lower the cost, the Government has started to convert a warehouse at the Netaji Subhas Dock at the Calcutta port into a 4900 m² freight station, which will be operated by the Nepalese State-owned Transit Warehousing Company. Calcutta's Haldia Dock Complex handled about 140,000 tons of Nepalese cargo between April 1998 and March 1999 and is also included in the plan which is for Nepal's Transit Warehousing Company to build a warehouse in Haldia.

Container leasing industry

145. At the beginning of 1999, the leasing fleet of containers in operation reached 5,593,880 TEUs, an increase of 7.92 per cent over the previous year, according to the Institute of International Container Lessors (IICL). A total of 5,228,880 TEUs belongs to major companies in the industry, which concentrate on leasing standard dry freight containers of various lengths (table 44).

146. In 1998, 40-foot containers were the favourite with market demand preference stronger than in 1997. This was evident from the fact that 40-foot containers had a demand preference of 1.73 in 1998 compared to 1.8 per cent in 1997. Table 45 depicts the trend of shares of 40-foot containers over 1994-1998 as a result of changes in market demand preference

Table 44

**Percentage of dry freight containers owned by major companies
in the leasing industry, as at the beginning of 1999**

Length	Percentage
20 foot	34.96
40 foot	64.50
45 foot	0.53
48 foot	0.0005
Other	0.006

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Survey.

Table 45

**Trend of shares of 40-foot leased containers due to changes
in market demand preference, 1994-1998**

As at beginning of	40-foot containers operated by top companies	Percentage annual change
1994	61.23	
1995	61.83	0.97
1996	62.23	0.65
1997	62.30	0.11
1998	63.42	1.80
1999	64.50	1.73

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Survey.

147. The increase of almost 8 per cent in the total world fleet of leased containers is attributed to the increase of world trade and the more competitive prices for containers in 1998. The Asian crisis, however, affected the underlying trends. For instance, 694,015 TEUs of containers acquired by major lessors in 1998 were only slightly lower than the total in 1997, due mainly to the dampening effect of the crisis on the growth of trade. The trade imbalance driven by the crisis was indirectly stated as the 4.7 per cent rate of reduction in the utilization level of leased containers during 1998. As at the

beginning of 1999, the utilization level had declined to 80.94 per cent. Table 46 displays the 'less-than-full-capacity' trend of leased container utilization levels for 1995-1999. The temporary improvement in 1997 came at the advent of the crisis, when exports surged from countries with newly devalued currencies. The utilization level dropped dramatically in the following year as the trade imbalance worsened. Leasing companies, moreover, have continued operating with a costly 14 per cent to 20 per cent levels of idle containers over the past five years.

Table 46

Utilization of leased containers, 1995-1999
(in percentages)

As at 1 January	Utilization level	Percentage annual change
1995	86.95	
1996	85.37	-1.8
1997	81.55	-4.5
1998	84.93	4.1
1999	80.94	-4.7

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Surveys.

148. The recent economic turmoil has been less evident from the trend of container specials operated by major leasing companies. IICL revealed that leased container specials was 9.5 per cent or 496,781 TEUs of the total leased container fleet operated by major companies at the beginning of 1999. This figure excluded the high-cube dry freight containers. Table 47 notes the changes in the composition of leased container specials at the beginning of 1999 and 1998 and also changes in the high-cube dry freight container. It is interesting that the growth of specials in the absence of high-cube dry freight containers remained between 7 and 8 per cent since 1994, consistent with the continuing growth of world trade. The only evidence of the impact of the trade imbalance was the slight drop in the share of

leased specials to 9.5 per cent during 1998 from the 9.8 per cent during 1997.

149. Economies of scale were still the strategy during 1998 to deal with the depressed situation. For example, Genstar and Sea Containers merged to form GE-SeaCo operating 1,130,000 TEUs as at January 1999. Textrainer Equipment acquired the whole fleet of PrimeSource. Table 48 shows the share of leased fleets operated by major companies as at January 1999.

150. The consistent low prices of boxes also continued to attract newcomers to the industry. Pentanum Global started with a fleet of 3,000 TEUs in 1997 and expanded to acquire 12,000 TEUs more in 1998.

