



## Emerging inter-industry partnerships between shipping lines and stevedores: from rivalry to cooperation?

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### ABSTRACT

Since late-1960s stevedoring operations assumed a dramatic importance for shipping lines, who have been securing dedicated berths for some decades. Over the last 20 years, the institutional turn in ports drove the overseas expansion of pure stevedoring companies. For quite a long time carriers and stevedores fiercely battled each other both for bargaining contractual arrangements and for securing new concessions in the key port areas. Currently this scenario is slowly changing and some early-forms of partnership are coming out. This paper analyses the different pathways through which carriers satisfy their needs of handling services. Based on 2006 data it empirically demonstrates the growing resort to such forms of cooperation both contractually and via equity ventures.

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### 1. The liner shipping industry and the supply of port services

The advent of containerisation has deeply affected the organisation of maritime shipping industry as well as the relationships among the players within the transportation chain. The demand for containerised transport has been continuously increasing and leading shippers to progressively enlarge their focus towards a ‘global’ perspective. The whole liner shipping industry had to adapt to these changes of demand. Besides the expansion in marine operations, top shipping lines (SLs) have also aimed at reducing other production costs, diversifying their investments and achieving paths of vertical integration along the transportation chain (Panayides and Cullinane, 2002). Major carriers have deeply invested on the land-side, set up a network of port facilities all over the world and become integrated shipping lines<sup>1</sup> (ISLs).

In reaction to the carriers’ evolving and aggressive strategies, but also in order to exploit the growing investment opportunities offered by the recent “institutional turn” in ports (De Monie, 1994; Airriess, 2001; Juhel, 2001; World Bank, 2001), some pure terminal operators (PTOs) have been expanding their operations internationally, by setting up wide networks of terminal facilities across various regions. The port handling sector has been experiencing a similar consolidation trend: a handful of International

Terminal Operators<sup>2</sup> (ITOs) is on the point of dominating the market.

The emergence of powerful pure terminal operators (PTOs), willing to diversify their portfolios and to increase their financial margins overseas, gave momentum to carriers’ involvement in terminals as major shipping lines were growingly constrained to defend their enormous investment in maritime assets (i.e. vessels). The last few years have been characterised by a strong battle between carriers and PTOs to get the control of the “port phase”.

Nevertheless, this scenario, characterised by a clear-cut separation and a fierce competition between SLs and PTOs (Parola and Musso, 2007), is slowly changing (i.e. “corporate realignment” – Slack, 2004). The progressive scarcity of available port spaces for greenfield projects, the end of the “privatisation window” (early 1990s/early 2000s), as well as the enormous cash-flows needed for the realization of modern terminal facilities, are leading PTOs and carriers to stay “closer” to each other and to experiment with some forms of co-operation. In other words, the above changes are driving towards a partial convergence of their respective interests, giving rise to the establishment of contractual and equity cooperative agreements.

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<sup>1</sup> Shipping lines which have taken on many roles in the supply chain, involving more than just sea transport. One of these activities is terminal operations, which is of interest in this paper.

<sup>2</sup> In this respect, a very common term used in the container handling business by leading consultants (Drewry, OSC, etc.) is Global Terminal Operators (GTOs). Nevertheless, in this paper, we prefer to use the term “ITO” because, as demonstrated by Parola and Veenstra (2008), only a few terminal operators show a real global terminal network. Therefore, it is more appropriate to discuss “international” players, avoiding the potentially misleading GTO terminology, although widely used. ITOs (as well as GTOs) refers to both PTOs and ISLs as defined earlier.

### 1.1. Literature review

Within the academic literature the topic of container port services has been considered by many studies. The involvement of shipping lines in stevedoring activities and the emergence of dedicated terminals have been discussed earlier by Slack (1993) and Haralambides et al. (2002). Stopford (2002) showed the importance of the cost of handling operations that justifies their internalisation. Sys (2005) and Cullinane and Khanna (2000) explored the productivity-driven reasons related to the increasing size of vessels. Other authors addressed the integration of terminal activities as a consequence of carriers' networks extension and their hub and spoke organization. (Baird, 2006; Guy, 2003; Heaver et al., 2000; Rimmer, 2004). Analysed vertical integration strategies of carriers, highlighting the potential role of network economies in such a process. Intermodality is also among the leading factors pushing SLs to keep control on their terminal operations (Notteboom, 2004a; Panayides, 2002).

Contrary to carriers' entry in ports, the emergence of PTOs has been caught up by the mainstream literature relatively late. Early studies by Ferrari and Benacchio (2000) and Peters (2001), showed leading players expanding in various markets. More recently, Notteboom (2004b) discussed major PTOs in relation to the growing concentration in liner shipping and to the rise of global alliances. Midoro et al. (2005), addressing the Peters' typology on terminal operators' waves of internationalisation, focused on major drivers of carriers' vertical strategies in ports. Slack and Frémont (2005) and Olivier et al. (2007) analysed the stevedoring industry clearly outlining the two dominant business models, PTO and ISL. Finally, Olivier (2005) approached the role of emerging (local) forms of partnerships between PTOs and ISLs and foresaw the future establishment of wider inter-industry relationships even at a global scale.

