Training Course

Freight Derivative and Risk Management

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THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

IMC-FRANK TSAO
Maritime Library and Research & Development Centre

1. Aims and Objectives

The aim of this course is to provide high quality education and training in the areas of Derivatives and Risk Management in Shipping. It comes as a response to the increasing calls for talents in this area by the shipping industry, especially in Hong Kong, which is eager to develop its maritime service industries. The highly volatile and risky business environment in shipping industry makes it imperative for the companies to identify the sources of risk that they face, but also to know how to deal with them effectively. Implementing risk management strategies in the increasingly sophisticated and competitive environment companies operate in our days, can often make the difference between being able to stay in business or not. It can give these companies a comparative advantage over the intense competition that they face in the sector.

Both traditional methods of risk management and more recent derivatives tools are extended to the shipping industry through this unique course. The syllabus is based on the experience and high quality work of the instructor. More than twenty years of pioneering work is embedded in the course, which brings the participants to the forefront of developments in the areas of Risk Management and Derivatives in Shipping.

A number of developments in the area have been instituted by the instructor, who has a deep understanding of the issues involved, with years of training experience at all levels of education. The course was introduced at the executive level in January 2004, running several times a year and in a number international shipping centres around the world, essentially having the market practitioners verifying its high quality, applicability and relevance to the business problems that they face. Previous venues of the course held in various forms include: Greece (Piraeus, Athens), Italy (Milan), The Netherlands (Rotterdam), UK (London), Germany (Hamburg), France (Marseille), Cyprus (Limassol), Turkey (Istanbul), Malaysia (Kuala Lumpur), Singapore, China (Shanghai).

The course has established itself as the world-leader on shipping derivatives education and combines the academic rigor with the practical knowledge, in offering essential skills and guidance to company personnel wishing to implement shipping derivatives for risk management purposes. It reflects all recent developments in the area of shipping derivatives, by continuous reviewing and updating of its curriculum and provides practical examples with real data, covering every aspect of risk in shipping through hands on simulations, exercises and discussions in deliberately held, small round-table groups, which facilitate interaction between its members.

A number of distinguished industry speakers have contributed to the course in the past, bringing state-of-the-art professional experience to it. Past industry speakers have come from Clarksons Securities Ltd. (London), Navios Maritime Holdings Inc, Simpson Spencer and Young (SSY), Freight Investors Services (FIS), O.W. Bunker Malta Ltd, International Maritime Exchange (IMAREX), FreightMetrics, Marfin Egnantia Bank, SoftMAR and Swiss Mar SARL.

2. Who Can Participate

Attending the course does not require a university degree, even though it is desirable. It requires common sense. Company personnel from all sectors of the shipping or shipping related industry with an interest in risk management are welcome.

The course can be attended by: Shipowners, CEOs, Treasurers and CFOs, Managing Directors, Ship Operators, Ship Managers, Chartering Managers, Operations Managers, Charterers and other management personnel of shipping companies, Shipbrokers, Maritime Lawyers, Accountants, Financial Analysts, Naval Architects, Bankers, Shipping Fund Investors, Traders, Risk and Asset Managers, Oil Traders, as well as postgraduate students, amongst others.

Company activities of past participants include: Dry-bulk and wet-bulk shipping, container shipping, cruise lines, passenger shipping, ship registers, shipbroking, banks, fund managers, auditing firms, industrial and energy firms, and financial/brokerage firms.

3. Educational Methodology – Material Given

Educational techniques employed include presentations, guest lectures by distinguished invited professionals, Q&A sessions, simulation and trading games and focus group discussions. Lively discussions between presenters and participants, who have come from almost all sectors of the industry, help clarify the issues involved.

Full lecture notes are provided. Furthermore, extra handouts may be given by the instructor, which may include exercises, published studies in academic and practitioner journals, etc.

4. Duration and Structure

The first session(Intermediate) introduces delegates to the concept of business risks and risk management techniques in the shipping industry. The sources of economic risks in the industry emanating from fluctuations in freight rates, bunker prices, interest rates, foreign exchange rates, and vessel value prices are identified, and traditional and modern management methods are examined. Freight futures and FFAs constitute a major part of the course. Analytical, practical examples of hedging risks are presented in every case.

The second session(Advanced) examines further techniques of freight hedging, and covers the hedging positions of bunker prices, interest rates, foreign exchange rates, and vessel value prices, amongst others. Advanced examples and methodologies of hedging risk through shipping derivatives are presented in every case. Pricing and hedging issues of derivative products, as well as strategies for their practical implementation, are part of the course. Techniques for identifying profitable market opportunities are also presented, with practical examples for taking advantage of these opportunities included. Finally, freight options trading strategies are investigated.

5. Certificate of Attendance

All participants will receive a Certificate of Attendance at the end of the course.

6. Instructor Profile

Professor MANOLIS G. KAVUSSANOS (mkavus@aueb.gr) is a faculty member of the Athens University of Economics and Business (AUEB), Greece. He is Director of the MSc program in International Shipping, Finance and Management (MSc in ISFM), Director of the Laboratory for Finance, member of the steering committee of the MSc program in Accounting and Finance and of the Athens MBA program, and has been for 5 years the Director of the MSc

and PhD programs in Accounting and Finance at AUEB. He holds a BSc and MSc (Economics) from the University of London and a PhD (Applied Economics) from City University Cass Business School (Cass), London. He launched and Directed the MSc in Trade, Logistics and Finance at Cass until he joined AUEB.

