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Do Mergers and Alliances Influence European Shipping and Port Competition?

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ABSTRACT: New horizontal and vertical integration agreements among the previously separate players in the international shipping and logistics industries are changing the characteristics of services and the structure of the industries. This paper reviews the types of agreements being entered into; examples given are within or affecting Europe. The paper notes that greater integration in the industries may enable improved quality and efficiency of services for shippers. It also notes that the integration changes the amount, nature and incidence of competition in the industries. Particular attention is given to the strategic implications of the changes for ports. The presence of a large fixed infrastructure in the costs and the increased role of the private sector and commercial objectives make the appropriate response of ports uncertain. With the ultimate results of the shifts in market power uncertain, more research is needed on the effects of greater integration in the industry on efficiency, conflicts of interest and on the possible effects of market dominance.

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Introduction

The focus of this paper is on the effects on ports of the closer integration that is developing in the maritime and port industries. Relationships in these industries include joint ventures, mergers, strategic alliances and cartel agreements in which shipping companies feature prominently. The resulting development of closer integration has uncertain effects on the competitive position of ports and on their response to the changing environment. To what extent, for example, will the relationship of liner shipping companies and port authorities change? Are port authorities responding similarly or differently to the new challenges?

The developments and the questions arising from closer integration have global relevance. However, the specific effects on ports and the responses of ports to them are influenced by regional or national conditions. In this paper, after examining the different forms of co-operation among liner shipping firms on a global basis, the emphasis is on developments in Europe. These developments include the interests of the liner companies in ports and inland transport, the interests of the various enterprises involved in port activities and, finally, the consequences of organisational changes for port competition in Europe.

Co-Operation Agreements Affecting Liner Shipping: An Overview

The liner shipping market used to be a classic example of an oligopoly: it was a market with a limited number of large shipping companies, often united in cartels, dealing with a large number of inadequately informed shippers who had little influence on tariffs and conditions of carriage. But today, many shippers have developed into large concerns, often possessing more relevant market information than the shipping companies. They have, in other words, become much stronger players in the liner shipping market.

However, the reality of enterprises affecting the liner market is more complex than that. There are players other than shippers and shipping companies involved, for example, stevedores and port authorities. Moreover, the interests and objectives of the market players have evolved. There appears to be a strong economic incentive to acquire direct control over an ever-larger part of the logistics chain. It used to be the case that liner companies faced competition mainly from other liner companies; even that was largely restricted to the maritime part of operations. Today, the competitive struggle goes much further, so that attention is also due to cargo handling, hinterland transportation and even other logistics services.

Table 1 offers a brief overview (with examples) of the kind of co-operation agreements that have been established in recent years between the predominant maritime market players (shipping companies, stevedores, hinterland transport modes, and port authorities).

Alliances and mergers among shipping lines

Co-operation agreements exclusively involving shipping companies can take various forms. First and foremost, there are the major strategic alliances. The first such alliance, the so-called Global Alliance, was set up in 1994 by APL, OOCL, MOL and Nedlloyd. The objective was to establish an integrated Europe – Far East service (Stopford, 1997, p. 337).

Things developed rapidly after the establishment of this first alliance. Today, in mid-1999, just about all global carriers are involved in global alliances, ie. partnerships whereby the carriers involved are able to integrate their vessel operational activities. Marketing operations and internal organisation, by contrast, are integrated to a much lesser degree. Of the top-10 shipping companies, only Evergreen and Mediterranean Shipping Company (MSC) are independent operators today.

The alliances among lines have continued to evolve. (Meersman, Moglia and Van de Voorde, 1999). First, other alliances have been formed. The United Alliance, involving Hanjin, DSR-Senator and Cho Yang was formed in October 1997; activities started in March 1998. Second, there was the reorganisation of the two most important global alliances, ie. the Grand Alliance and the Global Alliance, due to the creation of P&O Nedlloyd (January 1997) and the takeover of APL by NOL (April 1997). These mergers took place mergers to rationalise activities, reduce costs, and create significant economies of scale, all of which are conducive to establishing a major market player. The new Grand Alliance (with the entrance of OOCL and MISC) and the New World Alliance became operational in January 1998.

