Jose A. Lopez

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Education

UNIVERSITY OF PENNSYLVANIA, Department of Economics.
Ph.D. received December 1995
Dissertation: "Evaluating Forecasts of Exchange Rate Volatility"
Dissertation advisor: Prof. Francis X. Diebold

YALE COLLEGE. B.A., magna cum laude with distinction in Economics, 1988

BRONX HIGH SCHOOL OF SCIENCE. 1984

Work Experience

FEDERAL RESERVE BANK OF SAN FRANCISCO, Economic Research Department
Research Advisor in the Financial Research Section (August 1998 - present)
Research topics: market and credit risk modeling; supervisory ratings of financial institutions; modeling and forecasting financial volatility and correlation
Bank responsibilities: financial market briefings to senior management; analysis of risk-based regulatory capital requirements; preparation and presentation of training materials for Basel II related topics and other supervisory topics

WHARTON FINANCIAL INSTITUTIONS CENTER, University of Pennsylvania
Fellow (September 2008 - present)

BANK OF SPAIN, Financial Stability Division
Visiting economist (April 2006, May 2008)

BANK FOR INTERNATIONAL SETTLEMENTS, Research and Policy Analysis Group
Visiting economist (March 2002)

FEDERAL RESERVE BANK OF NEW YORK, Research and Market Analysis Group
Economist in the Banking Studies Section (September 1995 - August 1998)
1997 President's Award for Excellence for consistent outstanding performance

UNIVERSITY OF PENNSYLVANIA, Department of Economics
Research Assistant for Prof. Francis X. Diebold (September 1992 - August 1995)

Academic Publications

"EAD Calibration for Corporate Credit Lines," joint with G. Jiménez and J. Saurina. *Journal of Risk Management at Financial Institutions*, forthcoming.

"Empirical Analysis of Corporate Credit Lines," 2008, joint with G. Jiménez and J. Saurina. *Review of Financial Studies*, forthcoming.

"Empirical Analysis of the Average Asset Correlation for Real Estate Investment Trusts," 2008, *Quantitative Finance*, forthcoming.

"Using Securities Market Information for Bank Supervisory Monitoring," 2008, joint with J.R. Krainer. *International Journal of Central Banking*, 4, 125-164.

"Alternative Measures of the Federal Reserve Banks' Cost of Equity Capital," 2006, joint with M.L. Barnes. *Journal of Banking and Finance*, 1687-1711.

"Evaluating Interest Rate Covariance Models within a Value-at-Risk Framework," 2005, joint with M.A. Ferreira. *Journal of Financial Econometrics*, 3, 126-168.

"Incorporating Equity Market Information into Supervisory Monitoring Models," 2004, joint with J.R. Krainer. *Journal of Money, Credit and Banking*, 36, 1043-1067.

"The Empirical Relationship between Average Asset Correlation, Firm Probability of Default and Asset Size," 2004. *Journal of Financial Intermediation*, 13, 265-283.

"Formulating the Imputed Cost of Equity Capital for Priced Services at Federal Reserve Banks," 2003, joint with E.J. Green and Z. Wang. *Federal Reserve Bank of New York Economic Policy Review*, 9, 55-81.

"How Might Financial Market Information be Used for Supervisory Purposes?," 2003, joint with J.R. Krainer. *Federal Reserve Bank of San Francisco Economic Review*, 29-45.

"Evaluating Covariance Matrix Forecasts in a Value-at-Risk Framework," 2001, joint with C.A. Walter. *Journal of Risk*, 3(3), 69-98.
(Reprinted in *Innovations in Risk Management: Seminal Papers from the Journal of Risk* (2004), edited by P. Jorion. London: Risk Books, 243-278.)

"Evaluating the Predictive Accuracy of Volatility Models," 2001. *Journal of Forecasting*, 20, 87-109.

"Is Implied Correlation Worth Calculating? Evidence from Foreign Exchange Option Prices," 2000, joint with C. A. Walter. *Journal of Derivatives*, 7(3), 65-82.

"Evaluating Credit Risk Models," 2000, joint with M.R. Saidenberg. *Journal of Banking and Finance*, 24, 151-167.

