Finance and Risk & ENGINEERING

Charles S. Tapiero

Department Head and
Morton and Angela Topfer Chair Distinguished Professor for
Financial Engineering and Technology Management

Barry Blecherman

Deputy Chair, Professor of Economics and Financial Engineering

A passion for theory and practice

FACULTY SUMMARY

- **4 research faculty**
  1 full, 3 assistants
- **3 full time contract faculty**
- **Students**
  300 full-time and part-time master’s students

A passion for theory and practice

FRE's MS FE Tracks of Study

- Corporate Finance and Financial Markets
- Computational Finance
- Risk Finance
- Technology and Algorithmic Finance

A Collective Leadership
Students participation

RESEARCH STRENGTHS

- Black Swans and Fragility
  - Nassim Taleb, Charles Tapiero, Raphael Douady
- Behavioral and Algorithmic Finance
  - Phil Maymin
- Corporate Finance and Liquidity
  - Zhaoxia Xu
- Risk Finance, Insurance, Global Finance and Risk Analysis
  - Charles Tapiero
- Computational Finance
  - Agnes Tourin and Charles Tapiero

Risk technology and research excellence

RESEARCH HIGHLIGHTS

- Over 100,000 downloads of department research on SSRN … 20th among all Business Schools in the World.
- Hundreds of papers published by faculty
- Best selling and numerous books published in Finance, Risk Finance including "Black Swan", Options and books on Stochastic Control, Finance, Risk Engineering and Control Systems
- Founder and Publishers of Journals
  - Risk and Decision Analysis
  - Algorithmic Finance
- Faculty globally acclaimed
- Co-Organized International Events:
  - International Research Forum, Hong Kong, 2010
  - NYU-POLY/Capco Conference, 2011

Faculty Papers published in 2009-2011

Nassim Taleb   2010-2011

(2011), A Map and Simple Heuristic to Detect Fragility, Antifragility, and Model Error, forth., *Quantitative Finance*

- (2011), Report on the Effectiveness and Possible Side Effects of the Office of Financial Research, United States Congress, Subcommittee
- (2011), The Future Has Thicker Tails than the Past: Model Error as Branching Counterfactuals, preprint
- .(2011), forthcoming, International Journal of Forecasting (with Goldstein, D)
- (2011), The Black Swan of Cairo, *Foreign Affairs, 90,3 (with* and Blyth, M)
- (2011) *Statistical Undecidability*, preprint. (with Douady, R.)
- (2011) *Why Did the Crisis of 2008 Happen?*, invited, *New Political Economy* [Also presented to the Obama Commission
- (2010) The Risk Externalities of Too Big to Fail, *Physica A: Statistical Physics and Applications (with* Tapiero, C.)

Nassim Nicholas Taleb (additional papers)

- **2010: Option Traders use Heuristics, Never the Formula known as Black-Scholes-Merton Equation, *Journal of Economic Behavior and Organizations* (with Haug, E. G)**
- **2010: Common Errors in the Interpretation of the Ideas of The Black Swan and Associated Papers, *Critical Review*, Vol 21, No 4**
- **2010: "Random Jump, not Random Walk", in *The Known, the Unknown, and the Unknowable*, Richard Herring Ed., Princeton University Press (with Mandelbrot, B)**
- **2010: "Beliefs, Decisions, and Probability" *Blackwell Companion to the Philosophy of Action* (with Avital Pilpel)**

Philip Maymin-Recent Publications 2010-2011

- (2011), "Markets are Efficient If and Only If P=NP," *Algorithmic Finance*, volume 1, issue 1, forthcoming.
- (2011), "Self-Imposed Limits to Arbitrage," *Journal of Applied Finance*, forthcoming.
- With Gregg S. Fisher (2011), "Past Performance is Indicative of Future Beliefs", *Risk and Decision Analysis*, vol. 2, no. 3, pp.145-150.
- (2011), "The Minimal Model of Financial Complexity," *Quantitative Finance*, forthcoming, doi:10.1080/14697681003709447.
- With Gregg S. Fisher (2011), "Preventing Emotional Investing: An Added Value of an Investment Advisor," *Journal of Wealth Management*, Spring 2011, vol. 13, no. 4, pp.34-43.
- With Tai Wei Lim (2012), "The Iron Fist vs. the Invisible Hand: Interventionism and libertarianism in environmental economic discourses", *World Review of Entrepreneurship, Management and Sustainable Development* 8:1, forthcoming.
- (2011), "Metanoia and the Market", *Advances in Behavioral Finance and Economics* 1:1, Winter 2011, pp.27-42.