Shipping conferences

Besides these rapidly changing corporate relationships among lines, there have also been a number of important cartel agreements, mostly in response to excess loading capacity and shipping companies suffering substantial losses, even with the existing conferences. A typical example was the Transatlantic Agreement (TAA), which became operational in 1993. It was an agreement by which the major shipping companies wanted to gain tighter control of seriously loss-making shipping on the North Atlantic. They tried to achieve this by determining rates, capacity supply and conditions of freight by mutual arrangement.

Shippers, who were having difficulties securing loading capacity and could no longer negotiate terms with individual shipping companies, soon responded. In 1994, the TAA was banned by the European Commission on the basis of allegations of rate manipulation, criticism of its capacity management and the fact that cartel agreements also held for pre- and on-carriage over land. Also in 1994, the European Commission imposed fines on a group of 14 shipping companies - European and Asian members of the Far Eastern Freight Conference (FEFC) - for illegitimate price fixing and discriminatory practices.

Table 1: Co-operation agreements between various market players

MARKET PLAYERS	SHIPPING COMPANIES	STEVEDORES	HINTERLAND TRANSPORT	PORT AUTHORITIES
SHIPPING COMPANIES	⇒ Vessel sharing agreements ⇒ Joint Ventures ⇒ Conferences ⇒ Consortia ⇒ Strategic (global) alliances (eg. Grand Alliance, New World Alliance) ⇒ Cartel agreements ⇒ (eg. TAA) ⇒ Mergers			
STEVEDORES	⇒ Financial stake of shipping company in stevedore (eg. CMB in Hessenatie, Nedlloyd in ECT) ⇒ Joint ventures (eg. MSC and Hessenatie in Antwerp) ⇒ (Dedicated terminals) (eg. ECT Maersk in Rotterdam)	⇒ Participation in capital (eg. Hutchison Whampoa in ECT, PSA in Voltri Genova)		
HINTERLAND-TRANSPORT MODES	⇒ Block trains and capacity sharing (eg. from Rotterdam to Italy) ⇒ Alliances (eg. CSX with DB and NS)	⇒ Joint ventures (eg. in Antwerp between NMBS and Noordnatie for operating of a terminal)	⇒ Takeover strategy of railway companies (eg. DB and NS cargo, NMBS and THL)	
PORT AUTHORITIES	⇒ (dedicated terminals) (cf. land-use and concession policy)	⇒ Financial stakes port authorities (eg. 30% ECT by Rotterdam, ECT in Trieste, Sea-ro in Zeebruges)	⇒ Antwerp in Rijn shipping terminal of Germersheim	⇒ Alliances (eg. Rotterdam and Vlissingen, Antwerp and Zeebruges)

The involvement of shipping companies in terminal management

Meanwhile on land, an important development is unfolding in cargo handling operations at container terminals. In the U.S., some shipping lines have operated there own dedicated terminals for many years but in Europe this development is only now taking place. Recent examples are Evergreen in Taranto, Italy, and Maersk in Rotterdam. In Antwerp, the operation of a new container terminal was awarded to a consortium consisting of a stevedore (Hessenatie) and a shipping company (MSC).

Evidently, shipping companies are becoming increasingly influential in cargo handling. They are seeking greater responsibility for the service and cost levels associated with terminals as a part of their strategy to gain greater control over the total door-to-door movement of freight. A consequence of this trend is a shifting balance of power in the market, with increasingly large shipping companies exerting more control. It is quite striking in this respect that even the de facto monopoly cargo handler ECT in Rotterdam eventually had to yield to the demands of Maersk.

Extending interests in inland transport

The extending of interests into other parts of the transport system is also evident in inland transport. In 1994, for example, the Scheldt Container Terminal North in Antwerp, the second container terminal down river to the port’s locks, was dedicated to a partnership between the stevedoring company Noordnatie and the Belgian railway company NMBS. Both partners regard the financial participation by the railways to be a guarantee for solid operational co-operation, among other things in the deployment of block trains. However, rival players claim that the co-operation distorts competition, certainly while NMBS holds a monopoly on rail transport in Belgium.

