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**Curriculum Vitae**

**STEPHEN FIGLEWSKI**

**CURRENT POSITION: Retired**

Title: Professor of Finance, Emeritus  
New York University Leonard N. Stern School of Business  
(active 1976-2019)

Office: 215 Fernwood Avenue  
Montclair, NJ 07043

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**PERSONAL DATA**

Home Address: 215 Fernwood Avenue  
Montclair, NJ 07043

Marital Status: Married (2 children)

Citizenship: U.S.A.

**UNDERGRADUATE EDUCATION**

Princeton University, Princeton, New Jersey

Degree: B.A., 1969, Summa Cum Laude in Economics

Honors: Ransome Thesis Prize  
University Scholar  
Phi Beta Kappa

## **GRADUATE EDUCATION**

Massachusetts Institute of Technology  
Cambridge, Massachusetts

Degree: Ph.D in Economics, 1976

Honors: National Science Foundation Fellowship, 1974-1976  
National Science Foundation Traineeship, 1973

Dissertation: "Three Essays on Information in Speculative Markets"

Dissertation Committee: Jerry Hausman, Chairman  
Paul Samuelson  
Stanley Fischer  
(All of M.I.T. Dept. of Economics)

Major Fields: Finance, Monetary Economics, Econometrics, International Economics

## **PROFESSIONAL ACTIVITIES**

### PAST EMPLOYMENT

Full-time Consultant, Multi-asset Quantitative Research  
Citigroup, New York, Sep. 2004 - Dec. 2005.

Vice President, Equity Derivative Products Research  
First Boston Corporation, New York, 1987-1988

Visiting Associate Professor, Univ. of California, Berkeley, 1982-1983  
Teaching Assistant, Massachusetts Institute of Technology, 1974-1976

"Administrator," Grade A-2, Organization for Economic Cooperation and  
Development, Paris, France, 1969-1972

### TEACHING EXPERIENCE

Courses in Finance and Economics at NYU, University of California (Berkeley), and MIT at graduate and undergraduate level in the areas of Futures and Options, Financial Markets, Credit Derivatives, Financial Theory, Investments, Monetary Theory and Policy, Macroeconomics, and Econometrics.

## THE NASDAQ OMX DERIVATIVES RESEARCH PROJECT

Project Director / founder of The NYU Stern School Derivatives Research Project (DRP), a research initiative at Stern. The DRP received major funding from NASDAQ in 2005, which was renewed by NASDAQ OMX in 2008, 2011 and again in 2015. Its primary objectives were to support theoretical and applied research on derivative instruments, derivative markets, and financial risk management in general; and to promote interaction between academics and practitioners in these important areas. The DRP sponsored fundamental research by Ph.D. students and faculty, hosted numerous conferences and smaller meetings, provided a variety of support services for those engaged in derivatives research, and in general, promoted activities that advance the mutual interests of derivatives researchers in academia and on "the Street."

## THE JOURNAL OF DERIVATIVES

Founding editor of The Journal of Derivatives. Served as Editor 1993-2018. The JOD publishes articles of interest to researchers in the broad areas of derivatives, financial engineering, risk management and related fields. It is oriented toward a readership of sophisticated practitioners and academics with a real world focus. Articles are refereed and edited for correctness, clarity and relevance. The acceptance rate for submitted manuscripts is around 15%, typical for an academic research journal. The JOD is published quarterly by Institutional Investor, Inc. Further information is available from the [Journal of Derivatives website](#).

## **PUBLICATIONS**

### **Books:**

Risk Management: The State of the Art. Editor (with Levich). Boston MA: Kluwer Academic Publishers, 2002.

"Forecasting Volatility." Financial Markets, Institutions, and Instruments Vol.6, No.1. Boston MA: Blackwell Publishers, 1997. (monograph)

Financial Options: From Theory to Practice. Editor and author (with Silber and Subrahmanyam). Homewood Ill.: Business One-Irwin, 1990.

Hedging with Financial Futures for Institutional Investors: From Theory to Practice. Cambridge: Ballinger Press, 1985.