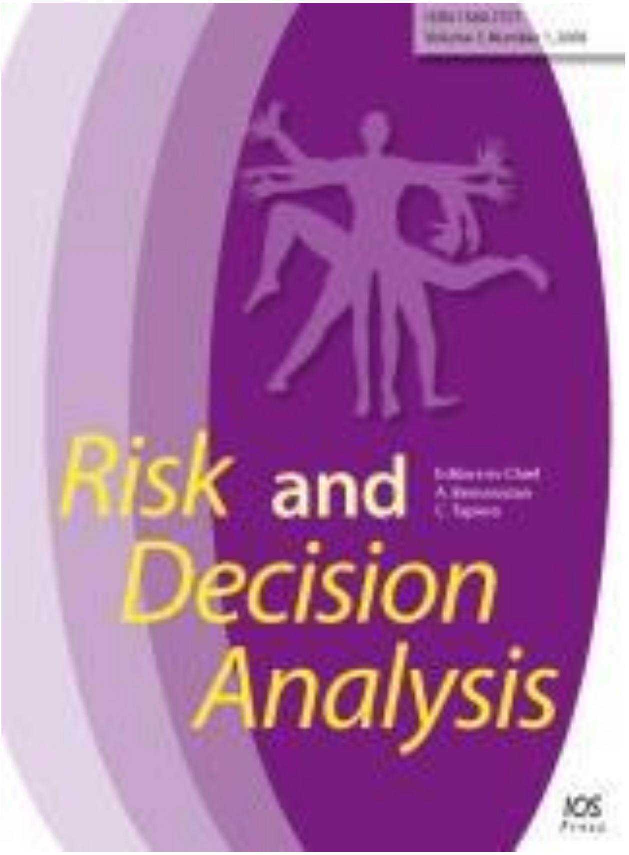
Charles Tapiero, Recent Publications 2010-2011

- BOOK, 2010 Risk Finance and Assets Pricing, Wiley, New York, Hoboken, N.J., October 2010
- 2011: The Price of Quality Claims, ASMBI (Applied Stochastic Models in Business and Industry, 2011
- 2011: The Price of Safety and Economic Reliability, in Pham Hoang Editor, Safety and Risk Modeling and Its Applications, Springer Verlag,
- 2010: Finance and Capital markets post the 2008 financial meltdown, Panel on “Finance and Capital: Challenges for Small and Medium Sized Aerospace Firms, Aviation and Aerospace
- 2010: Industry Manufacturing Summit, February, 22-24, 2010. (Organized by Embry-Riddle Aeronautical University Worldwide.
- 2010: Water Supply and Consumption Uncertainty: A Conflict-Equilibrium, Annals of Operations Research (with Konstantin Kogan).
- 2010: The Future of Financial Risk Management, *The Journal of Financial Transformation* also April 19, 2010, Invited Conference for the Annual conference of the Cass-Capco Institute Paper Series on Risk.

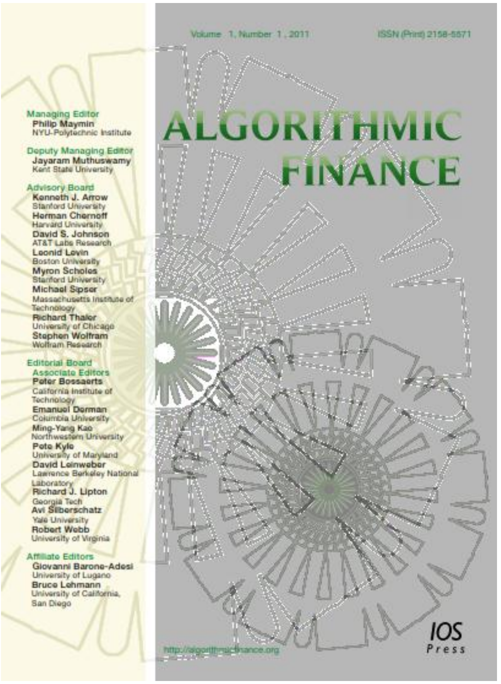
Charles Tapiero (additional papers)

