

Computational Finance and its Applications

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FIRST INTERNATIONAL CONFERENCE ON
COMPUTATIONAL FINANCE AND ITS APPLICATIONS
COMPUTATIONAL FINANCE 2004

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Preface

This book contains the edited version of the papers presented at the first International Conference on Computational Finance and its Applications, held in Bologna in 2004. The Meeting brought together professionals and academics from the scientific community in the fields of financial engineering and computational intelligence in finance.

Finance is today a very complex field. In particular, financial markets often provide clear insights on the functioning and trends of the economy as a whole. Financial Markets are therefore extremely dynamic and they are closely monitored by important institutions both in the private and public sectors. Key players in the market are companies such as investment banks, hedge funds etc., which are closely regulated and monitored by institutions such as the Fed in the US or the FSA and the Bank of England in Great Britain.

Because of the interests at stake in the financial markets, the investment in terms of technology and research is very high in absolute terms, particularly compared to other fields of research. Therefore, the time between when a new piece of research is produced and when it is applied in practice has been decreasing progressively, with investment banks prepared to invest heavily both in research start-up companies and academic institutions.

Several new technologies and methodologies have been therefore applied to finance in recent years, moving from traditional approaches only to new and intelligent techniques.

Finance is therefore an area where the collaboration between professional institutions, such as investment banks, and the research community is very strong. This 1st International Conference on Computational Finance and Applications was called because of the current interest and ever-increasing development work taking place in the field of computational finance. This book contains many high quality contributions reporting advances in the field and focussed on the following areas:

- Trading strategies
- High frequency financial data
- Time series analysis and forecasting
- Expert systems and decision support
- Risk management
- Credit risk

- Derivatives pricing
- Advanced computing and simulation

This volume would not have been possible without the help of the members of the International Scientific Advisory Committee, led by Marco Costantino of the Royal Bank of Scotland Financial Markets in the UK, whose work is gratefully acknowledged. Their help in reviewing the papers has been essential in ensuring the high quality of this volume.

Bologna, 2004

Contents

Section 1: Trading strategies

Do size and sector classification matter for long–short strategies? <i>Y. Kawasaki, H. Udaka & T. Hirano</i>	3
Predicting stock market indices movements <i>P. N. Rodriguez & A. Rodriguez</i>	13
A mixed distribution approach to copula models of portfolio returns <i>D. J. Miller & W.-H. Liu</i>	25
Artificial agents and speculative bubbles <i>Y. Semet, S. Gelly, M. Schoenauer & M. Sebag</i>	35

Section 2: Risk management

Using options theory to identify the optimal dispatch strategy for electricity producers in a deregulated environment <i>B. Morel</i>	47
Financial credit risk measurement prediction using innovative soft-computing techniques <i>R. Campos, F. J. Ruiz, N. Agell & C. Angulo</i>	57
The relevance of basis risk in the weather derivatives market <i>M. B. Rohrer</i>	67

Section 3: Credit risk

Global sensitivity analysis of credit risk portfolios <i>D. Baur, J. Cariboni & F. Campolongo</i>	77
--	----

Pricing corporate bonds, CDS and options on CDS with the BMC model <i>D. Bloch</i>	85
---	----

On revision of the option-based approach to modeling mortgage securities <i>Y. Goncharov</i>	97
---	----

Section 4: Derivatives pricing

A hybrid approach to valuing American barrier and Parisian options <i>M. Gustafson & G. Jetley</i>	109
---	-----

Different estimators of the underlying asset's volatility and option pricing errors: parallel Monte-Carlo simulation <i>S. Rakhmayil, I. Shiller & R. K. Thulasiram</i>	121
--	-----

A statistical deterministic implied volatility model <i>D. Bloch & J. D. Aubé</i>	133
--	-----

Pricing of options in emerging financial markets using Martingale simulation: an example from Turkey <i>S. Demir & H. Tutek</i>	143
--	-----

Section 5: Advanced computing and simulation

A distributed Laplace transform algorithm for European options <i>A. J. Davies, M. E. Honnor, C.-H. Lai, A. K. Parrott & S. Rout</i>	157
---	-----

Inferring model parameters in markets with collars <i>R. W. Chen, B. Rosenberg & Y.-T. Lee</i>	167
---	-----

Optimal quasi-Monte Carlo valuation of derivative securities <i>M. Mascagni & H. Chi</i>	177
---	-----

Section 6: Expert systems and decision support

Optimal control strategies for portfolios of managed futures <i>O. H. Criner</i>	189
---	-----

A micro-analysis-system of a commercial bank based on a value chain <i>H. Chi, L. Ji & J. Chen</i>	203
---	-----

Section 7: Time series analysis and forecasting

Improved time series prediction using evolutionary algorithms for the generation of feedback connections in neural networks <i>E. Hulthén & M. Wahde</i>	211
Price trends in speculative markets, do they exist? A case study <i>L. O. Södahl</i>	221
Seasonal asymmetric persistence in volatility: an extension of GARCH models <i>V. Terraza</i>	231
Visual recurrence analysis as an alternative framework for time series characterisation <i>B. Pecar</i>	241
Pattern recognition through perceptually important points in financial time series <i>G. Zaib, U. Ahmed & A. Ali</i>	253
Parametric inference for stochastic differential equations by path integration <i>C. Skaug</i>	265

Section 8: High frequency financial data

Point and figure charting: computational issues and multi-box reversal probabilities <i>J. A. Anderson</i>	277
Self-similarity and multifractality in financial asset returns <i>Ö. Önalán</i>	289
Non-linear logit models for high frequency currency exchange data <i>N. Sazuka & T. Ohira</i>	297
Author Index	307

