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## **Editorial: Past, present, and future of maritime economics**

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Kevin Cullinane is a Professor of International Logistics and Transport Economics at the Gothenburg University. He has been an Adviser to the World Bank and governments of Scotland, Ireland, Hong Kong, Egypt, Chile and the UK. He holds an Honorary Professorship at Hong Kong University and numerous Visiting Professorships. He is a Chartered Fellow of the CILT. He has published ten books and over 200 refereed journal papers and is an Associate Editor of both *Transportation Research A* and *D*. He has been appointed as a panel member for the UK REF 2014 and REF 2021 research assessments.

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Richard O. Goss was born on October 4, 1929, and passed away on February 8, 2017 at the age of 88. His diverse experiences from his life as a cadet in 1947 to his passing in 2017 as Emeritus Professor can be summarised in the following: sea experience up to master mariner and field experience at a shipping company 1947–1963; degree qualifications gained over the period 1958–1979; civil servant in the British government, including Under-Secretary at the Department of Industry and Trade 1963–1974 and; academic at the Cardiff University 1980–2017. He was a founding member of the International Association of Maritime Economists (IAME) established in 1992. He served as the IAME's first President and the Editor-in-Chief of *Maritime Policy &*

*Management (MPM)*, formerly known as *Maritime Studies and Management* (1973–1976). He was a pioneer and a most influential global leader in establishing the discipline of maritime economics.

He published more than 25 full papers, 12 short articles including editorials and comments, two edited books and one monograph. Twenty of his full papers, short articles and comments were published in *MPM* and the other five full papers in other journals such as the *Journal of Transport Economics and Policy*. It can be said that his works are based on, and interwoven with, the solid reasoning, logic and knowledge of ships, ports and shipping he gained through his work experience in the field, his younger academic life at the Cambridge School of Economics, his time in the civil service and, later, from his intellectual interactions at Cardiff University. In memory of his contribution to the field of maritime economics, this special issue comprises the following four papers that have been selected through a rigorous review process.

The first paper entitled ‘Goss and ensuing research in shipping and port’ by Young-Tae Chang and Paul Tae-Woo Lee revisits his work to identify key concepts, theories and methodologies underlying his academic reasoning and examined whether ensuing research in shipping and port areas have been aligned with his academic thought and ideology. Having briefly scanned the academic thought and ideology of Goss, the authors deal with major issues and lessons in shipping and port economics and utilise Chang et al. (2018)’s research outcomes to examine whether his theoretical propositions are still valid today in terms of both theory and empirical findings. The authors express his economic thoughts drawn from his publications in one sentence: Goss was a solemn believer in anti-protectionism, welfare maximisation of producers and consumers, the incremental basis of costs, benefits and opportunity cost and efficient shipping and ports. Having reviewed Goss’ publications, Chang and Lee list his main contributions in maritime economics as follows: no intervention of governments in formulating shipping and port policies, but adopting market-based competitiveness policies; the introduction of economics-based methodologies for measuring productivity, efficiency, costs of ships, ports and users, and investment appraisal based on incremental discounted cash flows; greater emphasis on using real monetary terms in pricing and costing calculations, e.g., short vs. long-run costs, private vs. social costs, and marginal vs. average costs. A survey on port productivity, efficiency, competition and competitiveness within the extended period of 1994–2017 (Chang et al., 2018) found that in spite of the vast number of efficiency studies, Goss’ assertion of using ‘economic measures’ was not fully incorporated, as most studies have used physical measures, even though these measures were criticised by Goss. Moreover, the authors confirmed that as recent maritime research has increasingly studied maritime supply chain systems, the paradigm seems to have shifted from a traditional port-centric perspective to a supply chain perspective, as contemporary ports are considered as part of supply chain systems. This observation is also found in the second paper by Sheila Farrell and Mary R. Brooks entitled ‘Port policy: are the Goss principles still relevant today?’ in this special issue.

Farrell and Brooks find that Goss’ four papers on economic policies and seaport policy (Goss, 1990a, 1990b, 1990c, 1990d) have been cited most in the literature. Chang and Lee (2018, pp.5–6) specified the

“Citation statistics on the four papers by Google Scholar as of June 20, 2018: economic function paper (Goss, 1990d) 202 times; port authority paper (Goss, 1990a) 142 times; port policies paper (Goss, 1990c) 84 times; and port strategies paper (Goss, 1990b) 82 times. Moreover, the papers that cited Goss’ port papers have been even more cited in the literature. Notteboom and Rodrigue’s (2005) paper citing Goss (1990a) have been cited 1,005 times and Robinson’s (2006) paper citing Goss (1990d) 723 times. This vividly shows how Goss’ port papers have been influential in related research works.”