- **2010: Suppliers-Led Outsourcing: An Inter-temporal Hierarchical Framework" (with Konstantin Kogan), IMA Journal of Management Mathematics, 2010 (09-03 in WP Series)**
- **2009: Quality, Risk and the Taleb Quadrants, QPRC, Meeting, June 3-5, 2009, IBM, ,**
- **2010: with Ron S. Kenett, Quality, Risk and the Taleb Quadrants *Journal of Risk and Decision Analysis*.**
- **2010: Risk Externalities and Too Big to Fail, *Physica A* (with Nassim N. Taleb)**
- **2010: The Valuation of Air Traffic Supply Chains and Regional Development, Keynote Speaker Paper, Colloque des Ministres Africains 3rd Annual Meeting. Marrakech January 27-30 January .**

Academic Journals Published by Department Professors



Charles S. Tapiero
Co-Editor in Chief



Algorithmic Finance

Philip Maymin
Editor in Chief

FRE Professors in the News

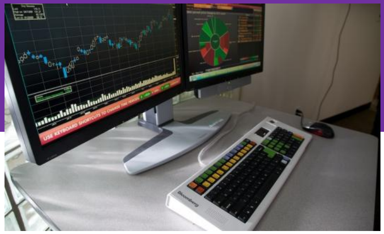
- Nassim Nicholas Taleb
  - Numerous appearances on TV in Congress, and Leading financial meetings and international platforms
- Phil Maymin
  - Numerous appearances at meetings, Newspapers
- Charles S. Tapiero
  - Numerous participations in academic meetings
- Zhaoxia Xu
  - Active researcher and prized research

A passion for theory and practice

Bloomberg Lab and Innovation Lab – Opened 2009

- **12 Bloomberg Stations**
- **Global connectivity**
- **Data intensive and global research**
- **Distance Learning and Exchanges**

On-Going Research Projects



- **Phil Maymin: The effects of regulation on systemic risks; Optimal trading strategy construction and properties; Hidden risks of momentum strategies; Complexity in finance**
- **Charles Tapiero: Credit risk and derivatives; Global finance and economies in collision; Strategic finance; Financial risk engineering; Insurance; Post crisis finance; Computational finance.**
- **Nassim Taleb: Black Swans Finance, Robust and Anti-fragility design; Risk Engineering**
- **Agnes Tourin: Credit and liquidity risk; Computation of the risk averse lender's optimal lending policies; Computing optimal execution strategies**
- **Zhaoxia Xu; The impact of current financial crisis on real economy. 2. Liquidity risk management. 3. Identify factors that influence firms' capital structure decisions.**

