

Kenneth D. Garbade

Senior Vice President
Money and Payments Studies Function
Research and Statistics Group
Federal Reserve Bank of New York

Educational History:

Ph.D. Princeton University, 1975 (Economics)

B.S. California Institute of Technology, 1968 (Physics/History)

Prior Employment:

September, 1973 - February, 1978

Graduate School of Business Administration, New York University
Instructor of Economics and Finance (9/73 - 11/74)
Assistant Professor of Economics and Finance (11/74 - 9/77)
Associate Professor of Economics and Finance (9/77 - 2/78)

February, 1978 - February, 1980

Federal Reserve Bank of New York
Visiting Economist (2/78 - 7/78)
Consultant (7/78 - 12/78)
Special Assistant (12/78 - 2/79)
Research Officer (2/79 - 2/80)

February, 1980 - August, 1982

Graduate School of Business Administration, New York University
Professor of Economics and Finance (2/80 - 8/82)

January 2009

August, 1982 - January, 1997

Bankers Trust Company
Vice President (8/82 - 12/85)
Managing Director (12/85 - 1/97)

January, 1997 – August, 2000

Leonard N. Stern School of Business, New York University
Clinical Professor of Finance (1/97 – 8/00)

August, 2000 –

Federal Reserve Bank of New York
Vice President (8/00 -12/08)
Senior Vice President (12/08 -)

Books:

Discretionary Control of Aggregate Economic Activity, (Lexington Books, 1975).

Securities Markets, (McGraw-Hill, 1982). Translated into Italian as **Teoria dei Mercati Finanziari**, (Societa editrice il Mulino, Bologna, 1989).

Fixed Income Analytics, (MIT Press, 1996).

Pricing Corporate Securities as Contingent Claims, (MIT Press, 2001).

Journal Articles:

“Discretion in the Choice of Macroeconomic Policies,” **Annals of Economic and Social Measurement**, 4 (Spring, 1975).

“Price Dispersion in the Government Securities Market,” with William Silber, **Journal of Political Economy**, 84 (August, 1976).

“Fare Policies for Mass Transit: Deficit Control Analysis by Optimization,” **Transportation Research**, with Neal Soss, 10 (August, 1976).

- “On the Existence and Uniqueness of Solutions to Multi-period Linear/Quadratic Optimal Control Problems,” **International Economic Review**, 17 (October, 1976).
- “Economic Stabilization in the Presence of Limited Discretion,” **Southern Economic Journal**, 43 (January, 1977).
- Two Methods for Examining the Stability of Regression Coefficients,” **Journal of the American Statistical Association**, 72 (March, 1977).
- “Time Variation in the Term Structure of Interest Rates,” **Journal of Cybernetics**, 7 (January-June, 1977).
- “On the Independence of Transactions on the New York Stock Exchange,” with Zvi Lieber, **Journal of Banking and Finance**, 1 (September, 1977).
- “Secular Variation in the Spread Between Bid and Offer Prices on U.S. Treasury Coupon Issues,” with Irene Rosey, **Business Economics**, 12 (September, 1977).
- “Risk Premiums on Federal Agency Debt,” with Joseph Hunt, **Journal of Finance**, 33 (March, 1978).
- “Electronic Quotation Systems and the Market for Government Securities,” Federal Reserve Bank of New York **Quarterly Review**, 3 (Summer, 1978).
- “Technology, Communication, and the Performance of Financial Markets,” with William Silber, **Journal of Finance**, 33 (June, 1978).
- “The Effect of Interdealer Brokerage on the Transactional Characteristics of Dealer Markets,” **Journal of Business**, 51 (July, 1978).
- “Time Variation in the Relationship Between Inflation and Interest Rates,” with Paul Wachtel, **Journal of Monetary Economics**, 4 (November, 1978).
- “Exchange-traded Options on Common Stock,” with Monica Kaicher, Federal Reserve Bank of New York **Quarterly Review**, 3 (Winter, 1978-79).
- “The Payment System and Domestic Exchange Rates: Technological versus Institutional Change,” with William Silber, **Journal of Monetary Economics**, 5 (January, 1979).
- “On the Information Content of Prices,” with Jay Pomrenze and William Silber, **American Economic Review**, 69 (March, 1979).

