

Challenges for Polish Seaports' Development in the Light of Globalisation Processes in Maritime Transport

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ABSTRACT: Ports operations become more capital intensive, labour saving and space consuming. Due to globalization processes and liberalization of the EU transport markets the seaports are under the huge competitive pressure put mainly by container transport operators committed in the logistic transport chains. Polish seaports have difficulties in facing such a competitive environment.

1 INTRODUCTION

Polish seaports, like all ports in the world, are being confronted by forces of change and uncertainty that are reducing their abilities to control their own destinies. Since several years, other actors in the transportation industry (the shipping lines in particular) are shaping port development. They have been put 'at mercy' of the shipping alliances dominating world trade not only on water, but also on land. Moreover, the process of deregulation in the common transport policy in the EU enables shaping equity mergers and alliances on land. For instance, the rationalisation of rail services raises the potential of differential access to ports. Most port authorities play only a secondary role in the global game. More than ever before, as intermediate points in transport chains, linking shipping with road and rail modes, ports are vulnerable to developments on both land and water. These developments have brought about uncertainty and change that has made port planning extremely difficult.

2 GLOBALISATION AND INTEGRATION IN THE MARITIME TRANSPORT

Seaports' development is influenced by many factors. Especially, the globalisation and integration processes affect the evolution of their management systems and models. Vertically integrating transport chains make seaports vulnerable to rapidly changing contemporary environment.

The coastline of the European Union is many thousands of kilometres in length and contains well over 600 individual ports. These handle around 90%

of EU external trade and more than 35% of trade between EU countries. This involves handling 3.5 billion tonnes of goods and 350 million passengers being transported on millions of ship journeys each year (www.emsa.europa.eu/end, 25.02.2007). The ongoing process of cargo flows concentration benefits to the biggest EU ports, mostly in the northern part of the continent. A big part of the increase over the years can be attributed to the increase of import of oil and oil products (<http://epp.eurostat.cec.eu.int>, 25.02.2007).

European ports, like all ports in the world, are being confronted by forces of change and uncertainty that are reducing their abilities to control their own destinies. Since several years, other actors in the transportation industry (the shipping lines in particular) are shaping port development. More than ever before, as intermediate points in transport chains, linking shipping with road and rail modes, ports are vulnerable to developments on both land and water. These developments have brought about uncertainty and change that has made port planning extremely difficult. Inter-port competition has been heightened in unanticipated ways (Slack 2001).

Shipping, being the most important mode of transport in terms of volume, gets an important support from the EU. In fact, the common transport policy favours the development of environmental friendly modes of transport in compliance with the idea of sustainable development (Lisbon and Goeteborg Strategy). The EU, through a set of political actions, legal and financial instruments, promotes intermodal transport (Marco Polo Program) and creation of motorways of the seas, for instance.

Furthermore, as a result of its geography, its history and the effects of globalisation, maritime

transport will continue to be the most important transport mode in developing EU trade for the foreseeable future (Maritime transport 2006). The Green Paper on a Future Maritime Policy for the European Union launched a broad debate on the development of an overall maritime policy which combines an integrated, cross-sector analysis with effective policy co-ordination and common action. According to the Commission, such a policy should combine the competitiveness and employment objectives of the Lisbon agenda with improving the health of the marine environment (EC Commission 2006).

The Blue Paper reflects the outcome of a one year consultation period launched with the adoption of the Green Paper. The results of that consultation have been brought together in a separate communication which was also published. The Maritime Policy "Blue Paper" sets out a comprehensive action plan including the Port Policy Communication which was published on 18 October 2007. The Commission identified the Blue Paper as a crucial first step for Europe's oceans and seas towards unlocking its potential and towards facing the challenges of a Maritime Europe. It should also allow the EU to make the most of its maritime assets and it will help Europe face some of the major challenges before it. The Blue Paper identifies five areas of action necessary to launch an integrated Maritime Policy for the European Union: sustainable use of oceans and seas, knowledge and innovation, quality life in coastal regions, European leadership in international maritime affairs and, finally, visibility of maritime Europe and its heritage.