## **Major Articles:**

Battalio, R., S. Figlewski, and R. Neal (2020). Option Investor Rationality Revisited: The Role of Exercise Boundary Violations. *Financial Analysts Journal* (76): 82-89.

**Best Paper Award**, European Financial Management Association meeting, 2017.

former title: "Exercise Boundary Violations in American-Style Options: The Rule not the Exception."

Figlewski (2018). "Risk Neutral Densities: A Review." *Annual Review of Financial Economics*, 10, pp. 329-359.

Figlewski and Frommherz (2017). "Volatility Leadership Among Index Options." *Journal of Derivatives*, 25(2), pp. 43-60.

Figlewski (2017). "Derivatives Valuation Based on Arbitrage: The Trade is Crucial." *Journal of Futures Markets*, 37(4), pp. 316-27.

Figlewski (2016). "What Goes Into Risk Neutral Volatility? Empirical Estimates of Risk and Subjective Risk Preferences." *Journal of Portfolio Management* 43 (1), pp. 29-42.

Engle, Robert and Stephen Figlewski (2014). "Modeling the Dynamics of Correlations among Implied Volatilities." *Review of Finance* 19(3), pp. 991-1018.

Figlewski, Frydman and Liang (2012) "Modeling the Effect of Macroeconomic Factors on Corporate Default and Credit Rating Transitions," *International Review of Economics and Finance*, 21(1), pp. 87-105.

Figlewski and Birru (2012) "Anatomy of a Meltdown: The Risk Neutral Density for the S&P 500 in the Fall of 2008," *Journal of Financial Markets*, 15(2), pp. 151-180.

Figlewski. "Estimating the Implied Risk Neutral Density for the U.S. Market Portfolio," in Volatility and Time Series Econometrics: Essays in Honor of Robert F. Engle, (eds. Tim Bollerslev, Jeffrey Russell and Mark Watson), Oxford, U.K.: Oxford University Press, 2010.

Figlewski. "Viewing the Financial Crisis from 20,000 Feet Up," Journal of Derivatives 16(3), Spring 2009.

Figlewski. "Assessing the Incremental Value of Option Pricing Theory Relative to an 'Informationally Passive' Benchmark," Journal of Derivatives 10, Fall 2002.

Green and Figlewski. "Market Risk and Model Risk for a Financial Institution Writing Options," Journal of Finance, Aug. 1999.

Figlewski and Gao. "The Adaptive Mesh Model: A New Approach to Efficient Option Pricing,"

Journal of Financial Economics, Sept. 1999.

Ahn, Figlewski and Gao. "Pricing Discrete Barrier Options with an Adaptive Mesh Model," Journal of Derivatives, Summer 1999. reprinted in Quantitative Analysis in Financial Markets Vol.3. World Scientific Publishers, 2001.

Figlewski. "Derivatives Risks, Old and New," Brookings-Wharton Papers on Financial Services, Vol. I, No. 1, 1998.

Weigend, Chen, Figlewski, and Waterhouse. "Discovering Technical Traders in the T-Bond Futures Market," in Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining, Agrawal, Stolorz, Piatetsky-Shapiro, eds., Menlo Park, CA, AAAI Press, 1998.

Chen, Figlewski, Waterhouse, and Weigend. "Modeling Financial Data Using Clustering and Tree-Based Approaches," in Data Mining, Ebecken, ed., Southampton, UK: Computational Mechanics Publications, 1998.

"Streamlining Monte Carlo Simulation with the Quasi-Analytic Method: Analysis of a Path-Dependent Option Strategy." (with N.K. Chidambaran) The Journal of Derivatives, Winter 1995.

"The Future of Social Security: It's Worse than You Think!" (with Paul Wachtel and Lawrence White) Stern Business. Fall 1995.

"Orange County: Don't Blame Derivatives." (with Lawrence White) Stern Business, Spring 1995.

