Peter F. Drucker and Masatoshi Ito Graduate School of Management

CLAREMONT GRADUATE UNIVERSITY
Claremont, CA, 91711

MGT 402: ASSET MANAGEMENT PRACTICUM
SPRING 2008
Wednesdays, Burkle Room 16
Section 1: 1:00-3:50pm
Section 2: 7:00-9:50pm

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Abstract
This is a course designed for MBA and MSFE students who are interested in the theory and practice of asset management, primarily as members of a semester-long project team. This Practicum is organized as an asset management firm that has been retained by Claremont Graduate University to manage a portion of its endowment by committing it once a year to a new investment strategy. Because of the large number of interested students this semester, there will be two project teams (Sections 1 and 2), competing against each other. We start this semester with both a low in the U.S. bond and stock markets, with possibly wider more global ramifications, so that we're facing serious upward value potential. In addition, there is a lot of uncertainty in the world, e.g., the awaited decision of China to float or not to float its currency versus the U.S. dollar. Therefore, the selection of a proper and profitable asset allocation for the (ca. $300,000) real money fund at the end of this semester is a real challenge. Accordingly, we will first practice a lot on "dry land" with "fake money" both individually and as project teams, before we commit the real money to the chosen best strategy for the coming year.

The course will follow two parallel tracks – one that is academic in nature, the other that is more applied.

Prerequisites
Completion of MGT335 Corporate Finance is required. Simple algebra, calculus and geometric understanding of graphs are very useful skills to have. It also helps if you already took already MGT475 Fixed Income, since this year we will diversify the portfolio to include a bond component. This course requires a positive attitude towards complex challenges and a fair amount of practice and sheer hard work.

Practicum Component
The practicum component is focused on the actual management of a dedicated portion (currently ac. $300,000) of the CGU endowment portfolio. In effect, students in this class will form two trial asset management firms, which each will have to compete to be retained by Claremont Graduate University to manage the dedicated endowment assets. Each year's students represent the "employees" of one of the two asset management firms and, as such, are responsible for organizing themselves into two trial asset management firms to execute the critical functions of

an asset management firm. Each firm (consisting of ca. 15-20 students) will have to select an administrative team (CEO, CFO, COO), a strategist team (choosing innovative strategies), and an analyst/economist team (analyzing and testing various strategies). The CEO, CFO and COO of the winning firm are expected to serve in advisory roles in the following year. Each team in a firm – the administrative team, the strategy team, and the financial analyst/economist team - will organize their own committee meetings and all three teams will make weekly presentations in a one-hour in-class meeting. Who will be in each of the three teams of each firm must be decided in Week 2 of the Semester based on the assessed abilities of each "employee" of a competing firm. The goal of this applied asset management firm practicum is for students to gain appreciation for, and experience in, the complexities of real-world portfolio management.

The practicum component consists of two parts: first, the "dry" practice with STOCK-TRAK and, second, the reports and presentations of the various project team strategies to choose the best strategy or strategies for the coming year for the real money fund. Each student individually needs to "get a feel for the financial markets and for competition with another asset management firm, before last year's student asset management firm hands over the reins to this year's winning student asset management firm. The new firm needs to gain practice first by simulation, before it can take over the complex responsibility of managing "other people's money."

(1) Dry practice (simulation) with STOCK-TRAK
   a. Each individual student will receive an account number, as well as each of the project teams. You will have to sign up on line. The registration fee is $25.95 per account with 200 trades. All accounts will be activated on January 28, 2008 with each $500,000 in fake money. We will be receiving weekly statements. (The textbook by Strong comes with a STOCK-TRAK coupon!).
   b. Each student and each team needs to go to the STOCK-TRAK web site (http://www.stocktrak.com/tradingrules.php) and print out the registration materials/trading rules.
   c. After having printed out the trading rules, register the assigned account numbers at the "Open Account" link on the STOCK-TRAK home page. Then you will select your passwords and provide name and payment information.
   d. Also, you may want to register separately for The Wall Street Journal (an absolutely necessary tool for any investor) on the STOCK-TRAK site at the great rate of $19.95 for a 15 week subscription. You will be asked for your university (Claremont Graduate University) and professor (Cornelis Los).