These areas are translated in a concrete action plan which accompanies the Blue Paper. Key actions include the development of a European Maritime Transport Space without barriers, a White Paper on maritime transport strategy, a roadmap towards maritime spatial planning, a strategy to mitigate the effects of climate change on coastal regions, reduction of CO₂ emissions and pollution by shipping (including promotion of shore-side electricity in EU ports), sustainable maritime tourism and a European network of maritime clusters (<http://www.espo.be>, 2008).

The ongoing growth of the world economy in terms of GDP and industrial output accelerates the growth of the international trade and as a consequence boosts the increase of the world seaborne trade (UNCTAD 2005). According to WTO calculations, it accounts for more than 80 % of the world total trade in tonnage terms. The growth rates of the seaborne trade were especially high in the recent twenty years of the 20.th century. In 2004 it reached 6,76 billion tones of loaded goods. The annual growth rate reached 4.3 % over that of 2003, and the increase of the world merchandise exports volume

was 13% higher at that time. The world merchant fleet grew in deadweight tons (dwt) up to ca 900 million that represents 4.5% increase. This tendency is still going on and especially the number of containerships grew by 15.5% (see tab. 1). The rapid increase of the world seaborne trade boosts the development of the maritime transport. As a result, it accounts nowadays ca. 90 % of the world transport in ton-miles. As a consequence the total throughput of the world sea ports has been growing considerably, reaching (according to the provisional data) more than 14 billion tones (loaded and unloaded) (Grzelakowski & Przybylowski 2006).

Table 1. World fleet structure by type vessel in 2005 - 2007 (DWT x 100)

Principal types	2005	2006	2007	Percentage change 2007/2006
Oil tankers	336 156	354 219	382 975	8.1
	37.5	36.9	36.7	-0.2
Bulk carriers	320 584	345 924	367 542	6.2
	35.8	36.0	35.3	-0.7
Ore/bulk/oil	9 695	7 817	5 614	-28.2
	1.1	0.8	0.5	-0.3
Ore/bulk	310 889	338 107	361 928	7.0
	34.7	35.2	34.7	-0.5
General cargo ships	92 048	96 218	100 934	4.9
	10.3	10.0	9.7	-0.4
Containerships	98 064	111 095	128 321	15.5
	10.9	11.6	12.3	0.7
Other types of ships	48 991	52 508	62 554	19.1
	5.5	5.5	6.0	0.5
Liquefied gas carriers	22 546	24 226	26 915	11.1
	2.5	2.5	2.6	0.1
Chemical tankers	8 290	8 919	8 823	-1.1
	0.9	0.9	0.8	-0.1
Miscellaneous tankers	1 001	1 261	1 168	-7.4
	0.1	0.1	0.1	0.0
Ferries and passenger ships	5 589	5 649	5 754	1.9
	0.6	0.6	0.6	0.0
Other	11 565	12 453	19 894	59.8
	1.3	1.1	1.9	0.8
World total	895 843	959 964	1 042 328	8.6
	100.0	100.0	100.0	

Source: Compiled by UNCAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay 2008.

Containerisation that has given shipping lines greater freedom to serve markets from a wider choice of ports, thanks to so-called transferability (Fleming et al. 1994), deepened the globalisation process. Ports have no longer control over inland markets and can not be sure of the trade even in their own local areas. They have to invest huge sums of money in superstructure and infrastructure to participate in the container industry. However, it is not a guarantee to take profits from this business as some of them, despite having a container terminal, may be bypassed because of the reasons linked to the whole

transportation chain, like hinterland connections. The shipping lines, being the most important players in the logistics chains, widen their maritime services and extend control over landward movements. They certainly do not take into consideration the specific merits of a particular port, but the economies of scale and conditions of the entire chain. For instance, services in the Mediterranean have concentrated in southern entirely new pivot ports, such as Gioia Tauro and Algeciras, bypassing direct services with northern reputed ports as Livorno and Marseilles. Thus, port operations can be compared to a lottery (Slack 1993). Actually, the most dynamic increase of the handled volume of the biggest EU ports concerns the container traffic. There is a high level of correlation between the EU ports development and their container handling volume. On the list of top 20 container terminals only three EU ports are named, i.e. Rotterdam, Hamburg and Antwerp, ranked 7, 9, 11 respectively. However, the percentage change of container throughput in the EU container terminals is above the world average level. In the Baltic Sea Region the level of containerization is unfortunately the lowest in Poland (see fig. 1). However the latest investments in the seaports of Gdansk and Gdynia should increase their competitiveness.

the maritime transport is concerned, some forms of cooperation such as strategic alliances (SAs) and equity merger and acquisition activities (M&As) have been developed. They refer mainly to the international container transport - Hanjin/Senator, P&O Nedlloyd, Hamburg-South-Group, etc.

