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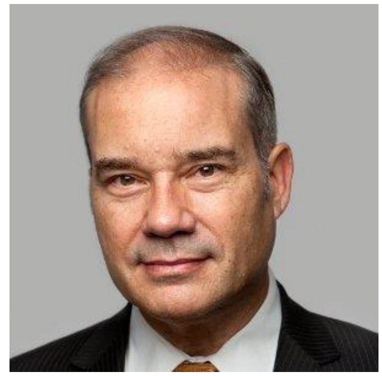

Tagline: Finance professor, independent and versatile risk and finance consultant, thought leader and former Wall Street banker and educator

Skills: Risk-based corporate finance, Derivatives, Commodities, Risk management, New Age Credit, High powered analytics, Excellent communications

PROFESSIONAL EXPERIENCE

Nov 2016 – Present
NYU Tandon School of Engineering

Industry Full Professor of Finance and Risk Engineering
- Teaching Valuation, a core course in the program, appx 150 students per year.
- Director, Summer Bootcamp program
- Developing advanced valuation and corporate finance study materials for students with technical backgrounds
- Research integrating risk, incomplete markets and agency problems into formal analytics for analytics and corporate decision-making
- Adjunct from Nov 2016-Jun 2017

June 2018 – Present
AI Hub
GEC Academy

Lead Instructor and Program Advisor
- Innovative project-based learning program combines financial engineering study with artificial intelligence implementation
- Focus on Chinese students interested in graduate or undergraduate U.S. study
- College-level and high school programs

Oct 2015 – Oct 2016
Novantas, Inc

Director
- Developed advanced consumer credit modeling and adjudication capabilities integrating credit report data, behavioral data and macro data
- Created and promoted a commercial energy loan evaluation program dynamically linking oil prices and volatilities to loan loss statistics and valuation

Jan 2008 – Sept 2015
Winhall Consulting LLC

Founder and President
- Independent risk advisory services for banking, energy and entrepreneurship
- Solo practice with work teams developed for each project
- Sample projects appear below (all part-time except where indicated)
- (2007-2015) Numerous expert witness engagements in U.S. and Israel
- (2013-2015) *CreditCircle* – Full-time - Establishing a platform for secured consumer credit
- (2008-2012) *Abara* – Online risk educational programs developed for Federal Reserve Bank of NY
- (2012) Senior risk advisor to CNOOC (Chinese National Offshore Oil Corp)
- (2011-2012) Senior risk advisor for enterprise risk policy and implementation at Preem (Swedish refinery)
- (Energy Risk Deal of the year in 2009) FCStone liquidation of futures and option books --- record position sizes

- (2009-2011) Risk reviews for all trading clients of Harris Bank and Fifth Third Bank
- (2008-2010) Produced 4 volume risk series for GARP
- (2008-2009) *Asset Deployment* – Issued two patents for collateral management and income production
- (2008-2015) Educational programs in risk globally
- Editorial contributions to QFinance (finance encyclopedia)

Sep 1999 – Dec 2007

Risk Capital Management Partners, LLC. ("RiskCapital")

Founder and President

- Risk management consulting company targeting energy and banking (25 persons)
- Awarded "Best Risk Management Firm in North America" by *Euromoney* in 2004 and 2007
- Banking clients include JPMorgan, Merrill Lynch, Austrian Export Credit Bank (OeKB), Westfield Insurance Group, CSFB and ABN-AMRO.
- Energy and commodity clients include BC Hydro, Cinergy, Dynegy, PG&E Energy Trading, Williams EMT, Sempra, Western Mining and BHP (Australia), Perez Companc (Argentina)
- Functional services included expert witness services, valuation services, risk assessment and quantification services and strategic/tactical risk advisory services
- Company purchased in June 2006 by Towers Perrin and renamed Towers Perrin Risk Capital

Apr 1997 – Sep 1999

Bankers Trust Corporation (acquired by Deutsche Bank)

Principal and Head, Risk Management Advisory

- Promoted to Principal from Vice President in Jan 1998, Head in 1999
- Managed group of 9 advisors
- Advised BT's clients on strategic risk management policy, both originating and executing paid advisory assignments
- Developed "CoVar", a planned BT subsidiary to help companies manage counterparty credit risk with the optimal use of centralized collateral processing (issued patent)

May 1996 – Feb 1997

J.P. Morgan Securities, Inc.