"Program Trading and Stock Index Arbitrage." (with Linda Canina) in Handbooks in Operations Research and Management Science, Finance Volume, Jarrow, Maksimovic and Ziemba, eds. Amsterdam: Elsevier Science. 1995.

"International Asset Allocation with Time Varying Risk: An Analysis and Implementation," (with Robert Cumby and Joel Hasbrouck) Japan and the World Economy, 1994.

"The Pricing of Convexity Risk and Time Decay in Options Markets," (with Steven Freund) Journal of Banking and Finance, 1994.

"Forecasting Volatilities and Correlations with EGARCH Models," (with Robert Cumby and Joel Hasbrouck), Journal of Derivatives, Winter 1993.

"The Informational Content of Implied Volatility," (with Linda Canina) Review of Financial Studies, 1993. reprinted in Volatility: New Estimation Techniques for Pricing Derivatives, Jarrow, ed. Risk Books, 1998.

"Evaluating the Performance of the Protective Put Strategy," (with N.K. Chidambaran and Scott Kaplan) Financial Analysts Journal, July/Aug 1993.

"Options, Short Sales, and Market Completeness," (with Gwendolyn Webb) Journal of Finance, June 1993.

"Stock Index Arbitrage," The New Palgrave Dictionary of Money and Finance. Macmillan Press, Fall 1992.

"Tailing the Hedge: Why and How" (with Y. Landskroner and W. Silber). Journal of Futures Markets, 1991.

"An Option Analysis and Simulation Spreadsheet" N.Y.U. Salomon Center Software Series, 1991.

"Options Arbitrage in Imperfect Markets." Journal of Finance, Vol 44, No. 5, Dec. 1989.

"What Does an Option Pricing Model Tell Us About Option Prices?" Financial Analysts Journal, Sep/Oct 1989.

"The Use of Financial Futures and Options by Life Insurance Companies." Best's Review. March 1989.

"Arbitrage-Based Pricing of Stock Index Options." Review of Futures Markets, Vol 7, No. 2, 1988.

"Estimating the Optimal Futures Hedge." (with S. Cecchetti and R. Cumby). Review of Economics and Statistics, November 1988.

"The Interaction between Derivative Securities on Financial Instruments and the Underlying Cash Markets." Journal of Accounting, Auditing, and Finance, Summer 1987.

"Hedging with Stock Index Futures: Theory and Application in a New Market." Journal of Futures Markets, Summer 1985.

"Margins and Market Integrity: Margin Setting for Stock Index Futures and Options." Journal of Futures Markets, Fall 1984.

"Explaining the Early Discounts on Stock Index Futures: The Case for Disequilibrium." Financial Analysts Journal, July/August 1984.

An Introduction to Financial Futures. (with J. Merrick). New York University, Salomon Brothers Center Occasional Paper, 1984.

"Hedging Performance and Basis Risk in Stock Index Futures." Journal of Finance, July 1984.

"Optimal Aggregation of Money Supply Forecasts: Accuracy, Profitability, and Market Efficiency." (with T. Urich). Journal of Finance, June 1983.

"Optimal Price Forecasting Using Survey Data." Review of Economics and Statistics, February, 1983.

"Options on Commodity Futures: Recent Experience in the London Market." (with M.D. Fitzgerald). in Option Pricing: Theory and Applications, Brenner, ed. Lexington Books, 1982.

"Portfolio Management with Stock Market Index Futures." (with Stanley Kon). Financial Analysts Journal, Jan-Feb 1982.

"The Price Behavior of London Commodity Options." (with M. D. Fitzgerald). Review of Research in Futures Markets, 1982

"Information Diversity and Market Behavior." Journal of Finance, March 1982.

"The Informational Effects of Restrictions on Short Sales: Some Empirical Evidence." Journal of Financial and Quantitative Analysis, November, 1981.

"Futures Trading and Volatility in the GNMA Market." Journal of Finance, May 1981.

"The Formation of Inflationary Expectations" (with Paul Wachtel). Review of Economics and Statistics, February 1981.

"Subjective Information and Market Efficiency in a Betting Market." Journal of Political Economy, February 1979.

