
Editorial

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Biographical notes: Thierry Vanelslander graduated as a doctor in Applied Economics at the University of Antwerp in 2005. He is currently the holder of the BNP Paribas Fortis Chair on Transport, Logistics and Ports. Since mid 2007, he was the Director of the Research Centre on Commodity Flows funded by the Flemish Government, to which he still is a promoter now. He is also the Vice-Chair of the COST Action on PPP. His research focuses on business economics in the port and maritime sector, and in land and air transport and logistics. His PhD dealt with cooperation and competition in sea-port container handling.

At UBC from 1960 until 1997, Trevor Heaver was the UPS Foundation Professor of Transportation, Director of the Centre for Transportation Studies and the Chair of the Transportation and Logistics Division in the Faculty of Commerce until the end of 1997. His specialisation in the economics, management and public policy issues associated with transport and logistics is reflected in his publications. He is the author of several books and numerous articles and is a frequent participant in conferences. His current research interests focus on liner shipping, international logistics and intermodal transport, especially the implications of economic and trade growth.

Transport, as a derived activity, and maritime transport in particular, are affected by the ongoing changes in the global economy. While ever-changing in the specific attributes, the increases in population and trade and the various aspects and concerns for sustainability result in continuing challenges for public and private sector decision makers. This special issue of the *International Journal of Shipping and Transport Logistics* reflects the range of challenges. The papers originate from the World Conference on Transport Research Society Special Interest Group 2 (Ports and Maritime) Conference in Antwerp, May 2012. The six papers reflect the range and pattern of challenges that exist: what does the future hold and can we improve forecasts? Are

existing operations as efficient as they could be? How can maritime activities be managed so that they are consistent with sustainability?

Forecasting is a fundamental element in planning for the future so is appropriate that this is topic of the first paper by Russo, Musolino and Assumma. The paper provides an integrated procedure for the estimation of containerised traffic at an international scale rather than the commonly considered local level. The paper combines two approaches: a meso-aggregated system of models, and a macro-aggregated system. The combined system is applied to the Mediterranean basin, but is conceptually valid for any range. The model allows for a more detailed forecast of future maritime traffic flows, and hence provides opportunities for improved public and private sector decision making.

The globalisation and increased volume of trade inevitably lead to questions about the adequacy of transport infrastructure. An important first question is the effectiveness with which the existing infrastructure is used. Fundamental to analyses of current capacity utilisation is an understanding of existing operational relationships and of the influences of facility pricing.

Reynaerts examines the relationship between lock usage and marine traffic congestion at the locks along the Upper Mississippi River system using a fixed-effects regression model that accounts for both lock characteristics and lock heterogeneity. Using a panel dataset spanning the years 1993–2010, the author finds a quadratic lock congestion function for demand at locks with 600 foot lock technology, while 1,200 foot locks operate under free flow conditions. The analysis also identifies the beneficial effects of auxiliary chambers and the effects of scheduled and unscheduled outages. The paper has implications for future policies although the author does not explore them.

Fageda and Gonzalez-Aregall take advantage of variation in the management of port pricing among Spanish ports to examine factors influencing port pricing and the relationships between traffic volumes and revenues per tonne. While the study is specific to Spanish ports the questions raised and the implications of the conclusions are relevant to ports generally.

The remaining three contributions deal with aspects of sustainability. The first of these three papers by Giuliano and Linder deals with the Ports of Los Angeles and Long Beach Clean Air Action Plan, implemented in 2006. It was a voluntary agreement between two competing ports, and it called for the restructuring of the drayage trucking industry. The paper uses a political economy framework to examine the role of stakeholders in developing the plan and to identify the effects of the plan on stakeholders. The air action plan appeared to have far reaching effects. The process enabled stakeholders, including regulatory agencies and environmental groups to have at least as much influence and access in developing the plan as the dominant actors. The latter were not the target of the most stringent measures. The industry segment with the least market power, drayage trucking, was subject to the most radical changes. It turned out that new alliances got formed between the ports and regulatory agencies. The paper provides valuable environmental insights and outlines the cost impacts for port users and port hinterland service providers.

Acciaro focuses on the strategies of ship owners faced with the need to reduce sulphur emissions. The author considers a number of alternatives available to owners to comply with emission regulation and minimise impacts to their bottom-line. He develops a real options decision support instrument for analysing the alternatives available to shipowners. The approach takes into consideration the value of deferring the investment decision vis-à-vis the advantages obtainable from the exploitation of fuel price

differentials. The model shows that there is a trade-off between low LNG prices and LNG capital expenses. While in most cases it would not be recommended to invest in LNG today, the model shows that investment in LNG can make economic sense as early as 2015. The observation is highly dependent on the capital costs necessary for retrofitting ships with LNG engines and the difference between LNG prices and distillates prices. The paper brings together the environmental challenge that shipping companies face with the financial realities they face. Optimisation of their expenses is more than welcome.

The final paper in this special issue by Doudnikoff, Gouvernal and Lacoste investigates the aggregated impacts of future environmental policies aimed at abating atmospheric emissions from ships. The paper deals with the low-sulphur fuel requirements from IMO and a European market-based instrument on CO₂ emissions. The paper assesses the cumulated cost implications of sulphur and CO₂ policies for a typical North Europe-East Asia liner shipping loop. The paper shows that sulphur emissions from ships may have a significant effect on CO₂ emissions. A holistic approach is recommended.

Together, the papers from the conference provide scientific insights into the types of key issues for logistics chains involving shipping and ports now and in the future.