Vice President, Head of Risk Management Research

- Advised institutions on strategic risk management issues, such as hedging policy, capital structure, benchmarking and risk capital allocation. Clients include U.S. Fortune 500 companies and commodity producers globally.
- Oversaw risk measurement initiatives internal to J.P. Morgan, such as improvements to RiskMetrics, integration of credit and market risk, and CreditMetrics.
- Managed group of 10 quantitative analysts.

May 1993 – May 1996

J.P. Morgan Securities, Inc.

Vice President, Head of Commodity Derivatives Research

- Produced research and advised clients worldwide on strategic hedging and risk positioning. Titles shown below.
- Oversaw development of pricing and risk management models for commodity forwards, options and exotics.
- Co-created the J.P. Morgan Commodity Index

Sep 1987 – May 1993
University of Southern California

Assistant Professor of Finance, School of Business Administration

- Taught PhD, MBA and BS/BA courses in derivatives theory, investments and corporate finance; tenure-track appointment.

Sep 1986 – May 1987
Northwestern Univ.

Visiting Professor, J.L. Kellogg Graduate School of Management

- Taught MBA courses in corporate finance

CONCURRENT PART TIME ACADEMIC AND BOARD APPOINTMENTS

Sep 1999 – June 2004	Senior Finance Lecturer, Harvard Business School Taught Debt Capital Markets and Financial Innovation courses Student ratings consistently scored in the top decile of HBS finance faculty
Mar 2009 – May 2009	Adjunct Finance Faculty, Kellogg Graduate School of Mgmt, Northwestern University Taught Financial Innovation
Sep 2006 – Sep 2012	Adjunct Finance Faculty, Courant Institute of Mathematical Sciences, NYU. Taught "Case Course in Corporate Finance", consistently high student ratings
Feb 2002 – May 2011	Member of Board of Trustees, Global Association of Risk Professionals
Jun 2007 – Jan 2009	Outside Director, Cournot Capital
Mar 2010 – Mar 2012	Public company director and audit committee member, Manhattan Pharma (MHAN)

EDUCATION

Sep 1982 – Jun 1989	PhD in Managerial Economics (MEDS), The Graduate School at Northwestern University
Sep 1978 – Jun 1982	B.A. in Economics, College of Arts and Sciences

ACADEMIC PUBLICATIONS

TITLE	ABSTRACT
"Long-Term Project Valuation in Capital-Constrained Firms", Finance (Journal of the French Finance Assn), forthcoming 2019.	Extends the RAROC one-year valuation framework to multiple years and prices idiosyncratic risk in this environment.
"Simulation of Prices, Rates and Cash Flows (A), (B)", Harvard Business School Cases, Dec 2002.	Applies simulation to vfinancial valuation problems.
"Options on Futures Spreads: Hedging, Speculation and Valuation", Journal of Futures Markets, April 1994, pp 183-213.	Values options on the difference between two futures contracts. An exact single integral solution is provided, along with an approximate analytic solution. The model is applied to crack spread options on the NYMEX.
"The Pricing of Risky Debt when Interest Rates are Stochastic", Journal of Fixed Income, Sept 1993, pp 58-65 with Tejima and VanDeventer	Incorporates stochastic interest rates into the structural model of debt choice developed by Merton (1974).
"Bounds of Probability", Risk Magazine, Vol 6, No. 4, April 1993, pp. 33-37	Explains an intuitive and tractable method for determining implied probability distributions for security and futures values from option prices.
"The Valuation of Multiple Claim Insurance Contracts", Journal of Financial and Quantitative Analysis, Vol 27, No.2 , June 1992, pp. 229-246.	Values randomly occurring cash flows in insurance contracts considering the impact of deductibles and indemnity limits. Provides a financial model where diversifiable risk increases insurance premia.
"The Equilibrium Valuation of Risky Discrete Cash Flows in Continuous Time", Journal of Finance, Vol XLIV, No. 5, Dec 1989, pp. 1373-83.	Values cash flows that occur at random times, such as the claims from insurance contracts, defaults from bonds, or prepayments on mortgages.

