

## **Jerome L. Stein**

### **Biographical Sketch**

**Division Applied Mathematics**

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Born Nov. 14, 1928, Brooklyn N.Y.

B.A. Brooklyn College summa cum laude 1949, M.A. Yale University 1950, Ph.D. Yale University 1955; Docteur Honris Causa, Université de la Méditerranée, Aix Marseille II France 1997.

Married Hadassah Levow in August, 1950. Children: Seth, William Deering Professor Geological Sciences, Northwestern University, Evanston Illinois; Gil, Director Oriental Institute University of Chicago; Ilana Ben-Ze'ev, partner law firm, Bodman LLP Michigan.

Joined Department of Economics at Brown University in 1953. Professor of Economics, 1962 – 93; Eastman Professor Political Economy, Brown University 1970 – 1993; Emeritus 1993; Visiting Professor/Research Division Applied Mathematics, Division of Applied Mathematics, Brown University, 1997 - present.

Visiting professor: Hebrew University, Jerusalem, Israel, 1965-66, 1972-73; Ford Foundation research professor of Economics, University of California, Berkeley, 1979-80; Sorbonne Paris, Paris 1982; Tohoku University, Tohoku Japan 1983, Fellow Japan Society for the Advancement of Science; Haute Études Commerciale HEC France, 1987; Monash University, University of Melbourne, Australia 1989; University Bordeaux IV, France 1990; Université de la Méditerranée, Aix Marseille II France, 1992, 1995 – 1998; La Spienza, University Rome, Italy, 1994. University Munich CESifo 1994.

Economic Growth in a Free Market (with G. H. Borts), Columbia University Press 1964; Money and Capacity Growth, , Columbia, University Press 1971; Monetarist, Keynesian and New Classical Economics, Blackwell, 1982; Monetarism, North Holland, 1976; Economics of Futures markets, Blackwell, 1986; Fundamental Determinants of Exchange Rates, Oxford University Press, 1995; Stochastic Optimal Control, International Finance and Debt Crises, Oxford University Press, 2006. Stochastic Optimal Control and the U.S. Financial Crisis, Springer-Science, 2012.

### **Honors**

Ford Foundation Faculty Fellowship 1961-62; Social Science Research council faculty Fellowship 1965-66; John Simon Guggenheim Fellowship 1972-73; National Science Foundation Grants ; Ford Foundation Grants Fellow of Japan Society for the Promotion of Science 1983; Docteur Honoris Causa, l'Université de la Méditerranée Aix- Marseille II 1997. Keynote Speaker international conferences concerning optimization: EUROPT-2007, Prague, EUROPT-2008, Lithuania.

## Professional Activities

Associate Editor, Journal of Finance, Director, International Finance, American Finance Association 1965-70; Board of Editors, American Economic Review, 1974-80; Associate Editor, Journal of International and Comparative Economics. Associate Editor, Journal of Banking and Finance (JBF), Editor special issues: "Real and Nominal Exchange Rates.", JBF (1997); "Intertemporal Optimization in a Stochastic Environment" JBF (2007); Editor, special issue of Australian Economic Papers (AEP), "Stochastic Models in Economics and Finance", (2005); "Exchange Rates in Europe and Australasia" AEP (2002); Economic Record, "Futures Markets."

Consultant: Department of Commerce, 1972; National Science Foundation, site; visitor; Board of Governors of the Federal Reserve System 1973, 1976; International Monetary Fund, 1994; European Central Bank, 1999; Social Science Research Council Faculty Research Grants Committee 1969-72; Chairman 1971-72.

## Research Interests

My main research interest is interdisciplinary modeling between applied mathematics and important economic problems. Fruitful collaboration with Ettore Infante (DAM) to economic growth, fiscal policy and stabilization policy 1969 – 80, and with Wendell H. Fleming (DAM) 1997 – present using stochastic optimal control and dynamic programming to international finance. I have applied it to the mortgage crisis 2007 – 2008 in a series of four articles.

International Finance:

NATREX model of the equilibrium real exchange attracted attention of central banks: Banque de France, Deutsche Bundesbank, European Central Bank, Czech National Bank, Central Bank of Hungary, Eastern European central banks, Central Banks, Latin American countries who applied it to their real exchange rates.

Stochastic Optimal Control:

This is interdisciplinary research, with Wendell Fleming of DAM, applying the state of art techniques in stochastic optimal control to important economic problems. They are primarily the recent debt crises, including the mortgage debt crisis. Invited speaker/keynote: American Mathematical Society, World Congress Nonlinear Analysis, European Society for Optimization (EUROPT) conferences in Prague (2007), Lithuania (2008). Main resulting publication is Stochastic Optimal Control, International Finance and Debt Crises, Oxford University Press, 2006.

This approach has been published in four papers concerning Greenspan, the Quants, the Dodd-Frank bill and stochastic optimal control, and a book “Stochastic Optimal Control and the US Financial Debt Crisis” Springer 2012.