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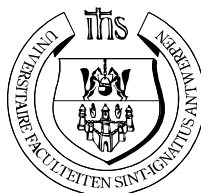
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Do Mergers and Alliances Influence European Shipping and Port Competition?

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RESEARCH PAPER

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1. INTRODUCTION

The pressure of competition in the maritime and port industry inherently encourages the setting up of joint ventures, mergers, strategic alliances and cartels. It is noticeable that shipping companies in particular have been taking the initiative in this move towards closer integration. This paper deals with the effects of these developments on seaports and their competitive position. To what extent will, for example, liner shipping companies remain real negotiating partners (either directly or indirectly through subsidiaries such as stevedores, railway companies etc.) of the port authorities? And are port authorities responding similarly or differently to the new challenge?

In this paper, we shall look consecutively at the different forms of co-operation in liner shipping, market behaviour in a port environment, the industrial and economic reasons behind co-operation, and the consequences for port competition in Europe.

2. CO-OPERATION AGREEMENTS IN 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, versus a large number of inadequately informed consignors who had no influence whatsoever on tariffication and conditions of freight. But today, the consignors, i.e. the users of transport capacity, 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, reality is more complex than that, if only because there are other players involved besides consignors and shipping companies, including stevedores and port authorities. Moreover, the interests and objectives of the market players have evolved, as there appears to be a strong economic incentive to acquire direct control over an ever-larger part of the logistics chain, and not only for reasons of competition (cf. stability). It used to be the case that liner shipping companies faced competition mainly from other shipping companies, and 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 and hinterland transportation among other things.

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, port authorities). Further on in the text, we shall try to formulate a theoretical underpinning for these developments.

Co-operation agreements exclusively involving shipping companies can take on 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, i.e. partnerships whereby the carriers involved are able to integrate their operational and logistics 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 today independent operators.

Changes in liner shipping are due to a number of specific developments in the container market (Meersman, Moglia and Van de Voorde, 1999). First, there was the reorganisation of the two most important global alliances, i.e. 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). Then there was the setting up of the United Alliance, involving Hanjin, DSR-Senator and Cho Yang (October 1997; activities started in March 1998). The new Grand Alliance (with the entrance of OOCL and MISC) and the New World Alliance became operational in January 1998.

Table 1: Co-operation agreements between various market players

MARKET PLAYERS	SHIPPING COMPANIES	STEVEDORES	HINTERLAND TRANSPORT	PORT AUTHORITIES
SHIPPING COMPANIES	<ul style="list-style-type: none"> ⇒ Vessel sharing agreements ⇒ Joint Ventures ⇒ Conferences ⇒ Consortia ⇒ Strategic (global) alliances (e.g. Grand Alliance, New World Alliance) ⇒ Cartel agreements (e.g. TAA) ⇒ Mergers 			
STEVEDORES	<ul style="list-style-type: none"> ⇒ Financial stake of shipping company in stevedore (e.g. CMB in Hessenatie, Nedlloyd in ECT) ⇒ Joint ventures (e.g. MSC and Hessenatie in Antwerp) ⇒ (Dedicated terminals) (e.g. ECT Maersk in Rotterdam) 	<ul style="list-style-type: none"> ⇒ Participation in capital (e.g. Hutchison Whampoa in ECT, PSA in Voltri Genova) 		
HINTERLAND-TRANSPORT MODES	<ul style="list-style-type: none"> ⇒ Block trains and capacity sharing (e.g. from Rotterdam to Italy) ⇒ Alliances (e.g. CSX with DB and NS) 	<ul style="list-style-type: none"> ⇒ Joint ventures (e.g. in Antwerp between NMBS and Noordnatie for operating of a terminal) 	<ul style="list-style-type: none"> ⇒ Takeover strategy of railway companies (e.g. DB and NS cargo, NMBS and THL) 	
PORT AUTHORITIES	<ul style="list-style-type: none"> ⇒ (dedicated terminals) (cf. land-use and concession policy) 	<ul style="list-style-type: none"> ⇒ Financial stakes port authorities (e.g. 30% ECT by Rotterdam, ECT in Trieste, Sea-ro in Zeebruges) 	<ul style="list-style-type: none"> ⇒ Antwerp in Rijn shipping terminal of Germersheim 	<ul style="list-style-type: none"> ⇒ Alliances (e.g. Rotterdam and Vlissingen, Antwerp and Zeebruges)

Besides these rapidly evolving alliances, there are also 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 of such a cartel 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.

Consignors, 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.