Shipping companies are also becoming increasingly interested in the hinterland transportation sector. Increasing control over hinterland transportation fits into the lines’ philosophy of providing a door-to-door transport service. Shipping companies are now trying to gain greater control over hinterland transportation by sharing capacity on goods trains out of ports (eg. Rotterdam-Italy).

The relationships of the shipping lines with inland transport have been complicated by the dispute with the European Commission. The Commission allows shipping conferences to fix rates for carriage by seabut disallows collective exemptions from the rules of free competition for land transport. The features and the rates of such transport services are determined on an individual basis. This will only change in the future (in the shape of individual exemptions) if it can be demonstrated that freight rates set collectively are advantageous to consumers.

Overview of integrative arrangements

Shipping companies are the most active of the firms entering into co-operative agreements. Table 1 shows quite clearly that co-operation agreements involving shipping companies are much more numerous than those between other organisations. These include the co-operative agreements between stevedores and operators in inland transportation, usually involving shared financial responsibilities.

The organisations in the co-operative agreements have various interests. At a broad level, these include the economies of scale possible through increasing the volume of freight moved on a particular route, spreading fixed costs of firms over a greater total traffic and serving shippers more effectively. The improvements in services can be achieved through the extent of lines' networks better suited to the needs of shippers with global interests and through the better integration of door-to-door services. However, the strategies of particular organisations are complex and need to be examined in more detail.

Market Behaviour In A Port Environment

Before turning attention to the consequences of shipping lines' co-operative agreements on ports, it is necessary to examine the strategic interests of market players in the port industry. The major market players involved in port activities (shipping companies, port authorities, stevedores, and inland transport modes) constitute a heterogeneous group. At first glance, they would appear each to have their own objectives, to have specific tools at their disposal, and to have a different impact on the port industry. But is this really the case?

Table 2 is a schematic that shows how the heterogeneity of port activity is reflected in a diversity of market players, each with their own objectives, tools and impacts. Very complex processes influence the behaviour of the market players and their impact. Take a shipping company, for example. The profit-seeking objective of a shipowner may be pursued in various ways but, broadly, through cost reduction, service enhancement and pricing strategies. To reduce costs, firms may follow various strategies. They may pursue economies of scale through the use of larger vessels, limit the number of ports of calls for ships, seek high utilisation of capacity and spread corporate fixed costs over greater output. Alliances and mergers can contribute to these ends as firms compete for volume (ie. market share). Lines may also try to increase profitability through strategies that concurrently increase the scope of services provided to shippers and increase their initial market share. Horizontal mergers and alliances enhance service quality for shippers by increasing the geographical span of services. This is consistent with shippers' interests in using fewer lines to serve global markets. Vertical mergers and alliances may enhance lines' capability to provide well-integrated transport and logistics services. The greater market share of lines realised through mergers and alliances may also create some initial heightened market power, but this is unlikely to result in sustained high profit margins in the dynamically competitive international shipping and logistics industry.

These developments have direct effects on other market players, including port authorities. The consequences include: the accessibility problems caused for certain ports by increasing ship size; the reduction of the number of ports of call associated with the rationalisation of sailing schedules; the greater negotiating power of alliances and consortia; and the efforts of lines to acquire so-called dedicated terminals. What is the potential impact on port competition? And to what extent do port authorities remain important negotiating partners within the industry?

The response of the port authorities is influenced by their ownership structure and, in the case of public ports, by the objectives set for them by the community. Private ports have a primary interest in maximising profits but must serve the trade well to maintain their market share. Public ports are concerned with serving trade efficiently as a means of maximising trade and economic benefits to the community. The instruments available to ports are constrained by their actual authority. For public ports, they are confined generally to investments in access and infrastructure and to concession policies with terminal operators. These policies are important to the stability of establishments over time and, therefore, to their efficiency. The public port authorities try to minimise costs associated with goods handling and delays but they have limited control. They are able to determine port dues but only have partial control over the significant cost factor, time. This is affected by maritime accessibility that they influence, but they have less influence on the more critical factors of ship turn-around time and cargo-handling rates. Port authorities may play a role in labour relations matters and aid in achieving socio-economic stability

However, increasingly the efficiency of ports is determined by other market players, including stevedores, inland carriers, forwarders and agents. For each of these players, the business objective is centred on the maximisation of profits. Long-term customer loyalty and a sufficiently large market share can contribute to attaining this goal. Each player has particular tools available that have effects on other port activities, eg. the striving among terminal operators towards economies of scale, the fierce competition in hinterland transportation, the dependency of forwarders and shipping agents on a limited number of customers.