The main result of the capital integration and other forms of cooperation is enhancing the competitive position by improving learning capabilities and the timely access to technological knowledge and also vertical integration, control of intermodal and logistic cycles and logistics outsourcing, as well. Thus, the transport of goods by sea costs have been decreasing and the effectiveness of the international combined transport chains is steadily growing. This process is still going on, despite huge unavoidable ports investments (Grzelakowski & Przybylowski 2006).

Major shipping lines formed strategic alliances because of the pressures of globalisation requiring to be present in all the major markets of the world. As a result, formerly separate services of members are being integrated and create new service configurations that ports are unable to predict the outcome. Meanwhile, ports operations become more capital intensive, labour saving and space consuming. Due to liberalization of the EU transport markets the seaports are under the huge competitive pressure put mainly by container transport operators committed in the logistic transport chains. Not all of them are able to face such a competitive environment.

The adjustment to the above mentioned globalization processes needs huge additional public investment in port infrastructure and lowering of the operational handling costs. Only the biggest terminals and port handling operators can meet those challenges and requirements set by the growing competitive environment (pressures from container operators, liners). Due to the relatively low port tariffs ports are unable to increase their income. Therefore, they need to apply for a huge public money and the access to the capital of parties involved in the multimodal transport chain. However, such a strategy is very often connected with the change of their contemporary role in a transport chain and the evolution of their model of administration and management, in particular. The Polish ports should consider specific approaches depending on the environment they are operating in to face the ongoing challenges.

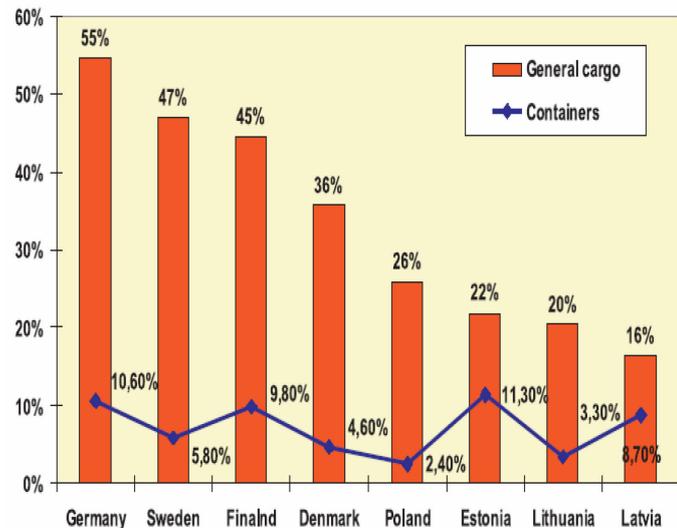


Figure 1. Level of containerisation in external trade of the Baltic Sea Region countries

Source: M. Matczak, *The Baltic Container Outlook 2007*, Actia Forum, p. 26.

The changes in the maritime transport sector concern not only the growing volume of commodity flows and the structure, but also ships' size, specialisation, containerisation and transport chain organisation. The growing ships' size involve huge capital expenditures in ports. They refer to extensive dredging, much more dockside and handling capacity, for example. However, such an anticipation may be a risky undertaking, as there is an uncertainty over the ultimate vessels' size. As far as the organization of

3 STRATEGIES FOR POLISH SEAPORTS DEVELOPMENT

In 2005, one of the Polish Gdynia Port container terminals has been taken over by Hutchison Port Holdings Group (HPH). HPH handled that year

51,8 mln TEU on 251 quays in 43 ports. This global operator has shares on the terminals in 21 countries all over the world: in Asia, Africa, both Americas and Europe. In Europe, they are present in Belgium, Germany, Spain, the Netherlands and Great Britain. This example reflects the abovementioned globalisation and integration processes.

