



The Handbook of Maritime Economics and Business

2ND EDITION

Edited by:
Costas Th. Grammenos

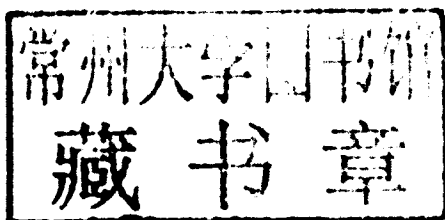
Lloyd's List

THE HANDBOOK OF MARITIME ECONOMICS AND BUSINESS

SECOND EDITION

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COSTAS TH. GRAMMENOS



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LONDON

2010

Lloyd's List
Telephone House
69-77 Paul Street
London EC2A 4LQ

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 978 1 84311 880 0

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Text set in 9/11pt Plantin
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Printed in Great Britain by
MPG Books Ltd, Bodmin, Cornwall

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This second edition of the *Handbook of Maritime Economics and Business* is

Dedicated to:

Professor Ernst G Frankel, of Massachusetts Institute of Technology

Professor Richard O Goss, of University of Cardiff

Professor Arnljot Stromme Svendsen, of the Norwegian School of Economics
and Business Administration

And in memory of:

Professor Zenon S Zannetos, of Massachusetts Institute of Technology

Professor Vassilis Metaxas, of University of Piraeus

All these Professors have shown in their published texts a pioneering insight
on various aspects of the maritime industry and thus command our respect
and warm thanks.

Professor Costas Th. Grammenos
London, June 2010

About the Editor

Costas Th. Grammenos, CBE, BA (Athens), MSc (Bangor), DSc (City), FCIB, Hon FIMarEST, FRSA is Professor of Shipping, Trade and Finance; Pro Vice-Chancellor of City University London and Deputy Dean of its Cass Business School, where he founded the Centre for Shipping, Trade and Finance in 1983 (renamed The Costas Grammenos International Centre for Shipping, Trade and Finance in April 2007). The Centre carries out research through members of its staff and PhD students and cultivates international dialogue by formal and informal meetings. He designed two world-class Masters of Science: Shipping, Trade and Finance introduced in 1984; and Logistics, Trade and Finance commenced in 1997 (since 2008 known as MSc Supply Chain, Trade & Finance); while the MSc in Energy, Trade and Finance was introduced in 2003.

In 1977 he established credit analysis and policy in bank shipping finance which has been applied by many international banks; and, in 1978, published his monograph *Bank Finance for Ship Purchase* (University of Wales Press), which formed the key principles in shipping finance. In addition, since mid-1980s, he concentrated on and promoted the utilisation of international capital markets for raising funds for shipping companies through his lectures, teaching at University, conferences and since early 1990s through his published research. In 2006 he was appointed by the Greek government as President of the Managing Board of the International Hellenic University in Thessaloniki, Greece, with the mandate to establish and operate it. His research interests are in Bank Shipping Finance, and Capital Markets.

In 1999 Costas Grammenos was awarded by City University London the highest academic accolade, the Doctor of Science degree (DSc) for creating, through his published research, shipping finance as a new academic discipline.

He is a member of the Board of Directors of the Alexander S Onassis Public Benefit Foundation; a Founding Trustee of the Institute of Marine Engineers Memorial Fund; and a Non-executive member of the Board, Marfin Investment Group (MIG).

He is Fellow of the Chartered Institute of Bankers; Honorary Fellow, Institute of Marine Engineers, Science and Technology; Fellow of Royal Society of Arts and Member of the Baltic Exchange; Member of the American Bureau of Shipping; Liveryman of the Worshipful Company of Shipwrights; Freeman of the City of London; Founder and Chairman of the City of London Biennial Meetings; Visiting Professor at the University of Antwerp; and he was President of IAME (1997–2002).

He was 1998 Seatrade Personality of the Year; in 2008 he was awarded the prize of Distinguished Personality for his outstanding contribution to the shipping industry by the Association of Banking and Financial Executives of Hellenic Shipping; and in 2009 was awarded the 'Achievement in Education' at the Lloyd's List Shipping Awards; he was made OBE (Officer of the British Empire) in 1994 for his contribution to international shipping and finance and appointed CBE (Commander of the British Empire) in 2008 for services to teaching and research.