"Methods for Evaluating Value-at-Risk Estimates," 1999. *Federal Reserve Bank of San Francisco Economic Review*, 2, 3-15.

"Regulatory Evaluation of Value-at-Risk Models," 1999. *Journal of Risk*, 1(2), 37-64.
(Reprinted in *The Value-at-Risk Reference* (2007), edited by J. Danielsson. London: Risk Books & Journals, 455-488.)
(Reprinted in *Model Risk* (2006), edited by R. Gibson. London: Risk Waters Publishing, Chapter 12.)
(Reprinted in *Innovations in Risk Management: Seminal Papers from the Journal of Risk* (2004), edited by P. Jorion. London: Risk Books, 243-278.)
(Reprinted in *Model Risk: Concepts, Calibration and Pricing* (2000), edited by R. Gibson. London: Risk Publications, 289-308.)

"Supervisory Information and the Frequency of Bank Examinations," 1999, joint with B. Hirtle. *Federal Reserve Bank of New York Economic Policy Review*, 5, April, 1-20.

"Forecast Evaluation and Combination," 1996, joint with F.X. Diebold. *The Handbook of Statistics, Volume 14: Statistical Methods in Finance*, G.S. Maddala and C.R. Rao (eds.), pages 241-268. Amsterdam: North-Holland.

"Modeling Volatility Dynamics," 1995, joint with F.X. Diebold. *Macroeconometrics: Developments, Tensions and Prospects*, Kevin Hoover (ed.), pages 427-466. Boston: Kluwer Academic Publishing.

<u>Other Publications</u>

"What is Liquidity Risk?", 2008. *Federal Reserve Bank of San Francisco Economic Letter*, 2008-33, October 24.

"Foreign Intermediation in Japan During the Lost Decade," 2008, joint with M.M. Spiegel. *China and Asia: Economic and Financial Interactions*, Y.W. Cheung and K.Y. Wong (eds.), 195-214. London: Routledge.

"Regional Economic Conditions and Aggregate Bank Performance," 2008, joint with M. Daly and J.R. Krainer. *Research in Finance*, A.H. Chen (ed.), Volume 24, 103-128.

"The Economics of Private Equity Investments: Symposium Summary," 2008. *Federal Reserve Bank of San Francisco Economic Letter*, 2008-08, February 29.
(Reprinted in *Federal Reserve Bank of San Francisco Economic Review*, 2008, 81-83.)

"Competition and Risk Taking by Spanish Banks," joint with G. Jiménez and J. Saurina. *Proceedings of the 2007 Federal Reserve Bank of Chicago Conference on Bank Structure and Competition*, 369-376.

"Book Review of *The Credit Default Swap Basis* by Moorad Choudhry," 2007. *Journal of Risk Management in Financial Institutions*, 1, 117-118.

"Corporate Access to External Financing", 2007. *Federal Reserve Bank of San Francisco*

Economic Letter, 2007-31, October 19.

"U.S. Supervisory Standards for Operational Risk Management," 2007. *Federal Reserve Bank of San Francisco Economic Letter*, 2007-11, May 4.

"Financial Innovations and the Real Economy: Conference Summary," 2007, joint with J. Fernald and M. Doms. *Federal Reserve Bank of San Francisco Economic Letter*, 2007-05, March 2.

"Concentrations in Commercial Real Estate Lending," 2007. *Federal Reserve Bank of San Francisco Economic Letter*, 2007-01, January 5.

"What is the Federal Reserve Banks' Imputed Cost of Equity Capital?," 2006, joint with M. Barnes. *Federal Reserve Bank of San Francisco Economic Letter*, 2006-06, April 7.

"Financial Structure and Macroeconomic Performance over the Short and Long Run," 2005, joint with M.M. Spiegel. *Macroeconomic Implications of Post-Crisis Structural Changes: Proceedings of the 2002 East-West Center / Korean Development Institute Conference*, L.J. Cho, D. Cho and Y.H. Kim (eds.), pages 75-103. Seoul: Korea Development Institute.

"Exchange Rate Cointegration Across Central Bank Regime Shifts," 2005. *Research in Finance*, A.H. Chen (ed.), Volume 22, pages 327-356.