The existing traditional seaport administration and management systems as well as port policy objectives and requirements, based principally on the concept of exclusively port-oriented management forms in Polish ports, do not comply any more with the new logistic management challenges and growing competitive transport environment. The traditional concepts and models of national seaport policy are being steadily evolved, getting much more global and transport chain oriented. Polish seaport authorities, confronted with the abovementioned processes, must adopt efficient survival strategies in order to resist global and integration pressures. Slack mentions two possible reactions that could be adopted by seaports: keeping pace with market demands or pursuing customer-driven strategies. Porter and Robinson studies suggest providing superior value-delivery to targeted customers at a cost that provides acceptable profit levels.

The first strategy consists on carrying out expensive investments in superstructure and infrastructure in order to keep pace with shipping lines expenses on larger vessels. The second one is a response to concrete demands coming from shipping line clients. Certainly, investing huge money is not a guarantee of success and may not be even economically and economically sustainable. The third approach requires important adjustments in ports functions to fit better into local, regional and global markets (concentration on passenger business or container feeder port role, f. ex.). This solution could be a good idea for Polish ports as their participation in the container market is relatively low.

A port authority may be not only a port operator but also a land developer. Sites that have no more a port-use character can serve for urban redevelopment. Such an alternate use of port sites may bring a lot of income, because waterfront land is of a great value (Slack 2001). As mentioned above, the necessary step is a full integration of those entities into the transport chains. Such a process has already started. It is performed by horizontal and vertical forms of integration. The first one is caused by the ongoing process of privatisation of the ports terminals, mainly container ones. The global container operators, like HPH, take over container terminals becoming their owners in the world scale. The reason of this is an increasing rentability of port container terminal companies. According to Drewry Shipping Consultants, the leading container operators like HPH, CSX

WT, PSA Corp., ICTSI and P&O Ports reach turnover rentability of 33%, 29%, 25%, 18,8% and 17,4% respectively. The vertical integration is based on capital concentration among the ports terminal companies and other logistic transport operators such as global container alliances (Maersk).

Till now, the ports behaved passively being taken over by other operators players/ carriers. Thus, despite the growing concentration of the commodity flows in the main EU ports which strengthen their competitive position on the open European seaport market, the majority of them seem to be unable to resist the enormous global challenges. However, since the mid 90. some European seaports are getting much more pro-active on the global transport market which is not the case of Polish ones yet. The simplest form is the EU biggest container terminal operators (Eurogate) set together with the strongest railway companies container railway services which operate as a global player on the European transport market. Such services connect the main European terminals (Bremen, Hamburg) with the main consumer and production centers in Europe. Consequently, European ports binds huge area of the hinterland and the main initiative is overtaken by the container terminals.

The wider concept, based on stronger position of container terminal operator in land transport relations is aimed at strengthening its position in relation to the container transport operator (container alliances). Nevertheless, the port container operators are partly overtaken by still stronger maritime transport operators. In fact, the shipping lines become multimodal logistics providers controlling the routing of the flows in conjunction with the ocean services of the consortia. Thus, a port is an incidental entity in this global network system. Containerisation has reduced the economic impact of ports on cities, because ships crews are smaller than they used to be, spend little time in port and dock labour considerably diminished. As local economic benefits (employment) are declining, it is no longer justified to invest huge public money in the port area. The European Commission wants to minimise subsidies in accordance with proper competition policy and a restrictions on public state aid.

The increased competitiveness of the Polish ports can be achieved by establishing port clusters either via their port authorities or via municipal governments. The port cluster may be defined as 'the set of interdependent firms engaged in port related activities, located within the same port region and possibly with similar strategies leading to competitive advantage and characterized by a joint competitive position vis-à-vis the environment external to the cluster' (Hong-Seung-ROH 2004). There is an urgent need to enhance the relationships between the port

and associated companies in the port area in order to create an added value (Notteboom T. E. 2005). Moreover, the strategies for port competitiveness must take into account local impact in order to strengthen the link between the port and its city/region (Pando J. et al.2005).

Port management systems should also meet the criteria of sustainability, i.e. combining economical, ecological and social factors. The sustainable composition will be reached if all stakeholders having different goals are taken into account (Musso E. 2006). It is not an easy task, as ports authorities may be often in conflict with legislation, environmentalists and the general public while trying to accommodate their sites to growing economic needs (f. ex. access to water depths requiring a frequent dredging). There is a need for more partnership solutions as regards port management, implementing ecological systems preventing pollution and excessive emissions. This requires paying more attention to local labour markets in order to avoid social protests (EU 'service' directive proposal, for example). The possible reaction leading to raising ports' competitiveness could be also a horizontal integration and port networking and combining competition and cooperation.