PREFACE TO THE SECOND EDITION

In the seven years that have passed since 2002, when the first edition of this *Handbook* was published, each one of us would have noticed major events or conditions that have strongly impacted the shipping markets and produced results that we would include in our lectures – often we categorise these as extraordinary.

I have in mind the explosive rate of growth in China; the almost unstoppable increase in seaborne trade and in investments in new vessels; in the expansion in number and size of Chinese shipyards; in the continuation of bank finance as the strong source of funds for shipping companies; in the mergers or acquisitions of shipping companies and, generally, in the increase of their size; and in the emergence of capital markets as a serious means of raising funds for a sizeable number of shipping companies.

All this activity was abruptly shaken in 2007 when the world recession shyly emerged and the subprime crisis of US residential mortgages, and the toxic products based on them, hit the international financial system and froze the liquidity in it.

It seems we have not seen the end of the mega drama that we have witnessed in these seven years.

Our *Handbook* has been directly or indirectly influenced by events of the first decade of the 21st century which have been embodied in our data analysis. The structure of this volume remains the same as the edition published in 2002. However, in addition to the rewriting or updating of the chapters, some new topics have been included in the volume, such as the historical analysis of freight rates fluctuations in chapter 10; measures for global control of air pollution from ships in chapter 16; measures for business performance in shipping in chapter 22; while capital markets as a source in shipping finance and a holistic survey in strategy literature relevant to shipping are discussed in chapters 28 and 29 respectively.

The first edition established the *Handbook* as an authoritative source of academic research that is useful for university students and researchers and, at the same time, it satisfies the curiosity of the well-informed practitioner and widens its knowledge horizon. It is a pleasure to know that the *Handbook* is now called “The Maritime Bible” in more than 30 countries.

I want to thank all my colleagues for their enthusiasm to participate in the 2002 and 2010 editions and to thank them profoundly for the high quality of their contributions.

Finally, I want to thank my Personal Assistant, Chrysoula Zevgolatakou, for controlling the logistics of incoming and outgoing chapters and the Informa editorial and printing staff, in particular Liz Lewis and Leigh Stutter, for their cooperation and patience in meeting tight deadlines.

Needless to report that as contributors we again gave up our royalties in favour of the International Association of Maritime Economies (IAME) and continue to be loyal members.

*Professor Costas Th. Grammenos
London, June 2010*

PREFACE TO THE FIRST EDITION

In the late 1960s, when I started focusing on shipping finance, there were only a limited number of publications on Maritime Economics which mainly analysed the broader theoretical topics. Now, after almost thirty-five years, this unique volume is published, covering for the first time a wide variety of maritime issues and sectors, written by fifty-one members of the International Association of Maritime Economists (IAME). Over forty of the contributors are well-known academics, with the remaining younger ones already showing recognisable academic presence, all teaching and conducting research at thirty universities, in seventeen countries.

IAME was established in 1992 with an aim to promote the development of maritime economics as a distinct discipline, to encourage rational and reasoned discussion within it, and to facilitate the international exchange of ideas and research. Throughout this decade, IAME has worked towards these aims most successfully, and here one should mention the organisation of international conferences, on an annual basis; this year (on its tenth anniversary), members will meet in Panama.

The *Handbook of Maritime Economics and Business* contains thirty-nine refereed chapters which are, primarily, based on research carried out over a number of years, covering eleven broad areas of Maritime Economics, *viz*: Maritime Economics and Globalisation; International Seaborne Trade; Economics of Shipping Markets and Cycles; Economics of Shipping Sectors; Issues in Liner Shipping; Maritime Safety and Labour Markets; National and International Shipping Policies; Aspects of Shipping Management and Operations; Shipping Investment and Finance; Port Economics and Management; and Aspects of International Logistics.