151. The consistent growth of world trade actually imposed a high demand for extra containers to serve the trade volumes. Trade imbalances due to Asia's depressed financial situation and the extreme drop in prices of boxes created a difficult situation for the leasing industry, as the low price of boxes motivated most shipping lines to acquire new boxes rather than secure leasing contracts. This trend was strengthened

by the imbalances of trade that continued to burden leasing companies with accruing costs of idle containers that ended up in unwanted drop-off areas. The expectation that such a cost would automatically be incorporated into the freight rate had a direct effect on the demand for leased containers. Such an expectation was later confirmed by the gradual increase of freight rates from Asia during 1998

Table 47

**Composition of leased container specials as at the beginning of 1999 and 1998,
with changes in the high-cube dry freight containers
(in TEUs)**

Type of container	As at January 1999	As at January 1998	Change (%)
High-cube dry freight	810 528	661 156	22.59
High-cube reefer	113 736	94 612	20.21
Open top/open side	137 422	127 092	8.13
Platform flats	7 177	9 200	-21.99
Collapsible flats	68 002	67 860	0.21
Other flat racks	5 148	1 770	190.85
Tank containers	20 674	19 259	7.35
Reefers	119 434	119 835	-0.33
Dry bulk	1 275	1 340	-4.89
Ventilated	9 831	9 867	-0.36
Cellular pallet wide	14 083	10 356	35.99
Others	0	1 500	-100.00
Total	1 307 310	1 123 847	16.32

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Surveys.

Table 48

Share of leased fleets operated by major companies, as at January 1999
(in TEUs)

Company	Fleet
Transamerica Leasing	1 609 000
GE-SeaCo	1 130 000
Textainer Equipment	615 000
Triton Containers	595 000
Interpool Group	495 000
Florens Container Corporation	455 000
Cronos Group	350 000
Container Applications	285 000
Xtra International Group	255 000
Gateway Container Corporation	170 000
Capital Lease	125 000
Gold Container	75 000
United Container Systems	47 000
Amficon Container Leasing	46 000
Catu/Maritainer	45 000
Bridgehead Container Services	28 500
Carlisle Leasing	28 000
Pentanum Global	15 000
Consent Equipment	14 500
Waterfront	11 000
Others	215 000
Total operational lease	6 160 000
Estimated finance lease	920 000
Total leased fleet	7 080 000

Source: World Cargo News, February 1999, p. 20.

152. The overall growth of world trade continued to help spur the market demand for new containers in 1998. The world output of containers was estimated to be 1,460,000 TEUs in 1998, representing a 4.66 per cent increase over the year before. The increase, however, was weaker than the 9.84 per cent registered in 1997 (see table 49).

153. The slowdown of production in 1998 was due in part to the prevailing depressed economic situation in Asia. At the start of 1998, market demand for containers remained strong and was met with equally strong purchases of new containers. The low price of new boxes was one reason for such purchases, but the currency devaluation was another since the initial surge of export from Asia led to a high number of purchases from the region as a matter of practicality. This trend was progressively dampened by the increasing degree of trade imbalance that, in turn, resulted in the lower rate of growth of world trade. Such a slowdown affected the world production of

containers almost evenly across different types (see table 50). The production in North America was notably lower than its previous year.

154. The price for new boxes continued to fall in 1998. Production in China increased from 945,000 TEUs in 1997 to 995,000 TEUs in 1998 representing almost 70 per cent of the total world production (see table 51). Chinese factories continued to concentrate on the production of dry freights and reefers. As a consequence, many other countries had lowered their supply, shown by the drop in production in the majority of Asian, Central and Eastern European countries and territories, in the Commonwealth of Independent States (CIS), and Central and South American countries. Although the Republic of Korea and Thailand were also affected, their early economic recovery, because of a more competitive exchange rate, helped improve their production.

Table 49

World container output, 1994 to 1998
(in TEUs)

Year	Output (TEU)
1994	1 140 000
1995	1 375 000
1996	1 270 000
1997	1 395 000
1998 ^a	1 460 000

Source: *Containerisation International*, January 1999, p. 54.

^a Estimates.

Table 50

World container production by type, 1997-1998
(in TEUs)

Type of container	1998 ^a	1997
Dry freight standard, including high-cube	1 200 000	1 150 000
Dry freight special	75 000	70 000
Refrigerated	95 000	92 000
Tank containers	19 000	17 000
Specific regional ? North America	18 500	21 000
Specific regional ? Europe	30 000	25 000
Specific regional ? Other	22 500	20 000
World total	1 460 000	1 395 000

Source: Containerisation International, January 1999, p. 55.
^a Estimates.