"Policy Issues Regarding Credit Risk Transfer," 2005. *Federal Reserve Bank of San Francisco Economic Letter*, 2005-34, December 2.

"Stress Tests: Useful Complements to Financial Risk Models," 2005. *Federal Reserve Bank of San Francisco Economic Letter*, 2005-14, June 24.

"Outsourcing by Financial Services Firms: The Supervisory Response," 2004. *Federal Reserve Bank of San Francisco Economic Letter*, 2004-34, November 26.

"Discussant's Comments on 'Market Indicators, Bank Fragility and Indirect Market Discipline' by Gropp, Vesala and Vulpes", 2004. *Federal Reserve Bank of New York Economic Policy Review*, 10, 67-72.

"Supervising Interest Rate Risk Management," 2004. *Federal Reserve Bank of San Francisco Economic Letter*, 2004-26, September 17.

"Policy Applications for Global Macroeconometric Models: Comment on Pesaran, Schuermann and Weiner's 'Modeling Regional Interdependencies using a Global Error-Correcting Macroeconometric Model'," 2004, joint with Richard Dennis. *Journal of Business and Economic Statistics*, 22, 165-169.

"Policy Applications of a Global Macroeconomic Model," 2004, joint with R. Dennis. *Federal*

Reserve Bank of San Francisco Economic Letter, 2004-14, June 11.

"The Current Strength of the U.S. Banking Sector," 2003, joint with J. Krainer. *Federal Reserve Bank of San Francisco Economic Letter*, 2003-37, December 19.

"Monitoring Debt Market Information for Bank Supervisory Purposes," 2003, joint with J. Krainer. *Federal Reserve Bank of San Francisco Economic Letter*, 2003-35, Nov. 28.

"Forecasting Supervisory Ratings Using Securities Market Information," 2003, joint with John Krainer. *Proceedings of the 2003 Federal Reserve Bank of Chicago Conference on Bank Structure and Competition*, D.D. Evanoff (ed.), pages 278-289. Chicago: Federal Reserve Bank of Chicago.

"Disclosure as a Supervisory Tool: Pillar 3 of Basel II," 2003. *Federal Reserve Bank of San Francisco Economic Letter*, 2003-22, August 1.

"How Financial Firms Manage Risk," 2003. *Federal Reserve Bank of San Francisco Economic Letter*, 2003-03, February 14.

"Using Equity Market Information to Monitor Banking Institutions," 2003, joint with J. Krainer. *Federal Reserve Bank of San Francisco Economic Letter*, 2003-01, January 17.

"Supervisory and Regulatory Concerns Regarding Bank Internal Ratings Systems," 2002, joint with M.R. Saidenberg. *Credit Ratings: Methodologies, Rationale and Default*, Michael Ong (ed.), pages 305-314. Risk Books.

"Off-Site Monitoring of Bank Holding Companies," 2002, joint with J. Krainer. *Federal Reserve Bank of San Francisco Economic Letter*, 2002-15, May 17.

"What Is Operational Risk?," 2002. *Federal Reserve Bank of San Francisco Economic Letter*, 2002-02, January 25.
(Reprinted in *Banking Strategy*, K.N. Rao (ed.), Vol. 2, 32-38. Hyderabad, India: ICFAI Books.)

"Financial Instruments for Mitigating Credit Risk," 2001. *Federal Reserve Bank of San Francisco Economic Letter*, 2001-34, November 23.

"The Federal Reserve Banks' Imputed Cost of Equity Capital," 2001. *Federal Reserve Bank of San Francisco Economic Letter*, 2001-23, August 10.

"Modeling Credit Risk for Commercial Loans," 2001. *Federal Reserve Bank of San Francisco Economic Letter*, 2001-12, April 27.
(Reprinted in the *California Real Estate Journal*, Feb 25, 2002.)

"Patterns in the Foreign Ownership of U.S. Banking Assets," 2000. *Federal Reserve Bank of San Francisco Economic Letter*, 2000-35, November 24.

"The Development of Internal Models Approaches to Bank Regulation & Supervision: Lessons from the Market Risk Amendment," 2000, joint with M.R. Saidenberg. *Bank Fragility and Regulation: Evidence from Different Countries*, George Kaufman (ed.), pages 239-254. Holland: Elsevier Science.