As I was studying these chapters, not only did I recall the questions that arose when I was collecting data for my study in Bank Shipping Finance, all those years ago, when so many answers were not readily available in published paper form or any other publication, I also found myself smiling many times, with great satisfaction, as I measured the width and depth of research presented here, in the wider spectrum of Maritime Economics. Indeed, *The Handbook of Maritime Economics and Business* is unique as it demonstrates the immeasurable progress, since the 1960s, in this area of research and teaching.

Because of its high quality output and its relevance to real life business, it will serve as a very valuable instrument for the stakeholders of the broader maritime world, including: university undergraduate and postgraduate students; shipowners; shipbrokers; shipmanagers and operators; bankers; underwriters; lawyers; shipping consultants; international logistics companies; port authorities; governmental maritime agencies; and official international organisations.

Over the last six months, I have worked closely with all the contributors and I thank them *de profundis* for the spontaneous acceptance of my invitation and the prompt delivery of what they promised. I am also grateful to them for agreeing, like myself, to waive their royalties in favour of IAME. My sincere thanks go to David Gilbertson,

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Chief Executive of Informa Group, who from the early days has strongly supported the idea of this volume; also to the LLP editorial and printing staff, in particular Vanessa Larkin and Tony Lansbury, for their cooperation and patience in meeting the tight deadlines. Finally, I thank very warmly two members of my staff: Dr Amir Alizadeh, also a contributor to this volume, and my Personal Assistant, Mrs Gladys Parish, for their enthusiasm and valuable assistance in the preparation of this *Handbook*.

Professor Costas Th. Grammenos
London, September 2002

LIST OF CONTRIBUTORS

PROFESSOR PATRICK M. ALDERTON

Born in 1931 and educated for the usual period, though left the sixth form to run away to sea in 1948 in BTC (later known as BP Tankers). Later in 1959, after trying most types of ships, he obtained his Extra Masters Certificate and lectured in one of the two navigation schools in London that in the late 1960s were amalgamated into the City of London Polytechnic. In the 1970s he moved to the Transport Department of the CLP and worked on his MPhil which he obtained in 1973. In 1989 he joined the World Maritime University as Professor of Ports and Shipping where he remained until he retired in 1995. Since then he has been a visiting professor at the London Metropolitan University. Publications include *Sea Transport – Operations & Economics* (6th edn) and *Port Management and Operations* (3rd edn), plus over 100 papers, articles and chapters in various books.

DR AMIR H. ALIZADEH

Amir Alizadeh is a Reader in “Shipping Economics and Finance” at Cass Business School, City University London, and a visiting professor at Copenhagen Business School and University of Geneva. He has first degree in Nautical Studies from Iran and worked as a ship officer for a short time. He then joined Cass Business School where he finished his MSc in Shipping, Trade and Finance and a PhD in Finance. He teaches different topics including Quantitative Methods, Oil & Energy Transportation and Logistics, Shipping Investment and Finance, Econometric Modelling, Energy and Weather Derivatives, and Shipping Risk Management. His research interest includes, modelling freight markets and markets for ships, derivatives and risk management in financial and commodity markets, and econometrics and forecasting. He has published in several academic journals in the area of transportation, finance and economics. Apart from academic research, he has been in close contact with the industry both as an advisor and as a consultant. He is involved in running the Baltic Exchange courses in “Freight Derivatives & Shipping Risk Management” and “Advanced Freight Modelling and Trading” which are offered in maritime centres worldwide.

PROFESSOR ALFRED J. BAIRD

Alfred J. Baird is Professor of Maritime Transport at the Transport Research Institute (TRI), Edinburgh Napier University. His doctoral research concerned the study of strategic management in the global container shipping industry. He has a BA (Hons) in Business Studies and is a Member of the Chartered Institute of Logistics & Transport. Prior to his academic career he worked for a liner shipping company. With an emphasis on the ferry and container shipping sectors, and the ports industry in general, Professor Baird has researched, published, advised, and taught across a range of maritime transport subjects including: strategic management in shipping, shipping market and industry analysis, ship and port cost modelling, shipping service scheduling/planning, competition, privatisation, procurement and tendering of shipping services, government policy, state subsidies, and assessing the feasibility of shipping services and port facilities.