(2) Real money component
   a. Students in the class are responsible for all the various activities of the firm. The ongoing functions of the asset management firm include establishing/reviewing investment policy in the light of the objectives of the client (= *CGU endowment*!), conducting investment research, determining the investment strategies to be implemented, investment decision-making (securities selection) and implementation (including buy/sell order entry, trade settlement, and reconciliation), performance measurement/analysis/reporting, and client (= CGU) relations. Last year's experience clearly demonstrated that no individual student can be made be responsible for any of these activities alone! At least three students need to be made responsible for any of these administrative activities, supervised by the "top management" and monitored and audited this professor. Students are expected to develop and/or enhance management systems that facilitate continuity of management of the client portfolio from one academic year to the next, since this is an *ongoing student business activity*! This includes the selection of a student advisory board in the current semester that will assist the subsequent year's students. A portion of each class period will be devoted to these activities and every student will have to serve in a particular role on one or the other project team.
   b. Students are responsible for research and some education. That is where the individual and team STOCK-TRAK accounts should be helpful, since mistakes can be made before the real money is committed. Research involves

hypothesizing the existence of opportunities to earn superior returns against a benchmark portfolio (only 15% of real world portfolio managers do!) and testing the hypothesis using long-time-series historical data and the STOCK-TRAK accounts. Education involves reviewing and presenting academic studies on asset pricing theories and models and related empirical evidence.

c. Students are also involved in locating and scheduling outside speakers on topics relevant to the class. We have already sent out ca. 20 invitations to academics and practitioners.
d. The spring 2008 semester will be devoted to (a) the development of a proposal to CGU and, perhaps, other donors, to expand their investment in the real money student-managed fund, (b) to diversification of the fund's asset allocation over stocks, bonds, currency futures and some options, (c) to the ongoing operational management of the existing strategies, and (d) to protecting the *continuity* from one year to the next, since this is part of CGU's endowment.

Management of part of the Client's (CGU Endowment) Portfolio

Students will manage a diversified portfolio of securities (stocks, bonds, futures, options, etc.). The fund is to be managed as a "styled" index portfolio, intended to earn superior returns. The portfolio will be benchmarked to selected U.S. market index, or its parts to selected U.S. market indices. Students will develop passive strategies to be implemented for one year to achieve effective benchmark performance tracking. The research will involve both *ex post* testing of each hypothesis using long-time-series historical data and *active market* testing during the semester on the STOCK-TRAK system. One strategy is to seek or refute the presence of hypothesized anomalies that may enable a portfolio to earn returns, superior to the style benchmark.

Rebalancing of the portfolio occurs only one time per year, near the end of the semester during which the course is offered. Representatives from the (two-team) student asset management firm are required to report annually to the CGU Board of Trustees Investment Committee and to Henry R. Kravis, who is the initial donor of the endowment funds dedicated to this project. Among other things, each report must address performance during the previous year, intended rebalancing, and proposals for any new styles to be pursued.

Advisors

Student executives (CEO, CFO and COO) from one year are expected to serve in advisory roles in the following year. In addition, the class may tap advisory resources that are available to it from various asset management companies and institutional advisors.

Academic Component

The academic component focuses on assigned textbook readings, classroom lectures by the professor, and student presentations. Students will be assigned to make class presentations in small teams of two or three students on various selected academic papers related to the curriculum of the course and assigned chapter problems (Not all of them will be discussed in class). The goal of the academic component is for students to gain a broad understanding of all aspects of the management of financial asset portfolios.