BOOKS, CHAPTERS and SOFTWARE

TITLE	ABSTRACT
Market Risk Management Credit Risk Management Operational Risk Management Integrated Risk Management	The GARP Risk Series, Published 2010 by the Global Association of Risk Professionals. Co-authors Peter Went and Philippa Girling. Reprinted with additional authors and editing.
Credit Risk: Models and Management, First and Second Edition, 2004, by Risk Books.	Edited two volumes on building and applying analytic credit models to the management of credit portfolios.
Corporate Risk Strategy and Management, 1999, by Risk Books.	Collection and reprint of Risk Magazine articles.
Financial Risk and the Corporate Treasury, 1997, Risk Books.	Two chapters on using corporate risk management techniques in the treasury department.
The Innovative Investor, Lotus 1-2-3 Templates for Investments, Richard D. Irwin, 1993	Comprehensive Lotus (now Excel) spreadsheets designed to make the teaching of investments theory simpler
Finance in Continuous Time: A Primer, Kolb Publishing Company (now Blackwell), 1992.	Primer text for PhD students or technical practitioners to prepare them for more advanced texts.

TRADE PUBLICATIONS

TITLE	ABSTRACT
"Using derivatives to forecast oil scenarios", Energy Risk (risk.net), Sept 2017	Backwardation in oil futures can be better used to predict future oil prices.
"Energy Loan Risk Modeling: Why Simulation Makes Sense", Novantas Review, Oct 2016 with Brett Friedman	Addresses expected loss measurement and revaluation for energy loan portfolios.
"Risk Appetites: How hungry are utility investors?", PUF January 2005	Links risk management strategy for a utility with risk reporting and shareholder relations
"Pay as you go", EPRM January 2005 with Brett Humphreys	Explains daily risk charge methodology for market, credit and collateral risk
"How to avoid an earnings surprise", PUF December 2004 with John Bampfylde	Shows how model risk may be more important than market risk, since it affects the likelihood of earnings restatements
"Risk Management Principles for the Utility CEO", PUF June 2004 with Tim Essaye and Brett Friedman	Suggests how to link risk management policy to the financial objectives of a firm.
"Cleaning up the mess", The Desk, Dec 2003 with Brett Friedman	How to convey better risk information to credit agencies.
"Avoiding credit risk overcharges", GARP Risk Review, Jul/Aug 2003	Suggests an improved mechanism to charge traders for counterparty credit risk.
"Credit Risk Exposure", PUF 2002, with Brett Humphreys	Addressing credit risk in a public utility environment.
"Derivatives in the boardroom", PUF June 2002	Addresses the struggle of Chief Risk Officers who must act as both risk controllers and portfolio managers
"How to bet the ranch", FT May 2000	How do corporations increase their risk leverage well-beyond their assets and what can be done about it