Table 51

World container production by countries/regions, 1997 and 1998 (estimates)
(in TEUs)

Country or region	1998 ^a	1997
China	995 000	945 000
Republic of Korea	75 000	56 000
Indonesia	47 000	50 000
Malaysia	38 000	41 000
Taiwan Province of China	35 000	37 500
India	20 000	28 000
Thailand	15 000	4 000
Other Asia	5 000	7 000
North America	25 000	21 000
Central/South America	13 000	14 000
West Europe	97 500	94 000
Central/East Europe and CIS	62 500	69 000
South Africa	26 500	25 000
Other	5 000	3 500
Total	1 460 000	1 395 000

Source: Containerisation International, January 1999, p. 54.

^a Estimates.

B. ELECTRONIC COMMERCE AND ITS IMPACT ON TRANSPORT

155. Electronic commerce (e-commerce) is a generic term describing commercial transactions and related activities that rely on data processed and transmitted by electronic means. This could be by telephone, fax, television, electronic data interchange (EDI) and Internet. It also refers to institutional arrangements and activities that may influence and be affected by electronic exchange of commercial information. The *Review of Maritime Transport, 1998* provided information on developments concerning electronic transport documents. The present section examines various aspects of transport, other than documentation.

156. Electronic commerce is expected to expand rapidly and involve most businesses, institutions and individual consumers. Also it is projected that the range of products, in world trade, that will be traded electronically will increase considerably. It is therefore evident that e-commerce is a matter of concern to all economic sectors, including transport. In the area of transport, there is no doubt that e-commerce will call for fundamental changes in various ways. Providers of transport and related logistics services will have to adapt their infrastructure, marketing and customer service, so as to provide support to the electronic marketplace. The rest of this section outlines the interrelationships between the growth of e-commerce and the transport sector.

157. E-commerce involves two broad types of product. First are products for which all elements of transactions (advertising, ordering, billing, purchasing, payment and distribution) may be completed electronically. Examples of these products are software, newspapers, music, films, customer services, games and videos. The second type includes products for which transactions can be effected electronically, but the actual delivery to destination requires the use of physical transport facilities. This includes the transport of goods as well as passengers.

158. It is important to bear in mind that a number of other developments, particularly developments in industrial production systems, deregulation and globalization of economic activities generally, are having profound effects on transport. It is therefore fair to say that many of the expected impacts of e-commerce on transport will have the effect of

reinforcing developments which are already affecting transport.

159. In e-commerce, transactions are faster than traditional commercial transactions. The identification of products by buyers, comparison of prices, ordering, invoicing, payment and arranging for delivery can be automated and completed over very short periods of time. Traders in e-commerce will inevitably want to link their electronic sales to a transportation or distribution system that meets their requirements. This will in turn put pressure on transportation systems to respond by providing faster, more reliable and more frequent services. Transport operators are already providing customers with speedy services. For example, some airlines offer guaranteed 'same day' deliveries, for urgent, small cargo shipments in certain regional networks. Such fast services are achieved through the extensive utilization of available flight connection, especially among lines operating through alliances.

160. E-commerce makes it possible for transactions to take place continuously, without limitations caused by distance between buyers and sellers. This means that sellers can reach a much larger number of customers, while buyers get access to potentially unlimited sources of products. Also buying and selling take place without being constrained by availability of space in warehouses and shops. All this helps to expand the scope of the market and hence the number of 'physical' origins and destinations for products to be transported. In turn, this would increase the overall demand for transportation, even though the total volume of traded goods may remain unchanged.

Greater utilization of computer and communications technology in transport operations and management

161. Given that the very essence of e-commerce is the processing of transactions by electronic means, it is inevitable that transport services and operations serving e-commerce will also need to rely to a considerable degree on information processed and transmitted electronically. Specifically, there will be increased demand for the application of advanced computer and communications technology, in order to optimize the use of existing transport networks. To a very large extent, providers of transport services are already applying state-of-the-art information technology that would support e-commerce.

162. A great deal of transport-related information is now available on the Internet. For example, in many trades agents or shippers using liner shipping now have access, on line, to information on tariffs, tariff rules and sailing schedules. In liner trades in and out of the United States, for instance, all freight rates, rate changes and terms filed with the United States Federal Maritime Commission are available on the Internet. To add to this, shipping agents and shippers can readily avail themselves with shipping software packages, either sold or offered free of charge by transport companies, which allow them to calculate, on line, rates for specific commodities and origins and destinations and to ascertain rate changes on a continuous basis. Information is also available on independent action rates and on service contracts rates. All this means that shippers or intermediaries can obtain shipping information more

expeditiously, more cheaply and make more accurate rate calculations.