Required Readings

The basis textbooks for this course are, first the comprehensive, trusted and widely used textbook of Robert A. Strong, a Professor of Finance at the University of Maine, who was from 1994 – 1999 a Visiting Professor of Finance at Harvard University. He has a B.Sc. from the United States Military Academy at West Point, an M.Sc. in Business Administration from Boston University, and a Ph.D. in finance from Penn State and he is a Chartered Financial Analyst (CFA) and, like me, he is a risk management and asset valuation consultant.

[RS] Strong, Robert A. (2006), *Portfolio Construction, Management, and Protection*, 4th ed., Thomson/South-Western (ISBN: 0-324-23258-6, hardback).

Strong's textbook comes with considerable student resources, which you're recommended to use: for example, its EXCEL templates for a bond portfolio, Duration, convexity and yield-to-maturity calculators, Black-Scholes option calculator, option implied volatility calculator, CBOT conversion factors, etc.[1] Look also at its online chapter notes, which provide a lot of fairly up to date historical data.

In addition, I will make frequent references to my own compact and very basic textbook, for a different, more scientific, perspective and to familiarize you with issues such as modeling risk, which more recently have come to the foreground. Since I'm also working on a 2nd edition of this book for 2008, your comments and suggestions for improvement will be welcomed and acknowledged in the Preface of its 2nd edition:

[CAL] Los, Cornelis, A. (2001), *Computational Finance: A Scientific Perspective*, World Scientific Publishing Co., Singapore (ISBN: 981-02-4497-7, paperback).

Investment strategies of pension and insurance funds, and more and more of large international corporations, are nowadays based on mathematical models of the financial markets. Computational finance is somewhat broader term for financial engineering, the technical cross-disciplinary field, which relies on mathematical finance, numerical methods and computer simulations to make trading, hedging and investment decisions, as well as facilitating the risk management of those decisions. Using various methods, practitioners of computational finance aim to precisely determine and value the actual financial risk that certain financial instruments create.

MGT 402 Course Packet will be made available either on Sakai or in the bookstore (at cost).

Grading

Grading practice will adhere to school policy. Grades will be determined on student performance throughout the semester and are not subject to negotiation during or at the end of the semester. There will be no substitute or make-up exams. Student grades will be determined using the following weights:

1.	Participation in class discussion (individual)	10%
2.	Two equally-weighted Exams (individual)	40%
3.	Presentations (team)	30%
4.	Research project report (team)	20%

Item 1 is assessed on a weekly basis for each student, while the equally-weighted exams of item 2 are assessed on a half-semester basis. Team grades on item 3, presentations of the respective administrative, strategy and analyst teams, are assessed weekly against team objectives established early in the semester and are evaluated through regular oral progress and a final written report from each administrative, strategy and analyst teams. Thus, 50% of your course grade is determined by the professor on an individual basis. The other 50% is based on the performance of the administrative, strategy and analyst team performance of each competing firm and is the same for all team members within each team of a particular firm.

[1] http://websites.swlearning.com/cgi-wadsworth/course_products_wp.pl?fid=M20bI&flag=instructor&product_isbn_issn=9780324380170&disciplinenumber=414