TRADE PUBLICATIONS: J.P. MORGAN RESEARCH

TITLE	ABSTRACT
"Optimal Probability Trading Strategies", Aug 1994. (Reprinted in Risk Magazine Sept 1994)	Shows how to design optimal derivative strategies to take advantages on a trader's view of the entire probability distribution of a security or futures price.
"Commodities: A Suitable Asset Class", Sept 20, 1994	Makes the case for collateralized commodity investment in a diversified portfolio.
"The JPMCI --- A Commodity Benchmark", Sept 20, 1994	Argues that the JPM Commodity Index is the best index for achieving the benefits of commodity investment.
"Managing commodity curve risks", Feb 23, 1995	Calculates commodity curve hedge ratios (Front Month Equivalents) from implied volatility curves, and shows how to hedge long-dated commodity positions with shorter-dated ones.
"Why buy commodity stocks?", Feb 23, 1995	Finds that the long-term correlation between commodity producers' shares and the underlying commodity prices is generally very small.
"Risk management for corporate growth", Mar 15, 1995	Shows that hedging, by facilitating debt issuance, allows a gold producer to make better use of equity, implying a new source of shareholder value from risk management.
"Is hedging a zero-sum game?", Mar 23, 1995	Shows that while hedging may be zero-sum for the counterparts to a trade, the broader value of hedging can make the game positive-sum.
"Tactical commodity curve positioning", May 10, 1995	For an investor who wants to be long a commodity, this piece shows how backwardation and implied volatility can be used to choose the optimal maturity futures to go long.
"When to use exotic derivatives", June 19, 1995	Argues that exotic derivatives are appropriate in two conditions, when a hedger has a complex economic exposure, or when a speculator has a precise view on the probability distribution or path of an asset price.
"Should commodity buyers buy calls?", July 6, 1995.	Argues that backwardation provides an added incentive for some commodity buyers to buy call options --- i.e. the usual hedging benefits plus an insurance premium.
"Nonlinear risk management", Dec 26, 1995	Explains why correlation is insufficient as a basis for hedging many kinds of risk.
"Trader performance measurement", Jan 26, 1996	Shows how to compare the performance of traders using VaR relative to explicit benchmarks as the appropriate risk measure for computing risk-adjusted returns.
"Portfolio management of oil reserves", Feb 6, 1996	Suggests that oil producers could increase returns for shareholders by synthetically owning more short-term oil vs long-term oil.

TRADE PUBLICATIONS: RISK MAGAZINE MONTHLY COLUMNS

TITLE and MONTH	ABSTRACT
"Options or insurance?", July 1995	In the classroom, many suggest that options are like insurance. On the trading floor, that seems to change; options are like speculative instruments.
"Room for a view", Aug 1995	Sharpens investment strategies to be sensitive to trader's views and protect them against risks for which they have no views.
"Safe executions", Sep 1995	Shows how options protect against execution risk of dynamic trading strategies in addition to price changes.
"In praise of cross-pricing", Oct 1995	Illustrates the benefits of linking electricity prices to aluminum prices for an aluminum producer.
"Derivatives and the bottom line," Nov 1995	Summarizes the shareholder value arguments in favor of hedging.
"What is VaR?", Dec 1995	VaR is not just a standard deviation, it's a measure of capital alocation that often works better than actual capital.
"Divorce and derivatives", Jan 1996	Sometimes you're better off without some risks; derivatives give corporates the power to separate risks that previously were inseparable.
"How to speculate", Feb 1996	How to measure a trader's performance using VaR relative to an explicit benchmark.
"Hedging away your returns", Mar 1996	What appear to be risk premiums for hedging in some commodity markets may in fact represent systematic losses to one side of the market and systematic gains to the other side.
"Risk and tell", Apr 1996	Explains when hedging disclosure is appropriate
"Surrendering your options", May 1996	Shows when corporates should capitalize their real options by selling financial equivalents.
"VaR for corporates", June 1996	Many corporate managers think VaR is for banks. This column argues that while the calculation has to be adjusted for corporates, it is equally valid.
"Investors' return on VaR", July 1996	Tells investors how to use VaR to leverage their views and earn higher returns, if they are right.
"When corporates are banks", Aug 1996	Corporations run large hidden credit portfolios to clients and suppliers, not really unlike banks.
"Capital structure and risk", Sep 1996	Leverage, equity financing, reinsurance and options are all substitutes, and should be evaluated on the same basis, i.e. what is the optimal contingent capital structure of a firm?
"Calling a trade a trade", Oct 1996	Corporate managers will go to great lengths to avoid the "S" word (speculation). Here are 10 top quotes.
"Hedging a northern exposure", Nov 1996	Recommends securitization as a solution to Alaska's dependence on oil-linked tax and royalty revenues.
"Hedge with an edge", Dec 1996	When to use hedging strategy to competitive advantage (resolving a popular dilemma).
"Many happy returns", Jan 1997 (with Rob Reider)	Demonstrates the structural premium paid to investors who are long emerging markets currencies relative to developed markets.
"Watch your assets", Feb 1997	Major foreign acquisitions may bring unwanted foreign exchange exposure; how to best manage these risks.
"A workplan for strategic risk management", Mar 1997	How to use the corporate pro-forma to do firmwide risk management for corporates.
"So you're a risk manager?", Apr 1997	A lot of risk managers seem to really be risk measurers... how can they elevate the role?