163. Table 52 gives examples of the range of products or services provided by transport-related enterprises through electronic means. It is evident that the growth of e-commerce will foster more widespread provision of these services. On the other hand, it can be expected that the availability of these services will in turn facilitate the growth of e-commerce itself. It is significant also to note that the greater use of Internet in transport operations is creating a large market for computer software packages developed either by transport companies or independent program developers. In time these may constitute significant trade volumes in software, most likely traded electronically.

Table 52

Examples of service providers and services provided by electronic means

Airlines - passenger and cargo	Shipping lines	Seaports	Express mail/parcels delivery companies	Road transport operators
Passenger reservation; ticketing; on-line information on passenger fares; flight schedules; flight connections; tracking of shipments; electronic payment; automated aircraft boarding; baggage reconciliation information.	On-line information on ship sailing schedules, tariffs, independent action rates and service contracts; rate changes, surcharges; calculation of rates; negotiating rates, sending shipping advice, transmitting booking requests and booking confirmation, sending packing lists, export declaration, shipping instructions, generating commercial invoices, producing bills of lading, confirmation of loading, authorizing payment, tracking of shipments.	On-line notification of port tariff schedules; control of shipping traffic, guiding into harbour ships of different characteristics; information on incoming and outgoing ships, information on dangerous substances and safety readiness in relation thereto, information on cargo characteristics, guidance into harbour ships of different characteristics.	Processing invoices and shipping labels, notifying recipients of shipment details via e-mail; tracking the status of shipments; on-line information on delivery schedules and routing, prices; delivery schedules; automated sorting of packages; shipping documentation.	En-route driver information, route guidance, traffic control, vehicle scheduling, electronic payment, on-line price information, safety readiness.

Expansion of exchanges from private networks (EDI) to open-type networks (Internet)

164. For over two decades or so, transport and other enterprises have been using computers to exchange information and thus replace paper documents, such as purchasing orders, invoices, advanced shipping notices, etc., for commercial and administrative transactions. The system that has developed, electronic data interchange (EDI), facilitates the exchange of data through a structured way which has to be familiar to both sender and receiver, through bilateral agreements and a process of standardization of the information system. The formats have been established by standards organizations. Some of these systems are unlikely to

be or cannot be readily integrated into other electronic information systems directly. This tends to limit their application to specific kinds of transaction and to large enterprises and institutions. On the other hand, e-commerce and its main tool, the Internet, are essentially based on non-structured information. This makes it open and accessible to a greater number of users, including individuals. This change implies that a substantially larger volume of transport-related information will be exchanged electronically when compared to the more traditional EDI.

165. Traditionally, the transport chain has consisted of various participants, including suppliers or sellers of goods, agents, providers of transport services, retailers and the final consumer. The

emergence of e-commerce makes it possible for a given participant in the transport chain to interact quickly and at low cost with any of the participants on the chain, without following the ordered sequence on the chain. Thus, for example, an airline can deal on-line directly with passengers, without using the services of agents. A manufacturer of a product may sell directly to a distant final consumer without going through retailers or sales agents. This clearly opens totally new types of relationships and competitive forces in the transportation chain.

166. The combination of greater speed in commercial transactions and the increase in the number of trade origins and destinations will enhance the creation of new features in transportation systems. As sellers will respond quickly to orders from buyers, sizes of consignments shipped will tend to be smaller, since sellers will group consignments into bulk loads before shipment and they will be able, to a greater extent, to bypass warehouses. An outgrowth of this will be the expansion of courier and parcel services, specializing in the transportation of small consignments. This type of delivery service has enjoyed fast growth in recent years and it is expected to get a further boost from the growth of e-commerce.

167. Transport services that were traditionally protected from foreign competition, for example road and rail services as well as postal services, will become more and more exposed to competition from foreign operators offering fast, door-to-door services. The impact of this is, in part, being manifested by recent developments in some countries in which enterprises, such as national road hauliers and postal services, have expanded their operations beyond national borders, mainly as a means of countering foreign competition into their traditionally protected markets.

168. As e-commerce traders have to deal with numerous customers around the world, their transport requirements can be met by getting access to global transport and logistics networks. In this regard, experience has shown that traders prefer to use service providers that can supply comprehensive and integrated global services which traditionally have been supplied individually by forwarders, agents, transport companies and financial and insurance companies. However, because of large financial requirements for operating such integrated services, transport companies are more likely to enter into horizontal alliances with other transport service providers and also vertically with forwarders, agents, and insurance and financial institutions.