"Geometric Relationships in a Currency Trio," joint with C. Walter, 2000. *Derivatives Quarterly*, 6, 14-21.

"Volatility Spillovers in the U.S. Treasury Market," 2000. *Federal Reserve Bank of San Francisco Economic Letter*, 2000-04, February 18.

"The Basel Proposal for a New Capital Adequacy Framework," 1999. *Federal Reserve Bank of San Francisco Economic Letter*, 1999-23, July 30.

"Methods for Evaluating Credit Risk Models," 1999. *Bank of England Financial Stability Review*, June, 109-110.

"Using CAMELS Ratings to Monitor Bank Conditions," 1999. *Federal Reserve Bank of San Francisco Economic Letter*, 1999-19, June 11.

"How Frequently Should Banks Be Examined?," 1999. *Federal Reserve Bank of San Francisco Economic Letter*, 1999-07, February 24.

"Alternative Methods for Evaluating Value-at-Risk Estimates," 1998. *Federal Reserve Bank of New York Economic Policy Review*, 4, October, 119-124.

"Does Lifeline Checking Achieve its Goal of Assisting the 'Unbanked'?," 1998, joint with J. Doyle and M. Saidenberg. *Federal Reserve Bank of New York Current Issues in Economics and Finance*, 4, June.

"Testing Your Risk Tests," 1998. *The Financial Survey*, May-June, 18-20.

"Regulatory Evaluation of Value-at-Risk Models Using Probability Forecasts," 1997. *Proceedings of the 1997 Federal Reserve Bank of Chicago Conference on Bank Structure and Competition*, D.D. Evanoff (ed.), pages 289-307. Chicago: Federal Reserve Bank of Chicago.

"Competitiveness in the Eurocredit Market," 1991, joint with J.M. Balder and L.M. Sweet. *International Competitiveness of U.S. Financial Firms: Products, Markets and Conventional Performance Measures*. New York: Federal Reserve Bank of New York.

Working Papers

"Inflation Expectations and Risk in an Arbitrage-Free Model of Nominal and Real Bond Yields," joint with J.H.E. Christensen and G.D. Rudebusch.

"Common Risk Factors in the U.S. Treasury and Corporate Bond Spreads: An Arbitrage-Free Dynamic Nelson-Siegel Modeling Approach," joint with J.H.E. Christensen.
Presented at the 2007 conference of the Federal Reserve System Committee on Financial Structure and Regulation.

"How Does Competition Impact Bank Risk Taking?," joint with G. Jiménez and J. Saurina. Federal Reserve Bank of San Francisco Working Paper #2007-23. Under review.
Presented at the 2008 conference of the American Finance Association.

"Determinants of Access to External Finance: Evidence from Spanish Firms," joint with R. Lago Gonzalez and J. Saurina. Federal Reserve Bank of San Francisco Working Paper #2007-22. Under review.
Presented at the 2007 conference of the Federal Reserve System Committee on Financial Structure and Regulation.

"Foreign Entry into Underwriting Services: Evidence from the Japanese Big Bang Deregulation," joint with M. Spiegel.
Presented at the NBER Japan Project Meeting in 2008.

"Volatility Spillovers in the U.S. Treasuries Market," joint with M. Fleming. Federal Reserve Bank of San Francisco Working Paper #99-09.
Presented at the Third Workshop of the ECB-CFS Research Network on "Capital Markets and Financial Integration in Europe".

"The Long-Term Behavior of Systems of Foreign Exchange Rates."

"Foreign Exchange Variances: An Application of the French & Roll Methodology."

Work in Progress

"Interbank Lending Rates and Central Bank Liquidity Operations," joint with J.H.E. Christensen and G.D. Rudebusch.

"Stochastic Volatility in the Affine Arbitrage-Free Class of Nelson-Siegel Term Structure Models," joint with J.H.E. Christensen and G.D. Rudebusch.

"Imputed Interest Rates for Spanish Corporate Loans," joint with A. Martín Oliver and J. Saurina.

"When and Why Do Firms First Take a Bank Loan?," joint with G. Jiménez and J. Saurina.