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PROFESSOR HELEN BENDALL

Helen Bendall is a Director of MariTrade, a consultancy firm specialising in maritime investment and trade statistics for the maritime and aviation industries. Dr Bendall is a popular guest speaker on shipping investment and technological change in industry conferences and is an advisor to several peak industry and policy councils, having taken an active role in IMO working parties. Currently teaching at the Macquarie University in Sydney, she was also a senior academic member of UTS where she specialised in International Financial Management in the Finance and Economics School. She is well known for cross-disciplinary financial analysis to shipping and maritime investment problems. Her PhD on the economics of technological change in shipping included an innovative approach to measuring ship and cargo handling productivity across several ship types. Many of her subsequent publications have analysed applications of new shipping technology such as advanced algorithms to solve complex fast ship scheduling problems. More recently her research focused on the application of real options analysis to evaluate the financial viability of new ship technology and complex ship investment decisions.

PROFESSOR MARY R. BROOKS

Mary R. Brooks is the William A. Black Chair of Commerce at Dalhousie University, Halifax, Canada. From February 2002 to April 2008, she chaired the Committee on International Trade and Transportation, until recently served on the Committee for Funding Options for Freight Transportation Projects of National Significance, and currently serves on the Publication Board of the *Transportation Research Record*, of the Transportation Research Board, Washington DC. She was appointed to the Marine Board of the US National Academy of Sciences for three years in November 2008. She chairs the Port Performance Research Network, a network of scholars interested in port governance and port performance issues. She was a Canada-US Fulbright scholar at George Mason University in 2005. Her latest book, *North American Freight Transportation: The Road to Security and Prosperity*, was published in June 2008. In November 2006, she was named by the Women's Executive Network as Canada's Most Powerful Women: Top 100 in the professional category.

DR ANA CRISTINA PAIXÃO CASACA

Ana Cristina Paixão Casaca is the Technical director of ESPRIM – Centro de Acostagens, Amarrações e Serviços Marítimos, Lda. She obtained her elementary nautical studies degree at Escola Náutica Infante D. Henrique (ENIDH) in Paço D'Arcos, Portugal. She was a deck officer in Portuguese shipping companies and lectured at the Instituto de Tecnologias Náuticas. She received her BA in 1995, and subsequently obtained an MSc in International Logistics at the Institute of Marine Studies, University of Plymouth in 1997. She completed her PhD in International Transport/Logistics at the University of Wales, Cardiff in 2003. Since 1998, she has published articles in professional magazines and well-known international academic journals. She is a member of the Institute of Chartered Shipbrokers (ICS) and of the International Association of Maritime Economists (IAME). Since 2003, she has evaluated transport related projects and proposals on behalf of the European Commission. She is a guest lecturer at the Netherlands Maritime University.

PROFESSOR A. GÜLDEM CERIT

Güldem Cerit received her BSc degree from the Engineering School of the Middle East Technical University, Ankara, Turkey. She worked in private industry for nine years and in 1993, joined the Dokuz Eylul University School of Maritime Business and Management (which became the Maritime Faculty in 2009) as an Assistant Professor. Dr Cerit has served as the Director/Dean of the Faculty since 1997.

DR CIMEN KARATAS CETIN

Cimen Karatas Cetin has lectured on maritime business, port management and operations at the Dokuz Eylul University, Maritime Faculty in Izmir, Turkey since 2003. She completed her MSc at the Dokuz Eylul University Institute of Social Sciences in Maritime Business Administration in 2004, and pursues her doctoral studies in the same department. She was awarded a grant by the Scientific and Technological Research Council of Turkey (TUBITAK) in 2008 and continued her doctoral research at the Erasmus University Rotterdam, Center for Maritime Economics and Logistics (MEL) as a research fellow in 2009/2010. She has presented several papers on port management and organisation at international conferences, has published articles in journals and in edited books. She has participated in transport and port-related projects in Turkey.

STEVE CHRISTY

Steve Christy is Head of Consultancy & Research at Gibson Shipbrokers, based in London. He has more than 25 years' experience in the tanker and oil industries, covering oil supply and transportation developments. He is now responsible for Gibson's analysis of all the shipping markets. This includes research into market and industry developments impacting on the tanker industry, the implications for future supply and demand of tankers and forecast analysis of charter rates and earnings.