Freight forwarders have traditionally played an important role in international trade acting as middlemen between the owners of the goods and the carriers. However, the range of services offered by forwarders has expanded as shippers have sought more sophisticated logistics services. Nevertheless, their position is being challenged by the ability of shipping lines to provide more effective door-to-door service and to add more value-added logistics services. Forwarders are also facing greater competition from stevedores that are diversifying their services.

The complex set of interests illustrated by Table 2 makes uncertain how co-operation will develop and how deep it will be. Further, the reasons for co-operation remain speculative. How far may they be inspired by economic rationality, for example efforts to realise economies of scale rather than merely obtaining more power and control over the logistics chain? The latter may, in the longer term, lead to manifestations of monopolistic behaviour.

Table 2: Objectives, tools and impact

MARKET PLAYERS	(POSSIBLE) OBJECTIVES	TOOLS	IMPACT
SHIPPING COMPANIES	⇒ Profit maximisation ⇒ Market share ⇒ Control over logistics chain	⇒ Tariff ⇒ Cost control (capacity, volume, time, co-operation, ...) ⇒ Marketing ⇒ Range and level of service	⇒ Larger vessels ⇒ Rationalisation of sailing schedules ⇒ Alliances and consortia ⇒ Dedicated terminals
STEVEDORES	⇒ Profit maximisation ⇒ Long term customer loyalty, incl.. through logistic services and value-added activities (eg. stuffing and stripping, storage, pre-delivery inspection, ….)	⇒ Price setting ⇒ Technology of goods handling aimed at speed, quality. ⇒ Range and level of service	⇒ Returns to scale for terminals ⇒ Industrial logistics
HINTERLAND TRANSPORT MODES	⇒ Profit maximisation ⇒ Market share	⇒ Tariffs ⇒ Speed ⇒ Flexibility ⇒ Capacity	⇒ Fierce modal competition
PORT AUTHORITIES	⇒ Contribution to cost minimisation for logistics chain (both through port dues and time costs) ⇒ Maximisation cargo handling (public company) ⇒ maximisation of profit (private company)	⇒ Maritime access ⇒ Land and concession policy (cf. Reserve capacity of land) ⇒ Socio-economic negotiations ⇒ Price setting	⇒ Further information maritime access ⇒ Guaranteeing of social and economic stability ⇒ Concession policy affects industrial structure)
FREIGHT FORWARDERS AND SHIPPING AGENTS	⇒ Profit maximisation ⇒ Customer loyalty ⇒ Diversification (eg. added logistics services.)	⇒ Tariffs ⇒ Range and level of service	⇒ All-in-one price for door to door transport ⇒ Strong dependency (in both directions)
OWNER OF GOODS	⇒ Minimisation of total generalised logistics costs (incl. time cost)	⇒ Negotiating power (dependent on availability of alternatives)	⇒ Scale increase (positive impact on negotiating position ⇒ Greater volatility

Consequences For Port Competition In Europe

It appears from the foregoing that, in recent years, many kinds of co-operative arrangements have developed in the maritime and port industry. In most cases, the initiative was taken by shipping companies, though other market players were also involved. But what impact do these developments have on inter- and intra-port competition?

Some agreements between lines are designed to achieve cost reduction through the relocation and centralisation of goods flows yielding economies of scale. The synergies and cost reduction presuppose thorough rationalisation, to which the port component is expected to make a substantial contribution. Shipping companies are quite aware of this. The greater transhipment volume gives the shipping line(s) in question a greater negotiating power vis-à-vis port authorities and cargo handlers.

