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EDUCATION

Ph.D. (Finance), 1981.

MBA (Finance), 1979.

MS (Elec. Engg.) 1972

Baruch College, CUNY, NY

Baruch College, CUNY, NY

Pratt Institute, Brooklyn, NY

B. Tech (Elec. Engg.), 1970 Indian Institute of Technology, Bombay, India

ACADEMIC EXPERIENCE

1992-Present: Rutgers University, Newark, NJ, Associate Professor of Finance

2001-2005: Rutgers University, Newark, NJ, Director, Master of Quantitative Finance Program

1985-1992: Rutgers University, Newark, NJ, Assistant Professor of Finance 1981-1985: Hofstra University, Hempstead, NY, Assistant Professor of Finance 1975-1979: Baruch College, New York, NY, Adjunct Lecturer of Finance

PUBLICATIONS

- "A Gore-Kerry Political Climate Hit", Wall Street Journal, Oct 9, 2022
- "The World Needs to Quit Oil. Africa's Proposal: Rich Countries First", New York Times, Nov 9, 2021
- "Green Energy Pushers Will Do Enormous Damage to Africa". Wall Street Journal, Nov 3, 2021
- "Nikki Haley Refutes Identity Politics", Wall Street Journal, Sept 1, 2020
- "Stakeholder Capitalism's Left Wing Agenda", Wall Street Journal, Feb 19, 2020
- "Knights of the Round Table Meet Sen. Warren", Wall Street Journal, Oct 10, 2019
- "Hong Kong Crisis do not signal a crisis for Capitalism", <u>South China Morning Post</u>, Sept 19, 2019
- "Climate Change: Scientists need the wisdom of Economists", Straits Times, Aug 29, 2019
- "Climate Change: Is It Worth Worrying About", <u>Star Ledger</u>, July 26, 2019
- "Inequality Will Correct Itself over Time, Straits Times, June 22, 2019
- "Inequality Essential for Progress, *Straits Times*, June 17, 2019
- "Catholics Against Columbus," Wall Street Journal, January 31, 2019
- "Nothing Wrong with Having an Accent," *India Abroad*, Aug 3,2018
- "South Asian Stereotypes and The Simpsons," New York Times, May 3, 2018
- "The Pope. the Poor, and God's Intent," Wall Street Journal, April 28, 2015
- "J.P. Morgan's Loss Cost Taxpayers Nothing, This Time," Wall Street Journal, May 22, 2012
- "An FDA for Finance," New York Times, , April 8, 2012
- "It is Hard to Get Regulation Right," Wall Street Journal, April 21, 2011
- "The Public Rage Against Wall Street," New York Times, April 24, 2010
- "Naïve Greens are unfair to pillory Exxon and Sasol", Cape Times, June 8, 2008
- "Heartless Capitalism pays off on the long-term", *The Straits Times*, April 17, 1998
- "The Cornhuskers Deserved it", *The New York Times*, January 11, 1998
- Markets, Vol. 20, No. 1 (Spring 2000). Reprint in Special Millennium Issue.
- "Heartless Capitalism Pays off in the Long-Term," The Straits Times, April 17,1998

- "Cornhuskers Deserved it", *The New York Times*, 1998
- "Ball Players as Investments", <u>The New York Times</u>, Aug 3, 1980
- "Hedge Effectiveness: Basis Risk and Minimum Variance Hedging," *Journal of Futures*
- "Commentary: The Flight to Quality: Evidence from the Futures Markets," *Review of Research in Futures Markets*, fall 1993.
- "Cross Hedging: Basis Risk and Choice of the Optimal Hedging Vehicle," <u>Financial Review</u>, with Jack Francis and Avner Wolf, Vol. 26, No. 2 (May 1991), 179-201.
- "Futures Markets and Hedging: The Time Dimension," <u>Journal of Quantitative Economics</u>, Vol. 6 (July 1990), 271-287.
- "Hedging Strategies in Futures Markets: Adjusting the Position for Basis Risk," *Managing Institutional Assets*, Edited by Frank Fabozzi, Harper and Row, 1990, 559-570.
- "Minimum Variance Hedging with Futures Revisited," <u>Journal of Portfolio Management</u>, Vol. 16, No. 3 (Spring 1990), 74-80.
- "Basis Volatility: Implications for Hedging," *Journal of Financial Research*, Vol. 12, No. 2 (Summer 1990), 74-80.
- "T-Bond Futures Prices: Cheapest to Deliver Versus the Index," with Sris Chatterjee, *Advances in Futures and Options Research*, Vol. 3 (1988), 291-300.
- "Hedging Mispriced Options," with Avner Wolf and Jack Francis, *Journal of Futures Markets*, Vol. 7, No. 2 (Spring 1987), 147-157.
- "Spread Volatility in Commodity Futures: The Length Effect," with Ashok Vora, *Journal of Futures Markets*, Vol. 4, No. 1 (Spring 1984), 39-46.
- "Basis Speculation in Commodity Futures: The Maturity Effect," with Jack Francis, <u>Journal</u> of Futures Markets, Vol. 2, No. 2 (Summer 1982), 195-206.