He has worked on a number of major projects, including various tanker market forecasts for different shipowners, charterers and investment clients. He is also involved in cost analysis, transportation options and shipping economics, and tanker investment appraisal, as well as acting as an expert witness in legal cases.

PROFESSOR KEVIN CULLINANE

Kevin Cullinane is Director of the Transport Research Institute and Professor of International Logistics at Edinburgh Napier University. He was formerly Chair in Marine Transport & Management at Newcastle University, Professor and Head of the Department of Shipping & Transport Logistics at the Hong Kong Polytechnic University, Head of the Centre for International Shipping & Transport at Plymouth University, Senior Partner in his own transport consultancy company and Research Fellow at the University of Oxford Transport Studies Unit. He is a Fellow of the Chartered Institute of Logistics & Transport, and has been a logistics adviser to the World Bank and transport adviser to the governments of Scotland, Ireland, Hong Kong, Egypt, Chile, Korea and the UK. He is a Visiting Professor at the University of Gothenburg, holds an Honorary Professorship at the University of Hong Kong and has published seven books and over 180 refereed journal and conference papers. He also sits on the editorial boards of several journals.

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PROFESSOR DOUGLAS K. FLEMING

Douglas Fleming is a maritime geographer and professor emeritus at the University of Washington, Seattle. He earned an undergraduate degree in Geology at Princeton in 1943 and a PhD in Geography at Seattle in 1965. He served with the US Navy from 1944 to 1946. He was employed by a commercial steamship line for 15 years in various capacities including chartering brokerage and as vice president of States Marine and Isthmian traffic operations in New York, Houston and Seattle. From 1965 to 2002 he taught various classes in Geography and Marine Affairs at the University of Washington, Seattle. He has contributed numerous articles to American and European journals and has served periodically on editorial boards in Europe.

DR DAVID GLEN

David Glen is Reader in Transport in the Business School, London Metropolitan University, having joined the Centre for International Transport Management in 1995, as a Research Fellow. He obtained his PhD from London Business School in 1987, which examined differentiation in the tanker market. He has published in a number of journals, including the *Journal of Transport Economics and Policy* and *Maritime Policy and Management*. He is presently on the editorial board of the latter. Dr Glen served on the Council of IAME for a number of years, and was Secretary from 2000 to 2003. He is also a member of the International Maritime Statistics Forum. His research interests include shipping market structures and dynamics, seafarer statistics, maritime pollution and international trade flows. Since 1997, he has been involved UK Department for Transport projects on monitoring and improving the quality of UK seafarer numbers.

DR STEPHEN X. H. GONG

Stephen X. H. Gong is with the School of Accounting and Finance at the Hong Kong Polytechnic University. He was initially trained in Shipping, Trade and Finance at Cass Business School, City University London and subsequently completed a PhD in Finance at the Hong Kong Polytechnic University. His research interests span the areas of corporate finance, corporate governance, financial reporting, industrial organisation, and transportation economics. He has consulted with international as well as local organisations in the areas of logistics development and transportation investment and finance.

PROFESSOR GELINA HARLAFTIS

Gelina Harlaftis graduated from the University of Athens and completed her graduate studies in the Universities of Cambridge (MPhil) and Oxford (DPhil), in St Antony's College between 1983 and 1988. She taught at the University of Piraeus from 1991 to 2002 and since 2003 has been at the Department of History of the Ionian University. She was President of the International Association of Maritime Economic History from 2004 to 2008. During the fall of the academic year 2008–2009 she was Alfred D. Chandler Jr. International Visiting Scholar in the Business History Program of the Harvard Business School and in the spring a Visiting Fellow at All Souls College, Oxford. She is the author of several books including *Greek Shipowners and Greece 1945–1975* (Athlone Press, 1993), and her latest book, *Leadership in World Shipping: Greek Family Firms in International Business* with Ioannis Theotokas, was published in 2009.

