

DEALING WITH UNPREDICTABLE CHANGE

# Advanced Freight Modelling and Trading

LONDON 12-13 October 2011

SINGAPORE 18-19 January 2012

LONDON 9-10 February 2012



The  
Baltic  
Exchange

Two day training course for  
shipping and finance professionals

Whether you run a trading desk, are a risk manager, trade FFAs or invest in the shipping markets, the level of complexity you face is growing day by day.

Understanding how to measure and manage freight rate volatility and explore the options available to the shipping professional are becoming increasingly important.

As the freight derivatives market grows in sophistication, so does the range of strategies used by owners, charterers and traders.



### The Course Module

This advanced two day module focuses on modelling freight rate dynamics and pricing options on freight. It discusses issues which are relevant to shipping market practitioners such as constructing forward curves on freight, modelling freight rate volatility as well as hedging and trading strategies using freight options.

The course aims to provide delegates with both a theoretical foundation as well as practical hands-on experience. The course is delivered as a mixture of lectures and workshops by two of the shipping industry's most respected academics.

This course is aimed at a range of individuals including, shipping company executives, freight derivative brokers, market analysts, commodity traders with an active exposure to freight as well as financial market players who want to know more about the complex freight markets.

Participants will come away from the course with a thorough understanding of how to model the physical freight market and use options on freight.

### The Course Leaders

The course leaders, Dr Amir Alizadeh and Prof. Nikos Nomikos of the Centre for Shipping, Trade & Finance at Cass Business School in London, are both internationally recognised academics in the fields of shipping and commodity finance and risk management. Their theoretical and applied research work has been published in leading academic and professional journals and they also provide consultancy services to the industry on different aspects of commodity and shipping risk management.

### The Course Methodology and Materials

The course will be presented through a mixture of lectures, presentations, group discussions, case studies and computer-based exercises. Full and comprehensive study notes will be provided which will offer a valuable source of reference during and after the course.



## Day One

### Modelling and Trading Shipping Freight

- **Characteristics of Shipping Freight Markets**
- **Spot Freight Rate Dynamics**
  - Mean reversion
  - Seasonality
  - Volatility and correlation
- **Relationship Between Spot and Time-charter Markets**
  - Time-charter rate formation and risk premia
  - Implied forward rates
- **Forward Freight Agreements (FFAs)**
  - Exchange traded vs OTC
  - Pricing, trading and hedging
  - Technical analysis and trading strategies
- **Constructing and using Freight Forward Curves**
  - Forward curve models
  - Efficiency and predictive power
- **Modelling Freight Rate Volatility**
  - Historical volatility
  - Time varying volatility
  - Stochastic volatility
  - Implied volatility
- **Value at Risk (VaR)**
  - VaR methodologies
  - Applications to shipping markets
  - Back-testing and stress-testing risk models

## Day Two

### Pricing and Trading Options in Shipping

- **Freight Options**
  - Mechanics of freight option markets
  - Trading strategies with freight options
    - Caps/floors/collars*
    - Protective calls/puts*
    - Bull/bear spreads*
    - Straddles/strangles*
- **Writing and Hedging Options on Freight**
  - Risk management of options
  - Option sensitivities (the Greeks)
- **Pricing Options in Freight Markets**
  - Closed form solutions
  - Binomial and trinomial trees
  - Numerical methods and simulation
- **Real Options**
  - Real Option Analysis (ROA)
    - Key option value drivers*
  - Different types of real options
    - The option to abandon/expand/ contract*
    - Option to choose (spot vs time charter)*
    - Option to lay up*
  - Real options and ship valuation
    - Real options and extended Net Present Value (ENPV)*
    - Real option valuation*

Run since 2007,  
this course has previously  
been attended by representatives from:

A.P. Moller - Maersk  
ACM/GFI  
AET UK  
Alfred C Toepfer International  
AM Nomikos  
Aquila Maritime Management GMBH & CO KG  
Archer Daniels Midland  
AS Klaveness Chartering  
Augustea Shipping Services  
AWB Ltd  
AWB Singapore  
Axiom Shipping  
B+H Ocean Carriers  
BHP Billiton  
BMT Asia Pacific  
BP Shipping  
Braemar Seascope  
Bravo Futures  
Bunge  
C Transport Maritime  
Calyon  
Canadian Forest Navigation  
Cargill International  
Cementia Trading  
Chevron Global Supply and Trading  
Chevron USA Inc  
Constellation Energy

Craigs Containers  
Crossbridge Shipping Singapore  
DC Energy  
DnB NOR Markets  
DS Norden  
DVB  
DVB Transport (US)  
ED & F Man Shipping  
Embricos Shipbrokers  
Enel Trade  
Erria  
Essent-Trading International  
Euronav (UK)  
Gearbulk UK  
General Maritime  
Gestion Maritime  
GFI Brokers  
Glencore  
Grain Pool Pty Ltd  
Heidmar  
HF Navigator  
Howe Robinson  
HSBC Athens  
HSH Nordbank  
IMC Shipping Co  
Imerys  
Inge Steensland

International Shipping & Logistics  
Island View Shipping  
Ispat Industries  
Jebsen Management  
Kardeniz & Mardeniz  
KC Maritime  
Koch Carbon  
LCH. Clearnet Group  
M2M Management  
Macquarie Bank  
Maritime and Port Authority of Singapore  
MF Global UK  
Midship Marine  
Mitsubishi UFS Securities  
Mitsui & Co Europe  
Morgan Stanley  
Navios Corporation  
Nidera Handelcompagnie  
Noble Resources  
Nordea  
Norden Derivatives  
Oldendorff Carriers  
Openlink International  
Pacific Basin Shipping  
Petrochina International America  
Phaethon Intl.  
Phoenix Bulk Carriers (US)

Pinguino Research  
Polsteam UK  
Rio Tinto Shipping  
Rusal Marketing  
RWE Supply & Trading  
SAIGAL SEATRADE MUMBAI  
Scanmills  
Shell  
Sims Metal Management  
SK Shipping Co., Ltd.  
Sono Shipping LLC  
Southern Star Shipping  
Sovcomflot (UK)  
SSY Futures  
ST Shipping & Transport Pte Ltd  
Standard Chartered Bank  
Stena Bulk  
T-Bulk  
Tata NYK Shipping  
Teekay Tanker Services  
The Great Eastern Shipping Co  
Thenmaris (Ships Management) Inc  
Thoresen & Co., (Bangkok) Ltd.  
Totsa - Total Oil Trading SA  
UBS  
Western Bulk Carriers  
Worldscale