"Market Efficiency in a Market with Heterogeneous Information." Journal of Political Economy, August 1978.

### **The Journal of Derivatives Editor's Letter and Table of Contents:**

Each issue of the Journal of Derivatives contained a 1-2 page Editor's Letter and an annotated table of contents giving a 1-3 paragraph discussion of each article telling how it fit into the research literature.

### **The Journal of Derivatives "Innovations" Articles:**

"Remembering Fischer Black." The Journal of Derivatives Vol. 3 No. 2, Winter 1995.

"How to Lose Money in Derivatives." The Journal of Derivatives Vol. 2 No. 2, Winter 1994.

"Financial Derivatives: Actions Needed to Protect the System - A Synopsis and Commentary." The Journal of Derivatives Vol. 2 No. 1, Fall 1994.

"The Birth of the AAA Derivatives Subsidiary." The Journal of Derivatives Vol. 1 No. 4, Summer 1994.

"Floor Trading with Hand-Held Computers." The Journal of Derivatives Vol. 1 No. 3, Spring 1994.

"A Marriage between Exchange-Traded and OTC Derivatives: The CBOE's FLEX Options." The Journal of Derivatives Vol. 1 No. 1, Fall 1993.

### **Published Comments, Short Articles:**

"Derivatives Principles and Practice by Sundaram and Das" Journal of Derivatives

"Regulating OTC Derivatives," in Real-Time Solutions for Financial Reform, (eds. Acharya, Viral and Matthew Richardson), available as an e-book online at  
URL: [http://govtpolicyrecs.stern.nyu.edu/docs/whitepapers\\_ebook\\_full.pdf](http://govtpolicyrecs.stern.nyu.edu/docs/whitepapers_ebook_full.pdf)

"Geithner's Plan for Derivatives: The Devil is in the Details," Forbes.com, May 2009 (with Roy Smith and Ingo Walter).

"Centralized Clearing for Credit Derivatives," in Restoring Financial Stability: How to Repair a Failed System, (eds. Acharya, Viral and Matthew Richardson), Boston: Wiley, 2009.

"Credit Default Swaps are Good for You (But Require an Exchange of Their Own)," Forbes.com, Oct. 2008 (with Roy Smith).

"Past Performance is No Guarantee of Futures Results," Financial Engineering News, Sept. 2006.

"'Is Sound Just Noise?' by Joshua Coval and Tyler Shumway: Discussion." Review of Futures Markets, Summer 1999.

"'The Special Informational Content of At-the-Money Options Trading Volume: Evidence from CBOT Treasury Bond Futures Options' by Larry Langowski: Discussion." Review of Futures Markets, 1999.



"Derivatives Losses from Another Perspective," Derivatives, Winter 1994.

" 'Margins and Market Stability' by Gennotte and Leland: Discussion." Review of Futures Markets, 1994.

"Foreword" in Interest Rate Risk Management. Francis and Wolf, eds. Business One Irwin, 1993.

" 'Price Limits, Trading Suspensions, and the Adjustment of Prices to New Information' by Coursey and Dyl: Discussion." Review of Futures Markets, 1990.

" 'Price Volatility and Speculation' by Stein and Hong: Discussion." Journal of Accounting, Auditing, and Finance, 1990.

"New Directions for Futures Research." Review of Futures Markets, 1988.

"Comment" in Technology and the Regulation of Financial Markets. Saunders and White, eds. Lexington Books, 1986.

"Liquidity and Capital Requirements for Futures Market Hedges' by Kolb, Gay, and Hunter: Discussion." Review of Research in Futures Markets, 1985.

"Information Diversity and Market Behavior: A Reply." Journal of Finance, March 1984.

"Rational Expectations, Informational Efficiency, and Tests Using Survey Data: A Reply." (with P. Wachtel). Review of Economics and Statistics, August 1983.

### **First Boston Publications:**

"Insuring Portfolio Insurance," Nov. 1987.

"A First Look at Russell 2000 Index Futures," Oct. 1987.