CLASSES WEDNESDAYS S1: 1-3:50PM S2: 7-9:50PM	TOPICS	ASSIGNED READINGS
Jan 23 Week 1	**Organizational Objective:** review prior class presentation, discuss course objectives, discuss changes from last year, discuss research projects, discuss schedule for the semester, individual and firm registration of STOCK-TRAK accounts, organize committee for speaker events **Academic Focus**: Financial Market Uncertainty: capitalism and Schumpeter's "gales of creative destruction," sharp declines in stock and bond markets are potential buying opportunities! **Speaker:**	RS: Chapter 1 Prepare Ch 1 Internet Exercise CAL: Chapters 1 – 3 (Review) Jutur (2005) Schumpeter (1949) Struzik (2003) Sornette (2003) Ch 7
Jan 30 Week 2	**Organizational Objective:** finalize organizational structure, assign administrative, strategist and analyst teams, discuss functional team objectives **Academic Focus**: Investment Analytics: return and time distributions, correlations and projections, financial specialists = financial "knowledge workers" **Speaker:**	RS: Chapter 2 Prepare to discuss Ch 2 Problems 1, 17, 20-23, Internet Exercise 1 CAL: Chapters 4 and 7 Los (1999) Los (2003)
Feb 6 Week 3	**Organizational Objective:** first functional team and management firm meetings **Academic Focus:** Client and Portfolio Objectives: Law of Finance and academic endowment and other funds **Speaker:** Larry Tint (Quantal)	RS: Chapter 3 + Appendix Prepare Ch 3 Problems 3-6 (The BondPort referred to in Problem 6 is one of the EXCEL templates)
Feb 13 Week 4	**Organizational Objective:** management firm meeting **Academic Focus:** Investment Policy and Stock Portfolio Revision: style investing and rebalancing **Speaker:**	RS: Chapters 4, 13 and 14 Prepare Ch 4 Problems 4-11; Ch 13 Problems 2, 3 and 10
Feb 20 Week 5	**Organizational Objective:** management firm meeting **Academic Focus:** Portfolio Diversification: overall risk reduction, liquidity preference, indexing **Speaker:**	RS: Chapters 5 and 6 Prepare Ch 5 Problem 14, Internet Exercise; Ch 6 Problems 1-4 Internet Exercises 1& 2 CAL: Chapter 6
Feb 27 Week 6	**Organizational Objective:** management firm meeting **Academic Focus:** Performance Evaluation and International Cash Overlays: institutional investors, international and global investing **Speaker:**	RS: Chapters 7 and 17 Prepare Ch 7 Problems 9 – 11; Ch 17 Problems 1, 2 and 3 CAL: Chapter 14 Los (1998)
Mar 5 Week 7	**Organizational Objective:** management firm meeting **Academic Focus:** Client and Fiduciary Responsibility: academic and other clients **Speaker:**	RS: Chapter 18 Prepare Ch 18, Problem 23
Mar 12 Week 8	**MIDTERM EXAM**	

Mar 19	**SPRING BREAK: No Class**	
Mar 26 Week 9	**Organizational Objective:** management firm meeting **Academic Focus:** Market Efficiency and Asset Selection: degrees of persistence and their measurement **Speaker:**	RS: Chapter 8, 9 and 10 Prepare Ch 8 Problems 17 and 18; Ch 9 Problems 1, 5, and 7; Ch 10 Problems 3, 5, 6 and 9 Los (2008) Jamdee and Los (2007) Karuppiah & Los (2005) Los & Yu (2008)
Apr 2 Week 10	**Organizational Objective:** management firm meeting **Academic Focus:** Bond Markets and Real Estate: what went on in the subprime market in 2003-2007? **Speaker:**	RS: Chapters 11 and 12 Prepare Ch 11, Problems 13, 18, 19, 20, 22, 24, 31-32; Ch 12 Internet Exercise CAL: Chapter 11
Apr 9 Week 11	**Organizational Objective:** management firm meeting **Academic Focus:** Futures, Hedging and Options: international parity relationships, currency futures, Russia's 1998 default vs. the current "China and India cards" **Speaker:**	RS: Chapters 15 and 19 Prepare Ch 15 Problems 1, 4, 6, 8; Ch 19 Problems 2, 3, 6, 7 CAL: Chapters 9 and 12 Los (2008) (hand-out) Eun & Resnick (2003) Sornette (2003) Ch 8
Apr 16 Week 12	**Organizational Objective:** management firm meeting **Academic Focus:** Options Overwriting and Benching: speculation vs. insurance, transferring risk, long term executive options and warrants **Speaker:**	RS: Chapters 16 and 20 Prepare Ch 16 Problems 2, 5, 6, 9, Internet Exercise; Ch 20 1-6, 8-9 CAL: Chapter 10 Jamdee and Los (2007)
Apr 23 Week 13	**Organizational Objective:** Preliminary presentations, all written reports due **Academic Focus:** Risk Management: interest rate swaps, international swap lines vs. credit "crunch" **Speaker:**	RS: Chapters 21, 22 and 23 Prepare Ch 21 Problems 5-7, 9, 11, 13; Ch 22 Problems 1, 7, 11, 12; Ch 23 Internet Exercise CAL: Chapter 13
Apr 30 Week 14	**FINAL PRESENTATIONS**	
May 7 Week 15	**FINAL EXAM**	