Besides strategic alliances and cartel agreements, there have been a number of important mergers, including that in 1996 of the container lines of P&O and Nedlloyd in P&O Nedlloyd Container Line. Clearly, such mergers are intended to rationalise activities, reduce costs, and creating significant economies of scale, all of which is conducive to establishing a major market player.

Meanwhile on land, an important development is unfolding in cargo handling operations at container terminals, a type of terminal that is increasingly targeted by shipping companies. A recent example can be found in Taranto in Italy (Evergreen), while in Rotterdam a terminal has been dedicated for the very first time (Maersk). In Antwerp, the exploitation of a new container terminal was awarded to a consortium consisting of a stevedore (Hessenatie) and a shipping company (MSC).

These are all examples of developments indicating that shipping companies are becoming increasingly influential in cargo handling. Clearly, these shipping companies are intent on gaining greater control over the management of and, more importantly, price determination in

cargo-handling, which will obviously have an impact on the profitability of a terminal (cf. possible cross-subsidising). This trend is no doubt connected with a shifting balance of power in the market, with increasingly large shipping companies being serviced by cargo handlers that have not grown at the same rate. It is quite striking in this respect that even the de facto monopoly of the cargo handler ECT in Rotterdam eventually had to yield to the demands of Maersk. On the other hand, there is a serious downside to the strategy of dedicated terminals: a shipping company will, after, all, not be inclined to have its cargo handled at a terminal that is controlled by a competitor.

It should be pointed out that, at the same time, stevedores are subject to integration attempts on the part of operators in hinterland transportation. In 1994, for example, the Scheldt Container Terminal North in Antwerp, the second container terminal before the port's locks, was dedicated to a partnership of cargo handler Noordnatie and the Belgian railway company NMBS. Both partners regard the financial participation by the railways to be a guarantee for a 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. However, here matters are rather more complicated. In some cases, the European Commission allows shipping companies to fix rates for carriage by sea. But so far, there is no question of collective exemptions from the rules of free competition for land transport. Nevertheless, shipping companies are trying to gain control over hinterland transportation, as is illustrated by the co-operation between shipping companies in the supply and sharing of capacity on goods trains out of ports (e.g. Rotterdam-Italy).

Gaining control over hinterland transportation fits into the philosophy of shipping companies who are aiming to provide a door-to-door transport service. The main reason why the European Commission is still opposed to such cartel agreements is that shipping companies usually subcontract transport by land to third parties. The modalities of such transport services, bar the freight rate, 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 are advantageous to consumers (cf. management of containers and container yards).

So what can we learn from these co-operation agreements? Whether it concerns strategic alliances, other cartel agreements, mergers, partnerships in cargo handling and/or hinterland transportation, the aim is more or less the same: scale increases –often coupled with cost reduction- with the purpose of gaining control over an ever-greater share of the logistics chain. It is striking how the initiative for such co-operation strategies is almost always taken by shipping companies. Indeed, Table 1 shows quite clearly that co-operation agreements that do not involve shipping companies are much more rare: the co-operation mentioned earlier between stevedores and operators in hinterland transportation; a relatively limited number of alliances between stevedores, usually on the basis of some financial participation in terminals in other ports; financial stakes of a port authority in a stevedore.

3. MARKET BEHAVIOUR IN A PORT ENVIRONMENT

In the previous paragraph, the focus of attention was mostly on co-operation agreements in liner shipping activities. Strikingly, the initiative often came from shipping companies.

Before turning our attention to the consequences of such forms of co-operation on port competition, we must briefly deal with behaviour within the port industry. The market players involved in port activities (shipping companies, port authorities, stevedores, hinterland 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 provides an overview of the major market players and what their principal objectives are (or may be), together with the available policy tools and the impact of their actions on port activities.