"Buying Puts: A Defensive Strategy for an Uncertain Market," Sept. 1987.

### **Other Completed Papers:**

Figlewski. "An American Call IS Worth More than a European Call: The Value of American Exercise when the Market is not Perfectly Liquid." Working paper 2017. (available at <https://papers.ssrn.com/abstract=2977494>).

Figlewski and Malik. "Options on Leveraged ETFs: A Window on Investor Heterogeneity." Working Paper 2014 (available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2477004](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2477004))

Figlewski. "What is Risk Neutral Volatility?" Working Paper 2012 (available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2183969](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2183969)).

"The Impact of the Federal Reserve's Interest Rate Target Announcement on Stock Prices: A Closer Look at How the Market Impounds New Information." (with Justin Birru). Revised Oct. 2010 (available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1571938](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1571938)).

"From an Approach to a Plan: The Key is Fairness," Nov. 2008.

"A Silver Bullet for Toxic Mortgages," Dec. 2008.

Figlewski. "Estimation Error in the Assessment of Financial Risk Exposure." Current version: May 2005 (available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1296369](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1296369)).

Is the "Leverage Effect" a Leverage Effect? (with Xiaozu Wang) NYU Salomon Center Working Paper S-00-37. (available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=256109](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=256109)).

"Uncovering Hidden Structure in Bond Futures Trading." (with Fei Chen, Andreas Weigend, and Jeff Heisler)

"A Layman's Introduction to Stochastic Processes in Continuous Time." Salomon Brothers Center Working Paper No. 118.

**Work in progress:**

Modeling and understanding the behavior of Risk Neutral Densities

Liquidity-based Valuation of American Options

Derivatives Markets with Heterogeneous Agents

## **ACADEMIC AWARDS AND HONORS**

Yamaichi Faculty Fellow in Finance 1992-8

Salomon Brothers Center Fellow 1986

Q Group Prize for Research 1982

Recipient of Batterymarch Fellowship for full-time research in finance during the academic year 1981-82.

## **RESEARCH GRANTS**

The Institute for Quantitative Research in Finance (The Q Group), 2010.

Moody's Investor Services Foundation Research Grant (with Halina Frydman and Weijian Liang), 2004.

Bank and Financial Analysts Association Fellowship, 1991.

Project Director for research project on International Asset Allocation, sponsored by Japan-US Center at NYU Stern School of Business, 1989-90.

Principal Investigator for research project on Financial Options, sponsored by the American Council on Life Insurance, 1987-90.

Principal Investigator for research project on Financial Futures Markets, sponsored by the American Council on Life Insurance, 1984-85

Grant from the Columbia Center for the Study of Futures Markets for "Margin Setting for Stock Index Futures and Options," 1983.

Grant from the Columbia Center for the Study of Futures Markets for "Hedging with Stock Index Futures," 1982.

## **ASSOCIATE EDITORSHIPS, REFEREEING, ETC.:**

Editor:	<u>The Journal of Derivatives</u> <u>The Financial Economics Network</u> <u>Derivatives eJournal</u>
Project Director:	NASDAQ OMX Derivatives Research Project at the NYU Stern School
Advisory Boards:	International Association of Financial Engineers Volatility Institute Otto Beisheim School of Management, Campus for Finance Academic Board National University of Singapore Centre for Financial Engineering

Refereeing and review for more than 30 major journals, grant donors, university promotion and tenure committees, etc.

## **CONSULTING**

Consultant to major financial institutions on a variety of topics in financial economics.

## **OTHER PROFESSIONAL ACTIVITIES**

Financial Management Association annual meeting Track Chair 2011  
International Association of Financial Engineers Advisory Board member and Program Co-Chairman for 1998 Annual Meeting  
Former Market Maker in stock index options at the New York Stock Exchange, and futures at the New York Futures Exchange.

## **PROFESSIONAL MEMBERSHIPS**

American Finance Association  
Western Finance Association  
International Association of Financial Engineers  
Professional Risk Managers International Association