Additional References

Das, Satiyajit (2006) *Traders, Guns & Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times Press, London, UK (ISBN: 978-0273704744, paperback). (Note: Warren Buffet once memorably described derivatives in a vastly exaggerated fashion as "financial weapons of mass destruction." Modern financial management applies derivatives to enhance and insure returns by transferring risk. This is Das' wry and wickedly comic exposé of the culture, games, and pure deceptions played out every day in trading rooms around the world, usually with "other people's money" (= the name of Danny DeVito's "Larry the Liquidator's" corporate take-over movie). But make no mistake: Das is a leading and well-published international authority in the area of financial derivatives and treasury management. He was the treasurer for the TNT Group on Australia for six years. Prior to this he worked in the

Commonwealth Bank of Australia, Citicorp Investment Bank and Merrill Lynch Capital Markets). Das is not against the use of derivatives. He only warns about the uninformed and untrained use of leveraged financial instruments.

Eun & Resnick International Financial Management

Haugen, Robert A. (2001) *Modern Investment Theory*, 5th ed., Prentice Hall, Upper Saddle River, NJ. (ISBN: 0-13-019170-1, hardback).
(Note: the best modern explanation of the portfolio selection and management theories of Markowitz (1952) and Sharpe (1965), in such simple algebraic and geometric terms that I often use it as either a benchmark or a straw man. However, Professor Haugen was very well aware that the log-price differences of stocks are not normally distributed and that higher-order statistical measurements (= higher-order than first and second moments) have gained in importance in the financial markets and in long-term strategic trading. That's why, as a consultant, he wrote the following booklet for pension fund managers).

Haugen, Robert A. (1999) *The New Finance: The Case Against Efficient Markets*, 2nd. ed., Prentice Hall, Upper Saddle River, NJ. (ISBN: 0-13-010228-8, paperback).
(Note: this booklet was written to recommend value investing in the stock markets to pension fund managers. Indeed, the January 2008 sharp stock market decline appears to be a good buying opportunity. But, wait, persistent financial markets like stock markets show trends and unpredictable sharp declines…….!).

Jutur, Sharath (ed.) (2005) *Financial Bubbles*, The ICFAI University Press, Hyderabad, India (ISBN: 81-7881-463-3, paperback).
(Note: this collection of papers is an update of Kindleberger's classic book – next - and extends the survey of financial bubbles from Japan's stock market crash in 1990 to the end of the telecom bubble in 2002. It would be interesting to extend it now further by one extra paper on the truly global "subprime" real estate bubble in the period 2003-2008, which has just burst. Who wants to write it with me? Financial bubbles are like the bubbles of boiling water: they are a sign of Schumpeter's creative-destruction process of capitalism, indicating that fundamental, and often painful, innovations are emerging).

Kindleberger, Charles P. (1996) *Manias, Panics, and Crashes: A History of Financial Crises*, 3rd ed., John Wiley & Sons, Inc. (ISBN: 0-471-16171-3, paperback).
(Note: this is the investment classic of which Paul A. Samuelson, Institute Professor Emeritis of M.I.T. said: "Sometime in the next five years you may kick yourself for not reading and re-reading Kindleberger's *Manias, Panics, and Crashes*." Oh so true!)