Table 2: Objectives, tools and impact

MARKET PLAYERS	(POSSIBLE) OBJECTIVES	TOOLS	IMPACT
SHIPPING COMPANIES	<ul style="list-style-type: none"> ⇒ Profit maximisation ⇒ Market share ⇒ Control over logistics chain 	<ul style="list-style-type: none"> ⇒ Tariff ⇒ Cost control (capacity, volume, time, co-operation, ...) ⇒ Marketing ⇒ Service 	<ul style="list-style-type: none"> ⇒ Larger vessels ⇒ Rationalisation of sailing schedules ⇒ Alliances and consortia ⇒ <i>Dedicated terminals</i>
STEVEDORES	<ul style="list-style-type: none"> ⇒ Profit maximisation ⇒ Long term customer loyalty, incl.. through logistic services and value-added activities (e.g. stuffing and stripping, storage, pre-delivery inspection,) 	<ul style="list-style-type: none"> ⇒ Price setting ⇒ Technology of goods handling aimed at speed, quality,... 	<ul style="list-style-type: none"> ⇒ Returns to scale for terminals ⇒ Industrial logistics
HINTERLAND TRANSPORT MODES	<ul style="list-style-type: none"> ⇒ Profit maximisation ⇒ Market share 	<ul style="list-style-type: none"> ⇒ Tariffs ⇒ Speed ⇒ Flexibility ⇒ Capacity 	<ul style="list-style-type: none"> ⇒ Fierce modal competition
PORT AUTHORITIES	<ul style="list-style-type: none"> ⇒ Contribution to cost minimisation for logistics chain (both through port dues als time costs) ⇒ Maximisation cargo handling (public company) ⇒ maximisation of profit (private company) 	<ul style="list-style-type: none"> ⇒ Maritime access ⇒ Land and concession policy (cf. Reserve capacity of land) ⇒ Socio-economic negotiations ⇒ price setting 	<ul style="list-style-type: none"> ⇒ Further information maritime access ⇒ Guaranteeing of social and economic stability ⇒ Industrial structure (cf. Concession policy)
SHIPPING AGENTS	<ul style="list-style-type: none"> ⇒ Profit maximisation ⇒ Customer loyalty ⇒ Diversification (e.g. order picking, warehouses,) 	<ul style="list-style-type: none"> ⇒ Tariffs ⇒ Service 	<ul style="list-style-type: none"> ⇒ All-in-one price for door to door transport ⇒ Strong dependency (in both directions)
OWNER OF GOODS	<ul style="list-style-type: none"> ⇒ Minimisation of total generalised logistics costs (incl. time cost) 	<ul style="list-style-type: none"> ⇒ Negotiating power (dependent on size) 	<ul style="list-style-type: none"> ⇒ Scale increase (positive impact on negotiating position) ⇒ Greater volatility

The table is no more than a schematic representation of the very complex processes that determine the behaviour of the market players and their impact. However, there is often a lot more behind the concepts and tools mentioned. Take a shipping company, for example. The objective of a shipowner may be to operate his fleet as profitably as possible, including through maximisation of capacity use and productive time. This will often boil down to competition for volume (cf. the market share objective). As regards the available tools, besides the freight rates (which are often determined by exogenous factors) there is cost control. Shipping companies are constantly striving towards operational efficiency, including by deploying larger vessels (cf. economies of scale), by limiting the number of ports of call, by increasing productive time at sea, and by looking out for possibilities to co-operate (among other things, through vessel-sharing agreements).

The consequences are clear to see: increasing ship size is causing problems for certain ports in terms of accessibility (including with regard to post-panamax vessels); sailing schedules are being rationalised, including through the reduction of the number of ports of call; the setting up of alliances and consortia that offer greater negotiating power; forms of ruinous competition between shipping companies on certain trades; a striving towards acquiring so-called dedicated terminals.

This has a direct impact on other market players, including port authorities, who, regardless of their management tradition (Hanseatic, Latin, Anglo-Saxon), will try to minimise costs associated with goods handling and delays. It remains a problem though that, while port authorities are able to determine the port dues, they have only partial control over a much more significant cost factor, i.e. time: they have an impact on the maritime accessibility, but usually not on the turn-around time.

However, port authorities do have two other important tools at their disposal. First, they are a privileged partner in guaranteeing socio-economic stability (e.g. strike action, work-to-rule). Moreover, an adequate concession policy may lead to an important economic anchoring, with industrial establishments guaranteeing both tonnage and income from concessions over longer periods of time.

But even more so than by the port authorities, the force of attraction of a port may be determined by the presence of other market players, including stevedores, hinterland transportation modes, forwarders and agents. For each of these players, the business objective should, first and foremost, be centred around maximisation of profits. Long-term customer loyalty and a sufficiently large market share should contribute towards attaining this goal. However, each player is also confronted with other tools and other impacts on port activities, e.g. 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.

Forwarding agencies in particular serve a specific purpose in certain ports. They act as middlemen between the owners of the goods that need transporting on the one hand and the carriers that are responsible for the actual shipment on the other. Forwarding revolves around expertise in certain traffics and a relationship of trust with carriers and consignors of freight. The question arises to what extent the present containerisation trend represent a danger to shipping agents, as a number of carriers, in their striving to organise a door-to-door service, are threatening to take over their operations. Moreover, they are also facing increasing competition from stevedores in their efforts to diversify.