So the Polish seaports need to be much more efficient in micro and macroeconomic terms. They should become an integral part of the vertically integrating logistic transport chain. The simplest form of performing these strategy is the development on their areas the distribution and logistics centres, for example. This is the case of three major seaports in Poland: Gdansk, Gdynia and Szczecin-Swinoujscie (fig. 2) where such investments are taking place. They also need to enforce much more integrated, logistic transport chain oriented sea port activities because of the still growing competitive requirements from maritime and land transport operators, as well as exporters and importers. Such kind of seaport re-orientation can not be efficiently carried out without a transformation of their administration and management systems, i.e. going towards more partnership solutions, for instance. Some of them will have to find other solutions and cultivate niches as secondary ports. Others may be forced to be pro-active and work closer with logistics providers, railroads and truckers raising the service attractiveness of the port.

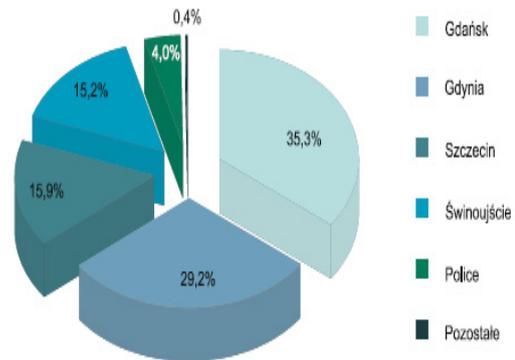


Fig. 2. Transshipment turnover in Polish seaports (2007)
Source: Porty morskie, www.start.gov.pl, 19.10.2008.

However, the abovementioned strategies would require more partnership solutions, going far beyond the port area. Ports could also allocate births to a single user in exchange for along-term commitment which would integrate and even completely attach shipping lines to the particular port. The development of logistics features: inventory control, data management, packing and processing could also enhance economic benefits of port operations, like in Port of Rotterdam. The horizontal port alliances seem to be a good solution for survival, as well. A group of northern European ports already gather together to solve common problems. However, this process is quite a challenge because of the differences concerning port management models and systems. Finally, the Polish seaports' position in relation to global carriers can be upgraded thanks to the privatisation processes (difficult to undertake, because contested by trade unions in Port of Gdynia, f. ex.) and emergence of grouping of terminal owner/operators (Przybyłowski A. 2007).

4 CONCLUSION

- 1 Polish seaports are under a very strong influence of the globalisation and integration processes. Vertically integrating transport chains make them, especially such seaports as Polish ones, vulnerable to rapidly changing contemporary environment.
- 2 The European Commission acknowledges that the growth in trade and shipping is dependent on having adequate port capacity and recognises that this need is under competition from environmental objectives. It is not clear yet whether the EU wants to support bigger (Rotterdam, f. ex.) or less developed European ports (like Polish ones). In fact, this dilemma is a choice between the highest competitiveness and the sustainable development of the European territory.
- 3 Traditional port management models and the state of the transport infrastructure decrease the com-

petitive position of Polish seaports. Thus, there is a need for novel organisation solutions and more investment in the infrastructure and superstructure also in order to enhance their competitiveness.

- 4 The appraisal of the seaports' position in Poland is possible through capital integrated transport chain oriented models of management. Actually, the efficient seaport policy needs to take into account such strategies as vertical and horizontal integration, port networking and port clustering.
- 5 Some Polish seaports will have to find other solutions and cultivate niches as secondary ports. Others may be forced to be pro-active and work closer with logistics providers, railroads and truckers raising the service attractiveness of the port. However, this would require more partnership solutions, going far beyond the port area. Ports could also allocate births to a single user in exchange for along-term commitment which would integrate and even completely attach shipping lines to the particular port. The development of logistics features: inventory control, data management, packing and processing could also enhance economic benefits of port operations, like in Port of Rotterdam. The horizontal port alliances seem to be a good solution for survival, as well.

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