- “Structural Organization of Secondary Markets: Clearing Frequency, Dealer Activity and Liquidity Risk,” with William Silber, **Journal of Finance**, 34 (June, 1979).
- “Dominant and Satellite Markets: A Study of Dually-traded Securities,” with William Silber, **Review of Economics and Statistics**, 61 (August, 1979).
- “Testing the Hypothesis of Beta Stationarity,” with Joel Rentzler, **International Economic Review**, 22 (October, 1981).
- “The Impact of the GNMA Pass-through Program on FHA Mortgage Costs,” with Deborah Black and William Silber, **Journal of Finance**, 36 (May, 1981).
- “Opening Prices on the New York Stock Exchange,” with Chandra Sekaran, **Journal of Banking and Finance**, 5 (September, 1981)
- “Best Execution in Securities Markets: An Application of Signaling and Agency Theory,” with William Silber, **Journal of Finance**, 37 (May, 1982).
- “Market Reaction to the Filing of Antitrust Suits: An Aggregate and Cross-sectional Analysis,” with William Silber and Lawrence White, **Review of Economics and Statistics**, 64 (November, 1982).
- “Price Movements and Price Discovery in Futures and Cash Markets,” with William Silber, **Review of Economics and Statistics**, 65 (May, 1983).
- “Futures Contracts on Commodities with Multiple Varieties: An Analysis of Premiums and Discounts,” with William Silber, **Journal of Business**, 56 (July, 1983).
- “Cash Settlement of Futures Contracts: An Economic Analysis,” with William Silber, **Journal of Futures Markets**, 3 (Winter, 1983).
- “A Two-factor, Arbitrage-free, Model of Fluctuations in Crude Oil Futures Prices,” **Journal of Derivatives**, 1 (Fall, 1993).
- “A New Governance Structure for Corporate Bonds,” with Yakov Amihud and Marcel Kahan, **Stanford Law Review**, 51 (February, 1999).
- “Managerial Discretion and the Contingent Valuation of Corporate Securities,” **Journal of Derivatives**, 6 (Summer, 1999).
- “Enhancing the Liquidity of U.S. Treasury Securities in an Era of Surpluses,” with Paul Bennett and John Kambhu, Federal Reserve Bank of New York **Economic Policy Review**, 6 (April, 2000).

- “An Institutional Innovation to Reduce the Agency Costs of Public Corporate Bonds,” with Yakov Amihud and Marcel Kahan, **Journal of Applied Corporate Finance**, 13 (Spring, 2000).
- “When the Back Office Moved to the Front Burner: Settlement Fails in the Treasury Market After 9/11,” with Michael Fleming, Federal Reserve Bank of New York **Economic Policy Review**, 8 (November 2002).
- “The Repurchase Agreement Refined: GCF Repo,” with Michael Fleming, Federal Reserve Bank of New York **Current Issues in Economics and Finance**, 9 (June 2003).
- “Repurchase Agreements with Negative Interest Rates,” with Michael Fleming, Federal Reserve Bank of New York **Current Issues in Economics and Finance**, 10 (April 2004).
- “The Institutionalization of Treasury Note and Bond Auctions, 1970-75,” Federal Reserve Bank of New York **Economic Policy Review**, 10 (May 2004).
- “Recent Innovations in Treasury Cash Management,” with John Partlan and Paul Santoro, Federal Reserve Bank of New York **Current Issues in Economics and Finance**, 10 (November 2004).
- “Origins of the Federal Reserve Book-Entry System,” Federal Reserve Bank of New York **Economic Policy Review**, 10 (December 2004).
- “The Treasury Auction Process: Objectives, Structure, and Recent Adaptations,” with Jeffrey Ingber, Federal Reserve Bank of New York **Current Issues in Economics and Finance**, 11 (February 2005).
- “Anomalous Bidding in Short-Term Treasury Bill Auctions,” with Michael Fleming, **Journal of Financial Research**, 28 (Summer 2005).
- “Explaining Settlement Fails,” with Michael Fleming, Federal Reserve Bank of New York **Current Issues in Economics and Finance**, 11 (September 2005).
- “The Evolution of Repo Contracting Conventions in the 1980s,” Federal Reserve Bank of New York **Economic Policy Review**, 12 (May 2006).
- “The Emergence of ‘Regular and Predictable’ as a Treasury Debt Management Strategy,” Federal Reserve Bank of New York **Economic Policy Review**, 13 (March 2007).
- “Dealer Behavior in the Specials Market for U.S. Treasury Securities,” with Michael Fleming, **Journal of Financial Intermediation**, 16 (April 2007).

“Why the U.S. Treasury Began Auctioning Treasury Bills in 1920,” Federal Reserve Bank of New York **Economic Policy Review**, 14 (July 2008).

Topics in Money and Securities Markets:

Invoice Prices, Cash Flows and Yields on Treasury Bonds, (December, 1983).

Duration: An Introduction to the Concept and Its Uses, with Stephen Dym, (January, 1984).

GNMA Pass-throughs: What Do They Pass Through and What Do They Yield?, (February, 1984).

Comparing Yields on Zeros to Yields on Treasury Bonds, (March, 1984).

Zero Coupon Strips and Custodial Receipts, (May, 1984).

Coupon Rolls, (June, 1984).

The Effect of Interest Payments on the Duration of a Bond: Implications for Portfolio Management and Yield Curve Analysis, (July, 1984).