Adjunct Faculty in FRE

Corporate Finance


Bernard Lucas


Ron Slivka


Anne Zissu

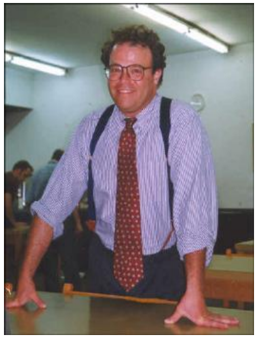

Ashish Kohli

Global and Risk Finance


Brian Lessing


Ben Golub

Algorithmic Finance


Roy Freedman


Edward Weinberger

Mathematical Finance

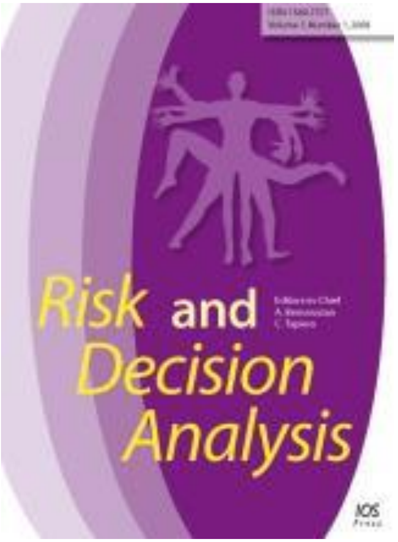

Andrey Itkin


Daniel Totouom-Tangho

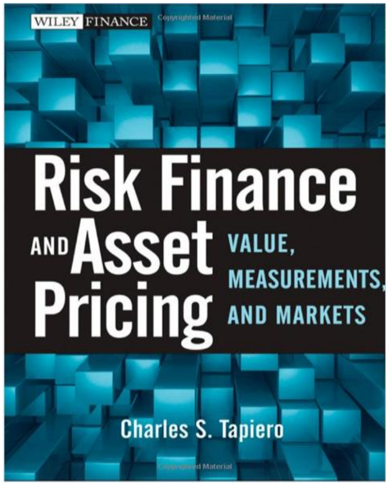
Charles S. Tapiero

Risk and Global Finance

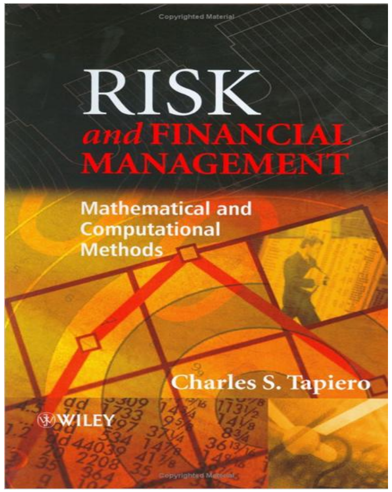
- Founder and Co-Editor in Chief of Risk and and Decision Analysis
- Mathematical Modeling: Most Influential Paper in 2009
- Author of popular texts and research books on Control and Stochastic Control for Finance and Insurance; Risk Finance; Supply Chains; Quality and Management
- Over 350 publications in leading academic journals and 14 Books and Edited Books



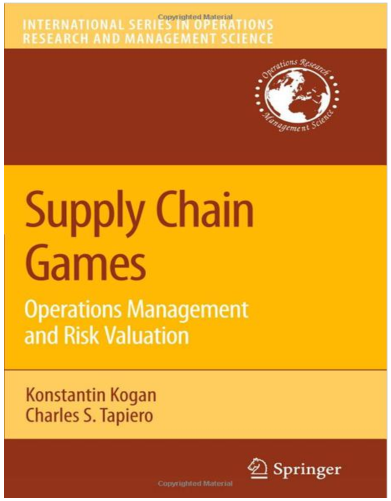
Selected Books by Prof. Charles S. Tapiero



Risk Finance and Asset Pricing: Value, Measurements, and Markets Management

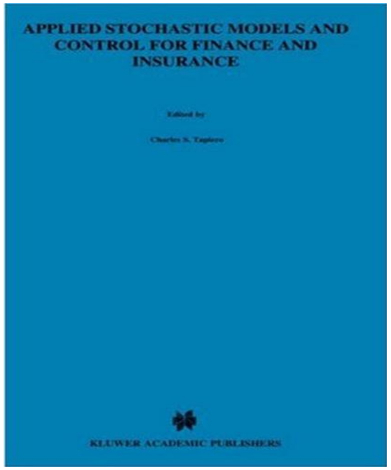


Risk and Financial Management: Mathematical and Computational Methods

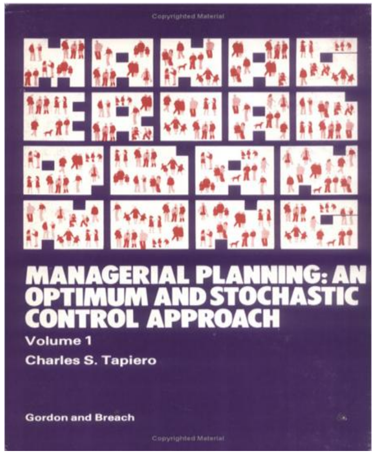


Supply Chain Games: Operations Management and Risk Valuation

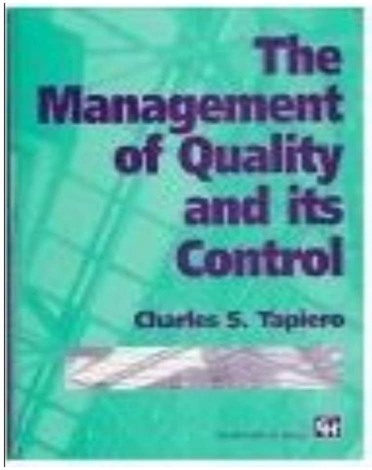
Selected Books by Prof. Charles S. Tapiero, part 2