BOOKS

"Inside the Financial Futures Markets," with Mark Powers, *John Wiley and Sons, Publishers*, 3rd Edition, 1991, 456 pages.

FINANCIAL SOFTWARE (Designed & Developed)

<u>FINANCIAL MANAGEMENT</u>:- Time Value of Money, Discounted Cash-flow, Risk and Return, Capital Asset Pricing Model, Bond and Stock Valuation, Capital Budgeting Techniques:- Net Present Value (NPV), Profitability Index and Internal Rate of Return (IRR), Cash-flow Analysis, EBIT/EPS Analysis, Leverage and Capital Structure, Cost of Capital, Working Capital Management, International Finance.

<u>INVESTMENT ANALYSIS</u>: - Risk and Return, Portfolio Construction, Markowitz Diversification, Minimum Risk and Optimal Portfolios, Beta Coefficients and the Capital Asset Pricing Model, Asset Allocation and Performance Evaluation, Return Distributions – Normal and Log-Normal, Value at Risk (VAR). Securities Analysis— Money Market Securities, Bonds, Mortgage-Backed Securities and Common Stock. Interest Rate Analysis, Spot & Forward Rates. Foreign Exchange Analysis. Derivatives: - Futures, Options and Swaps.

FIXED INCOME SECURITIES: - Fixed Income Securities Calculator, Price, Yield, Duration, Convexity, Value of an 01, Price Value of a Basis Point (PVBP) and Yield Value of a 1/32. Measures of Return: - Yield to Maturity, Cash-Flow Yield, and Option-Adjusted Yield and Realized Compound Yield. Measures of Risk: - Price Risk and Re-investment Risk. Portfolio Duration & Convexity. Horizon Analysis and Portfolio Immunization. Yield Curve Analysis, Construction of a Spot and Forward Rates Matrix. MBS Analysis includes: CPR or PSA Speed-based Cash-flow Projections. Interest/Principal breakdown, Price-Yield Analysis based on CPR or PSA Speed. Mortgage Derivatives: - CMOs, IOs & POs.

<u>**DERIVATIVES (In Progress): - Futures, Options and Swaps. Black-Scholes Option Pricing Model, Multi-Period Binomial Pricing Model, Volatility and Implied Volatility, Put-Call Parity Relationship. Option Strategies, Spreads and Straddles. Caps, Floors and Collars. Futures and Forwards, FRAs,**</u>

Commodity, Interest Rate, Currency and Index Futures. Hedge Ratios and Basis Risk. Swaps-Interest Rate, Currency and Commodity. Pricing and Applications.

CONFERENCE PRESENTATIONS

- "Uses and Abuses of Derivatives," Samsung Centre, Singapore, June 2012
- "Derivatives" presented at the **Annual Rutgers Alumni Event**, at Englehard Hall, Newark, April 3, 2009 at 110:30 am
- "How to Evaluate Investment Projects: Alternative Techniques" presented at **Regus Plaza**, 5th Floor, Beijing, hosted by Universal Ideas for a consortium of business leaders, Wenesday, January 10th, 2007 at 6:30pm
- "Exploring Investment Opportunities: Simple Rules for a Complex World," presented at the Ritz Carlton Hotel, Beijing, hosted by Universal Ideas for a consortium of business leaders, Wednesday, January 12, 2005
- "Commentary: The Flight to Quality: Evidence from the Futures Markets," Chicago Board of Trade, Chicago, Illinois, May 1992.
- "Hedge Effectiveness: Basis Risk and Minimum Variance Hedging," Conference on Futures and Options, Rutgers University, New Brunswick, New Jersey, April 1991.
- "Cross Hedging: Basis Risk and Choice of the Optimal Hedging Vehicle," **Eastern Finance Association**, Charleston, South Carolina, April 1990.
- "Futures Markets and Hedging: The Time Dimension," **South Western Finance Association**, Dallas, Texas, April 1990.
- "The Time Dimension in Hedging: Adjusting the Position for Basis Risk," Chicago Board of Trade Conference on Futures and Options, Scottsdale, Arizona, February 1989.
- "T-Bond Futures Prices: Cheapest to Deliver Versus the Index," **Financial Management Association**, New Orleans, Louisiana, October 1998.
- "Basis Volatility: Implications for Hedging," **Mid-Western Finance Association**, St. Louis, Missouri, March 1987.
- "Spread Volatility in Commodity Futures: The Length Effect," **European Finance Association**, Fontainbleu, France, September 1983.
- "Futures Markets: The Maturity Effect on Risk and Return," **Financial Management Association**, Cincinnati, Ohio, October 1981.