Invoice Prices, Cash Flows and Yields on Federal Agency Bonds, (October, 1984).

Analyzing the Structure of Treasury Yields: Duration, Coupon, and Liquidity Effects, (November, 1984).

Rate of Return and Futurity of Cash Flow from a Bond - Are Yield and Duration Good Measures?, (December, 1984).

Foreign-Targeted Treasury Bonds, (January, 1985).

Bond Convexity and Its Implications for Immunization, (March, 1985).

Treasury Bond Futures: Contract Provisions and Relation to Cash Market Bonds, (May, 1985).

Agency-Treasury Yield Spreads: Adjusting for Duration and Coupon Differences, (June, 1985).

Managing Yield Curve Risk: A Generalized Approach to Bond Immunization, (August, 1985).

Dedicated Bond Portfolios: Construction, Rebalancing and Swapping, (October, 1985).

Treasury Bills with Special Value, (December, 1985).

Hedging in the Treasury Bond Market: Implications of Imperfect Correlation and Non-uniform Volatility of Yield Changes for the Size of an Optimal Hedge, (April, 1986).

Yield Spread Trades: Weighting, Financing and Applications, with Marcia Rectenwald, (June, 1986).

Modes of Fluctuation in Bond Yields - An Analysis of Principal Components, (June, 1986).

Forecasting GNMA Prepayment Speeds: Methodology and Implications for Price, Yield, Duration and Convexity, (August, 1986).

Assessing Risk and Capital Adequacy for Treasury Securities, (November, 1986).

GNMA-Treasury Yield Spreads: An Appraisal of the Current Coupon, Discount and Premium Sectors, (December, 1986).

On the Covariation of Federal Agency, Mortgage-backed Pass-through and Money Market Yields with Treasury Yields, (February, 1987).

Modes of Fluctuation in Treasury STRIP and Federal Agency Bond Yield Curves, (March, 1987).

Invoice Prices, Special Redemption Features, Cash Flows and Yields on Eurobonds, (May, 1987).

Assessing the Value of a Callable Eurobond, with Richard Tanenbaum, (July, 1987).

Assessing and Allocating Interest Rate Risk for a Multi-sector Bond Portfolio Consolidated Over Multiple Profit Centers, (October, 1987).

Assessing the Value of a Eurobond with Issuer Call and Holder Put Options, (December, 1987).

Defining Yield, Duration and the Value of a Basis Point for Callable Treasury Bonds, (February, 1988).

Calling a Eurobond for Early Redemption: Analytics and Empirical Evidence, with Kenneth Abbott, (March, 1988).

Cross-Currency Bond Positions: Spreading and Hedging, with Thomas Ulrich, (April, 1988).

Representing Components of Interest Rate Risk with Characteristic Portfolios, (June, 1988).

Assessing the Value of a Eurobond with a Market-Option Sinking Fund, (July, 1988).

Approximating the Yield on a Portfolio of Bonds: Value-Weighted Averages versus Value of a Basis Point-Weighted Averages, (September, 1988).

Modes of Fluctuation in Sovereign Bond Yield Curves: An International Comparison, with Thomas Ulrich, (October, 1988).

Assessing the Value of an Indexed Sinking Fund Debenture, (November, 1988).

Analyzing the Structure of Sovereign Bonds Yields: Duration and Coupon Effects, with Thomas Ulrich, (December, 1988).

On the Statistical Distribution of Changes in Treasury Yields Over Short Intervals of Time, with Kenneth Baron, (January, 1989).

Time Variation in the Volatility of Yields on U.S. Treasury Securities, (February, 1989).

Butterfly Trades in the U.S. Treasury Bond Market: A Critical Appraisal of Yield, Convexity and Risk, (April, 1989).

Risk Constrained Portfolio Reallocations and the Prices of Interest Rate Risk, (June, 1989).

Polynomial Representations of the Yield Curve and Its Modes of Fluctuation, (July, 1989).

Yield to Average Life on a Sinking Fund Bond: Is It a Good Approximation to Cash Flow Yield?, (August, 1989).

Consistency Between the Shape of the Yield Curve and Its Modes of Fluctuation in a Multi-Factor Framework, (December, 1989).

Pricing Claims Whose Payments are Contingent on Interest Rate Fluctuations in a Multi-Factor Framework, (February, 1990).

Eurodollar Deposit Yields in the Cash and Futures Markets, (April, 1990).

Polynomial Representations of Eurodollar Deposit Yield Curves, (May, 1990).

Pricing Intermediate Term Interest Rate Swaps with Eurodollar Futures, (June, 1990).

Hydrocarbon Fuels: From Well Fluids to Refined Products, (August, 1990).

Recent Time Variation in the Modes of Fluctuation of the Spot Treasury Yield Curve, (November, 1990).