Various posts held in the past include: Reader in Shipping Economics and Finance at Cass Business School (UK); Visiting Professor at: National University of Singapore (Singapore), Hong Kong Polytechnic University (HKPU), Erasmus University (Rotterdam), ICMA Centre - Henley Business School, University of Reading (UK); Tor-Vergata (Roma II) University (Italy); LUISS University (Rome, Italy); University of Bergamo (Italy); University of Antwerp (Belgium); Euromed Marseille (France); World Maritime University in Malmoe (Sweden); Shanghai Maritime University (China); Hellenic Open University (Greece); University of Piraeus (Greece); Open University of Cyprus (Cyprus); expert evaluator and consultant in financial economics and transportation issues for organizations, like the Commission of the European Communities and other public and private sector companies.

He has written extensively in the areas of finance, shipping and applied economics and has been the author of numerous pieces of award winning academic work which has been presented in both academic and practitioner conferences around the globe and published in top international refereed journals and in invited chapters in collective book volumes. He has published books, edited journal guest volumes, organized international conferences and serves on the editorial board of academic journals.

He has acted as consultant in finance, shipping, transportation and educational matters in organizations like the Commission of the European Communities, Governmental bodies and other public and private sector companies. Since 1992 he has worked in developing the area of risk analysis and management in shipping and is the co-author of three books in this area. His latest publication is 'The International Handbook of Shipping Finance' with Palgrave MacMillan.

7. Course Outline

Day 1. Introduction to Risk Management and Shipping Derivatives

Session 1. Business Risks in the Shipping Industry and Risk Management Strategies

- The Concept of Risk in Shipping
- Sources of Risk in the Shipping Industry
- Risk/Return Trade-offs in Shipping
- Sectoral Segmentation of the Shipping Industry
- Volatilities of Vessel Values and Earnings
- Time-Varying Volatilities of Voyage and Time-Charter Rates
- Seasonality Strategies in the Freight Markets
- Traditional Risk Management Strategies in Shipping

Session 2. Introduction to Hedging and Derivatives Contracts

- The Idea of Hedging Risks
- Types of Market Participants

- The Building Blocks of Derivatives Contracts
- Futures Contracts and Trading Strategies
- Basis and Basis Risk
- The Mechanics of Futures Trading
- Clearing Houses and the Clearing Process
- Forward Contracts and Credit Risk
- Economic Functions of Futures and Forward Contracts

Session 3. Overview of the Freight Derivatives Market

- Freight Market Information and The Baltic Exchange Indices
- Early Efforts - The BIFFEX Contract and Developments since then
- Forward Freight Agreements (FFA)
- Freight Futures (at IMAREX and CME)
- "Hybrid" Cleared FFAs (at LCH.Clearnet and SGX AsiaClear)
- Baltic Forward Assessments (BFA)
- Electronic Trading Platforms
- Container Freight Swap Agreements (CFSA)
- Becoming Member to Exchanges / Clearing Houses

Session 4. Freight Derivatives Examples and Trading Issues

- Freight Derivatives Contract Specifics
- Hedging and Trading Freight Derivatives Examples
- Freight Derivatives Strategies for Banks and Financial Institutions
- Trading Steps for New (and Potential) Users
- Benefits and Important Issues of FFA Trading
- In Case of Default
- Accounting Treatment of Freight Derivatives
- Setting Up a Trading Desk
- Current and Future State of Freight Derivatives

Day 2. Advanced Shipping Derivatives Trading and Strategies

Session 1. Risk Management in Shipping Operations

- Bunker Fuel Risk Management
  - The Bunker Fuel Market
  - Bunker forwards, swaps and options
  - Bunker Risk Management Simulation Game
- Vessel Price Risk Management
  - The Second Hand (S&P) Market

- Portfolio Theory and Fleet Diversification
- Baltic Sale & Purchase Assessments (BSPA)
- Sale & Purchase Forward Agreements (SPFA)
- SPFA Trading Example
- Baltic Demolition Assessments (BDA)
- Financial Risk Management
- Interest Rate Futures and Forwards
- Interest Rate Swaps and Options
- Examples of Interest Rate Risk Management
- Foreign Exchange Rate Hedging
- Examples of Currency Risk Management

Session 2. Advanced Freight Derivatives Modelling Techniques

- Forward-Futures Pricing
- Fair (Theoretical) Price Estimation
- Pricing Models for Storable and Non-Storable Commodities
- Optimal Hedge Ratios
- Hedge Ratio Determination
- Example of FFA Optimal Hedge Ratio
- Measuring Hedging Efficiency
- Value at Risk (VaR) Models in Shipping
- Measuring VaR
- Application of VaR in FFA Positions
- Credit Risk Management
- Credit Ratings and Credit Risk
- Measuring Credit Risk in Shipping
- Credit Derivatives and Shipping

Session 3. Freight Options

- Options Markets
- Examples with Freight Options
- Advanced Option Trading Strategies

Session 4. Pricing Freight Options

- Market and Exercise Price Relationships
- Intrinsic and Time Values of Options
- Factors Influencing Options Values
- Options Pricing Models