Table 2 shows clearly how the heterogeneity of port activity is translated into diversity of market players, each with their own objectives, tools and impact. The central issue is, to what extent will closer forms of co-operation develop within this framework? And, if co-operation is contemplated, is it inspired by economic rationality (e.g. with a view to realising economies of scale) or merely by a concern to obtain more power and control over the logistics chain? The latter may, in the longer term, lead to manifestations of monopolistic behaviour.

It is therefore interesting to investigate what the economic literature has to say about the objectives and consequences of these kinds of operations. What is the potential impact on port competition? And to what extent do port authorities remain important negotiating partners within the industry?

4. AN INDUSTRIAL-ECONOMIC EXPLANATION FOR CO-OPERATION

Besides the major strategic alliances in container shipping, most other forms of co-operation are in fact instances of mergers and takeovers. But what are the likely goals of such co-operation agreements? Are they related to the market structure (e.g. a striving towards greater economies of scale or market power)? Is co-operation aimed mainly at attaining management efficiency? Or do tax considerations perhaps also come into play?

The key question here is why companies tend to opt for a strategy of scale increases through external growth rather than through internal, organic expansion (KBC, 1999, p. 2). Classic synergy effects occur in, among other things, the operational field (besides financial synergy, of course). Horizontal mergers always revolve around an economy of scale, resulting from the spreading of fixed costs over a more substantial turnover, an improved capacity usage and elimination of overlaps. In the case of vertical mergers, the main purpose is to attain greater control and a more efficient co-ordination of the entire production process.

In the case of mergers between companies such as P&O and Nedlloyd, the most obvious goal is to achieve greater economies of scale. By amalgamating, one hopes to become an equally influential player as one's major competitors, but at the same time one hopes to spread relatively high fixed costs over a more substantial throughput. However, it should also be pointed out that, when economy of scale constitutes the main reason for a merger, it often takes a long time for this goal to be attained.

It is obvious from the literature and from real-life examples that improving operational efficiency is typically a goal in mergers and takeovers when the optimal industrial structure (e.g. the minimum efficient scale) in a sector suddenly changes as the result of technological innovations or the introduction of new regulations (KBC, 1999, p. 3). Scale increases can indeed also be attained through internal expansion, albeit at a much slower pace than through external expansion. Moreover, this will also create additional capacity, even in periods when there is already overcapacity. This explains why, in such periods, one sees many horizontal mergers and takeovers as a means of reorganisation.

This is where so-called barriers to entry come into play. Striving towards economies of scale means lower costs, possibly also lower tariffs. This in itself makes it harder for newly established shipping companies to enter onto the market, as the throughput upon entry will have to be quite substantial in order for the company to be able to operate at a competitive price. Americana Ships is a case in point.

Another goal, besides synergy effects, is the acquisition of greater market power, perhaps even market domination. Through takeovers and co-operation one tries to gain control over a greater share of the industrial and commercial activities. Greater concentration will, especially in an oligopolistic environment, result in less competition, which may be conducive to higher prices. Elevated prices will in turn attract new market players, unless one incorporates high barriers to entry. In the maritime sector, this appears increasingly to be happening through vertical takeovers.

This automatically brings us back to the issue of the growing interest of shipping companies in the activities taking place in ports and the hinterland. Vertical integration does indeed create barriers to entry onto a market (segment) to the extent that a potential entrant in a single link of the production chain is forced to enter the other chains too in order to be offering a similar product. Obviously, this requires a greater financial commitment and a longer preparation period on the part of the prospective entrant. This means that in reality a prospective entrant is confronted with a combination of barriers to entry (scale effects, the logistics-chain effect, etc...).

Of course, there is also the striving towards greater efficiency, whereby the basic assumption is that the party that takes the initiative for co-operation is more efficient than other co-operating parties, and that the amalgamation is a profit-generating activity. Also, there may be tax incentives, as the merger may, initially at least, result in a lower aggregated tax base.

5. CONSEQUENCES FOR PORT COMPETITION IN EUROPE

It appears from the foregoing that, in recent years, all kinds of co-operation 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?

The objectives are often the same: to maximise cost reduction through economies of scale (i.e. an increase of freight volume) and to attain synergy at all possible levels. Synergy 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 and take full advantage, for example through relocation and centralisation of goods flows. This kind of scale increase is already efficient in itself, but the greater transshipment volume resulting from such a move offers the additional advantage that the company in question acquires greater negotiating power vis-à-vis port authorities and cargo handlers.