Lo, Andrew W., and A. Craig MacKinlay (2001) *A Non-Random Walk Down Wall Street*, Princeton University Press, Princeton, NJ (ISBN: 978-0691092560, hardback).
(Note: to be read in conjunction with, and preferably after, Burton Malkiel's book below. Based on my own measurements, I agree with Lo and MacKinley that stock markets do not behave like geometric Brownian motion (GBM), but are more persistent, i.e., show longer trends and sharper disruptions or singularities than GBMs. But, much more interestingly, some currency and swap markets are less persistent than the GBM!).

Los, Cornelis A. (2003) *Financial Market Risk: Measurement and Analysis*, Routledge/Taylor&Francis Group (ISBN: 9780415278669, hardcover; ISBN: 9780415771139, paperback, August 2006; ISBN: 9780203987636, electronic, August 2006).
(Note: this was my first attempt at measuring the degrees of persistence of the price diffusion in various financial markets in a truly scientific fashion, using wavelet multi-resolution analysis (MRA), a modern form of engineering signal analysis and identification. I'm working on the 2nd edition for World Scientific Publishing Co. in Singapore. Any student finding a substantial number or typos, mistakes or has serious suggestions for improvement, will be acknowledged in the Preface to this 2nd ed., to be published early in 2009).

Malkiel, Burton, G.(2007) *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing*, 9th ed., W. W. Norton, New York (ISBN: 978-0393330338, paperback).
(Note: Malkiel believes in Samuelson's proof that stock markets behave like geometric Brownian motion = log-price "random walks." Therefore, he recommends to invest only in a stock market index, like the S&P500 and to regulate the amount of portfolio risk by appropriate cash management, following Tobin's liquidity preference theory).

Osborne, M. F. M. (1977) *The Stock Market and Finance from a Physicist's Viewpoint*, Crossgar Press, Minneapolis, MN (ISBN: 0-9646292-0-8, paperback).
(Note: the first attempt to truly scientifically measure the stock market pricing processes, following the example of Alfred Cowles in the 1930s. Alfred Cowles was one of the three founders of the Econometric Society. The other two were Ragnar Frisch and Joseph Schumpeter. This book is based on a series of lectures originally produced for graduate students in business administration, when, in the fall of 1972, the professional physicist Maury Osborne was a visiting lecturer in the graduate school of Business Administration at the University of California in Berkeley, teaching two courses labeled "Security Markets and Investment Policies" and "Seminar in Investments" The reproductions of his hand-drawn graphs are both enlightening and entertaining. Osborne's seminal 1959 *Operations Research* article "Brownian Motion in the Stock Market" is in the same category as the Louis Bachelier's 1900 doctoral mathematics thesis applying the Brownian motion model to French Rentes, which preceded Einstein's paper on Brownian motion by half a dozen years).

Rogers, Jim (2003) *Adventure Capitalist: The Ultimate Road Trip*, Random House, New York, NY (ISBN: 0-375-50912-7).
(Note: the title says it all! A Jules Verne-type round-the-world trip of three years in 1999-2001 by this inveterate commodity trader and legendary investor. "The Indiana Jones of Finance," demonstrates how this roving investor gathers "hands-on" intelligence "on the ground." For example, he writes: "While I never patronized a prostitute, I know that one can learn more about a country from speaking to the madam of a brothel or a black marketer than from meeting a foreign minister." He may be correct. In any case: never ignore primary sources, but evaluate them very carefully in the context of other, more aggregate data!).

Sornette, Didier (2003) *Why Stock Markets Crash: Critical Events in Complex Financial Systems*, Princeton University Press, Princeton, NJ (ISBN: 0-691-09630-9).
(Note: empirical measurement and modeling of financial bubbles and market crashes by this brilliant French mathematician, a specialist of the modeling of ultra-persistent earthquakes, while he lectured at the University of California in Los Angeles and the University of Southern California. The whole focus of the book is on the persistent and ultra-persistent financial markets, like the stock and real estate markets, respectively. But he ignores the existent neutral (efficient) and anti-persistent (ultra-efficient) financial markets, like the anchor currency markets.