"Not so great expectations", May 1997	Risk models often ignore expected returns, a fatal flaw for long-dated risk analysis
"See Sharpe or be flat", June 1997	The RAROC approach (Risk-adjusted return on capital) is exactly the same as the Sharpe ratio --- only more general in applicability
"SEC and security", July 1997	The proposed SEC disclosure requirements may have hidden benefits for corporations
"The politics of VAR", Aug 1997	How to incorporate sovereign risks into international capital budgeting decisions
"Yearnings per share", Sep 1997	Suggests that risk managers should interview investors and analysts in order to determine a company's proper risk management policies.
"A golden opportunity", Oct 1997 (with Robert McDonald)	Gold producers face a unique hedging anomaly: subsidization of their hedging programs by central banks
"Speed for brains", Nov 1997	Sometimes, being fast is as good as being smart; is the value of intellectual capital declining?
"10 years on top of a stone", Dec 1997 (with Ram Challa)	Corporations have come a long way in 10 years in improving their firm-wide risk management practices
"The tell-tale deal", Jan 1998	Derivative marketers may be giving away valuable options while appearing profitable on paper. How to stop the death spiral.
"Substandard deviations", Feb 1998 (with Jean-Paul StGermain)	Most risk managers assume volatility is calculated from the standard deviation of percentage returns. Often, this leads to ridiculous results.
"When credit is due", Mar 1998	A true risk management dilemma: No-one can ever know their counterparty's exposure to other counterparties; how to price these hidden credit costs
"Discounting success", Apr 1998	Comparing the CAPM, RAROC and insurance-based models for determining discount rates
"The case of the missing credit costs", May 1998 (with Rich Apostolik)	Credit lines are not being allocated economically, nor are they being used to measure risk-adjusted performance at major broker/dealers.
"Hysterical simulation", Jun 1998 (with Brett Humphreys and Vijay Pant)	Historical simulation generally gives historical observations equal weightings, but historical sampling should give greater weight to periods most like the present.
"Cash before value", Jul 1998	Value-at-risk and Cash-flow-at-risk are not as different as it first appears
"I want to be a loan", Aug 1998 (with Brett Humphreys)	How to use loan-equivalents to measure and charge for counterparty credit risk
"Collateral damage", Sep 1998	Under balance-sheet based methods of absorbing credit risks, traders pay their counterparties' credit costs; in a collateralized system, each pays their own way. Why this is better.
"As if by magic", Oct 1998	Hedging converts market risk to credit risk, and collateralization turns credit risk into operational risk. Can risk never be destroyed?
"Cloak and dagger", Nov 1998	The costs and risks of not knowing your counterparties' market and credit exposures
"Voting on value", Dec 1998 (with Brett Humphreys)	Securities analysts are often characterized as not understanding the value of risk management. According to this survey, it appears they really do.
"Viva la VAR!", Jan 1999	How do you calculate the return on a futures position? Popular views and why they are wrong.

"Ain't necessarily so", Feb 1999	VAR is almost like levered equity --- with one exception. How limited liability and bankruptcy laws change the VAR calc and corporate strategy.

PATENTS

Systems and Methods of an Online Secured Loan Manager (2014)	Application 20140172679 not issued (with Brett Friedman)
Methods and Apparatus for Determining an Effect of a Selection (2011)	Issued 7873558 (with Brett Humphreys)
Method and Apparatus for Increasing Investment Return and Asset Liquidity (2010)	Issued 7860775 (with Brett Humphreys)
System, Method and Computer Program Product for Collateral Management Operations (2006)	Issued 7139730 (with Brett Humphreys and Rich Apostolik)