Such a regrouping of cargo handling activity may occur in a terminal that is also accessible to other shipping companies, or it may happen at a so-called dedicated terminal. By means of such terminals, port authorities appear to want to guarantee customer loyalty (cf. Maersk in Rotterdam, MSC in Antwerp). On the other hand, it is a development that raises a number of important questions for port authorities: Is there, for example, no danger that a certain shipping company may monopolise (part of) the port infrastructure? Is there no 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 no danger of cross-subsidising of loss-making shipping activities? Is there no danger of insufficient productivity (cf. possible overcapacity)?

It therefore remains necessary to keep a close eye on the response generated from other players. Other shipping companies will, after all, not be inclined to have their vessels handled at terminals that are controlled by potential competitors. This brings with it the threat of traffic diversions to terminals in other ports. A port authority may thus have had the intention of increasing its competitiveness by building new transshipment infrastructure, but the net result of dedicating (a)

terminal(s) in terms of TEUs 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. In ports where the port authority is inclined to dedicate terminals to shipping companies, cargo handlers will tend to enter into joint ventures (cf. the dedicating in 1999 of a new tidal terminal in Antwerp to a 50/50 joint venture involving MSC and Hessianatie stevedoring company).

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. Perhaps this is 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 (cf. 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. We refer in this respect to the new shareholdership 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 which 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). On the other hand, 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 not control too large a share of container handling operations. Such a potentially dominant position may, after all, affect pricing.

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 Transshipment 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 continuous 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.	
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Sources: **Containerisation International (CI) and Port Development International (PDI)**

In other words, co-operation agreements continue to carry a risk of suppression of competition. The new structure of ECT, for example, has altered the situation on part of the market: an economically strong cargo handler, previously in a quasi-monopolistic situation (ECT), is now in diametrical opposition to shipping companies with dedicated terminals (including Maersk and Sea-Land). The latter category of shipping company is able to control cargo-handling cost and has nothing to fear of any potential dominance. But other shipping companies, who lack such facilities as dedicated terminals, may well find themselves in an economically more precarious position.

Equally striking is the battle for hinterland 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 hinterland transportation and hold on to certain goods flows.

At the same time, efforts at scale increases are also being made in the hinterland transport sector, e.g. 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. This example is quite illustrative of the great significance that is attributed nowadays to hinterland transport services. It also shows how efforts are being made to prevent shipping companies from taking full control of logistics chains.

In sum, one could say that the striving towards maximising cost-saving and scale increases on the part of shipping companies has resulted in a rationalisation and compression of the market. Shipping companies, consortia and alliances have thus acquired a more powerful negotiating position vis-à-vis port authorities, stevedores and hinterland transportation modes.

The other parties have responded. Some port authorities have even 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 by establishing 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.

It is in any case clear that the market balance is shifting all the time. What will the ultimate result be? Will one arrive at a fully vertically integrated logistics chain? In order to answer this question, one first needs to gain insight into the cost structure of the individual market players as well as the logistics chain as a whole (i.e. including cargo handling and storage costs, feeder costs, ...).

6. CONCLUSION

This study has dealt with the question of how, and to what extent, mergers and alliances have an impact on port competition. The different types of co-operation have been outlined and analysed, allowing us to draw a number of unequivocal conclusions:

- There is clearly a trend unfolding in the maritime and port sector towards ever-greater control of the logistics chain through various forms of co-operation (strategic alliances, mergers, etc.). It is striking how shipping companies in particular have been taking the initiative in this development. With their increased throughput, they have acquired a dominant position over the other market players. Ports, too, appear to have become more dependent on shipping companies.
- Port authorities have responded to this development, including by a greater willingness to dedicate terminals to shipping companies and, to a lesser degree, by becoming active partners in the capital of stevedoring companies. This brings with it a danger of preferential treatment, conflicts of interests, market dominance and even a net market loss as a result of other customers falling away.
- Port authorities are in danger of being torn apart by the choice between their short-term and long-term interests. In the short term, dedicated terminals indeed offer a possibility for increasing market share and protecting employment. But in the long term, one needs to take into account the striving towards a greater return on port investments.

All European port authorities have, over the past years, been confronted with larger players and an altered balance of power in the market. Some port authorities have responded, probably for fear of being pushed out of the market. But the crucial question remains what role those same port

authorities will 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. 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, more in particular disaggregated empirical research, is urgently required. From a scientific and transport policy perspective, this will allow us to gain a quantified insight into the complexity of and interaction between the various links in the logistics chain.

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