Surowiecki, James (2005) *The Wisdom of Crowds*, Anchor Books, New York (ISBN: 0-385-72170-6, paperback).
(Note: from a modern perspective, this booklet explores Adam Smith's (1776) deceptively simple "morality" idea, now incorporated in the global financial markets - that large groups of people, making individual decisions, are smarter than the elite few, no matter how brilliant and better at solving problems, fostering innovation, coming to wise decisions, even predicting the future they are. Modern financial economists agree: the markets are pricing correctly, no matter how risky that sometimes appears to be. But we may be able to improve the efficiency of the working of these brilliant, truly social, price-computing, and living standards-raising, trading processes with millions of participants world-wide, by trading more and faster).

Taleb, Nassim N. (1997) *Dynamic Hedging: Managing Vanilla and Exotic Options*, John Wiley & Sons, New York (ISBN: 0-471-15280-3, hardback).
(Note: compiled wisdom by a "Master mathematical trader of options," before he became a skeptic in the next book).

Taleb, Nassim N. (2007) *The Black Swan: The Impact of the Highly Improbable*, Random House, New York (ISBN: 978-1-14000-6351-2, hardback).
(Note: written by the skeptic and currently Professor in the Sciences of Uncertainty at the University of Massachusetts at Amherst. The highly improbable events, or "black swans" are the singularities in persistent markets. I found it disappointing that Taleb only pays a lot of attention to persistent stock and bond markets, because of their sometimes spectacular crashes, but appears to be unaware of anti-persistent or ultra-efficient markets, like anchor currency markets, which adjust faster than geometric Brownian motion).

Voit, J. (2005) *The Statistical Mechanics of Financial Markets*, Springer, Berlin, 3rd ed. (ISBN: 3-540-26285-7, hardback)
(Note: this is a modern follow-up of the original work by investor Alfred Cowles in the 1930s, after he had lost money in the stock market crash of 1929, and Osborne in the 1950s. It combines theory and empirical measurement and I'll use some graphic materials from it in my presentations.

Websites

http://www.sifma.org/
This is the web site of the Securities Industry and Financial Markets Association (SIFMA). Its mission is "To champion policies and practices that benefit investors and issuers, expand and perfect global capital markets, and foster the development of new products and services. Fundamental to achieving this mission is earning, inspiring and upholding the public's trust in the industry and the markets." It has many interesting links and you can see the dynamic current US Treasury yield curve and compare it with its values of one week and a few weeks ago.

http://www.iafe.org
The International Association of Financial Engineers is also a not-for-profit, professional society, dedicated to fostering the profession of quantitative finance by providing platforms to discuss cutting-edge and pivotal issues in the field. Founded in 1992, the IAFE is composed of individual academics and practitioners from banks, broker dealers, hedge funds, pension funds, asset managers, technology firms, regulators, accounting, consulting and law firms, and universities across the globe. It also has a job board and a very good quarterly *IAFE Newsletter*. *The Journal of Derivatives* (edited at New York University) is now its very high quality quarterly flagship publication and since 1999 the successor of the earlier *Journal of Financial Engineering* (1992-99).

http://www.quantnotes.com
This is a high-quality web site providing selected publications. It features introductory articles where you will learn about various financial instruments, and how mathematics you may be familiar with is applied daily by banks to fairly price these instruments. In addition there are also book reviews, links to software and data sites, jobs and event listings, etc.

http://www.gloriamundi.org
This site contains a wealth of material on value at risk and related topics. Many important papers on value at risk are available for download. There is a good list of books covering this topic. This site also includes papers containing criticism of value at risk as well as work on coherent risk measures, expected shortfall, etc. In terms of types of risk, most material naturally covers market risk. Credit risk is less prominent, perhaps due to the regulators' reluctance to recognize internal models. A few models address operational risk.

http://link.springer.de/link/service/journals/00780/index.htm
The web site of *Finance and Stochastics* is devoted to the theoretical cognoscenti among Financial Engineers, who are interested in finding out by what stochastic processes the financial markets may be modeled.