RESEARCH IN PROGRESS

- "Derivatives and Disclosure," with Francis Ng
- "Analysis of Mortgage-Backed Securities"
- "Software Package for teaching Mortgage-Backed Securities"

PROFESSIONAL COURSES ATTENDED

Professor Govindraj's PhD level course in Accounting at RBS, Fall 2015

REVIEWER

- Journal of Futures Markets
- Journal of Portfolio Management
- Journal of Financial Engineering
- Advances in Futures and Options Research

COURSE TAUGHT (Selection)

Financial Management (Executive MBA)

Investment Analysis and Management (Undergraduate, MBA, and Executive MBA)

Analysis of Fixed Income Securities (MBA)

Futures and Options (Undergraduate and MBA)

Financial Markets and Instruments (Undergraduate)

PROFESSIONAL EXPERIENCE (Selection)

2010: Rutgers University, NJ

Professional Team Consulting Advisor

1998 - Present Universal Ideas Consultants Inc, Beijing, Shanghai, China

Executive Education in Financial Management

1999 Summit Bank, NJ

Executive Training in Financial Management and Investment Analysis. Conducted full-day seminars for middle-level Bank Executives

1998 HLW, New York

Seminar in Financial Management for middle and upper-level executives.

1982 – 1992 Powers Research Inc., NJ

Senior Research Consultant

Responsible for the financial engineering of products for analyzing risk exposure and profitability of portfolios and balance sheets. Trading and client support using futures and options to manage and control risk exposure.

Products developed include:

Adjustable Rate Mortgage Model to value adjustable rate mortgage portfolios utilizing Monte Carlo projections of future interest rates, CPRs, rate caps, points, and reset timing.

Asset/Liability Management Model to analyze the risk exposure due to mismatches in asset/liability maturities and durations. Conversion of entire balance sheets into risk equivalents and the development of optimal hedging strategies for gap management, interest rate forecasting and scenario analysis.

Portfolio Management Model for mortgage-backed and other fixed income securities. Performance tracking through measurement of holding period yield and realized compound yield. Adjustment of risk exposure using futures and options.

Micro-Hedge Management Model for strategic hedging of fixed income securities. Determination of hedge and delta ratios, lockin rates and prices. Hedge placement, monitoring, and performance measurement.

Corporate Model for the management and control of issuances of commercial paper. Use of futures contracts to lockin rates over user specified horizons.

Fixed Rate Loan Management Model for developing strategies for issuing long-term fixed rate loans financed by short-term paper to lockin a spread over borrowing costs.

July-August 1988 Management Practice, Inc., NY

Designed and developed data base for cross comparison of performance and expenses of mutual funds with and without 12b-1 plans. Developed a risk-adjusted measure for performance for money market funds.

May 1981 - December 1982 Salomon Brothers, NY

Consultant to the Bond Portfolio Analysis Group

Researched and analyzed the effect of yield curve movements on T-bill futures prices. Empirical evidence of the systematic influence of time to maturity on volatility. Client and trading floor support for hedging in financial futures markets.

June-November 1980 Coffee, Sugar, and Cocoa Exchange, NY

Consultant to the New Products Committee

Researched and analyzed the rationale for success and failure of commodity futures markets. Developed key variables for predicting the success and failure of new markets

OFFICES HELD IN PROFESSIONAL SOCIETIES

Member, Board of Directors, Foundation for the Advancement of Excellence in Education (1998-Present) Associate Director, the New Jersey Center for Research in Financial Services (1998-Present) Associate Editor for the Journal of Financial Engineering (1992-1995)

Member of the BOARD of DIRECTORS

1996-2008: Foundation for the Advancement of Excellence in Education

AWARDS

General Electric Scholar 2000 General Electric Scholar 1999 General Electric Scholar 1998 Oscar Lasdon Doctoral Dissertation Award, 1982