Such a concentration of cargo may occur in a terminal that is also accessible to other shipping companies, or it may happen at a so-called dedicated terminal. Port authorities may be interested in committing to a dedicated terminal in the interest of efficiency or to guarantee customer loyalty. Dedicated terminals have been provided recently to Maersk in Rotterdam and to MSC in Antwerp). However, it is a development that raises a number of important questions for port authorities: Is there, for example, a danger that a certain shipping company may monopolise (part of) the port infrastructure? Is there a risk of distortion of competition and idle capacity? To what extent are earlier investments by local cargo handlers affected negatively, for example by a regrouping of activities at a different terminal? Is there danger of cross-subsidising of loss-making shipping activities? Is there danger of insufficient productivity through possible over capacity?

It remains necessary, therefore, to keep a close eye on the response of other players to new arrangements. For example, other shipping companies will not be inclined to have their vessels handled at terminals that are controlled by potential competitors. A consequence, therefore, may be the diversion of traffic to terminals in other ports. A port authority may thus have had the intention of increasing its competitiveness by building new dedicated transhipment infrastructure, but the net result, in terms of TEUs handled, could still be negative. Moreover, the port authority also runs the risk that future traffic evolution will become a function of the competitiveness and strategy of a limited number of shipping companies.

Cargo handlers, too, have been responding to these developments. For example, in Antwerp where the port authority was willing to dedicate a new tidal terminal to a shipping company, ,the stevedoring company Hessenatie entered into a 50/50 joint venture involving MSC.

At the same time, cargo handlers may themselves pursue an expansionist policy, acquiring stakes in foreign counterparts and participating in the joint management of terminals. This is facilitated by the privatisation of port activities. Perhaps these developments are best illustrated by an Italian example. Before the 1994 reform, terminals in Italy used to be under public management. After the reforms, some were privatised. This was followed by constant changes to management structures, so that by mid-1999 most large container terminals are controlled by major international groups as shown in Table 3.

In an obvious response to the concentration trend that is unfolding in container line services, a number of terminal operators have opted for scale increases and a fresh financial input. An example is the new shareholder structure of the cargo handler ECT in Rotterdam, with the entry of Hutchison Whampoa from Hong Kong (50%) and the stake of the City of Rotterdam (30%). Both of these investments are potentially controversial. On the one hand, the port authority of Rotterdam has taken a share in one of the port's own terminals, which inevitably raises questions in the minds of other cargo handlers (and not exclusively in the container business). The European Commission is conducting an enquiry into whether Hutchison Whampoa, which now has stakes in three important Northern European ports (Rotterdam, Felixstowe and Thamesport), might control too large a share of container handling operations. Such a potentially dominant position may give rise to undue constrains on competition.

The changing relationships between shipping lines and port terminals is raising new questions about the potential benefits from more efficient operations from better integration and the potential costs of reduced competition. Whether competition is in fact reduced depends on whether sufficient competition will exist among separate integrated chains and on the fate of shipping companies that lack such facilities as dedicated terminals.

Equally striking is the battle for inland transport services. In the past, shipping companies used to organise joint transport by block trains. Cargo handlers were not directly involved. But this appears to be changing: the cargo handler ECT, for example, has developed a network of inland terminals (including in Duisburg, Germany, and in Willebroek, Belgium) in an effort to gain some control over inland transport and to hold on to certain goods flows.

At the same time, efforts are being made to provide better integrated services in the hinterland transport sector. An example is the takeover of the German firm THL by the Belgian railway company NMBS. NMBS also operates a container terminal in Antwerp under a joint venture with Noordnatie stevedoring company. These examples illustrate the great significance that is attributed nowadays to inland transport services. It also shows how other developments affect the ability of shipping companies to take full control of logistics chains.