While much attention remains focused on global carriers and PTOs as a customer/supplier duo or as competing port investors, no efforts have been made to evaluate the match between the demand and the supply of handling services in really quantitative terms. Moreover, the current trends reshaping the port industry (Olivier and Slack, 2006) are also calling for a new understanding of it, mostly based on terminals, instead of ports as a whole, as the new emerging "elementary unit" of analysis ("terminalisation of seaports" – Slack, 2007). A "terminal by terminal" approach seems to be much more relevant to depict the existing correlations between the top players of two industries.

### 1.2. Aim of the paper and research questions

The purpose of our research is to investigate the nature of the relationships between carriers and terminal operators in ports. This paper addresses two relevant research questions. *The first one is to outline how carriers satisfy their growing need of port handling services.* We identify the ocean carriers' major handling providers and consider whether they are predominantly international or local players. We also evaluate the relevance of self-handling within the overall activity. Our methodology, which is quantitative and based on transport capacity, reveals the dependency of SLs on third-party handling providers as well as the relationship between carriers' maritime services and their own port network. This discussion leads to a second and even more challenging question: *are carriers and stevedores really embracing a path of co-operation in ports, after having fiercely battled for such a long-time?* From a carrier's viewpoint, this would mean to rely on the handling capacity of the same stevedore in many ports around the world, thus projecting on an international scale a contractual relation previously managed only on a port by port basis. Moreover, this much closer relationship could easily drive to equity

partnerships in specific port projects, in which carriers are interested in joint-investment for supporting their maritime network. Our paper demonstrates the legitimacy of such an hypothesis, showing the emerging forms (contractual and equity) of vertical coordination<sup>3</sup> between carriers and stevedores and highlighting players which are resorting to such partnerships.

The paper is structured as follows: Section 2 is dedicated to methodological issues explaining the data used for our quantitative analyses. In Section 3, we address the evolution of the container handling business characterised by the entry of carriers and the extension of PTOs' networks and also the structure of the market comparing the demand and supply sides from a geographical viewpoint. Our analyses reveal a gap in terms of geographical coverage and market maturity between carriers' demand and PTOs' supply which is one of the elements explaining the carriers' strategies vis-à-vis handling activities at the global level. Finally, Sections 4–6 provide a deeper empirical study of the latter, aiming at identifying "unrevealed" and geographically extended forms of inter-industry co-operation between SLs and ITOs.

## 2. Methodological notes

A quantitative analysis of carriers' traffic flow distribution over terminals is an interesting method of addressing the relationship between terminal operators and SLs. The analysis of such figures can give a novel insight into the way SLs satisfy their growing needs of port services, such as the share of self-handling (through WOS<sup>4</sup> and POS<sup>5</sup>), the diversification of the suppliers portfolio, the degree of dependence on major third-party terminal operators (especially PTOs) or the relevance and the geographical spread of emerging cooperative ventures (JVs) between shipping lines and PTOs in ports.

For the purpose of this research, carriers' statistical data on traffic flows handled in each container terminal are probably the most relevant. Unfortunately, the latter are unavailable, being considered as highly strategic and kept confidential by SLs. Nevertheless, the extrapolation of data on transport capacities (i.e. vessel slots) makes it possible to overcome the unavailability of carrier's throughput per terminal. Frémont and Soppé (2004b) showed a strong correlation (0.91) between the throughput and the transport capacities of calling services per port. For this study we calculated such coefficient of correlation for the 145 individual facilities operated by ITOs. The resulting value (0.82) still shows a high degree of correlation and demonstrates the fairness of our approach replacing real traffic data (not available) by transport capacity.

In this relation, we have collected information on maritime containerised services in 2006 (year-end) from the Containerisation International on-line data set. We completed the work investigating the brand name of the different container terminal companies called at by each maritime service. This latter information is a result of an intense and deep research into all available sources (SLs' and terminal operators' websites, corporate interviews, Containerisation International on-line, Drewry reports, professional press releases and scientific papers). Such data on various terminal handling suppliers, do not have a high confidentiality value at the level of a single port, but acquire a considerable value when collected and aggregated on a regional or worldwide scale. In this respect, accurate information on relevant shareholders has also been collected in order to weight their different financial involvement in each project.

<sup>3</sup> Vertical coordination: adjustment between the different phases of the transportation chain; in this paper, such a concept is applied to the relationships between shipping lines and terminal operators in ports.

<sup>4</sup> WOS: wholly owned subsidiaries.

<sup>5</sup> POS: partially owned subsidiaries.

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