PROFESSOR TREVOR D. HEAVER

Trevor Heaver is professor emeritus at the University of British Columbia where he was the UPS Foundation Professor and Director for the Centre for Transportation Studies. Since retiring from UBC, he has been Visiting Professor at the University of Antwerp (on-going), the University of Sydney (Australia) and the University of Stellenbosch. He is a founding member and a Past-President of the International Association of Maritime Economists and a Past-Chairman of the World Conference on Transport Research. He has published widely on transportation, logistics and transportation policy and has served as a consultant to corporations and governments in Canada and internationally.

DR JAN HOFFMAN

Jan Hoffmann works as trade facilitation, port and shipping specialist at UNCTAD's Trade Logistics Branch since 2003 and is currently chief of the Trade Facilitation section. He is in charge of a trade facilitation project on WTO negotiations, as well as national projects in Afghanistan and Pakistan. He edits the UNCTAD *Transport Newsletter* and is co-author of the annual *Review of Maritime Transport*.

Previously, he spent six years with the United Nations Economic Commission for Latin America and the Caribbean, Santiago de Chile, and two years with the IMO, London. Prior to this, he held part-time positions as assistant professor, import-export agent, translator, consultant and seafarer for a tramp shipping company.

Jan has studied in Germany, the UK and Spain, and holds a doctorate degree in Economics from the University of Hamburg. His work has resulted in numerous UN and peer-reviewed publications, lectures and technical missions, as well as the internet *Maritime Profile*, the *International Transport Data Base*, the *Liner Shipping Connectivity Index*, and various electronic newsletters.

MR WILLIAM HOMAN-RUSSELL

William Homan-Russell received an MSc in Finance from London Business School in 2007 and an MA in Mathematics from Oxford University in 2002. He joined Tufton Oceanic Ltd in 2003 as a financial analyst to work on credit and market analysis of the shipping sector for the company's leasing and corporate advisory departments. William subsequently joined Tufton's Oceanic Hedge Fund in 2006 to work within the shipping team; he focuses on the modelling of global publicly listed shipping equities and shipping market models as well as developing quantitative portfolio optimisation procedures. His MSc in Finance was completed whilst with Tufton Oceanic Ltd.

DR GORDON HUI

Gordon Hui graduated as a MPhil in Physics in 2006. He specialised in computer simulations for condensed matter systems by matrix & Monte Carlo algorithms.

He started his career in financial industry as a quantitative researcher in a Commodity Trading Advisor; his areas of expertise being Monte Carlo simulations in risk management and rebalancing portfolios, volatility modelling in various time frame, backtesting in Market-On-Close, day-trading strategies & HK index arbitrage. Afterwards, he worked as a quantitative day-trader in a propriety trading house. In 2009, Gordon joined Tufton as an analyst.

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PROFESSOR JOON SOO JON

Joon Soo Jon began his academic life with a BA in English Literature from Sogang University, and went on to obtain a Master's degree in Transport Management at SUNY and a doctorate in Maritime Studies at the University of Wales in Cardiff. He is currently a professor at Sogang University in Seoul. While teaching and researching in the maritime sector, he has been involved in policy making as an adviser to various Korean Government agencies such as the Ministry of Maritime Affairs, the Ministry of Industry and the Ministry of Foreign Affairs. He has published widely. His current research interests focus upon the development of logistics systems in the Far Eastern Countries.

PROFESSOR MANOLIS G. KAVUSSANOS

Manolis Kavussanos is a faculty member of the Athens University of Economics and Business (AUEB), Greece. He is the Director of the MSc and PhD programmes in Accounting and Finance and of the Research Centre for Finance at AUEB. He holds a BSc and MSc (Economics) from London University and a PhD (Applied Economics) from Cass Business School, City University London. He directed the MSc in Trade, Logistics and Finance at Cass from its inception until he joined AUEB. He has held various posts as professor of finance and shipping in universities in more than eight countries around the globe. He has written extensively in the areas of finance, shipping and applied economics, published in top international refereed journals, in conference proceedings and books. This work has been presented in international conferences and professional meetings around the world, gaining awards for its quality, being sponsored by both public and private sector companies and being cited extensively by other researchers in the area. Since 1992 he has worked in developing the area of risk analysis and management in shipping and is the author of the book *Derivatives and Risk Management in Shipping*.