Characteristics of Fluctuation in the Prices of Crude Oil and Its Refined Fuels, (January, 1991).

The Cross-sectional Structure of Crude Oil Prices, (February, 1991).

Product Descriptions in the Markets for Crude Oil and Refined Hydrocarbon Fuels, (May, 1991).

Energy from Hydrocarbon Combustion, (June, 1991).

Fluctuations in Crude Oil Prices in the Cash and Futures Markets, (July, 1991).

Fluctuations in Gasoline and Heating Oil Prices in the Cash and Futures Markets, (August, 1991).

A Two-factor Arbitrage-free Model of Fluctuations in Crude Oil Futures Prices, (September, 1991).

Pricing Oil Contingent Claims, (October, 1991).

Characteristics of Fluctuation in the Prices of Natural Gas Liquids, (October, 1991).

Modeling the Stochastic Evolution of Stock Prices When Price Changes are Serially Correlated, (December, 1991).

Implied Volatility and the Variance of Changes in Stock Prices, (February, 1992).

A Two-factor Arbitrage-free Model of Seasonal and Stochastic Fluctuations in Gasoline and Heating Oil Futures Prices, (April, 1992).

A Composite Representation of Fluctuations in the Prices of Crude Oil and Its Refined Fuels in the Cash and Futures Markets, (May, 1992).

Volatility and Covariation of Crude Oil and Refined Product Prices in the Cash and Futures Markets, (June, 1992).

Further Results on Seasonal Variation in Gasoline and Heating Oil Futures Prices, (July, 1992).

Soybeans, Crude Oil and Meal, (August, 1992).

An Alternative Model of Stochastic Fluctuations in Crude Oil, Gasoline and Heating Oil Futures Prices, (September, 1992).

Characteristics of Fluctuations in the Prices of Soybeans and Soybean Products, (October, 1992).

Final Settlement of Futures Contracts on Soybeans and Soybean Products, (October, 1992).

Characteristics of Fluctuations in Crude Oil Crack Spreads, (December, 1992).

Jointly Produced Products as Substitutes and Complements, (December, 1992).

Hedging Raw Materials with Refined Products, (December, 1992).

Petrochemical Intermediates Between Crude Oil and Thermoplastic Polymers, (January, 1993).

Characteristics of Fluctuations in Processing Margins for Thermoplastic Polymers and Petrochemical Intermediates, (January, 1993).

Soybean Futures Prices, (March, 1993).

Corn and Corn Products, (April, 1993).

Corn Futures Prices, (May, 1993).

Other:

“Financial Innovation and the EFTS: Implications for Regulation,” with William Silber, in **A Compendium of Papers Prepared for the FINE Study**, Volume I, Committee on Banking, Currency, and Housing, U.S. House of Representatives, (November, 1975).

Securities Credit Regulations of the Board of Governors of the Federal Reserve System, Staff Study of the Federal Reserve Bank of New York, (1980).

“Commercial Bank Uses of Financial Futures: Prospects and Implications,” in **Proceedings of a Conference on Bank Structure and Competition**, May 14 and 15, 1981, Federal Reserve Bank of Chicago.

“Extension of Federal Margin Requirements to Cover Certain Loans to Foreign Investors from Foreign Creditors,” in **Extension of Margin Requirements to Foreign Investors**, Hearing Before the Subcommittee on Securities of the Committee on Banking, Housing and Urban Affairs, U.S. Senate, 97th Congress, 1st Session, on S. 1429 and S. 1436, (July 8, 1981).

“Foreign-targeted Treasury Securities,” in **The Handbook of Treasury Securities**, Frank Fabozzi, ed., (Probus Publishing Co., 1987).

“Invoice Prices, Special Redemption Features, Cash Flows and Yields on Eurobonds,” in **Advances & Innovations in the Bond and Mortgage Markets**, Frank Fabozzi, ed., (Probus Publishing Co., 1989).

“Assessing the Value of a Callable Eurobond,” with Richard Tanenbaum, in **The Handbook of Fixed Income Options**, Frank Fabozzi, ed., (Probus Publishing Co., 1989).

“Assessing the Value of A Eurobond with Issuer Call and Holder Put Options,” in **The Handbook of Fixed Income Options**, Frank Fabozzi, ed., (Probus Publishing Co., 1989).

“Prospects for Asset Contingent Valuation Models in Pricing and Credit Risk Assessment,” in **Derivative Instruments**, Edward Swan, ed., (Graham & Trotman/Martinus Nijhoff, London, 1994).

“An Institutional Innovation to Reduce the Agency Costs of Public Corporate Bonds: Changing the Role of the Trustee,” in **Capital Markets and Company Law**, Klaus Hopt and Eddy Wymeersch, eds., (Oxford University Press, 2003)