Having recognised the significance of these remarkable four papers, Farrell and Brooks examine the appropriateness of his economic principles for seaports with respect to the changing nature of ports over the last 25 years, given the emergence of transshipment hub ports and the global supply chain system (see Section 4 in Farrell and Brooks). Farrell and Brooks highlight recent changes in port authority functions (see Table 1) and completion level, governance philosophy, the role of private and public sector in the four alternative governance strategies of port authorities, i.e., the minimalist, pragmatic, public sector and competitive strategies (see Table 2). Port function, governance and port development policy have been influenced by stage of economic development, socio-economic-political-legal systems, and stakeholder’s ethos regarding privatisation, as well as the ideology and role of central government in port development (Lee and Flynn, 2011). Therefore, a ‘compound eyes’ approach is required to review and study port devolution and governance models (Lee and Lam, 2017). While Goss visited 40 ports in 15 countries since 1978 and published the four papers in 1990, we could assume that he might face and ponder such circumstances. Brooks and her colleagues conducted a series of comprehensive surveys of ports around the world and collected data in collaboration with the members of the port performance research network (PPRN) (e.g., Brooks and Cullinane, 2007; Brooks et al., 2017; Brooks and Pallis, 2011). The time gap between the two field surveys and changing port and shipping environments, in association with globalised economic development, have led the authors to draw a meaningful answer to the question ‘Are the Goss principles still relevant today?’ Farrell and Brooks confirm that Goss’ economic principles for seaports, e.g., competition for improving efficiency, a country’s trade interests for driving port strategy, and diversity and flexibility of port strategy development are still appropriate today. However, the authors argue that Goss failed to foresee the explosive growth of environmental, social and governance concerns and the evolution of global supply chains and the consolidation of beneficial cargo owners. Port studies reflect these differences in the prevailing economic system and their absence has provided a significant catalyst for the expansion of the port economics literature.

The third paper in this special issue is ‘Principles in practice: an examination of cascading’ by Trevor Heaver. Acknowledging that Goss had a special interest in many aspects of the economics of ship size (Goss and Jones, 1977), Heaver defines the concept of cascading in the light of basic aspects of the economics of ship size. He argues that cascading is a process guided by management decisions that are affected by financial, as well as economic, considerations and utilised the size profile of container ships by route from 2010 to 2017 to support his logic. Arguing that an abstract and more dynamic model ignores the effects of separate competing liner firms, the author proposes alternative models to explain the cascading of ships. He enumerates a range of factors which he deems to influence cascading that have not been discussed before. Amongst others, these include: the expected growth of global trade; dynamic conditions on routes; the volume

of traffic and physical constraints; the costs associated with the redeployment of vessels, as affected by the financial considerations associated with corporate accounting and; the deployment of ships taking place in dynamic competitive markets. This cascading issue is closely related to ships' costs in terms of social cost versus private cost, short-run versus long-run cost and the rate of return reflecting the opportunity cost of capital (Goss, 1983, 1985). Goss (1967) developed his economic reasoning of container ships in analysing a ship's turnaround time. When combined with investment-related considerations such as cash flow, rate of return, annuity and opportunity cost, it also provides the basis for examining the cascading of dry bulk carriers. In dealing with the cascading of ships, it is important that dry bulk carriers are distinguished from container ships, because the underlying economic rationale and motivation are not identical. The economics of larger ships and the rationale for cascading are different between the two ship types because the market characteristics, cargo type, service type and routes are very different. Heaver's analysis serves to highlight these differences.

The final paper in this special issue is entitled 'International port investment of Chinese port-related companies' by Weiwei Huo, Peggy Shu-Ling Chen, Wei Zhang and Kevin X. Li. It is an experimental paper which seeks to apply Goss' legacy to a contemporary issue in China's ports. As globalised manufacturing and distribution systems are associated with the development of global logistics and supply chains, the economic functions of a seaport have been expanding beyond "benefits to the original producers of the exports and the ultimate consumers of the imports passing through it" [Goss, (1990c), p.218]. In addition, the devolution of Chinese port governance since the 1990s and China's Belt and Road Initiative (BRI) since 2013 have motivated foreign shipping and terminal operators to involve themselves in Chinese port investment and development. The BRI has accelerated China's ports to develop 'Global going out strategy' along the Maritime Silk Road (Chen et al., 2018), which allows local port groups and terminal operators to implement international strategies to expand their business. The above developments have begun to restructure China's port governance and port policy. Therefore, Goss' four port policy papers provide a valuable platform for looking into China's current port issues. Huo et al. overview foreign ports' investment in Chinese port-related companies, with 39 foreign port investment cases comprising four main investment modalities, i.e., acquisition, joint venture, concession and build-operate-transfer (see Table 7). In doing so, the authors provide updated information on the foreign investment of COSCO Shipping Ports, Chinese local port groups and China Merchants Port. The major findings are that the Chinese companies mainly form a partnership for overseas investment and, interestingly, some of the investment projects involve an integration of port development, industrial parks and cities, and some investment projects are conducted through a public-private partnership (PPP) model, i.e., Chinese companies as private entities in combination with the public sector within the host countries. This form of port strategy development was not covered in Goss' four port policy papers.

The four papers in this special issue cannot address Goss' entire volume of work. It is to be hoped, however, that they provide a platform to further develop and enrich the field of 'maritime economics', as coined by the late Professor Emeritus Richard O. Goss. We devote this special issue to him in memory of his lifetime of work for maritime studies in the world.

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