PROFESSOR SHASHI KUMAR

Shashi Kumar is the Interim Superintendent/Academic Dean at the United States Merchant Marine Academy in Kings Point, New York. He is also the Founding Dean of the Loeb-Sullivan School of International Business and Logistics at Maine Maritime Academy in Maine, USA. He is a Master Mariner (UK) and sailed extensively on commercial ships prior to entering academe. Dr Kumar is a founding member of IAME and the International Association of Maritime Universities, and is also affiliated with the American Society of Transportation and Logistics. His areas of teaching and research include maritime economics and policies, international shipping, and maritime logistics. He has published extensively and authors an annual review of the shipping industry for the US Naval Institute. He has held visiting professor appointments at the Indian Institute of Management-Ahmedabad (India), Memorial University (Canada), World Maritime University (Sweden), Shanghai Maritime University (China) and the Pontifical Catholic University (Puerto Rico).

DR NEOPHYTOS LAMBERTIDES

Neophytos Lambertides received a BSc in Mathematics and Statistics from the University of Cyprus in 2000 and an MSc in Financial Mathematics from the University of Warwick in 2001. He took a PhD in Finance from the University of Cyprus in 2006. Thereafter,

he was designated as a Visiting Scholar at Columbia Business School. He is currently lecturer in Finance at Aston Business School (UK). His interests are mainly on the area of asset pricing, credit risk and bankruptcy prediction, option pricing theory, real options, and shipping finance. His publications appeared in the *Journal of Accounting Auditing and Finance*, *Abacus*, *The British Account Review*, *Managerial Finance*, *Maritime Policy & Management*. He reviewed papers for, among others, the *European Journal of Operational Research and Managerial Finance*.

DR ANA RITA LYNCE

Ana Rita Lynce is currently working for Ascendi S.A. which is providing technical support to a road concessionaire in the state of São Paulo, Brazil called Rodovias do Tietê. Subject to the Bolonha process, Ana Rita obtained her MSc in Civil Engineering and specialised in Land Planning, Transportation and Management, at the Technical University of Lisbon – Instituto Superior Técnico, Lisbon, Portugal. She developed a thesis on the *Barriers and potentialities of rail freight from the Iberian Peninsula to Europe* at the Centre for Innovation in Transport (CENIT) – Technical University of Catalonia, in Barcelona. After finishing her thesis, she started to work as a Transport Researcher in the railway department of CENIT. In September 2007, she became a Transport Researcher at the Department of Economics and Quantitative methods (DIEM) – University of Genoa, in Genoa and a Guest Scientific Assistant at the Laboratory for Intermodality and Transport Planning (LITEP) – École Polytechnique Fédérale de Lausanne in Switzerland, with a TransportNET scholarship, funded by the EU under the Sixth Framework Marie Curie Actions Programme. Since 2008, she has presented research papers at conferences on Transport and Logistics in areas such as the *Extension of the European high-speed railway network and Transport sustainability strategies for supply chain management in the fast moving consumer goods industry*. In 2009, she published a research paper on *Short Sea Shipping and Intermodality* in the journal *NETNOMICS*. In the same year, she worked at VTM – Consultores, a Transport Consultancy Company in Portugal in a project for RAVE, the Portuguese High-Speed Rail Infrastructure Manager.

DR SHUO MA

Shuo Ma is a professor of shipping and port economics and policy at the World Maritime University in Malmö. He is also Vice-President (Academic) at WMU. Dr Ma is an active researcher and consultant in the area of shipping and port economics and policy. For the last couple of years, he has been actively involved in maritime research and education in China. He has been associated with numerous research projects and activities in the field of maritime transport in China both at national and regional levels. He is the Director of two joint MSc programmes, which he created in 2004, between WMU and two Chinese Maritime Universities in Shanghai and Dalian.

PROFESSOR PETER MARLOW

Peter Marlow is Professor of Maritime Economics and Logistics at Cardiff University in the UK. He has over 30 years' experience in academia and research work and is the author of more than 100 published works. He is currently the Head of Logistics and Operations Management at the Cardiff Business School and is a transport economist