Applied Stochastic Models for Control, for Finance and Insurance



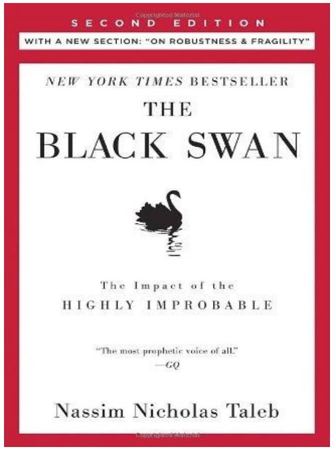
Managerial Planning: An Optimum and Stochastic Control Approach



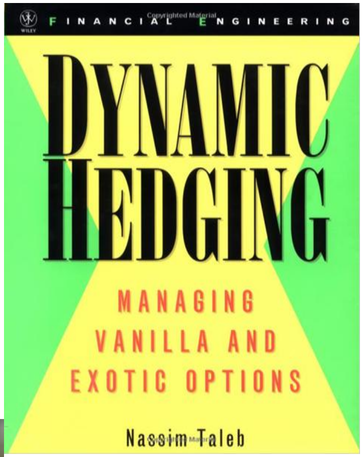
The Management of Quality and its Control

Nassim Nicholas Taleb

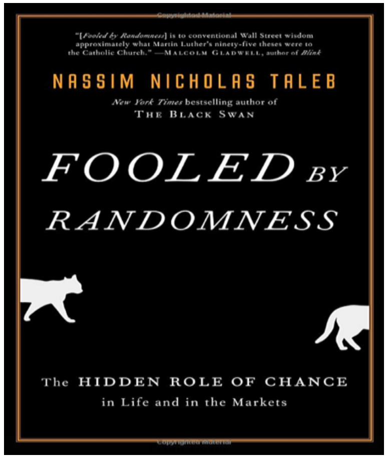
Modelling Errors in the Real World



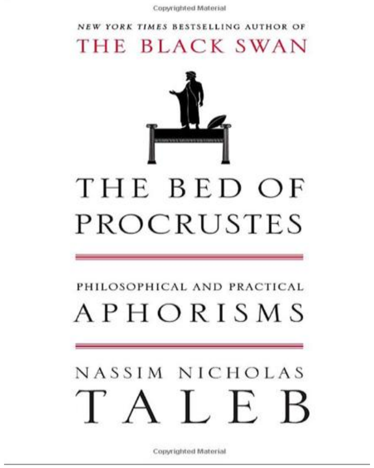
The Black Swan: The Impact of the Highly Improbable



Dynamic Hedging: Managing Vanilla and Exotic Options



Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets



The Bed of Procrustes: Philosophical and Practical Aphorisms

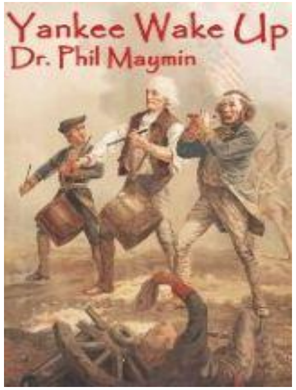
World Renown Author and Academic Authority

Algorithmic Finance

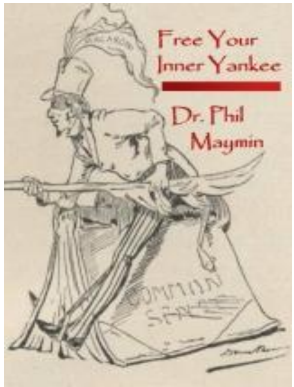
- 12 scholarly publications
- Popular articles published in Forbes, NY Post, American Banker, and more.
- Research featured in NY Times, USA Today, Financial Times, Boston Globe, NPR, BBC, Guardian, CNBC, and more.
- Track coordinator for Technology & Algorithmic Finance
- Founding managing editor of *Algorithmic Finance*, a new journal bridging computer science and finance
- Former hedge fund portfolio manager

Books Published by Phil Maymin

Financial Hacking: How to Quickly Solve Financial Engineering Puzzles and Price Any Exotic Derivatives