Implications for developing countries

169. Available data show that developing countries generally have a relatively small share of the world's e-commerce transactions. In large part, this is attributed to their limited access to the infrastructure needed for e-commerce, especially Internet connections. Their participation is also constrained by the high user charges for existing infrastructure, such as telephones and fax. Given that the conduct of e-commerce is closely linked to the application of advanced information technology in the supply of transport services, the lack of requisite communications infrastructure means the lack of an adequate facilitation of e-commerce in transportation systems. Therefore governments and enterprises, specifically in developing countries need to spearhead efforts in ensuring the development of communications infrastructure to support not only e-commerce transactions but also transport systems that can promote such trade.

170. As far as global transport and logistics operations are concerned, very few enterprises from developing countries have been major participants in them. It was suggested earlier that e-commerce would lead to an expansion in the demand for transport services. This could open opportunities for transport enterprises in developing countries. At this stage, it is unclear to what extent developing country enterprises could benefit from the new opportunities. However, they could participate in e-commerce through entering into alliances with established service providers in developed countries. This will help them not only to have access to trade generated from all parts of the world, but it will also allow them to acquire the required information technology.

C. INTERNATIONAL CONVENTION ON ARREST OF SHIPS, 1999

171. The Diplomatic Conference of the United Nations and the International Maritime Organization (IMO), on 12 March 1999, unanimously adopted the new International Convention on Arrest of Ships, in Geneva.

172. The preparatory work on the new Convention began following the adoption at UNCTAD in 1993 of the International Convention on Maritime Liens and Mortgages (MLM) by the UN/IMO Conference of Plenipotentiaries on Maritime Liens and Mortgages. The arrest being a means of enforcing maritime liens and mortgages, it was considered necessary to revise the 1952 Convention on Arrest of Ships so as to closely align the two conventions and to ensure that all claims giving rise to a maritime lien under the 1993 MLM would have a right of arrest under the new Arrest Convention.

173. Among the critical issues that had to be dealt with by the Conference to reach agreement was the definition of a 'maritime claim' and whether the Convention should adopt a similar approach to that of the 1952 Convention and provide for a closed list of claims giving rise to a right of arrest, or whether it should adopt a flexible approach of providing an open-ended list of claims and avoiding exclusion of genuine maritime claims from having a right of arrest. The Conference reached a compromise whereby a closed list of claims is maintained, with some flexibility in certain categories, for example, in relation to loss or damage covering environmental claims.

174. Another important issue which gave rise to a lengthy debate was the provision dealing with the so-called sister ship arrest. The text of the new Convention clearly sets out the cases in which a ship may be re-arrested or another ship arrested for the same claim; for instance, if the nature or amount of the security provided is inadequate, or when the provider of the security is unlikely to be able to fulfill his obligations.

175. Another development is that, unlike the 1952 Convention, the new instrument generally grants jurisdiction to the courts of the State in which an arrest has been made or security has been provided to

obtain release from arrest. Concerning the recognition and enforcement of foreign judgements, the new Convention provides that these judgements shall be recognized and given effect with respect to the arrested ship or to the security provided in order to obtain its release, on condition that the defendant had been given reasonable notice of such proceedings and reasonable opportunity to present his case and that such recognition is not against public policy.

176. The new international rules on arrest apply to all ships, whether or not they are seagoing and whether or not they are flying the flag of a State party, although State parties can enter a reservation on this provision when acceding to the Convention.

177. The text of the Convention is deposited with the Secretary-General of the United Nations and will be open for signature by any State at the United Nations Headquarters, New York, from 1 September 1999 to 31 August 2000 and shall thereafter remain open for accession. The Convention will enter into force six months after the date on which 10 States have expressed their consent to be bound by it. Information on the number of contracting parties to selected other international conventions on maritime transport is shown in table 53.

Table 53

Signatories to selected conventions on maritime transport

Name of Convention	Number of contracting parties or countries that have ratified/acceded to the Convention	
	31 December 1995	30 June 1999
United Nations Convention on a Code of Conduct for Liner Conferences, 1974	78	78
United Nations Convention on International Multimodal Transport of Goods, 1980	7	9
United Nations Convention on Conditions for Registration of Ships, 1986	10	11
United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules)	23	26
International Convention on Maritime Liens and Mortgages, 1993	2	4