Table 3: Control of some Italian (container) terminals (06/1999)

Terminal	Control	Investments planned
Medcenter Container Terminal (MCT), Gioia Tauro, Italy	Contship Italia (100%) Eurokai has a 33.4% stake in Contship Italia	Six new post-panamax cranes at MCT over the next two years, plus 28 straddle carriers
La Spezia Container Terminal (LSCT), La Spezia, Italy	Contship Italia (control stake) Eurokai has a 33.4% stake in Contship	Extending quay, adding ship-to-shore and yard cranes at LSCT
Mediterranean International Transhipment Hub (MITH), Cagliari, Italy (the new terminal will trade under the name of "Cagliari International Container Terminal")	**P&O Ports** (32%), **Gruppo Investimenti Portuali** (32%). Remaining 36% is shared between PTM (parastatal organisation in Sardinia) and Compagnia Portuale di Cagliari (local stevedoring company)	Ready for use in January 2000. The terminal infrastructure is now almost complete, and includes 1,700 of continuos quay with a minimum draught of 14m. The container stacking yard of 40ha is paved. Two post-panamax gantry cranes are in place. Additional handling equipment will be installed over the next 12 months
Taranto Container Terminal (TCT), Taranto, Italy	Evergreen A 60-year concession agreement with the Taranto Port Authority	The already existing quay, over 2000m in length, and a water depth of 15m alongside, has been converted for container operations. The process will be developed in phases. Completion of the three-berth Phase I of TCT is scheduled for early 2000.
Molo VII, Trieste, Italy	ECT A 30-year concession agreement	No immediate plans for major investments in equipment or infrastructure. The terminal already has eight ship-to-shore cranes on 2000m of quay, a draught along-side of 18m, and a container stacking area of 35ha.
Voltri Terminal Europa (VTE), Genoa, Italy	**PSA** (60% in Sinport): PSA network includes already VTE in Genoa, Vecon in Venice and the smaller Roma Terminal Containers in Civitavecchia. In January 1998 PSA signed an agreement with Sogespar, a wholly owned subsidiary of the Fiat group, under which it purchased a 60% equity stake in Sinport. Sinport owns 95% of VTE	Extension of quay and addition of new ship-to-shore cranes at VTE
Venice container terminal (Vecon), Venice, Italy	**PSA** (60% in Sinport): PSA network includes already VTE in Genoa, Vecon in Venice and the smaller Roma Terminal Containers in Civitavecchia. Sinport acquired a controlling 53% in Vecon, Venice, following the sale of Vecon by the Venice Port Authority	
Terminal Darsena Toscana, Leghorn, Italy	**To be privatised.** At the present the terminal is managed by Compagnia Impresa Lavoratori Portuali (stevedores) and Sintermar (Neri, D'Alesio, Fremura). There are interests of PSA.	

Sources: Containerisation International (CI) and Port Development International (PDI)

Conclusion

This study examines the extent and form of co-operative agreements in the maritime and port industries. It shows that shipping companies, consortia and alliances have acquired a more powerful negotiating position vis-à-vis port authorities, stevedores and inland transport firms. At the same time, the other parties have responded to the changing challenges and opportunities in international transport and logistics markets. Some port authorities have gone so far as to make dedicated terminals available to their principal customers. As yet, it is unclear what the ultimate effect of this particular development will be. Goods handlers, for their part, reacted in different ways, including the establishment of joint ventures for operating dedicated terminals, an expansionist policy with regard to other terminals, and by attracting fresh capital input from international groups, which may lead to problems in terms of market dominance and conflicts of interest.

A result of these developments is continuing shifts in the balance of the markets. The ultimate result is not yet clear. However a number of conclusions are possible.

There is a trend unfolding in the maritime and port industries towards ever-greater control of the logistics chain through various forms of co-operation (strategic alliances, mergers, etc.). They include both vertical agreements along the logistics chain and horizontal agreements among suppliers of similar services, particularly shipping companies. These developments bring with them a danger of preferential treatment, conflicts of interests and market dominance.

However, the crucial question remains; what role will the port authorities be able to play in the future? If the concept of the logistics chain is indeed translated into a more pronounced vertical integration of shipping companies, stevedores, hinterland transport modes and (possibly) shipping agents, what will be the role of port authorities? Will port authorities become fully-fledged partners in the logistics chain, will their involvement be restricted to a supporting role (safety, land-use and concession policy), or might they disappear from the scene entirely? In order to find answers to these questions, further research, in particular more disaggregated empirical research, is urgently required. Research is needed that provides insights into the cost structure of the individual market players as well as the logistics chain as a whole.

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