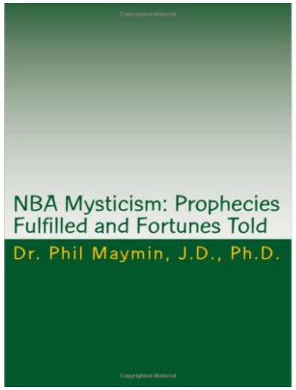


Yankee Wake Up



Free Your Inner Yankee

Yankee Go Home



NBA Mysticism: Prophecies Fulfilled and Fortunes Told

Zhaoxia Xu

Professor Zhaoxia Xu: Recently nominated as a semifinalist for the best paper to be presented at an upcoming 2011 Financial Management Association Annual Meeting. The paper is titled "Internal Finance, Predation, and Financial Crisis" and is coauthored with Soku Byoun, from the Hankamer School of Business, Baylor University.

Additional Books By our Adjunct Professors

- **Paul S. Biederman, Travel and Tourism: An Industry Primer**
- **Gregg S. Fisher, Creating Prosperity with Larry Heller, David H. Schwartz, Patricia Powell, Daniel Teplitz, Robert Tilson**
- **Roy S. Feedman, Introduction to Financial Technology (Complete Technology Guides for Financial Services) May 8, 2006**
- **Artificial Intelligence in the Capital Markets: State-of-the-Art Applications for Institutional Investors, Bankers and Traders by Robert A. Klein, Roy S. Freedman and Jess Lederman (Feb 1995)**
- **Programming Concepts With the Ada Language (Pbi Series for the Computer and Data Processing Professional) by Roy S. Freedman (Jul 1982)**
- **Programming With Apse Software Tools by Roy S. Freedman (Jul 1985)**
- **Bennett Golub Risk Management: Approaches for Fixed Income Markets by Bennett W. Golub and Leo M Tilman (Jun 15, 2000)**
- **Deregulating the electric utility industry: financial dislocations and implicit regulatory rents by Bennett W Golub (Aug 22, 2011)**
- **Exploring the Dimensions of Fixed-Income Management by Bennett W. Golub, Martin S. Fridson, Roland Lochoff and Leslie Rahl (Mar 22, 2004)**

Jennifer Openshaw, The Millionaire Zone: 7 Winning Steps to a Seven-Figure Fortune by Jennifer Openshaw (Apr 10, 2007)

- Berried in Chocolate: How I Built a Multimillion-Dollar Business by Doing What I Love to Do and How You Can Too by Shari Fitzpatrick and Jennifer Openshaw (Dec 21, 2010)
- What's Your Net Worth? Click Your Way to Wealth by Jennifer Openshaw (May 22, 2001)
- Shari Fitzpatrick, Jennifer Openshaw's, Berried in Chocolate: How I Built a Multimillion-Dollar Business by Doing What I Love to Do and How You Can Too [Hardcover](2010) by Jennifer Openshaw (Foreword) Shari Fitzpatrick (Author) (2010)
- Jennifer Openshaw (2000), What's Your Net Worth? : Click Your Way to Wealth Jennifer)
- Andrew Pole, Statistical Arbitrage: Algorithmic Trading Insights and Techniques (Wiley Finance) by Andrew Pole (Oct 5, 2007)
- Charles Austin Stone, The Securitization Markets Handbook: Structures and Dynamics of Mortgage- and Asset-Backed Securities by Charles Austin Stone and Anne Zissu (Jan 12, 2005)
- Anne Zissu, The Securitization Markets Handbook: Structures and Dynamics of Mortgage- and Asset-Backed Securities by Charles Austin Stone and Anne Zissu (Jan 12, 2005)

GOALS FOR NEXT 5 YEARS

- **Become the leading Financial Engineering program in the world bridging theory and practice**
- **Launch an Executive PhD in Financial Engineering**
- **Launch an FRE degree with global outreach through International collaborations**
- **Launch a Masters Degree in Systems and Risk Engineering embedded in Global Risk, Financial Risk Management, Systemic Risks and Risk Engineering**
- **Become the leader in addressing global financial risks**
- **Become the Leading Financial Engineering Institute focusing on Asia and Global Financial Risks**