"Assessing the Benefits of High-Frequency Accounting Data: Evidence from the Banking Industry," joint with J. Krainer.

"Have BOPEC Rating Standards Changed over Time?," joint with J. Krainer.

"Modeling Interwar Exchange Rate Volatility."

Service to the Profession

Associate editor, *Journal of Risk Management in Financial Insitutions.* 2007-present.

Referee for *American Economic Review; Journal of Applied Econometrics; Journal of Business & Economic Statistics; Journal of Econometrics; Journal of Money, Credit & Banking; International Economic Review; Economic Inquiry; Journal of Banking & Finance; Journal of Credit Risk; Journal of Empirical Finance; Journal of Forecasting; Journal of International Money & Finance; Journal of Risk; Management Science;Economic Modelling; Empirical Economics; International Journal of Forecasting; Japan and the World Economy; Journal of Economics and Business; Journal of Financial Intermediation; Journal of Financial Stability; Journal of Financial Services Research; Journal of Futures Markets; Journal of Real Estate Finance & Economics; Multinational Finance Journal; Southern Economic Journal; Spanish Economic Review; Studies in Nonlinear Dynamics & Econometrics; Federal Reserve Bank of New York Current Issues in Economics & Finance; Federal Reserve Bank of New York Staff Reports; Federal Reserve Bank of New York Economic Policy Review; Federal Reserve Bank of San Francisco Economic Review; Risk Magazine; Annals of Operations Research; Business Economics; Contemporary Economic Policy; Emerging Markets Finance and Trade; International Review of Financial Analysis; Journal of Risk Finance; Journal of Risk Management in Financial Institutions; Journal of Risk Model Validation; Quantitative Finance*

Grant reviewer for the National Science Foundation, 1998, 2000, 2001 and 2003.

Program Committee, 2004, 2006, 2008 & 2009 Conferences of the Financial Intermediation Research Society.

Program Committee, 2008 Conference of the Financial Management Association.

Manuscript reviewer for Academic Press, 2002.

Steering Committee Member, Global Association of Risk Professionals - San Francisco Chapter, November 1999 - July 2001, May 2003 - present.

Special Skills

Fluency in Spanish; knowledge of most major econometrics software packages

Professional Affiliation

American Economic Association; American Finance Association; Global Association of Risk Professionals; Society for Financial Econometrics

Presentations

2008: *Conferences:*

Financial Intermediation Research Society. "How Does Competition Impact Bank Risk-Taking?." (June)

Discussant:

Financial Intermediation Research Society. (June)

2007: *Seminars:*

Federal Reserve Bank of San Francisco. "Empirical Analysis of Corporate Credit Line Usage." (January)

Federal Reserve Bank of New York. "Empirical Analysis of Corporate Credit Line Usage." (March)

International Monetary Fund. "How Does Competition Impact Bank Risk-Taking?." (May)

Board of Governors of the Federal Reserve System. "How Does Competition Impact Bank Risk-Taking?." (May)

Conferences:

Basel Committee on Bank Supervision's Workshop on Applied Banking Research. "Empirical Analysis of Corporate Credit Lines." (May)

Federal Reserve Bank of Chicago's Bank Structure and Competition Conference. "How Does Competition Impact Bank Risk-Taking?." (May)

Federal Reserve System Committee on Financial Structure and Regulation "How Does Competition Impact Bank Risk-Taking?." (September)

Discussant:

Basel Committee on Bank Supervision's Conference on the Interaction of Market and Credir Risk (December).

2006: *Seminars:*

Moody's KMV, San Francisco. "A Study of Credit Line Usage by Spanish Firms." (August)

Discussant:

McGill University Risk Management Conference. (Mont Tremblant, Québec, March).

Federal Reserve System Committee on Financial Structure and Regulation. (Atlanta, November).

2005: *Conferences:*

Federal Reserve System Committee on Financial Structure and Regulation. "Empirical Analysis of the Average Asset Correlation for Real Estate Investment Trusts." (New York, November).

Fifteenth Annual Derivatives Securities and Risk Management Conference. "Evaluating Interest Rate Covariance Models within a Value-at-Risk Framework." (Federal Deposit Insurance Corporation, Washington, D.C., April).